The Agency's Programme and Budget 2024–2025

IAEA
International Atomic Energy Agency
Atoms for Peace and Development

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Foreword by the Director General

The Programme and Budget for 2024–2025 is prepared, bearing in mind, once again, the constraints faced by Member States and the Agency due to the prevailing financial environment. Despite these constraints, it was commendable that Member States demonstrated broad support by approving the revision of The Agency's Budget Update for 2023 to alleviate the inflationary impact on programme delivery.

The Agency's membership continues to grow, as does the global use of nuclear technologies and applications. There are clear signs from various quarters that the nuclear energy will have a more prominent role in the adaptation and mitigation of climate change related challenges, as well as for achieving energy security. The contribution of nuclear techniques is expected to increase further in achieving the Sustainable Development Goals, including in the areas of human health, especially for cancer control; food and agriculture; water resource management; and the environment. Countries' adherence to international legal instruments in the areas of nuclear safety, nuclear security and safeguards continues to grow, consequently increasing the demand for support. The Agency will continue to respond to requests for help to address global challenges pertaining to nuclear safety, nuclear security and non-proliferation and respond to requests for assistance in overcoming the consequences of regional or global emergencies.

Further to the increasing demands, the Agency has additional challenges related to the increased costs due to the exceptionally high energy prices in relation to the VIC premises and IAEA Seibersdorf Laboratories.

Despite the competing demands for resources, related to the programmatic needs and the exceptional increases in operational costs, and conscious of the prevailing financial environment, I have decided to propose, again, a zero real growth (ZRG) budget for *The Agency's Programme and Budget 2024–2025*. In this regard, the proposed budget identifies additional efficiencies to absorb the increased costs, while continuing with the sustainable efficiencies identified in 2022–2023 Programme and Budget. My endeavour to achieve gender equality within the Secretariat, as well as in the Agency's programmatic activities continues, and in this regard gender considerations are fully mainstreamed into the Agency's proposed Programme and Budget.

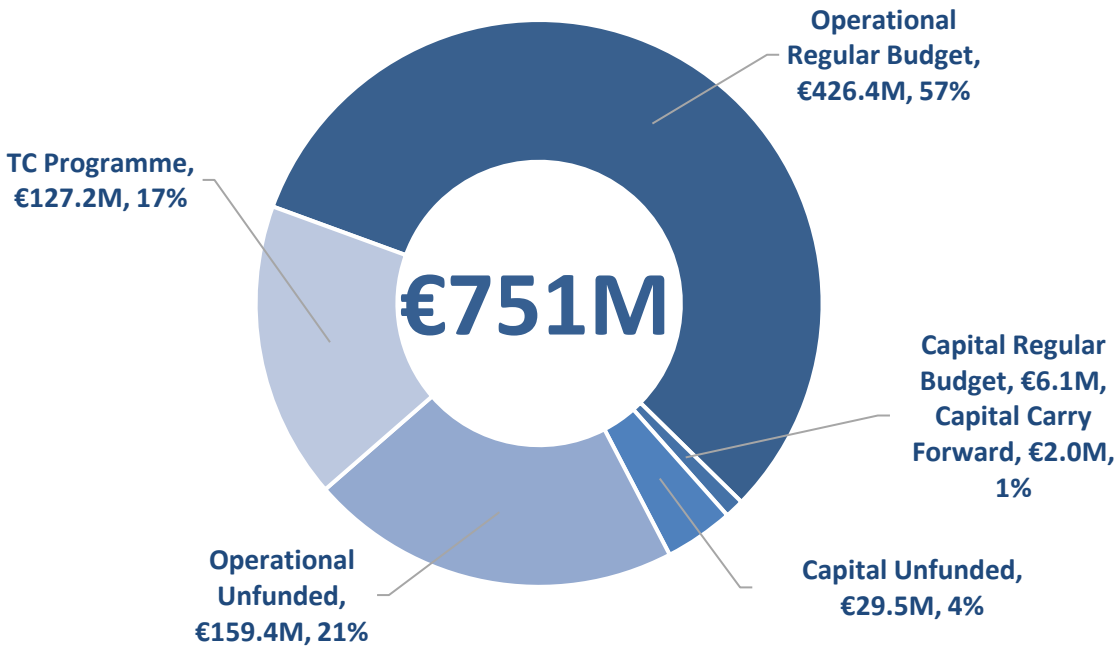
At the same time, I envision to continue enhancing cross departmental cooperation by identifying and linking relevant Agency projects for their implementation to make greater impacts in addressing global challenges. This approach is successfully being followed for the implementation of initiatives such as Zoonotic Disease Integrated Action project (ZODIAC), Rays of Hope (RoH), Nuclear Technology for Controlling Plastic Pollution (NUTEC Plastics), the IAEA Platform on small modular reactors and their Applications (SMR Platform), Nuclear Harmonization and Standardization Initiative (NHSI), Marie Sklodowska Curie Fellowship Programme (MSCFP) and the recently launched Lise Meitner Programme. These initiatives will continue to be implemented through enhanced in-house coordination and by mobilizing resources, by enlarging the donor base, building new partnerships, including with development and regional banks, the private sector, interested foundations and others.

Lastly, the Agency will continue to make efforts to improve transparency concerning its activities. I am committed to managing the resources at the Agency's disposal wisely and productively, and with discipline and restraint.

Rafael Mariano Grossi
Director General

2024–2025 Programme and Budget at a Glance

2024 Total Resources[1]



The Agency's Programme and Budget 2024–2025:

- Is kept at ZRG, despite inflation driven increased fixed costs and increasing demand for the Agency's services
- Includes sustainable efficiencies without compromising the effectiveness of the Agency's deliverables
- Continues to focus on enhancing partnerships and resource mobilization efforts to bridge the funding gaps between the demand and resources

2024 Regular Budget[1]

Total Regular Budget

€432.6M

Zero Real Growth budget

Building on €10.7M sustainable efficiencies from 2022–2023:[2]

- **€6.2M[3] reinvested to cover increased cost and demand; and**
- **€4.7M to cover estimated increased energy price**

2.4%

ECB Price adjustment

[1] All figures in this document are presented in euros at 2024 prices, unless otherwise indicated. Figures in tables may not add up to corresponding sums owing to rounding. Activities currently unfunded in the Regular Budget for which extrabudgetary resources would be required are shown as 'unfunded' in the charts and tables of this document.
[2] At 2023 prices.
[3] Efficiencies from Non-Human Resource and Human Resource costs, including the reduction of 27.9 Full Time Equivalents (FTEs). See Annex 3 for more detailed information.

PART I

The Agency's Programme and Budget 2024–2025

I.1 Overview

Overview

1. *The Agency's Programme and Budget 2024–2025* has been prepared in an environment where Member States continue to endure the impact of the difficult global financial situation and high inflation. Despite these challenges, they recognize the critical role played by the Agency in increasing the contribution of nuclear science and technology for achieving the sustainable development goals and for enhancing nuclear safety and security and strengthening nuclear verification and non-proliferation efforts worldwide.

2. Member States have recently demonstrated their broad support of the Agency's work by approving, in the Third Special Session of the General Conference held on 27 January 2023, the revision of the budget for 2023 to alleviate the impact of high inflation on programme delivery, which increased the Regular Budget by €19.4 million compared with the earlier approved 2023 budget. Member States also decided to increase the 2023 Technical Cooperation Fund target for voluntary contributions by €1.1 million for a revised target of €93.7 million.

3. Notwithstanding the precarious global financial situation, the demands for the Agency's services continue to rise. The Agency's membership continues to grow, as does the peaceful use of nuclear technologies and applications for development. Nuclear energy is expected to have a more prominent role in the adaptation and mitigation of climate change related challenges, as well as for achieving energy security. The contribution of nuclear techniques is expected to further increase in achieving the Sustainable Development Goals (SDGs), including in the areas of human health, especially for cancer control; food and agriculture; preparedness and response capabilities for outbreak of zoonotic diseases; water resource management; and the environment. Countries' adherence to international legal instruments in the areas of nuclear safety, nuclear security and safeguards continues to grow, consequently increasing the demand for support.

4. In this context, the Secretariat will continue to work closely with Member States and support them, mainly through technical cooperation (TC) programme, and across a wide range of programmatic activities, in their efforts to meet their development challenges, including the achievement of the SDGs. The Agency will also continue to respond to requests for assistance to help address global challenges in overcoming the consequences of regional or global medical emergencies, natural disasters, industrial accidents, as well as those related to nuclear safety, nuclear security and non-proliferation.

5. Further to the increasing demands, the Agency has additional challenges related to the increasing costs of programme delivery, in particular due to the exceptionally high energy prices affecting the Seibersdorf laboratories and the Vienna International Centre (VIC) Buildings Management Services (BMS). The Director General, understanding the financial constraints that Member States are facing, has decided that these fixed costs be absorbed by additional cost savings and efficiencies, in that way not requesting additional funding from the Regular Budget to cover them. (See more information under the Cost Savings and Efficiencies section).

6. Despite the above competing resource requirements, the Director General, mindful of the current financial environment, has decided to propose, once again, a zero-real growth Programme and Budget for 2024–2025.

The Director General is proposing a zero real growth (ZRG) Regular Budget for the coming biennium.

7. The Secretariat will continue to endeavour to do 'more with the same' resources, as well as enhanced cross-departmental cooperation and diligent application of the results based approach in all areas of the Agency's work and ensure that the quality and effectiveness of the Agency's deliverables are not compromised. Additionally, an enhanced focus on partnerships and resource

mobilization should enable the Agency to better respond to the increasing demands.

The Regular Budget is proposed at zero real growth, with the operational Regular Budget for 2024 at €426.4 million. The €10.5 million increase compared to 2023 mainly represents the price adjustment of 2.4%.

The capital Regular Budget for 2024 is proposed at €6.1 million, including the price adjustment of 2.4%. This represents a decrease of €0.4 million compared to 2023.

8. All figures in this document are presented in euros, at 2024 prices, unless otherwise specified.

Cost Savings and Efficiencies

9. The Secretariat has identified further efficiency measures to free up resources to enable the Agency to respond, at least partially, to the increased demands being placed on it and the higher price of goods and services. The new efficiency measures build on the €10.7 million sustainable efficiencies per annum identified in the 2022–2023 programme and budget process.

10. At the same time, as mentioned above, the Secretariat is expecting higher than normal energy costs for the IAEA Seibersdorf laboratories and VIC Buildings Management Services (BMS). It should also be noted that the expenditures for the BMS are shared by the VIC based organizations.[4]

11. Considering the prevailing financial constraints, the Director General has decided, based on the European Energy Exchange Index forecasts, to limit the increase of BMS allocation in the Agency's share to a maximum €2.7 million. With an additional €2.0 million expected increase in the Seibersdorf laboratories energy costs, the estimated €4.7 million (1.1% of the total budget) for increased energy will be covered by costs savings and efficiencies, shared proportionally by all Major Programmes.

12. Annex 3 provides additional details on efficiencies identified in the course of the planning of the 2024–2025 biennium.

Managing for Results

13. As requested by Member States during 2022–2023 Programme and Budget discussions, the Agency has continued its efforts to strengthen its results based management throughout the programme cycle. To this end, the Secretariat has introduced a specific section in its regulatory framework outlining the results-based approach thereby strengthening its effective internalization throughout the Agency. In addition, the Agency has actively supported the development of the United Nations system-wide guidance on results based management which serves as an informal guidance to Agency managers.

14. To accomplish better 'value for money' in the preparation of the Programme and Budget for 2024–2025, emphasis has been placed on improving the quality of services delivered, lessons learned from the previous biennium and achieving results.

15. In addition, performance indicators have been further refined to measure programme performance, with a view to ensuring that reporting to Member States is improved. This is further strengthened through a dedicated internal mid-year review exercise, using performance indicators to track actual results against planned targets, and providing periodic information on the status of an intervention in relation to expected results.

16. The Agency updated the Programme and Budget IT system during the reporting phase leading to improved functionalities such as better assessment of actual achievement against planned targets. In parallel, continuous capacity building activities, particularly during the planning phase and as part of the induction

[4] UNIDO manages the budget for BMS.

programme for new managers, have been developed and implemented.

Risk Management

17. The Agency's risk management system has been further strengthened through revisions to the internal policy and guidelines and the introduction of a new IT risk management tool, establishing a new approach to facilitate the management and monitoring of risks across all levels of the Agency's programmatic activities and strengthening the links between risk management, results based management and internal controls. A set of training materials has been developed and a periodic induction training programme has been launched to raise awareness and build capacity of new managers.

Cross-cutting issues

18. Cross-cutting issues, such as the SDGs corporate knowledge management, gender mainstreaming, and partnerships and resource mobilization, are, to varying degrees, relevant to all aspects of the Agency's activities. Mainstreaming these cross-cutting issues means that they become an integral dimension for consideration during the planning, design, implementation, monitoring and evaluation of the Agency's programmes.

Contribution to SDGs

19. Member States use nuclear science and technology to meet their development objectives, including the SDGs. Nuclear science and technology contribute directly to 9 of the 17 SDGs. For the Agency's Programme and Budget 2024–2025, over 70% of operational projects contribute to the SDGs, with the majority focused on SDG 7 (affordable and clean energy), SDG 9 (industry, innovation and infrastructure) and SDG 3 (good health and well-being).

Knowledge Management

20. Knowledge management is an important cross-cutting component of the Agency's results based approach. Knowledge management is intimately linked to the work processes of different organizational units of the Agency and need to be embedded in the results based approach. It enables the Agency to create, acquire, capture, codify, store, retain, share, use and transfer knowledge. It relies on effective recording, and maintenance of, and access to explicit knowledge; effective processes for identifying and transferring/sharing critical knowledge; and improved knowledge sharing and communication. Specific accountabilities related to knowledge and information have been fully integrated into the Agency's results based management framework.

Gender

21. The Agency is committed to gender equality and to supporting the ability of all individuals, regardless of gender, to equally contribute to and benefit from its programmes and activities. To this end, the Agency updated both its Gender Equality Policy and Gender Action Plan. The focus continued to be on further mainstreaming a gender perspective into programme planning and implementation, reporting on gender-related programmatic results, and strengthening staff capacity for gender mainstreaming in programmes and activities. In line with the policy, the Agency continues its efforts to ensure that gender considerations are built into its programmes and activities, that women are fully represented in planning and delivering, and that women's concerns as beneficiaries of the Agency's work are addressed. This includes efforts to enhance the participation of women as training participants, fellows, scientific visitors, project counterparts, researchers, experts, and panellists.

22. For *The Agency's Programme and Budget 2024–2025*, conducting a gender analysis was a mandatory requirement during project design. Similarly, every TC project design includes a section on cross-cutting issues, including gender, where efforts to assess the different impacts for men and women, where relevant, as assessed and described.

23. Efforts to achieve gender parity in the Professional and higher categories by 2025 are well on target and are being implemented bearing in mind the highest standards of efficiency, competence and integrity.

Partnerships

24. The Agency continues to channel expertise and solutions to countries from relevant international organizations, governments, non-traditional partners, including development and regional banks and the private sector. The Agency is working closely with other organization of the United Nation's system such as the Food and Agriculture Organization (FAO) of the United Nations and the World Health Organization, United Nations Environment Programme (UNEP) and the World Organization for Animal Health (WOAH, former OIE). In 2021 for example, the Agency and the FAO signed a Revised Arrangement which expanded their partnership to a Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture. The expansion will improve the monitoring and control of transboundary animal, zoonotic and plant diseases. Furthermore, the Agency will continue to seek opportunities to mobilize new streams of public and private finance and expand partnerships including with non-traditional donors in order to expand its ability to support Member States. In addition, the mobilization of knowledge and innovation from partners will remain a key focus of the Agency's work, where appropriate.

I.2 Financial Overview

Total Resources

25. The Agency's total resources consist of the Regular Budget, extrabudgetary resources and resources for the TC programme. For the 2024–2025 biennium, the Agency's total resources amount to €1 494.7 million at 2024 prices, including unfunded requirements for which extrabudgetary resources will be sought.

2024–2025 Total Resources at a Glance (in millions)

Funding Source	2024	2025	Total
Operational Regular Budget	426.4	426.4	852.9
Capital Regular Budget	6.1	6.1	12.3
Capital Carry Forward	2.0	2.0	4.1
Operational Unfunded	159.4	157.4	316.8
Capital Unfunded	29.5	23.8	53.3
TC Programme	127.2	128.1	255.4
TOTAL	**750.8**	**743.9**	**1 494.7**

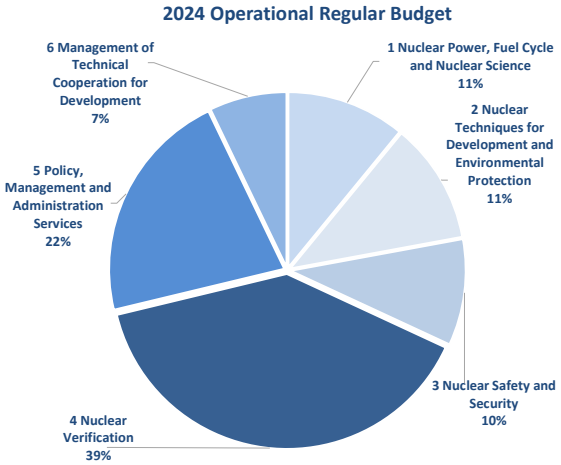
26. The Regular Budget consists of an operational portion and a capital portion used to fund major infrastructure investments in line with the Major Capital Investment Plan (MCIP). Regular Budget estimates are presented in six Major Programmes, in accordance with the structure of the Agency's programme of work.

27. The Agency continues to rely on extrabudgetary funds to carry out some of its activities for which funding is not foreseen in the Regular Budget. For 2024, activities currently unfunded in the Regular Budget for which extrabudgetary resources would be required amount to €159.4 million for the operational portion and €29.5 million for the capital portion of the Regular Budget. These activities are shown as 'unfunded' in the budget tables of this document.

28. For the TC programme, €127.2 million is expected to be available in 2024 — €96.0 million for estimated core project funding, supplemented by €2.0 million of National Participation Costs and €35.0 million in extrabudgetary contributions in support of the TC programme. For 2025, a total amount of €128.1 million is expected.

Operational Regular Budget Resources

29. The chart and the table below depict the operational Regular Budget for 2024, which is proposed at €426.4 million.



2024–2025 Operational Regular Budget (in millions)

Major Programme	2024	2025
1 Nuclear Power, Fuel Cycle and Nuclear Science	46.7	46.7
2 Nuclear Techniques for Development and Environmental Protection	47.5	47.5
3 Nuclear Safety and Security	41.8	41.8
4 Nuclear Verification	167.7	167.7
5 Policy, Management and Administration Services	92.3	92.3
6 Management of Technical Cooperation for Development	30.4	30.4
TOTAL	**426.4**	**426.4**

Capital Resources

30. The capital resources for 2024 have been allocated with a view to addressing the continuing capital needs of the Agency, while minimizing the overall growth of the Regular Budget. The Director General is proposing an allocation of the Major Capital Investment Fund (MCIF) of €8.2 million, after price adjustment,

to finance major infrastructure investments in line with the MCIP. Out of the MCIF allocation of €8.2 million for 2024, €6.1 million is proposed to be funded from the capital Regular Budget to be assessed to Member States and €2.0 million is proposed to be offset by the Carry Forward from the unspent balances of operational Regular Budget appropriations from prior years previously transferred to the MCIF.

31. The following table depicts the 2024–2025 capital investments. Details are provided in Section I.4.

2024–2025 Capital Investments (in millions)

Major Programme	2024	2025
2 Nuclear Techniques for Development and Environmental Protection	1.5	0.0
3 Nuclear Safety and Security	0.3	0.3
4 Nuclear Verification	0.7	1.3
5 Policy, Management and Administration Services	5.3	6.2
6 Management of Technical Cooperation for Development	0.3	0.3
TOTAL	**8.2**	**8.2**

Other Financial Considerations

Major Items of Expenditure

32. Major items of expenditure include Professional and General Service staff costs (€309.1 million, at 2023 prices, or 74% of the 2024 operational Regular Budget), travel costs (€16.6 million or 4%), equipment and intangible assets (€18.2 million or 4%), buildings management and security costs (€24.8 million or 6%) and other direct costs (€47.8 million or 12%).

33. As a result of efficiency measures, the costs pertaining to HR and travel will decrease as compared to the 2023 approved budget. These resources will be reinvested to cover growing demands and increased energy costs.

Price Adjustment

34. In line with the *Price Adjustment Methodology for the Agency's 2020–2021 Programme and Budget and Subsequent Biennia* (document GOV/INF/2018/8), the price adjustment applied to each year, 2024 and 2025, is 2.4% and 2.3% respectively. These percentages are based on the long-term Harmonised Index of Consumer Prices for the euro area, as provided in the fourth quarter report of the European Central Bank's *Survey of Professional Forecasters*, issued in October 2022[5] and a correction factor of 0.2% for 2024 and 0.1% for 2025.

After-Service Health Insurance Liabilities

35. The Agency fulfils its obligations in respect of the financing of health insurance for former officials from the Regular Budget, on a pay-as-you-go basis. It does not currently set aside any funds to meet this long term financial liability, which amounts to €361 million (as of 31 December 2022).[6] Most United Nations system organizations are facing the issue of funding after-service staff liabilities, and most organizations have established reserves. A recommendation from the Agency's External Auditor to consider the implementation of a long-term funding strategy for after-service health insurance (ASHI) was first made in 2013 and was reiterated by the External Auditor in numerous reports.

36. In document GOV/INF/2023/2, the Secretariat presented an update on the ASHI liability, including the recent discussions in the United Nations system, and the measures being considered by the Agency's Secretariat to both contain the costs and address the unfunded liability. Understanding the importance of curbing the ASHI liability and stabilizing the growing costs of ASHI, especially in light of the challenging financial environment, the Director

[5] Available at: https://www.ecb.europa.eu/stats/ecb_surveys/survey_of_professional_forecasters/html/index.en.html

[6] As contained in *The Agency's Financial Statements for 2022* (document GC(67)/4).

General has implemented a set of cost containment measures, that are described in the 2023 report by the Director General on ASHI. These cost containment measures represent an important first step towards addressing the expected increase of the ASHI liability.

Budget Currency and Exchange Rate

37. The Agency's functional currency is the euro. As in the past, Regular Budget estimates have been prepared in euros, using a budget exchange rate of €1.00 to US $1.00. All tables and charts in this document are in euros, based on this budget exchange rate. The Secretariat assesses Member States in euros and US dollars in accordance with the scale of assessment fixed by the General Conference and the required split between the two currencies. The majority of the expenditures of the Agency are in euros; however, as some are denominated in US dollars, the split assessment protects the Agency in the event of euro–US dollar currency fluctuations. The Secretariat will monitor any changes in the proportion of the currency of expenditures and report to Member States, if required.

Table 1. The Regular Budget — By Programme and Major Programme

Programme/Major Programme	2023 Budget	2024					2025	
		2024 Estimates at 2023 Prices	Variance compared to 2023 EUR	Variance compared to 2023 %	2024 Estimates at 2024 Prices	Price Adjustment	2025 Preliminary Estimates at 2024 Prices	2025 Preliminary Estimates at 2025 Prices
1. Nuclear Power, Fuel Cycle and Nuclear Science								
Overall management, coordination and common activities	1 861 219	1 822 351	(38 868)	(2.1%)	1 866 088	2.4%	1 866 085	1 909 005
Corporate Shared Services Attribution to Major Programme 1	1 878 294	2 360 087	481 793	25.7%	2 416 729	2.4%	2 416 729	2 472 314
Nuclear Power	10 157 815	10 513 287	355 473	3.5%	10 765 606	2.4%	10 731 403	10 978 226
Nuclear Fuel Cycle and Waste Management	10 172 567	10 074 687	(97 880)	(1.0%)	10 316 479	2.4%	10 316 214	10 553 487
Capacity Building and Nuclear Knowledge for Sustainable Energy Development	11 678 334	11 301 916	(376 418)	(3.2%)	11 573 162	2.4%	11 574 128	11 840 333
Nuclear Science	9 866 529	9 542 429	(324 100)	(3.3%)	9 771 447	2.4%	9 804 951	10 030 465
Major Programme 1	**45 614 757**	**45 614 757**	**0**	**0.0%**	**46 709 512**	**2.4%**	**46 709 512**	**47 783 830**
2. Nuclear Techniques for Development and Environmental Protection								
Overall management, coordination and common activities	2 950 584	2 883 943	(66 641)	(2.3%)	2 953 158	2.4%	2 947 383	3 015 173
Corporate Shared Services Attribution to Major Programme 2	6 561 511	7 000 090	438 579	6.7%	7 168 092	2.4%	7 168 092	7 332 958
Food and Agriculture	12 964 300	12 856 355	(107 945)	(0.8%)	13 164 907	2.4%	13 164 907	13 467 700
Human Health	9 700 044	9 522 955	(177 088)	(1.8%)	9 751 506	2.4%	9 751 504	9 975 788
Water Resources	4 133 796	4 123 108	(10 688)	(0.3%)	4 222 063	2.4%	4 222 062	4 319 170
Marine Environment	5 192 676	5 170 327	(22 349)	(0.4%)	5 294 415	2.4%	5 294 524	5 416 298
Radiochemistry and Radiation Technology	4 884 406	4 830 539	(53 867)	(1.1%)	4 946 471	2.4%	4 952 139	5 066 039
Major Programme 2	**46 387 316**	**46 387 316**	**0**	**0.0%**	**47 500 612**	**2.4%**	**47 500 612**	**48 593 126**
3. Nuclear Safety and Security								
Overall management, coordination and common activities	2 268 009	2 243 034	(24 974)	(1.1%)	2 296 867	2.4%	2 296 866	2 349 694
Corporate Shared Services Attribution to Major Programme 3	2 091 244	2 518 114	426 870	20.4%	2 578 549	2.4%	2 578 549	2 637 856
Incident and Emergency Preparedness and Response	4 921 609	4 867 403	(54 206)	(1.1%)	4 984 221	2.4%	4 984 221	5 098 858
Safety of Nuclear Installations	11 790 078	11 660 256	(129 821)	(1.1%)	11 940 102	2.4%	11 940 102	12 214 725
Radiation and Transport Safety	8 459 276	8 366 107	(93 168)	(1.1%)	8 566 894	2.4%	8 566 895	8 763 933
Radioactive Waste Management and Environmental Safety	4 241 080	4 194 369	(46 711)	(1.1%)	4 295 034	2.4%	4 295 035	4 393 821
Nuclear Security	7 081 249	7 003 260	(77 990)	(1.1%)	7 171 338	2.4%	7 171 338	7 336 279
Major Programme 3	**40 852 545**	**40 852 545**	**0**	**(0.0%)**	**41 833 006**	**2.4%**	**41 833 006**	**42 795 165**
4. Nuclear Verification								
Overall management, coordination and common activities	4 384 828	4 336 531	(48 297)	(1.1%)	4 440 608	2.4%	4 440 608	4 542 742
Corporate Shared Services Attribution to Major Programme 4	11 229 785	12 910 158	1 680 373	15.0%	13 220 002	2.4%	13 220 002	13 524 062
Safeguards Implementation	144 887 099	143 291 334	(1 595 765)	(1.1%)	146 730 327	2.4%	146 730 326	150 105 124
Other Verification Activities	3 296 932	3 260 621	(36 312)	(1.1%)	3 338 876	2.4%	3 338 876	3 415 670
Major Programme 4	**163 798 645**	**163 798 645**	**0**	**0.0%**	**167 729 812**	**2.4%**	**167 729 812**	**171 587 598**
5. Policy, Management and Administration Services								
Policy, Management and Administration Services	84 981 907	84 296 044	(685 862)	(0.8%)	86 319 149	2.4%	86 319 149	88 304 489
Corporate Shared Services Attribution to Major Programme 5	4 868 641	5 809 235	940 594	19.3%	5 948 657	2.4%	5 948 657	6 085 476
Major Programme 5	**89 850 548**	**90 105 279**	**254 732**	**0.3%**	**92 267 806**	**2.4%**	**92 267 806**	**94 389 965**
6. Management of Technical Cooperation for Development								
Management of the technical cooperation programme	28 025 635	27 966 935	(58 701)	(0.2%)	28 638 141	2.4%	28 638 141	29 296 818
Corporate Shared Services Attribution to Major Programme 6	1 418 160	1 726 861	308 701	21.8%	1 768 306	2.4%	1 768 306	1 808 977
Major Programme 6	**29 443 796**	**29 693 796**	**250 000**	**0.8%**	**30 406 447**	**2.4%**	**30 406 447**	**31 105 795**
Operational Regular Budget	**415 947 607**	**416 452 339**	**504 732**	**0.1%**	**426 447 195**	**2.4%**	**426 447 195**	**436 255 480**
Major Capital Investment Funding Requirements								
Capital Regular Budget	**6 504 732**	**6 000 000**	**(504 732)**	**(7.8%)**	**6 144 000**	**2.4%**	**6 144 000**	**6 285 312**
Total Agency Programmes	**422 452 339**	**422 452 339**	**0**	**(0.0%)**	**432 591 195**	**2.4%**	**432 591 195**	**442 540 792**
Reimbursable Work for Others	3 334 842	3 489 920	155 078	4.7%	3 573 678	2.4%	3 573 678	3 655 872
Total Regular Budget	**425 787 181**	**425 942 258**	**155 078**	**0.0%**	**436 164 873**	**2.4%**	**436 164 872**	**446 196 664**
Less Miscellaneous Income	6 765 242	6 924 920	159 678	4.8%	7 008 678		6 708 678	6 790 872
Assessment on Member States	**419 021 939**	**419 017 339**	**(4 600)**	**(0.0%)**	**429 156 195**	**2.4%**	**429 456 195**	**439 405 792**

* Note: Corporate Shared Services include energy related increases for Seibersdorf and the VIC amounting to €4.7 million, which are shared proportionally across all major programmes and fully absorbed within the zero-real growth budget

Table 2. The Regular Budget — Summary of Income

	2023 Budget	2024 Estimates at 2023 Prices	Variance 2024 compared to 2023	2024 Estimates at 2024 Prices	2025 Preliminary Estimates at 2024 Prices	2025 Preliminary Estimates at 2025 Prices
		2024			2025	
Operational Regular Budget[a]	412 517 207	413 017 339	500 132	423 012 195	423 312 195	433 120 480
Capital Regular Budget	6 504 732	6 000 000	(504 732)	6 144 000	6 144 000	6 285 312
Assessment on Member States	**419 021 939**	**419 017 339**	**(4 600)**	**429 156 195**	**429 456 195**	**439 405 792**
Miscellaneous Income						
Reimbursable Work for Others						
Printing Services	458 354	407 137	(51 217)	416 908	416 908	426 497
Medical Services	934 287	923 997	(10 290)	946 172	946 172	967 934
Nuclear Fusion Journal	422 852	390 812	(32 040)	400 191	400 191	409 396
Laboratory Income	238 507	238 426	(80)	244 149	244 149	249 764
Amounts Recoverable Under Safeguards Agreements	1 280 842	1 529 548	248 705	1 566 257	1 566 257	1 602 281
Subtotal Reimbursable Work for Others	**3 334 842**	**3 489 920**	**155 078**	**3 573 678**	**3 573 678**	**3 655 872**
Other						
Travel Rebates	135 000	135 000	-	135 000	135 000	135 000
Investment and Interest Income	3 295 400	3 300 000	4 600	3 300 000	3 000 000	3 000 000
Subtotal Other	**3 430 400**	**3 435 000**	**4 600**	**3 435 000**	**3 135 000**	**3 135 000**
Total Miscellaneous Income	**6 765 242**	**6 924 920**	**159 678**	**7 008 678**	**6 708 678**	**6 790 872**
Total Regular Budget Income	**425 787 181**	**425 942 258**	**155 078**	**436 164 873**	**436 164 872**	**446 196 664**

[a] Does not include estimates for Other Miscellaneous Income.

Table 3 (a). Total Resource Requirements for 2024 — By Programme and Major Programme (at 2024 Prices)

Programme/Major Programme	Regular Budget		Carry Forward	Unfunded		TC Programme	Total
	Operational	Capital	Capital	Operational	Capital		
1. Nuclear Power, Fuel Cycle and Nuclear Science							
Overall management, coordination and common activities	4 282 817	-	-	766 057	514 835	-	5 563 709
Nuclear Power	10 765 606	-	-	6 378 435	-	6 751 972	23 896 012
Nuclear Fuel Cycle and Waste Management	10 316 479	-	-	4 024 994	-	3 031 672	17 373 145
Capacity Building and Nuclear Knowledge for Sustainable Energy Development	11 573 162	-	-	10 968 843	-	2 100 173	24 642 178
Nuclear Science	9 771 447	-	-	719 095	1 528 583	7 145 477	19 164 602
Major Programme 1	**46 709 512**	**-**	**-**	**22 857 423**	**2 043 418**	**19 029 293**	**90 639 645**
2. Nuclear Techniques for Development and Environmental Protection							
Overall management, coordination and common activities	10 121 250	1 536 000	-	1 691 505	4 693 897	-	18 042 652
Food and Agriculture	13 164 907	-	-	22 041 956	-	17 337 378	52 544 242
Human Health	9 751 506	-	-	435 591	-	34 680 635	44 867 732
Water Resources	4 222 063	-	-	185 927	-	3 195 098	7 603 088
Marine Environment	5 294 415	-	-	2 018 917	-	4 873 618	12 186 949
Radiochemistry and Radiation Technology	4 946 471	-	-	185 927	-	13 853 847	18 986 245
Major Programme 2	**47 500 612**	**1 536 000**	**-**	**26 559 822**	**4 693 897**	**73 940 576**	**154 230 907**
3. Nuclear Safety and Security							
Overall management, coordination and common activities	4 875 416	307 200	-	2 710 235	104 955	-	7 997 806
Incident and Emergency Preparedness and Response	4 984 221	-	-	2 436 004	-	3 158 488	10 578 712
Safety of Nuclear Installations	11 940 102	-	-	7 530 810	-	8 079 631	27 550 543
Radiation and Transport Safety	8 566 894	-	-	3 682 347	-	11 653 534	23 902 775
Radioactive Waste Management and Environmental Safety	4 295 034	-	-	1 608 900	-	10 727 524	16 631 458
Nuclear Security	7 171 338	-	-	36 219 672	-	-	43 391 010
Major Programme 3	**41 833 006**	**307 200**	**-**	**54 187 967**	**104 955**	**33 619 177**	**130 052 305**
4. Nuclear Verification							
Overall management, coordination and common activities	17 660 610	-	-	1 476 612	-	-	19 137 222
Safeguards Implementation	146 730 327	716 800	-	36 958 841	7 881 276	-	192 287 243
Other Verification Activities	3 338 876	-	-	4 912 690	-	-	8 251 566
Major Programme 4	**167 729 812**	**716 800**	**-**	**43 348 143**	**7 881 276**	**-**	**219 676 031**
5. Policy, Management and Administration Services							
Policy, Management and Administration Services	92 267 806	3 276 800	2 048 000	8 910 867	12 527 543	650 955	119 681 971
Major Programme 5	**92 267 806**	**3 276 800**	**2 048 000**	**8 910 867**	**12 527 543**	**650 955**	**119 681 971**
6. Management of Technical Cooperation for Development							
Management of Technical Cooperation for Development	30 406 447	307 200	-	3 569 203	2 201 607	-	36 484 457
Major Programme 6	**30 406 447**	**307 200**	**-**	**3 569 203**	**2 201 607**	**-**	**36 484 457**
Total Agency Programmes	**426 447 195**	**6 144 000**	**2 048 000**	**159 433 425**	**29 452 696**	**127 240 000**	**750 765 316**
Reimbursable Work for Others	3 573 678	-	-	-	-	-	3 573 678
Total	**430 020 873**	**6 144 000**	**2 048 000**	**159 433 425**	**29 452 696**	**127 240 000**	**754 338 994**

Table 3 (b). Total Resource Requirements for 2025 — By Programme and Major Programme (at 2025 Prices)

Programme/Major Programme	Regular Budget		Carry Forward	Unfunded		TC Programme	Total
	Operational	Capital	Capital	Operational	Capital		
1. Nuclear Power, Fuel Cycle and Nuclear Science							
Overall management, coordination and common activities	4 381 319	-	-	655 285	222 616	-	5 259 220
Nuclear Power	10 978 226	-	-	6 202 074	-	6 798 669	23 978 968
Nuclear Fuel Cycle and Waste Management	10 553 487	-	-	3 727 774	-	3 052 639	17 333 900
Capacity Building and Nuclear Knowledge for Sustainable Energy Development	11 840 333	-	-	11 229 868	-	2 114 698	25 184 899
Nuclear Science	10 030 465	-	-	735 634	1 802 645	7 194 895	19 763 639
Major Programme 1	**47 783 830**	**-**	**-**	**22 550 635**	**2 025 261**	**19 160 901**	**91 520 626**
2. Nuclear Techniques for Development and Environmental Protection							
Overall management, coordination and common activities	10 348 131	-	-	954 725	1 634 326	-	12 937 182
Food and Agriculture	13 467 700	-	-	24 106 509	-	17 457 284	55 031 494
Human Health	9 975 788	-	-	445 609	-	34 920 488	45 341 886
Water Resources	4 319 170	-	-	190 203	-	3 217 196	7 726 568
Marine Environment	5 416 298	-	-	2 216 405	-	4 907 324	12 540 027
Radiochemistry and Radiation Technology	5 066 039	-	-	190 203	-	13 949 661	19 205 903
Major Programme 2	**48 593 126**	**-**	**-**	**28 103 655**	**1 634 326**	**74 451 954**	**152 783 060**
3. Nuclear Safety and Security							
Overall management, coordination and common activities	4 987 550	314 266	-	2 799 388	90 504	-	8 191 708
Incident and Emergency Preparedness and Response	5 098 858	-	-	1 611 487	-	3 180 332	9 890 677
Safety of Nuclear Installations	12 214 725	-	-	7 550 872	-	8 135 510	27 901 106
Radiation and Transport Safety	8 763 933	-	-	2 990 378	-	11 734 131	23 488 442
Radioactive Waste Management and Environmental Safety	4 393 821	-	-	1 228 712	-	10 801 716	16 424 249
Nuclear Security	7 336 279	-	-	37 052 724	-	-	44 389 003
Major Programme 3	**42 795 165**	**314 266**	**-**	**53 233 560**	**90 504**	**33 851 689**	**130 285 184**
4. Nuclear Verification							
Overall management, coordination and common activities	18 066 804	-	-	1 597 155	-	-	19 663 959
Safeguards Implementation	150 105 124	1 361 818	-	38 024 120	7 572 792	-	197 063 853
Other Verification Activities	3 415 670	-	-	5 025 682	-	-	8 441 352
Major Programme 4	**171 587 598**	**1 361 818**	**-**	**44 646 956**	**7 572 792**	**-**	**225 169 164**
5. Policy, Management and Administration Services							
Policy, Management and Administration Services	94 389 965	4 294 963	2 095 104	9 064 166	11 334 212	655 457	121 833 867
Major Programme 5	**94 389 965**	**4 294 963**	**2 095 104**	**9 064 166**	**11 334 212**	**655 457**	**121 833 867**
6. Management of Technical Cooperation for Development							
Management of Technical Cooperation for Development	31 105 795	314 266	-	3 383 834	1 709 279	-	36 513 173
Major Programme 6	**31 105 795**	**314 266**	**-**	**3 383 834**	**1 709 279**	**-**	**36 513 173**
Total Agency Programmes	**436 255 480**	**6 285 312**	**2 095 104**	**160 982 805**	**24 366 373**	**128 120 000**	**758 105 074**
Reimbursable Work for Others	3 655 872	-	-	-	-	-	3 655 872
Total	**439 911 352**	**6 285 312**	**2 095 104**	**160 982 805**	**24 366 373**	**128 120 000**	**761 760 947**

I.3 Programme and Budget Overview by Major Programme

Major Programme 1: Nuclear Power, Fuel Cycle and Nuclear Science

38. Major Programme 1 aims to provide scientific and technical support, guidance and services for the development and deployment of nuclear power and research reactor technology, including their nuclear fuel cycles and nuclear fuel cycle facilities (NFCFs); for advancing new nuclear power technologies, including small and medium sized or modular reactors (SMRs) and nuclear fusion for energy production; for radioactive waste management, decommissioning and environmental remediation; for energy system analysis and energy planning; and for nuclear knowledge and information management. It also supports advancements in nuclear science, including nuclear fusion science and plasma physics, nuclear and atomic data, accelerator and neutron source applications, and nuclear instrumentation. Major Programme 1 also supports Member States in their own outreach and stakeholder engagement efforts throughout the life cycle of nuclear facilities.

39. Several Member States consider nuclear power as a key component in the national energy mix to mitigate the effects of climate change, and in achieving energy security and corresponding Sustainable Development Goals (SDGs), in particular SDG 7 (on affordable and clean energy) and SDG 13 (on climate action). Major Programme 1 will continue to support interested Member States in assessing their future energy needs and in evaluating and understanding the potential for nuclear power to be part of their energy strategies. Support will also continue in the field of nuclear knowledge management (NKM), and nuclear information management, dissemination and preservation.

40. Major Programme 1 provides support for Member States considering, embarking on or expanding nuclear power programmes. It will continue to support for enhancing operating performance; life management; and safe, secure, efficient and reliable long term operation of nuclear power plants (NPPs). Support will continue for the development and deployment of SMRs; innovative reactor systems and associated fuel cycles; non-electric applications of nuclear power, including hydrogen production; integration of nuclear power with renewable energy sources; and technology development and deployment of nuclear fusion for energy production.

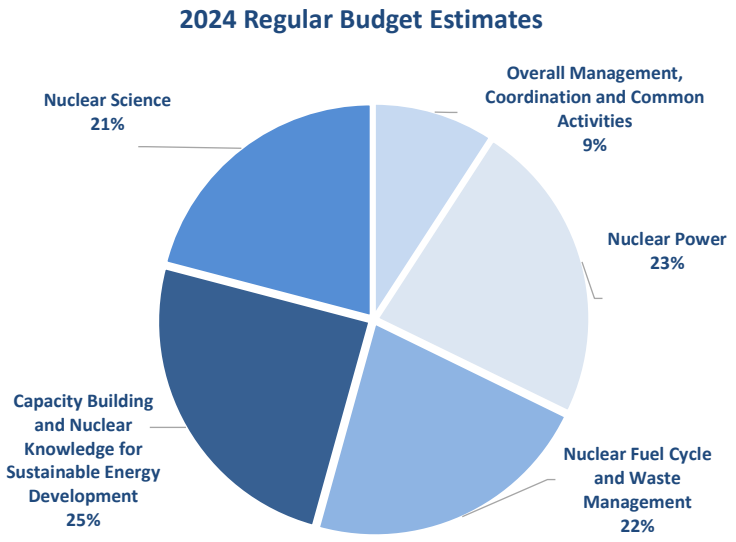
41. Major Programme 1 support will continue in uranium exploration, mining and milling; and in fuel cycle activities, including those related to spent fuel integrity, design vulnerabilities, defueling and storage. Support will also continue for radioactive waste management, decommissioning of nuclear facilities and management of disused sealed radioactive sources (DSRSs), as well as for environmental remediation. Major Programme 1 will continue to support Member States with an interest in building, operating or accessing research reactors — including via the IAEA-designated International Centre based on Research Reactor (ICERR) scheme — and in improving their utilization. Upon Member State request, support for transitioning from the use of high enriched uranium to low enriched uranium in research reactors will continue.

42. The Agency will remain a reliable source of nuclear, atomic and molecular data. Training and facilitation of experiments using various types of particle accelerators, neutron sources and nuclear instrumentation will continue. Collaboration with the Abdus Salam International Centre for Theoretical Physics (ICTP), in Trieste, Italy, to support education and training for scientists, especially those from developing countries, will focus more on the areas of relevance to the Agency, such as basic and applied nuclear sciences and nuclear energy.

Table 4. Major Programme 1 — Nuclear Power, Fuel Cycle and Nuclear Science

Summary of Regular Budget Resources for the Biennium (excluding Major Capital Investments)

Subprogramme/Programme		2023 Budget	2024			2025		
			2024 Estimates at 2023 Prices	Variance compared to 2023 EUR	Variance compared to 2023 %	Preliminary Estimates at 2023 Prices	Variance compared to 2024 EUR	Variance compared to 2024 %
1.0.1 Overall management, coordination and common activities	↓	1 861 219	1 822 351	(38 868)	(2.1%)	1 822 349	(2)	(0.0%)
1.S Corporate Shared Services Attribution to Major Programme 1	↑	1 878 294	2 360 087	481 793	25.7%	2 360 087	(0)	(0.0%)
1.0 Overall Management, Coordination and Common Activities	↑	**3 739 513**	**4 182 439**	***442 926***	***11.8%***	**4 182 436**	***(2)***	***(0.0%)***
1.1.1 Strengthening Integrated Engineering Support for Nuclear Power Programmes	↓	1 820 626	1 769 189	(51 437)	(2.8%)	1 769 189	-	-
1.1.2 Management for Construction and Operation of Nuclear Power Plants	↑	1 142 865	1 235 174	92 309	8.1%	1 235 174	-	-
1.1.3 Integrated Support for Nuclear Power Programme Infrastructure Development	–	2 955 189	2 917 476	(37 714)	(1.3%)	2 917 476	1	0.0%
1.1.4 International Project on Innovative Nuclear Reactors and Fuel Cycles	–	1 297 916	1 279 822	(18 094)	(1.4%)	1 279 822	-	-
1.1.5 Technology Development for Small and Medium Sized or Modular Reactors, Large Advanced Reactors, Non-electric Applications of Nuclear Power and Fusion Energy	↑	2 941 218	3 311 626	370 408	12.6%	3 278 224	(33 402)	(1.0%)
1.1 Nuclear Power Total	↑	**10 157 815**	**10 513 287**	***355 473***	***3.5%***	**10 479 886**	***(33 401)***	***(0.3%)***
1.2.1 Uranium Resources and Processing	↓	1 218 779	1 121 232	(97 547)	(8.0%)	1 139 648	18 416	1.6%
1.2.2 Nuclear Power Reactor Fuel and Fuel Cycle Facilities	↓	1 151 058	1 062 727	(88 331)	(7.7%)	1 074 690	11 963	1.1%
1.2.3 Management of Spent Fuel from Nuclear Power Reactor and Radioactive Material Transportation	↑	1 259 354	1 290 813	31 459	2.5%	1 260 593	(30 220)	(2.3%)
1.2.4 Radioactive Waste Management	↓	3 179 128	3 013 558	(165 569)	(5.2%)	3 013 323	(236)	(0.0%)
1.2.5 Decommissioning and Environmental Remediation	↑	1 745 097	1 886 605	141 508	8.1%	1 886 424	(181)	(0.0%)
1.2.6 Research Reactors	↑	1 619 150	1 699 751	80 601	5.0%	1 699 751	(1)	(0.0%)
1.2 Nuclear Fuel Cycle and Waste Management Total	–	**10 172 567**	**10 074 687**	***(97 880)***	***(1.0%)***	**10 074 428**	***(259)***	***(0.0%)***
1.3.1 Energy Modelling, Data and Capacity Building	↓	2 125 663	2 047 755	(77 908)	(3.7%)	2 047 882	127	0.0%
1.3.2 Energy –Economy –Environment (3E) Analysis	–	1 885 587	1 897 054	11 467	0.6%	1 896 502	(552)	(0.0%)
1.3.3 Nuclear Knowledge Management and Human Resource Development	–	2 577 268	2 547 830	(29 438)	(1.1%)	2 551 592	3 762	0.1%
1.3.4 Nuclear Information	↓	5 089 816	4 809 277	(280 540)	(5.5%)	4 806 884	(2 393)	(0.0%)
1.3 Capacity Building and Nuclear Knowledge for Sustainable Energy Development Total	↓	**11 678 334**	**11 301 916**	***(376 418)***	***(3.2%)***	**11 302 859**	***944***	***0.0%***
1.4.1 Atomic and Nuclear Data	↓	3 369 486	3 295 985	(73 501)	(2.2%)	3 294 448	(1 537)	(0.0%)
1.4.2 Research and Applications with Accelerators and Neutron Sources	↓	1 836 821	1 775 125	(61 696)	(3.4%)	1 775 125	-	-
1.4.3 Nuclear Instrumentation	–	1 389 073	1 366 819	(22 254)	(1.6%)	1 366 819	-	-
1.4.4 Nuclear Fusion Science and Plasma Physics	↓	952 102	833 145	(118 957)	(12.5%)	833 145	-	-
1.4.5 Support to the Abdus Salam International Centre for Theoretical Physics (ICTP)	↓	2 319 048	2 271 355	(47 693)	(2.1%)	2 305 610	34 256	1.5%
1.4 Nuclear Science Total	↓	**9 866 529**	**9 542 429**	***(324 100)***	***(3.3%)***	**9 575 148**	***32 719***	***0.3%***
Total for Nuclear Power, Fuel Cycle and Nuclear Science	–	**45 614 757**	**45 614 757**	***0***	***0.0%***	**45 614 757**	***(0)***	***(0.0%)***



Major Programme 2: Nuclear Techniques for Development and Environmental Protection

43. Major Programme 2 aims at fostering the development of innovative nuclear science and technology that can contribute to the SDGs and at providing technical support to transfer validated technologies to Member States. The Major Programme supports the peaceful uses of nuclear science and applications, providing Member States with science-based advice, educational materials, standards, guidance on best practices and reference materials, and technical documents. Major Programme 2 encompasses activities in five thematic areas: food and agriculture, human health, water resources, the marine environment, and radiochemistry and radiation technology.

44. The application of nuclear science and technology continues to grow in areas such as health care, environmental protection, materials, industry, food and agriculture and water resources, as well as in addressing global challenges, such as climate change, zoonotic diseases, non-communicable diseases (NCDs) and plastic pollution.

45. The Agency's 12 laboratories located in Vienna, Seibersdorf and Monaco, a feature unique in the United Nations system, are the cornerstone for the Agency's technology development and transfer to Member States. The laboratories support Member States in enhancing their capacity to use nuclear applications to reach their development goals, including SDG targets. The laboratories need to remain capable of meeting the increasing and rapidly evolving needs of Member States, as exemplified during the COVID-19 pandemic. The Renovation of the Nuclear Applications Laboratories (ReNuAL) in Seibersdorf is expected to see the completion of its second and final phase, ReNuAL 2, during the 2024–2025 programme and budget cycle.

46. The Agency's research and development (R&D) activities and its vast number of coordinated research projects (CRPs) contribute to addressing a diverse range of issues. While the Major Programme assists Member States in building their capacity, knowledge and expertise, its CRPs contribute to increasing their R&D capacity. The Agency's Collaborating Centre scheme remains a valuable arrangement for working jointly with Member States' institutions. Efforts will be made to continue strengthening the efficiency of the scheme for more cost-effective delivery of the Major Programme through arrangements with Collaborating Centres.

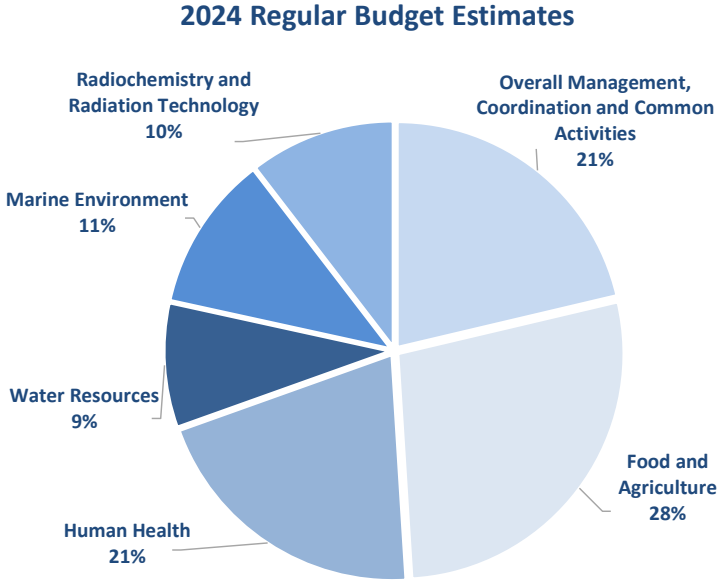
47. Partnerships remain an important way to strengthen programmatic activities and engage with Member States. Major Programme 2 will continue to enhance key partnerships with United Nations system organizations such as the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the United Nations Environment Programme (UNEP) and the World Organisation for Animal Health (WOAH, former OIE), and will continue its efforts to further develop partnerships with the private sectors in some key areas.

48. Major Programme 2 hosts several internationally recognized databases and networks of Member States' scientific and research institutions, such as the Network of Analytical Laboratories (NWAL) for the Measurement of Environmental Radioactivity (ALMERA), the Veterinary Diagnostic Laboratory (VETLAB) Network and the network of Zoonotic Disease Integrated Action (ZODIAC) National Laboratories. Education and training will continue to be fundamental to this Major Programme. To reach a wider audience and achieve greater cost savings, the development of e-learning tools and online education platforms such as webinars, and the use of virtual platforms, where relevant, will continue to be emphasized. To increase public awareness of the work and contributions of this Major Programme, efforts will continue in targeted communications strategies using all tools available, including social media.

Table 5. Major Programme 2 — Nuclear Techniques for Development and Environmental Protection

Summary of Regular Budget Resources for the Biennium (excluding Major Capital Investments)

Subprogramme/Programme		2023 Budget	2024			2025		
			2024 Estimates at 2023 Prices	Variance compared to 2023 EUR	Variance compared to 2023 %	Preliminary Estimates at 2023 Prices	Variance compared to 2024 EUR	Variance compared to 2024 %
2.0.0 Overall management, coordination and common activities	↓	2 950 584	2 883 943	(66 641)	(2.3%)	2 878 304	(5 639)	(0.2%)
2.S Corporate Shared Services Attribution to Major Programme 2	↑	6 561 511	7 000 090	438 579	6.7%	7 000 089	(0)	(0)
2.0 Overall Management, Coordination and Common Activities	↑	**9 512 095**	**9 884 033**	***371 938***	***3.9%***	**9 878 393**	***(5 639)***	***(0.1%)***
2.1.1 Sustainable Land and Water Management	↑	2 374 526	2 528 343	*153 817*	*6.5%*	2 528 343	-	-
2.1.2 Sustainable Intensification of Livestock Production Systems	=	2 485 781	2 458 403	*(27 378)*	*(1.1%)*	2 458 403	-	-
2.1.3 Improvement of Food Safety and Food Control Systems	↓	2 030 889	1 956 690	*(74 199)*	*(3.7%)*	1 956 690	-	-
2.1.4 Sustainable Control of Major Insect Pests	↓	3 937 249	3 852 420	*(84 829)*	*(2.2%)*	3 852 420	-	-
2.1.5 Crop Improvement for Intensification of Agricultural Production Systems	↓	2 135 855	2 060 499	*(75 356)*	*(3.5%)*	2 060 499	-	-
2.1 Food and Agriculture Total	=	**12 964 300**	**12 856 355**	***(107 945)***	***(0.8%)***	**12 856 355**	**-**	**-**
2.2.1 Nutrition for Improved Human Health	=	1 951 031	1 938 109	*(12 922)*	*(0.7%)*	1 938 109	*(0)*	*(0.0%)*
2.2.2 Nuclear Medicine and Diagnostic Imaging	↓	2 226 948	2 176 620	*(50 327)*	*(2.3%)*	2 176 619	*(1)*	*(0.0%)*
2.2.3 Radiation Oncology and Cancer Treatment	↓	2 095 220	2 045 869	*(49 350)*	*(2.4%)*	2 045 869	*(0)*	*(0.0%)*
2.2.4 Dosimetry and Medical Physics for Imaging and Therapy	=	3 426 846	3 362 357	*(64 489)*	*(1.9%)*	3 362 356	*(1)*	*(0.0%)*
2.2 Human Health Total	=	**9 700 044**	**9 522 955**	***(177 088)***	***(1.8%)***	**9 522 953**	***(2)***	***(0.0%)***
2.3.1 Isotope Hydrology Data Networks and Climate Change	↑	1 400 037	1 446 607	*46 569*	*3.3%*	1 426 851	*(19 756)*	*(1.4%)*
2.3.2 Isotope Based Integrated Water Resource Management	↓	1 317 700	1 273 889	*(43 811)*	*(3.3%)*	1 259 181	*(14 708)*	*(1.2%)*
2.3.3 Radioisotope Applications for Hydrology	=	1 416 058	1 402 613	*(13 446)*	*(0.9%)*	1 437 076	*34 463*	*2.5%*
2.3 Water Resources Total	=	**4 133 796**	**4 123 108**	***(10 688)***	***(0.3%)***	**4 123 108**	***(0)***	***(0.0%)***
2.4.1 Nuclear Techniques to Understand Climate and Environmental Changes	↓	1 678 947	1 614 205	*(64 743)*	*(3.9%)*	1 631 592	*17 388*	*1.1%*
2.4.2 Nuclear Techniques to Monitor and Assess Pollution	↑	1 500 053	1 820 170	*320 117*	*21.3%*	1 831 741	*11 571*	*0.6%*
2.4.3 Analytical Techniques to Protect Biodiversity and Ecosystem Services	↓	2 013 675	1 735 952	*(277 724)*	*(13.8%)*	1 707 100	*(28 852)*	*(1.7%)*
2.4 Marine Environment Total	=	**5 192 676**	**5 170 327**	***(22 349)***	***(0.4%)***	**5 170 434**	***107***	***0.0%***
2.5.1 Radioisotope Products for Cancer Management and Non-communicable Diseases	↓	1 204 805	1 134 757	*(70 048)*	*(5.8%)*	1 154 198	*19 441*	*1.7%*
2.5.2 Radiation Technology Applications in Health Care, Industries and the Environment	↑	1 519 226	1 559 202	*39 976*	*2.6%*	1 545 295	*(13 906)*	*(0.9%)*
2.5.3 Terrestrial Environmental Radiochemistry	↑	2 160 374	2 136 580	*(23 794)*	*(1.1%)*	2 136 580	*0*	*0.0%*
2.5 Radiochemistry and Radiation Technology Total	=	**4 884 406**	**4 830 539**	***(53 867)***	***(1.1%)***	**4 836 074**	***5 535***	***0.1%***
Total for Nuclear Techniques for Development and Environmental Protection	=	**46 387 316**	**46 387 316**	***0***	***0.0%***	**46 387 316**	***0***	***0.0%***



Major Programme 3: Nuclear Safety and Security

49. Major Programme 3 promotes the worldwide achievement and maintenance of high levels of nuclear safety and security to protect people, society and the environment from ionizing radiation. It supports Member States in meeting the demand for a higher level of safety at the growing number of nuclear installations — including uranium mining facilities — and at existing NPPs and research reactors, whose average age continues to increase. It also supports Member States in addressing the wider use of ionizing radiation in industry, medicine and agriculture; the continuous threat of nuclear terrorism; and the accumulation of radioactive waste and spent nuclear fuel. In conducting these activities, the Agency fosters a strong safety and security culture. Through Major Programme 3, the Agency performs its statutory function of establishing safety standards and providing for their application in Member States, upon request, as well as to its own operations.

50. Major Programme 3 assists Member States in building national capacities by promoting international cooperation and by transferring nuclear safety knowledge from States with mature nuclear energy and nuclear applications programmes to States with emerging nuclear energy and nuclear applications programmes through knowledge networks. The activities under this Major Programme will continue to cover the strengthening of nuclear, radiation, transport and waste safety in a comprehensive manner, including design safety, external hazard assessment, safety culture, communication on safety, severe accident management, post-accident remediation and transition to recovery, as well as aspects related to NPP operating life extension, including organizational and human performance, decommissioning of facilities, disposal of low and high level radioactive waste, innovative technologies such as fast reactors and small and medium sized or modular reactors, and the safety of radiation sources used in non-power applications.

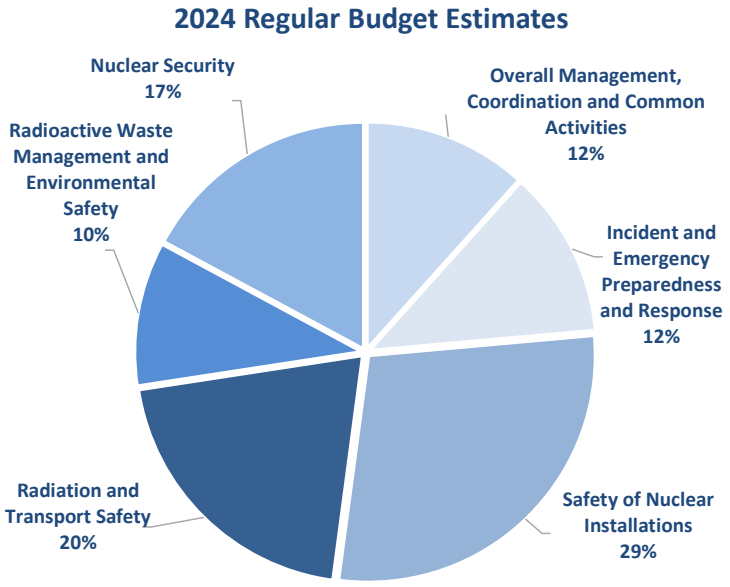
51. The security of nuclear and other radioactive material and facilities remains a high priority. The Agency develops and publishes nuclear security recommendations and guidance and maintains an effective information platform for their application. At the request of a State, the Agency assists in developing and implementing a robust nuclear security infrastructure, including prevention, detection and response. Despite the nuclear safety and security arrangements in place, the risk of a nuclear or radiological emergency — of various origins or severity — cannot be entirely eliminated. This Major Programme also focuses on providing assistance in developing and strengthening national and international capacities to prepare to respond effectively to, and to mitigate, the consequences of such an emergency. The Incident and Emergency Centre will continue responding to the growing demands from Member States. The Agency is the global focal point for international preparedness for and response to nuclear and radiological incidents or emergencies and implements its response roles under this Major Programme.

52. Radiation safety and nuclear security regulations for the Agency's own activities will continue to be strengthened. Major Programme 3 will continue a focus on enhancing timely coordination within this Major Programme and with other Major Programmes to contribute to, as well as to build synergies and increase effectiveness and efficiency in, the planning and implementation of activities such as the IAEA Platform on Small Modular Reactors and their Applications, the Nuclear Harmonization and Standardization Initiative (NHSI), Rays of Hope and other initiatives.

Table 6. Major Programme 3 — Nuclear Safety and Security

Summary of Regular Budget Resources for the Biennium (excluding Major Capital Investments)

Subprogramme/Programme		2023 Budget	2024			2025		
			2024 Estimates at 2023 Prices	Variance compared to 2023 EUR	Variance compared to 2023 %	Preliminary Estimates at 2023 Prices	Variance compared to 2024 EUR	Variance compared to 2024 %
3.0.0	Overall management, coordination and common activities	2 268 009	2 243 034	(24 974)	(1.1%)	2 243 033	(1)	(0.0%)
3.S	Corporate Shared Services Attribution to Major Programme 3	2 091 244	2 518 114	426 870	20.4%	2 518 114	(0)	(0.0%)
3.0	**Overall Management, Coordination and Common Activities**	**4 359 253**	**4 761 149**	**401 896**	**9.2%**	**4 761 148**	**(1)**	**(0.0%)**
3.1.1	National and International Emergency Preparedness	1 958 362	1 944 017	(14 345)	(0.7%)	1 950 801	6 783	0.3%
3.1.2	IAEA IES and Operational Arrangements with Member States and International Organizations	2 963 247	2 923 386	(39 861)	(1.3%)	2 916 602	(6 784)	(0.2%)
3.1	**Incident and Emergency Preparedness and Response Total**	**4 921 609**	**4 867 403**	**(54 206)**	**(1.1%)**	**4 867 403**	**(0)**	**(0.0%)**
3.2.1	Governmental Regulatory Framework and Safety Infrastructure Development	3 797 125	3 381 685	(415 440)	(10.9%)	3 392 238	10 553	0.3%
3.2.2	Safety Assessment of Nuclear Installations	2 406 111	2 482 682	76 572	3.2%	2 502 974	20 291	0.8%
3.2.3	Safety and Protection Against External Hazards	1 220 642	1 217 395	(3 247)	(0.3%)	1 278 359	60 964	5.0%
3.2.4	Safe Operation of Nuclear Power Plants	2 824 474	2 933 596	109 122	3.9%	2 823 192	(110 404)	(3.8%)
3.2.5	Safety of Research Reactor and Fuel Cycle Facilities	1 541 726	1 644 898	103 172	6.7%	1 663 494	18 596	1.1%
3.2	**Safety of Nuclear Installations Total**	**11 790 078**	**11 660 256**	**(129 821)**	**(1.1%)**	**11 660 256**	**(0)**	**(0.0%)**
3.3.1	Radiation Safety and Monitoring	4 872 676	4 875 039	2 364	0.0%	4 870 139	(4 900)	(0.1%)
3.3.2	Regulatory Infrastructure and Transport Safety	3 586 600	3 491 068	(95 532)	(2.7%)	3 495 969	4 900	0.1%
3.3	**Radiation and Transport Safety Total**	**8 459 276**	**8 366 107**	**(93 168)**	**(1.1%)**	**8 366 108**	**1**	**0.0%**
3.4.1	Safety of Spent Fuel and Radioactive Waste Management	1 949 307	1 882 049	(67 258)	(3.5%)	2 178 478	296 429	15.8%
3.4.2	Safety of Decommissioning, Remediation and Environmental Releases	2 291 774	2 312 320	20 547	0.9%	2 015 892	(296 428)	(12.8%)
3.4	**Radioactive Waste Management and Environmental Safety Total**	**4 241 080**	**4 194 369**	**(46 711)**	**(1.1%)**	**4 194 370**	**1**	**0.0%**
3.5.1	Information Management	1 460 343	1 441 479	(18 863)	(1.3%)	1 424 687	(16 792)	(1.2%)
3.5.2	Nuclear Security of Materials and Facilities	1 996 774	1 726 869	(269 905)	(13.5%)	1 726 869	-	-
3.5.3	Nuclear Security of Material outside of Regulatory Control	1 786 070	1 811 193	25 123	1.4%	1 834 420	23 227	1.3%
3.5.4	Programme Development and International Cooperation	1 838 063	2 023 719	185 656	10.1%	2 017 284	(6 435)	(0.3%)
3.5	**Nuclear Security Total**	**7 081 249**	**7 003 260**	**(77 990)**	**(1.1%)**	**7 003 260**	**(0)**	**(0.0%)**
Total for Nuclear Safety and Security		**40 852 545**	**40 852 545**	**(0)**	**(0.0%)**	**40 852 545**	**0**	**0.0%**



Major Programme 4: Nuclear Verification

53. Major Programme 4 supports the Agency's statutory mandate to establish and administer safeguards designed to ensure that special fissionable and other materials, services, equipment, facilities and information made available by the Agency, or at its request or under its supervision or control, are not used in such a way as to further any military purpose; and to apply safeguards, at the request of the parties to any bilateral or multilateral arrangement, or at the request of a State to any of that State's activities in the field of atomic energy.

54. To this end, the Agency concludes safeguards agreements with States, which confer upon the Agency the legal obligation and authority to apply safeguards to nuclear material, facilities and other items subject to safeguards. Under this Major Programme, the Agency carries out verification activities, such as the collection and evaluation of safeguards relevant information; the development of safeguards approaches; and the planning, conduct and evaluation of safeguards activities, including the installation of safeguards instrumentation, in-field verification activities and sample analysis required for implementing safeguards. These activities enable the Agency to draw soundly based safeguards conclusions. In addition, the Agency, in accordance with its Statute, assists with other verification tasks, including in connection with nuclear disarmament or arms control agreements as requested by States and approved by the Board of Governors.

55. For the 2024–2025 period, the main challenges for Major Programme 4 include:

- Meeting increasing safeguards responsibilities effectively and efficiently;
- Enhancing business continuity and disaster recovery capabilities to respond to large-scale external events, such as pandemics, in order to ensure that critical safeguards verification activities are carried out without interruption, including through the strengthening of the Agency's existing regional offices;
- Implementing, as appropriate, the necessary verification and monitoring of the nuclear-related commitments of the Islamic Republic of Iran (Iran), as set out in the Joint Comprehensive Plan of Action (JCPOA), in light of United Nations Security Council resolution 2231 (2015);
- Preparing to safeguard new types of nuclear facilities and more complex or larger-scale nuclear facilities, such as the Mixed Oxide Fuel Fabrication Plant (J-MOX) in Japan, the encapsulation plant and geological repository (EPGR) in Finland and Sweden, and small modular reactors, including through securing sources of financing;
- Planning for and conducting verification activities related to the transfer of spent fuel to dry storages, and to the decommissioning of nuclear facilities;
- Addressing areas of difficulty in safeguards implementation;
- Strengthening State systems of accounting for and control of nuclear material (SSACs) and State or regional authorities responsible for safeguards implementation (SRAs) through additional support provided to States in the context of the IAEA Comprehensive Capacity-Building Initiative for SSACs and SRAs (COMPASS);
- Strengthening the effectiveness and improving the efficiency of the Agency's safeguards by facilitating the conclusion of comprehensive safeguards agreements (CSAs) and additional protocols (APs);
- Promoting the rigorous implementation of the 2005 Board of Governors decisions regarding small quantities protocols based on the original standard text, with the aim of enabling the States concerned to amend or rescind such protocols, as applicable;
- Maintaining the Agency's enhanced readiness to return to the Democratic People's Republic of Korea (DPRK);
- Ensuring the availability of a safeguards workforce with the necessary skills and expertise to enhance cost-effectiveness, and maintaining critical institutional

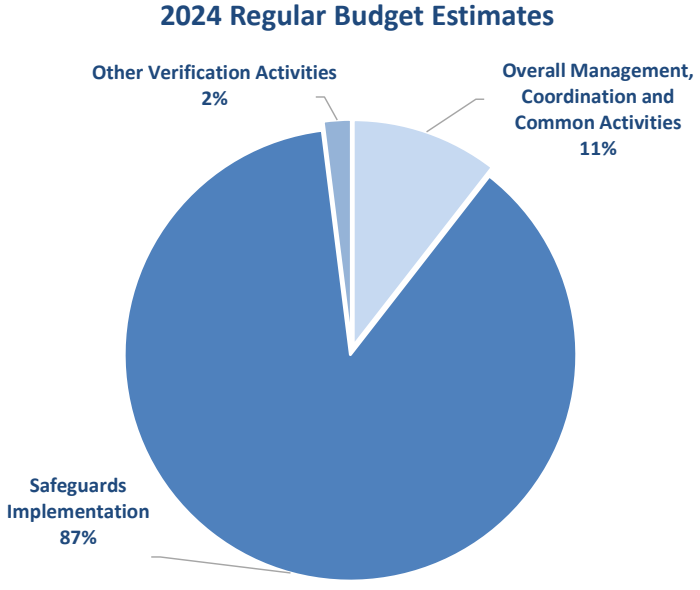
knowledge;

- Maintaining and enhancing the modernized information technology (IT) infrastructure, including the technical systems, services and instrumentation that underpin effective and efficient safeguards implementation and provide for, inter alia, the highest standards of information security;
- Securing predictable sources of funding in order to continue delivering high-quality safeguards services and implementing effective safeguards in States, including funding for the safeguards equipment necessary to implement effective and efficient safeguards approaches, and encouraging Member States and outside donors to provide co-funding or in-kind contributions to support the implementation of relevant activities, as appropriate;
- Operating in a challenging security environment, which may require additional measures to ensure the physical safety of staff operating in the field and to ensure information security.

Table 7. Major Programme 4 — Nuclear Verification

Summary of Regular Budget Resources for the Biennium (excluding Major Capital Investments)

Subprogramme/Programme		2023 Budget	2024			2025		
			2024 Estimates at 2023 Prices	Variance compared to 2023 EUR	Variance compared to 2023 %	Preliminary Estimates at 2023 Prices	Variance compared to 2024 EUR	Variance compared to 2024 %
4.0.1 Overall management, coordination and common activities		4 384 828	4 336 531	*(48 297)*	*(1.1%)*	4 336 532	*0*	*0.0%*
4.S Corporate Shared Services Attribution to Major Programme 4	↑	11 229 785	12 910 158	1 680 373	15.0%	12 910 158	(0)	(0)
4.0 Overall Management, Coordination and Common Activities	↑	**15 614 613**	**17 246 690**	***1 632 076***	***10.5%***	**17 246 690**	***0***	***0.0%***
4.1.1 Concepts and Planning		9 222 887	9 067 294	*(155 593)*	*(1.7%)*	9 067 295	*1*	*0.0%*
4.1.2 Safeguards Implementation for States under the Responsibility of Division SGOA		18 860 591	18 755 047	*(105 544)*	*(0.6%)*	18 689 591	*(65 456)*	*(0.3%)*
4.1.3 Safeguards Implementation for States under the Responsibility of Division SGOB		28 106 840	27 849 017	*(257 823)*	*(0.9%)*	27 849 017	-	-
4.1.4 Safeguards Implementation for States under the Responsibility of Division SGOC		19 192 317	18 875 252	*(317 065)*	*(1.7%)*	18 875 252	-	-
4.1.5 Information Analysis	↓	14 138 939	13 849 375	*(289 564)*	*(2.0%)*	13 742 314	*(107 061)*	*(0.8%)*
4.1.6 Provision and Development of Safeguards Instrumentation		24 273 137	23 861 484	*(411 653)*	*(1.7%)*	23 861 484	*0*	*0.0%*
4.1.7 Analytical Services		12 045 520	12 048 141	*2 621*	*0.0%*	12 050 966	*2 825*	*0.0%*
4.1.8 Special Projects	↑	1 556 118	1 620 918	*64 800*	*4.2%*	1 790 608	*169 690*	*10.5%*
4.1.9 Safeguards Information and Communication Technology (ICT)		17 490 751	17 364 806	*(125 945)*	*(0.7%)*	17 364 807	*1*	*0.0%*
4.1 Safeguards Implementation Total		**144 887 099**	**143 291 334**	***(1 595 765)***	***(1.1%)***	**143 291 334**	***(0)***	***(0.0%)***
4.2.1 Other Verification Activities		3 296 932	3 260 621	*(36 312)*	*(1.1%)*	3 260 621	-	-
4.2 Other Verification Activities Total		**3 296 932**	**3 260 621**	***(36 312)***	***(1.1%)***	**3 260 621**	**-**	**-**
Total for Nuclear Verification		**163 798 645**	**163 798 645**	***0***	***0.0%***	**163 798 645**	***0***	***0.0%***



Major Programme 5: Policy, Management and Administration Services

56. Under the leadership, direction and authority of the Director General, the Agency's programmes seek to achieve the objectives of the Agency's Member States. This requires effective guidance on priorities; quality assurance; interactions with Member States; services provided to the Policy-Making Organs, commensurate with evolving demands, including interpretation; development and implementation of programmes; results based management, including performance assessment and risk management; gender mainstreaming; partnerships and resource mobilization; and the wider dissemination of information within the Secretariat, between the Secretariat and Member States, and for the benefit of the general public and the media. Furthermore, an independent Ethics function continues to promote and sustain an ethical organizational culture of integrity, accountability and transparency, and continues to assist the Director General in ensuring that all staff members observe and perform their functions consistent with the highest standards of integrity.

57. To help achieve the Agency's mandate, a wide range of administrative, managerial, oversight and legal services continues to support Agency programmes, enabling efficient and effective programme delivery to Member States.

58. Ensuring the sustainable operation of facilities maintained or used by the Agency, such as its laboratories and the VIC, remains a priority. Approximately a quarter of the Major Programme 5 budget is related to the cost of common security services and the cost of the UNIDO operated management of the VIC premises that are expected to continue to increase. Adequate funding is needed to cover the maintenance of the infrastructure of the VIC. However, the Agency's contribution to these common buildings management services must also consider the current budget climate of having to do 'more with the same'.

59. Major Programme 5 remains strongly focused on efficiencies and productivity as well as on adopting agile working methods to enable the Agency to respond to emerging situations. It continues to proactively optimize the delivery of its support services by streamlining processes, adopting new technologies and leveraging existing investments. Recent examples of building sustainable efficiencies are the further expansion of cloud service, improvements in procurement processing, the streamlined handling of official documents, standardized tools for managing virtual meetings and the diversification of output formats for publications including greater use of e-publishing.

60. The increased reliance on IT to facilitate programme delivery and enable a more data driven management of operations, as well as constantly evolving information security landscape, also require the management of the corresponding information security risks. It is therefore necessary to continue to build and sustain a secure IT infrastructure and to ensure that robust and appropriate measures are in place to address the growth and sophistication of information security threats.

61. Procurement Services will continue to explore innovative, efficient options to address the increasing demand for services and ensure continued improvements, including maintaining the Agency's capacity to deliver rapid response assistance to Member States, as required.

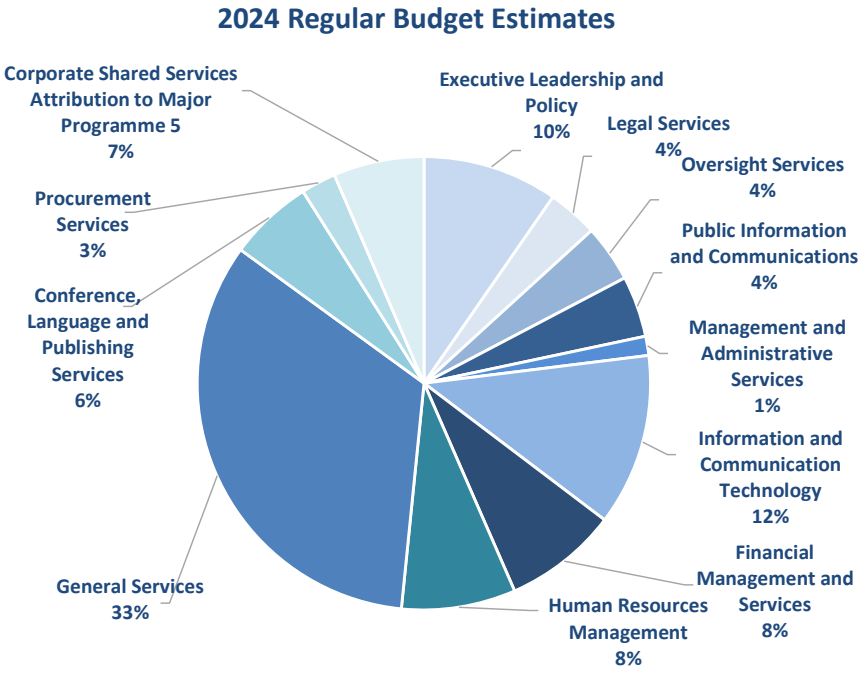
62. Human resources management remains focused on identifying opportunities to promote the Agency as an employer of choice, enhancing a culture of accountability and improving the agility and effectiveness of the Agency's work force, bearing in mind the technical competence of staff and gender balance.

63. The Agency will continue to strengthen accountability, efficiency and effectiveness through the activities of the Office of Internal Oversight Services — including audits, evaluations, investigations and the provision of advisory support to senior management and Member States — as well as through the Secretariat's support to the External Auditor.

Table 8. Major Programme 5 — Policy, Management and Administration Services

Summary of Regular Budget Resources for the Biennium (excluding Major Capital Investments)

Subprogramme			2023 Budget	2024			2025		
				2024 Estimates at 2023 Prices	Variance compared to 2023		Preliminary Estimates at 2023 Prices	Variance compared to 2024	
					EUR	%		EUR	%
5.0.1	Executive Leadership and Policy	↑	8 299 680	8 697 785	*398 105*	*4.8%*	8 697 785	*(0)*	*(0.0%)*
5.0.2	Legal Services	–	3 198 856	3 237 514	*38 658*	*1.2%*	3 237 514	-	-
5.0.3	Oversight Services	–	3 646 956	3 663 563	*16 607*	*0.5%*	3 663 563	-	-
5.0.4	Public Information and Communications	↑	3 548 079	3 925 337	*377 258*	*10.6%*	3 925 337	-	-
5.0.5	Management and Administrative Services	↓	1 525 234	1 239 676	*(285 558)*	*(18.7%)*	1 258 090	*18 414*	*1.5%*
5.0.6	Information and Communication Technology	–	11 134 072	11 052 478	*(81 593)*	*(0.7%)*	11 052 478	-	-
5.0.7	Financial Management and Services	–	7 415 629	7 336 611	*(79 018)*	*(1.1%)*	7 335 089	*(1 522)*	*(0.0%)*
5.0.8	Human Resources Management	–	7 229 637	7 328 221	*98 584*	*1.4%*	7 328 221	-	-
5.0.9	General Services	↓	30 967 965	30 126 131	*(841 834)*	*(2.7%)*	30 093 403	*(32 728)*	*(0.1%)*
5.0.10	Conference, Language and Publishing Services	↓	5 745 737	5 424 916	*(320 822)*	*(5.6%)*	5 426 906	*1 990*	*0.0%*
5.0.11	Procurement Services	–	2 270 060	2 263 811	*(6 250)*	*(0.3%)*	2 277 656	*13 846*	*0.6%*
5.S	Corporate Shared Services Attribution to Major Programme 5	↑	4 868 641	5 809 235	*940 594*	*19.3%*	5 809 235	*(0)*	*(0.0%)*
Total for Policy, Management and Administration Services		–	**89 850 548**	**90 105 279**	***254 732***	***0.3%***	**90 105 279**	***(0)***	***(0.0%)***



Major Programme 6: Management of Technical Cooperation for Development

64. Major Programme 6 enables the management, development and implementation of TC projects within the framework of the biennial TC programme. The TC programme is designed to respond to relevant developmental priorities of Member States through effective programme management, in accordance with its strategic objective, and will continue to serve as the major vehicle for the transfer of nuclear science and technology and to build capacity — with an emphasis on human resource development — in nuclear applications in Member States, contributing to Members States' efforts to achieve the SDGs.

65. The TC programme is a cross-cutting Agency programme that supports Member States' efforts to address their sustainable development needs, including in the areas of human health, especially for cancer control; food and agriculture; irradiation technology and processing; energy planning and nuclear power development; and water resources management and the environment. The TC programme further helps Member States in preventing and combating zoonotic diseases, coping and responding to unforeseen needs and emergencies related to disease outbreaks, extreme climate events and natural disasters; combating plastic pollution; and promoting greater engagement of women in the nuclear field. It facilitates partnership building, supports knowledge sharing, and builds and reinforces scientific networking through national, regional and interregional projects funded from the Technical Cooperation Fund (TCF), extrabudgetary resources and in-kind contributions. TC projects are developed through a consultative process with Member States and address national development priorities outlined in Country Programme Frameworks (CPFs) and national development plans, as well as issues of common interest and needs identified through various regional frameworks. Under the 2024–2025 TC programme cycle, a total of 148 Member States and territories (including 36 least developed countries) will have national TC projects. For planning purposes, it is assumed that the overall rate of attainment of the TCF will reach 94%.

66. The TC programme for the 2024–2025 cycle is formulated with an emphasis on the following:

- Enhancing dialogue with, and participation of, Member States at all stages of the programme cycle, in particular in the planning, design, implementation, monitoring and reporting of TC projects;
- Ensuring the provision of adequate support to meet the growing demand and needs of Member States in using nuclear technology for sustainable development, including supporting their efforts to achieve the SDGs, particularly SDGs 2, 3, 6, 7, 9, 13, 14, 15 and 17;
- Supporting Member States in capacity building related to the early detection and control of zoonotic diseases;
- Supporting Member States that require assistance with building and expanding cancer care capacity by integrating radiotherapy, diagnostic imaging and nuclear medicine services into a comprehensive cancer control programme;
- Supporting Member States in addressing global challenges such as climate change and plastic pollution;
- Supporting Member States in energy planning, long term operation of NPPs and the development of nuclear power infrastructure, including small modular reactors;
- Supporting Member States to build and strengthen their regulatory and safety infrastructures for the safe and secure use of nuclear science and applications;
- Promoting cooperation among Member States in response to evolving development challenges through information and knowledge exchange utilizing, in particular, the expertise available regionally;
- Ensuring the Agency's continued capacity to plan and deliver the programme and to swiftly and adequately respond to Member States' emerging and urgent requests for

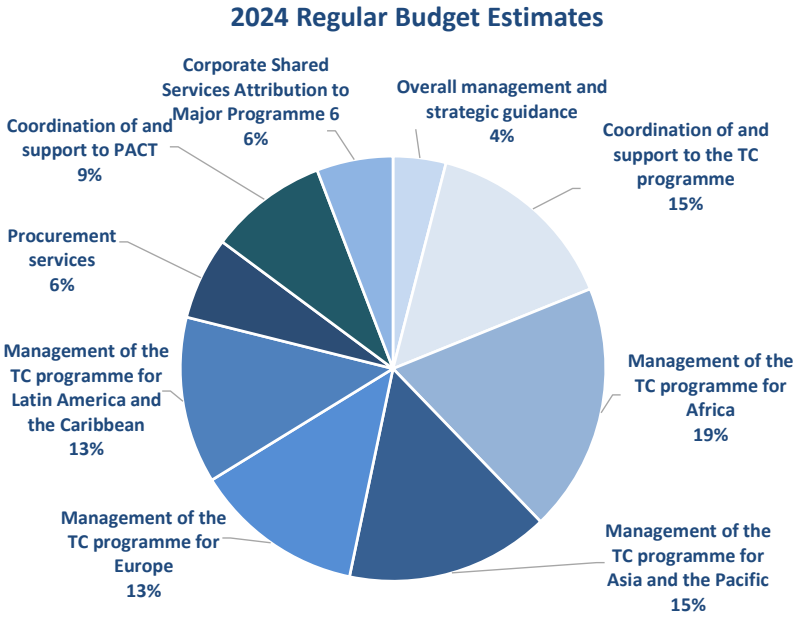
support through the TC programme;

- Enhancing the effectiveness, efficiency and quality of the TC programme by further strengthening the results based approach and increasing in-house coordination with technical Departments;
- Enhancing partnerships and resource mobilization efforts with traditional donors, non-traditional donors and public–private partnerships;
- Supporting the enhancement of South–South and triangular cooperation with Member States, financial institutions and official development agencies to develop and implement projects related to the application of nuclear technology;
- Strengthening the visibility and role of the TC programme in nuclear technology transfer and development through outreach efforts, including through the Ministerial Conference on Nuclear Science, Technology and Applications and the Technical Cooperation Programme to be held in 2024; and
- Promoting gender mainstreaming, with a particular focus on the participation of women in TC activities.

Table 9. Major Programme 6 — Management of Technical Cooperation for Development

Summary of Regular Budget Resources for the Biennium (excluding Major Capital Investments)

Project		2023 Budget	2024			2025		
			2024 Estimates at 2023	Variance compared to 2023 EUR	Variance compared to 2023 %	Preliminary Estimates at 2023 Prices	Variance compared to 2024 EUR	Variance compared to 2024 %
6.0.1.001 Overall management and strategic guidance	↓	1 231 253	1 195 477	(35 777)	(2.9%)	1 195 477	-	-
6.0.1.002 Coordination of and support to the TC programme	↓	4 606 232	4 408 026	(198 206)	(4.3%)	4 408 026	-	-
6.0.1.003 Management of the TC programme for Africa	=	5 593 598	5 620 073	26 475	0.5%	5 620 073	-	-
6.0.1.004 Management of the TC programme for Asia and the Pacific	↑	4 498 288	4 599 404	101 116	2.2%	4 599 404	-	-
6.0.1.005 Management of the TC programme for Europe	=	3 827 528	3 839 152	11 624	0.3%	3 839 152	-	-
6.0.1.006 Management of the TC programme for Latin America and the Caribbean	=	3 744 641	3 763 454	18 813	0.5%	3 763 455	1	0.0%
6.0.1.007 Procurement services	=	1 885 501	1 864 700	(20 801)	(1.1%)	1 864 700	0	0.0%
6.0.1.008 Coordination of and support to the PACT	=	2 638 594	2 676 649	38 055	1.4%	2 676 649	(1)	(0.0%)
6.0.1.009 Corporate Shared Services Attribution to Major Programme 6	↑	1 418 160	1 726 861	308 701	21.8%	1 726 861	(0)	(0.0%)
Total for Management of Technical Cooperation for Development	=	**29 443 796**	**29 693 796**	**250 000**	**0.8%**	**29 693 796**	**(0)**	**(0.0%)**



I.4 Major Capital Investments

Major Capital Investment Plan

67. The MCIP outlines the Agency's major capital projects for the next ten years. It is updated annually and is based on Agency requirements for maintaining an adequate, up-to-date and well-functioning infrastructure. An overview of the plan with annual projections is presented in Table 10.

68. For 2024, major capital investment requirements total €37.6 million. The breakdown is shown in the table below.

Major Programme/Major Capital Item (in € millions)	2024
1. Nuclear Power, Fuel Cycle and Nuclear Science	
Integrated Information Management Systems Upgrade	0.5
Establishment of an Ion Beam Accelerator Facility in Seibersdorf	1.5
Major Programme 1	**2.0**
2. Nuclear Techniques for Development and Environmental Protection	
ReNuAL 2	4.8
Integrated Life Cycle Management of NA Assets (ILNA) (MCIF)	1.4
Major Programme 2	**6.2**
3. Nuclear Safety and Security	
Enhancing Radiation Safety through Efficient and Modern Dosimetry (RADSED)	0.4
Major Programme 3	**0.4**
4. Nuclear Verification	
Develop and Implement a Safeguards Approach for J-MOX	2.1
Develop and Implement Safeguards Approaches for a SF EPGR	0.6
Integrated Life Cycle Management of Safeguards Assets (ILSA)	5.8
Major Programme 4	**8.6**
5. Policy, Management and Administration Services	
Provision for IT Infrastructure and Information Security Investment	9.3
Seibersdorf Infrastructure and Common Facilities	4.1
Buildings Management Services Capital Fund	1.7
UNSSS CIP for Standardization Upgrade of Physical Sec. Arc.(PACT III)	2.0
Integrated Physical Security Access System (SAS) at the VIC	0.7
Major Programme 5	**17.9**
6. Management of Technical Cooperation for Development	
Upgrade of the IAEA Technical Cooperation Programme Cycle Management Framework	2.5
Major Programme 6	**2.5**
Major Capital Investment Plan Total	**37.6**

69. The MCIF is a reserve fund established in accordance with Financial Regulation 4.06 to help provide for those Agency major infrastructure requirements that are included in the MCIP. It provides an opportunity to fund capital requirements that could otherwise face continued deferral or require substantial increases in annual Member State contributions.

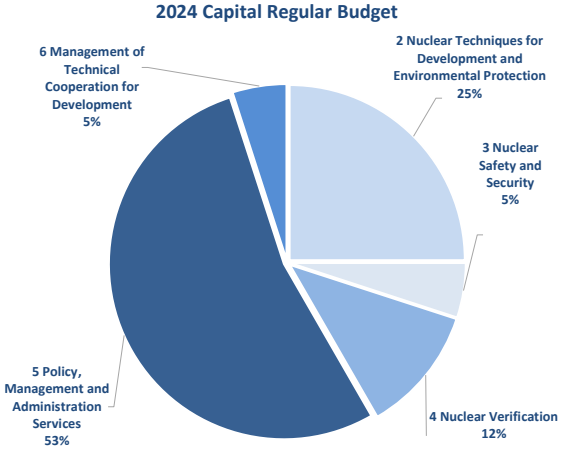
70. The MCIF is reviewed by the Board of Governors in the framework of the established Programme and Budget approval process.

71. As indicated in document GC(53)/5, the MCIF is funded by the entire amount appropriated for the capital portion of the Regular Budget, unspent budgetary balances from the operational Regular Budget in prior years, if any, and any other source as the Board of Governors may determine.

72. Since the inception of the MCIF in 2009,[7] unspent balances from past operational Regular Budget appropriations have been transferred to the MCIF and reported in the respective financial statements in accordance with Financial Regulation 7.02(b)(4). In the same manner, any unspent budgetary balances from the 2022–2023 operational Regular Budget will also be transferred to the MCIF.

Capital Investments

73. The Director General is proposing, as in the 2023 Budget, at 2023 prices, to fund €2.0 million of the capital Regular Budget for 2024 from the unspent balances of past operational Regular Budget appropriations previously transferred to the MCIF and €6.0 million from assessed contributions. The same arrangement is expected to continue in 2025.



[7] See documents GOV/2009/1 and GOV/2009/52/Rev.1.

74. A total of €8.2 million of 2024 MCIF funding, after price adjustment, (€6.1 million from the capital Regular Budget and €2.0 million from the capital Carry Forward) will be distributed to the following capital projects:

- Renovation of the Nuclear Applications Laboratories (ReNuAL 2) — Major Programme 2 — €1.5 million.
- Enhancing Radiation Safety through Efficient and Modern Dosimetry (RADSED) — Major Programme 3 — €0.3 million.
- Develop and Implement a Safeguards Approach for J-MOX — Major Programme 4 — €0.7 million.
- Seibersdorf Infrastructure and Common Facilities — Major Programme 5 — €0.4 million.
- Provision for IT Infrastructure and Information Security Investment — Major Programme 5 — €3.3 million.
- Buildings Management Services Capital Fund — Major Programme 5 — €1.6 million.
- Upgrade of the IAEA Technical Cooperation Programme Cycle Management — Framework Major Programme 6 — €0.3 million.

75. As in prior years, a significant amount of capital investments proposed for 2024–2025 remains unfunded. A total of €29.5 million in capital requirements remains unfunded for 2024, while investments unfunded for 2025 amount to €23.8 million. It is hoped that these requirements will be funded through extrabudgetary contributions. The unfunded requirements for both 2024 and 2025 are presented in Table 12.

Overview by Major Programme

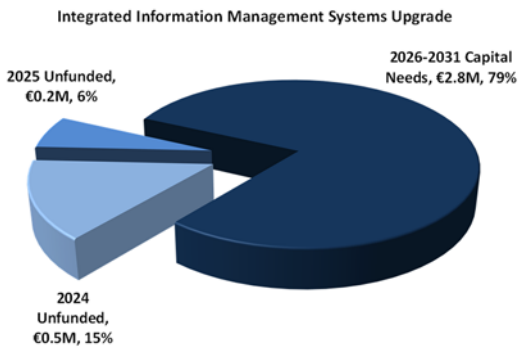
76. The following paragraphs provide an overview of those major capital investments that are part of the MCIP for 2024–2033.

Major Programme 1 — Nuclear Power, Fuel Cycle and Nuclear Science

Integrated Information Management Systems Upgrade

77. Major Programme 1 maintains a set of databases for the collection and timely dissemination of validated, authoritative nuclear data and information on peaceful uses of nuclear technology, nuclear energy, economics, R&D, innovative reactor designs, and the entire fuel cycle. These information management systems form the core of Major Programme 1 programme implementation and support to Member States and are highly regarded and unique. Several efforts have already been undertaken to streamline, combine, and harmonize these systems. For four of these systems, a partial or total re-build to stabilize and extend their useful life has been completed, but more work remains to be done to consolidate, harmonize, and complete the updates of all products. The remaining systems are currently at the end-of-life cycle and must be renewed to ensure the integrity and availability of this information and knowledge to Member States and to stakeholders worldwide. The objective of this project is to update and secure these database systems and to integrate them further, where feasible to reduce the future cost of maintenance and ensure the continuity of this critical knowledge store for the implementation of Major Programme 1.

78. The overall project needs for the period 2024–2031 are estimated at €3.5 million. For 2024–2025, €0.7 million is needed but currently unfunded.

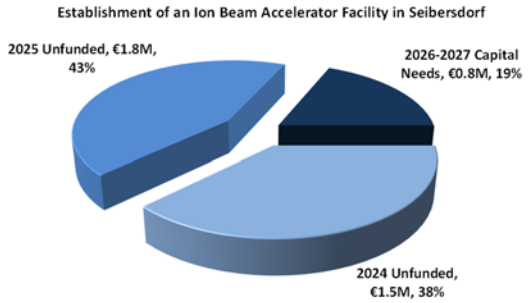


Establishment of an Ion Beam Accelerator Facility in Seibersdorf

79. The Nuclear Science and Instrumentation Laboratory (NSIL) in Seibersdorf, Austria, supports capacity building in Member States through the effective use and development of nuclear instrumentation and nuclear spectroscopy techniques in a variety of peaceful applications using adaptive research, analytical services and training activities. The objective of this project is to expand the capability of NSIL facilities by establishing an ion beam accelerator facility with several beam lines for ion beam analysis techniques as well as one dedicated to neutron production.

80. Compact low energy (MeV range) electrostatic ion beam accelerators are of growing interest in research and industry because of the increased analytical and irradiation services they can provide. They have multiple applications in areas as diverse as cultural heritage, biomedicine, forensics science, food and agriculture, water and air quality, materials research and radiation damage studies. Accelerators benefit scientific research, contribute to socio-economic development and provide a bridge to the high-tech sector. A comprehensive feasibility study for the establishment of an ion beam accelerator was recently performed to assess whether and how the acquisition and operation of a compact ion beam accelerator in Seibersdorf could match the NSIL's mission and existing programme for capacity building as well as the provision of services across many fields of relevance to the Agency. More than 60 replies from almost 40 Member States were received, showing that the most emerging and demanded topics include: training, services and applied research.

81. The overall project needs for the period 2024–2027 are estimated at €4.0 million. For 2024–2025, €3.3 million is needed but currently unfunded.

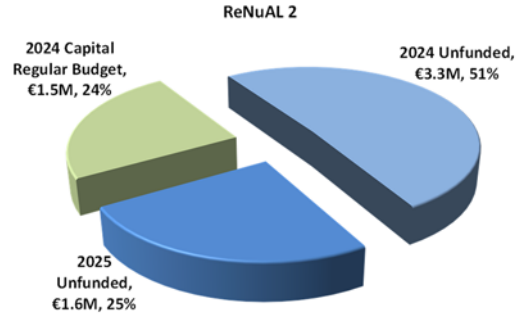


Major Programme 2 — Nuclear Techniques for Development and Environmental Protection

Renovation of the Nuclear Applications Laboratories (ReNuAL 2)

82. During the 56th regular session of the General Conference in 2012, the Director General called for an initiative to modernize and renovate the eight laboratories of the Department of Nuclear Sciences and Applications (NA) in Seibersdorf to enable them to meet the growing and evolving needs of Member States. The General Conference supported this initiative with resolution GC(56)/RES/12.A.5, and the ReNuAL project officially began on 1 January 2014. ReNuAL was launched with an initial budget of €31 million, with one-third provided through the Regular Budget and two-thirds from extra-budgetary funds. ReNuAL2 aims to complete the critical elements of the modernization project that could not be finished within the ReNuAL budget envelope and to ensure the enhancement of all of the remaining NA laboratories in Seibersdorf.

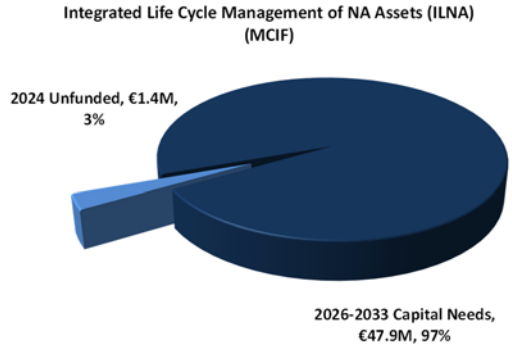
83. The overall project needs for the period 2024–2025 are estimated at €6.4 million of which €1.5 million is funded from the Capital Regular Budget for 2024. An amount of €4.8 million remains unfunded in 2024–2025.



Integrated Life Cycle Management of NA Assets (ILNA)

84. The objective of the ILNA is to ensure the optimum management of assets and associated financial resources. As infrastructure upgrade and asset replacement needs are dynamic across the Department, this project will distribute resources according to prioritized needs using an established mechanism, which promotes and supports a whole lifecycle cost approach for asset related projects, where all costs associated with the asset are taken into consideration and not just the initial cost; and use data-driven assessments for decision-making to obtain optimum value without compromising effectiveness. The needs include future infrastructure upgrade and asset replacement costs of the NA laboratories in Seibersdorf. The objective is to implement improved and prioritized business decisions on the replacement of NA assets and to efficiently manage the allocation of resources for assets.

85. The overall project needs for the period 2024–2033 are estimated at €49.3 million. For 2024–2025, €1.4 million is needed but currently unfunded.



Major Programme 3 — Nuclear Safety and Security

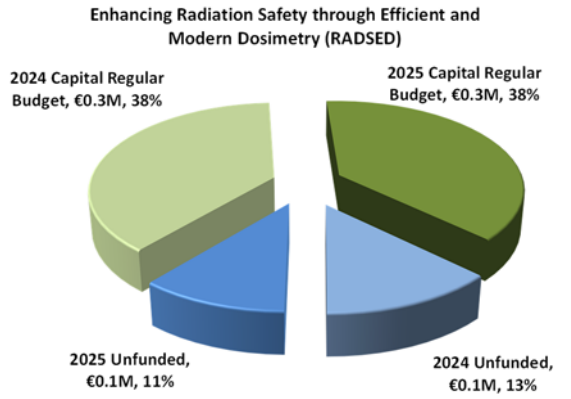
Enhancing Radiation Safety through Efficient and Modern Dosimetry (RADSED)

86. This project implements advanced dose assessment technologies and approaches in order to ensure the provision of high level of radiation safety technical services. The project will

- achieve state-of-the-art accuracy and sensitivity in assessing doses received by Agency staff and participants in Agency-sponsored activities;
- provide recommendations to Member States on accurate and efficient modalities while understanding the trade-offs depending on radiation exposure types and levels;
- and provide recommendations for non-routine planned operations regarding different dosimetry modalities.

87. Major actions taken to date include: (i) implementation of radiophotoluminescence glass dosimetry to replace thermoluminescence personal dosimetry; (ii) implementation of etched track neutron personal dosimetry to replace albedo thermoluminescence dosimetry; (iii) implementation of numerical methods and voxelized phantoms for flexible calibration of the whole-body counter; (iv) installation of electronically refrigerated high-purity germanium and temperature-stabilized sodium iodide scintillation detectors for in-vivo monitoring of radionuclide intakes; (v) method development for rapid bioassay monitoring of body excreta at enhanced resolution and sensitivity using inductively coupled plasma-mass spectrometry; and (vi) update of the technical basis for assessment of committed doses arising from occupational intakes of radionuclides. Plans for 2024–25 include the development of wound monitoring capabilities at Seibersdorf, implementation of retrospective and emergency dosimetry, and upgrades to the laboratory information management system for the Agency’s individual monitoring laboratory.

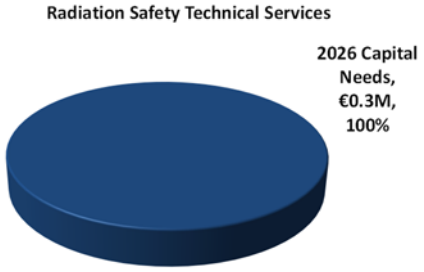
88. The overall project needs for the period 2024–2025 are estimated at €0.8 million of which €0.3 million is funded from the capital Regular Budget for each year of the biennium. An amount of €0.1 million remains unfunded for 2024 and 2025.



Radiation Safety Technical Services

89. Under Major Programme 3, the Division of Radiation, Transport and Waste Safety provides direct support to Agency managers and radiation protection officers to enable them to meet their regulatory obligations to monitor and evaluate doses received by staff and by participants in Agency-sponsored activities worldwide. Monitoring is required routinely and for emergency purposes. This project aims to improve the equipment replacement planning process for radiation monitoring and protection services by providing for the timely replacement of essential equipment of significant value before it exceeds its service life and either fails or becomes non-functional. It also provides for a backup equipment programme as required by the ISO/IEC-17025 accreditation. The accreditation is critical to ensure Agency workers and participants in activities under Agency control or supervision are assured of the laboratory's technical competence and quality results. The laboratory's ISO/IEC-17025 accreditation, and its being a model for Member States, is dependent on financial and in-kind support to cover increased customer demand and ensure uninterrupted services through the availability of back-up instrumentation in the event of equipment breakdown or incapacitation.

90. The overall project needs for the period 2024–2026 are estimated at €0.3 million and are currently unfunded.

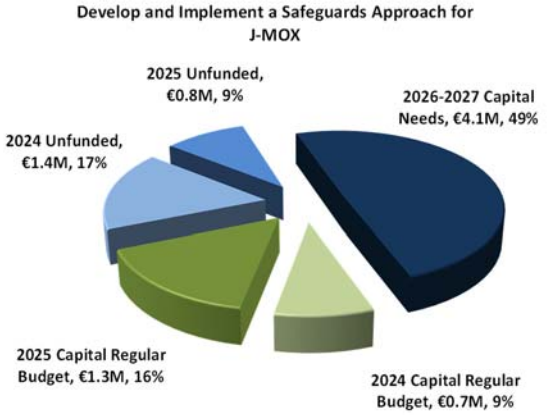


Major Programme 4 — Nuclear Verification

Develop and Implement a Safeguards Approach for J-MOX

91. Japan Nuclear Fuel Limited is building a large-scale plant to produce mixed oxide (MOX) fuel for light water reactors at its site in Rokkasho-mura. Construction started in 2010 and operation is expected to commence by the end of 2024. Although there are still uncertainties about the future operation of the plant, the development, manufacturing, testing and installation of equipment and software will need to proceed in order to have safeguards systems in place for the target operation date.

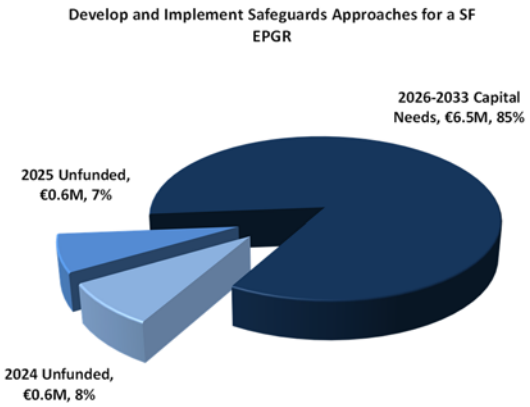
92. The overall project needs for the period 2024–2027 are estimated at €8.4 million. For 2024–2025, €4.2 million is needed, of which €0.7 million and €1.3 million is funded from the capital Regular Budget respectively. An amount of €2.2 million remains unfunded in 2024–2025.



Develop and Implement Safeguards Approaches for a Spent Fuel Encapsulation Plant and Geological Repository (EPGR) in Finland and Sweden

93. Finland and Sweden are each planning to construct an EPGR to permanently store their spent fuel. In Finland the construction license was granted in 2015 and operation is planned to commence in 2025. Construction of the Swedish EPGR is planned to start in 2028 and operation to commence in 2032. The construction of encapsulation plants and geological repositories presents new safeguards challenges as nuclear material is intended to be stored permanently and access for verification will be difficult. The EPGR project requires the development of specific safeguards approaches for EPGRs, the assessment of existing verification methods and the development of new equipment and techniques necessary for safeguarding these facilities and implementing optimized safeguards measures.

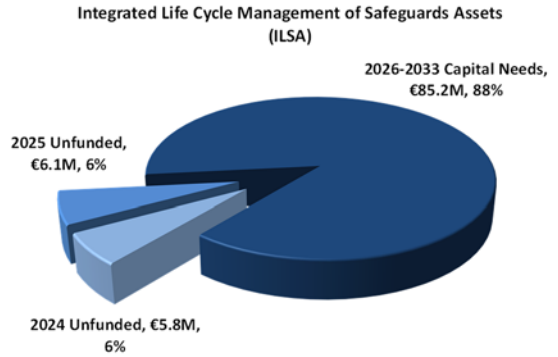
94. The overall project needs for the period 2024–2033 are estimated at €7.7 million. For 2024–2025 an amount of €0.6 million is needed for each year of the biennium but currently unfunded.



Integrated Life Cycle Management of Safeguards Assets (ILSA)

95. The objective of the Integrated Lifecycle Management of Safeguards Assets (ILSA) is to ensure the optimum management of assets and associated financial resources. As asset replacement needs are dynamic across the Department of Safeguards, this project will distribute resources according to prioritized needs using established mechanisms based on a whole lifecycle cost approach; and use of data-driven assessments for decision-making to obtain optimum value without compromising effectiveness. The needs include replacement of the internally developed software for verification, data centre replacements, hand held gamma spectrometers, surveillance systems, and the mass spectrometers at the Safeguards Analytical Laboratory. This suite of assets is critical to safeguards implementation and makes up approximately 40% of all forecasted asset replacement costs between 2024 and 2033. The objective is to implement improved and prioritized business decisions on the replacement of safeguards assets and to efficiently manage the allocation of resources for assets.

96. The overall project needs for the period 2024–2033 are estimated at €97.1 million. For 2024–2025, €11.9 million is needed but currently unfunded.



Major Programme 5 — Policy, Management and Administration Services

Provision for IT Infrastructure and Information Security Investment

97. Secure, available and reliable information and communication technology (ICT) infrastructure and support systems are essential to programme delivery. This critical project will cover ICT costs associated with maintaining up-to-date ICT infrastructure and services through the procurement of hardware, software and cloud or subscription-based services. Components of this project include infrastructure replacement in the areas of network, telecommunications, data

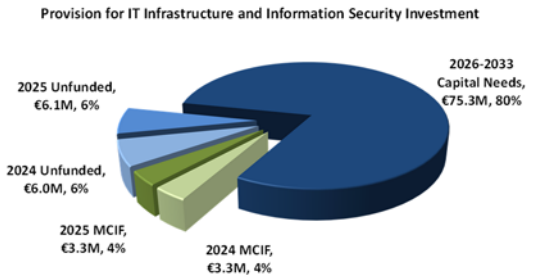
processing, data centre, and applications to ensure they remain fit for purpose, supported by vendors and secure.

98. The Agency needs to maintain a strong disaster recovery infrastructure and capability for selected critical systems. Funding would be used to upgrade existing capabilities to ensure that they remain viable and vendor supported.

99. The long term viability of AIPS is dependent on maintaining the system on versions of the core commercial product that are in alignment with the vendor's strategic direction, applying various patches and components that are released by the vendor, aligning Agency business processes with product capabilities and industry best practices in order to reduce the need for costly customizations, maximizing utilization of this platform by leveraging vendor components to increase automation and introduce operational efficiencies across the Agency, introducing an archiving solution to address data growth and system performance, and assessing alternative AIPS hosting arrangements.

100. The Agency's information assets must be managed efficiently, accurately, and securely. This investment will streamline the integration architecture, consolidate data integration onto a common platform, and leverage a new data integration and governance framework. The benefits of this investment include minimizing the proliferation of sensitive data throughout the Agency, reducing the risk of data loss or compromise, improving the accuracy of the data supporting Agency-wide decision making, and simplifying the Agency's IT investment.

101. The overall project needs for the period 2024–2033 are estimated at €94.0 million. For 2024–2025, €18.8 million is needed, of which €1.3 million is funded from the capital Regular Budget and €2.0 million from the capital Carry Forward for each year of the biennium, while an amount of €12.1 million remains unfunded.

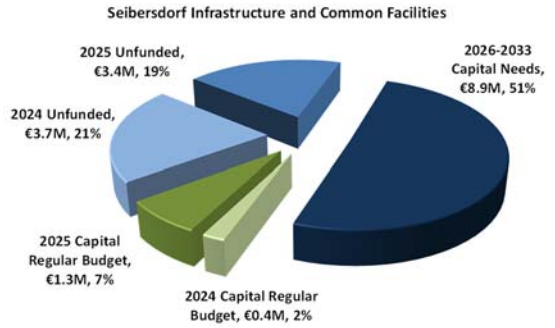


Seibersdorf Infrastructure and Common Facilities

102. The objective of this project is to ensure the Agency's ability to maintain ongoing and planned investments in the laboratories and property in Seibersdorf and thereby to support the smooth delivery of the Agency's programmes. This need has resulted from the infrastructure investments in Seibersdorf, including the expansion of the laboratories, the increase in complexity of the infrastructure as well as the transformation of the site into a self-reliant site. One component of the project covers investments in the infrastructure that are of a capital nature. This also includes costs related to the decommissioning of old infrastructures and obsolete or unsafe buildings and constructions.

103. A second component of the project addresses the need for the replacement of non-laboratory specific equipment in line with standard life cycles required to support site infrastructure and buildings. The third component covers continued investments in physical security infrastructure including the renewal and integration of existing physical security systems.

104. The total project needs for the period 2024–2033 are estimated at €17.7 million. The 2024–2025 funding requirement for the project is €8.8 million, of which €0.4 million and €1.3 million is funded from the capital Regular Budget respectively, while an amount of €7.1 million remains unfunded.

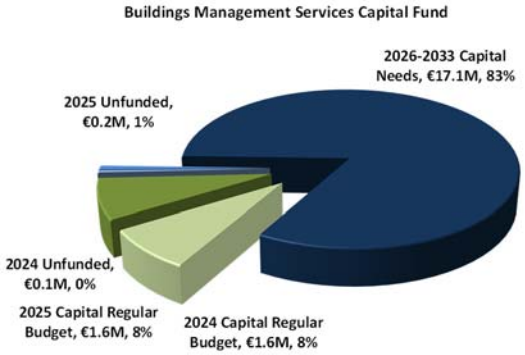


Buildings Management Services Capital Fund

105. This project represents the Agency's contribution to the Major Repairs and Replacement Fund (MRRF). The MRRF is a common fund for the purpose of financing the cost of major repairs and replacement of buildings, facilities and technical installations at the VIC. The annual assessed contributions to the fund are shared equally between Austria and the VIC based organizations.

106. The project objective is to ensure the Agency's continued ability to finance its cost share contributions towards major repairs and replacement in the buildings, facilities and technical installations at the VIC. It covers investments in ageing infrastructure that are of a capital nature, such as major improvements to buildings; external facilities; and air conditioning, heating, water and other systems.

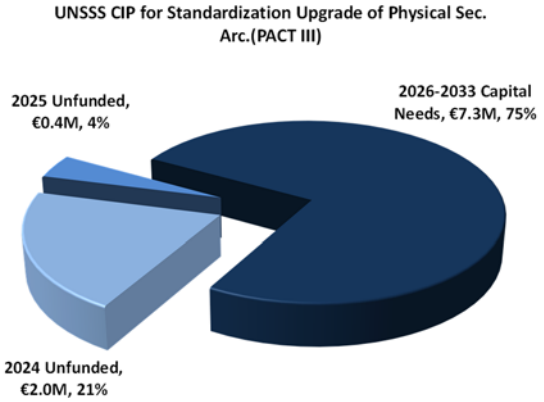
107. The total project needs for the period 2024–2033 are estimated at €20.6 million. The 2024–2025 funding requirement for the project is €3.5 million, of which €1.6 million is funded from the capital Regular Budget for each year of the biennium.



UNSSS CIP for Standardization Upgrade of Physical Security Architecture (PACT III)

108. In early 2022, the United Nations Department of Safety and Security stationed in New York, conducted a review of the physical security systems at United Nations headquarters locations (including the VIC), focusing on physical security infrastructure, security systems and safety. The resulting capital investment plan (CIP) includes a proposal for multi-year comprehensive safety and security upgrades and enhancements at the VIC, referred to as PACT III. In 2024–2034, PACT III will aim to replace, improve, and upgrade physical security, including access control, through gradual and incremental capital upgrading and maintenance of its physical security architecture, addressing the long-term requirements of the VIC security infrastructure and systems in a phased approach to effectively ensure that staff, delegates, and visiting dignitaries can conduct business at the VIC in a safe and secure environment.

109. The overall project needs for the period 2024–2033 are estimated at €9.7 million. For 2024–2025, €2.4 million is needed but currently unfunded.



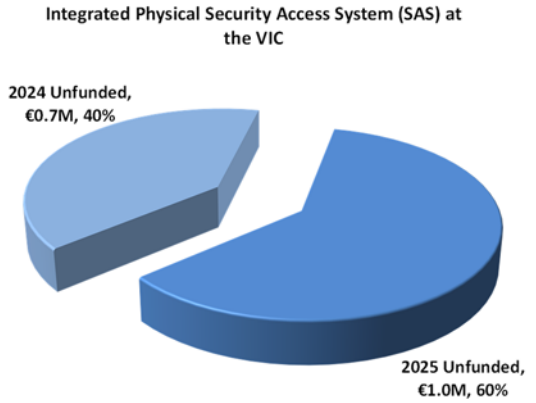
Integrated Physical Security Access System (SAS) at the VIC

110. The Agency integrated SAS that covers the Agency's premises at the VIC and Seibersdorf laboratories consists of three main components:

- access control,
- intrusion detection, and
- video surveillance.

The major hardware components of the SAS have reached their end-of-life cycle, meaning that the larger part of the system is out of warranty, spare parts of the core system are not readily available in the market and the operating system no longer receives updates to ensure smooth operation of the software.

111. The overall project needs for the period 2024–2025 are estimated at €1.7 million, but currently unfunded.



Major Programme 6 — Management of Technical Cooperation for Development

Upgrade of the IAEA Technical Cooperation Programme Cycle Management Framework

112. The planning, design and review process for the TC programme is handled through the Programme Cycle Management Framework (PCMF). The PCMF, with its decentralized usage and leveraging web-based systems, enables Member States' responsibility and ownership over the formulation and execution of their TC programme, while allowing stakeholders in the Secretariat to support the process and collaborate in a transparent manner. The PCMF enables users to develop and manage the TC programme from formulating CPFs and submitting project concepts and designs, to approval and project and programme monitoring. It facilitates interaction between members of project teams and provides facilities for completing, compiling and approving Board of Governors documentation.

113. The PCMF was introduced in 2005 and leverages a platform that requires regular updates, which is no longer possible nor sustainable in the long term, given that it uses obsolete technology.

114. With the introduction of new information security standards and systems, support for the underlying technology is ending, and the system now requires an overhaul. Increased inter-connectivity with AIPS and InTouch+, as well as the enhancement of the user experience and features, would greatly benefit both the Secretariat and Member States.

115. The upgrade is planned in three stages:

- Technological upgrade of the PCMF system and platform introducing information security enhancements, technology and platform updates, systems integration and a business intelligence solution;
- Functional upgrade focusing on functional enhancements, user experience, dashboards and dissemination of project-related information; and
- Knowledge management and development of e-learning materials, documentation, help and step-by-step guides, training, and the roll-out and repository of documents.

116. The overhaul of the PCMF, subject to availability of funding, is planned to be completed in time for the 2026–2027 technical cooperation cycle.

117. The total project needs for the period 2024–2025 are estimated at €4.5 million of which €0.3 million is funded from the capital Regular Budget for each year of the biennium.

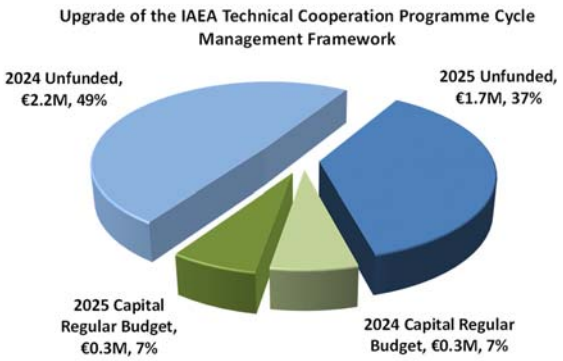


Table 10. Major Capital Investment Plan 2024–2033

Major Capital Investment Plan 2024-2033 - by Major Programme and Major Capital Item

Major Programme/Major Capital Item	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
1. Nuclear Power, Fuel Cycle and Nuclear Science											
Integrated Information Management Systems Upgrade	514 835	217 611	-	672 071	1 277 135	711 216	46 070	79 544	-	-	3 518 481
Establishment of an Ion Beam Accelerator Facility in Seibersdorf	1 528 583	1 762 116	541 373	212 303	-	-	-	-	-	-	4 044 375
Major Programme 1	**2 043 418**	**1 979 727**	**541 373**	**884 374**	**1 277 135**	**711 216**	**46 070**	**79 544**	**-**	**-**	**7 562 856**
2. Nuclear Techniques for Development and Environmental Protection											
ReNuAL 2	4 786 236	1 592 274	-	-	-	-	-	-	-	-	6 378 510
Integrated Life Cycle Management of NA Assets (ILNA) (MCIF)	1 443 661	5 308	5 525 189	5 620 726	5 886 105	8 725 659	5 779 953	5 334 117	5 652 571	5 334 117	49 307 406
Major Programme 2	**6 229 897**	**1 597 581**	**5 525 189**	**5 620 726**	**5 886 105**	**8 725 659**	**5 779 953**	**5 334 117**	**5 652 571**	**5 334 117**	**55 685 916**
3. Nuclear Safety and Security											
Enhancing Radiation Safety through Efficient and Modern Dosimetry (RADSED)	412 155	395 669	-	-	-	-	-	-	-	-	807 824
Radiation Safety Technical Services	-	-	321 709	-	-	-	-	-	-	-	321 709
Major Programme 3	**412 155**	**395 669**	**321 709**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1 129 533**
4. Nuclear Verification											
Develop and Implement a Safeguards Approach for J-MOX	2 123 031	2 123 031	2 123 031	2 016 880	-	-	-	-	-	-	8 385 974
Develop and Implement Safeguards Approaches for a SF EPGR	636 922	552 013	212 312	212 312	1 381 040	1 492 499	1 082 754	976 615	764 325	424 623	7 735 416
Integrated Life Cycle Management of Safeguards Assets (ILSA)	5 838 122	6 058 689	4 335 151	5 164 979	14 380 624	15 196 478	10 413 514	11 150 557	18 742 870	5 864 408	97 145 393
Major Programme 4	**8 598 076**	**8 733 734**	**6 670 494**	**7 394 170**	**15 761 665**	**16 688 977**	**11 496 268**	**12 127 173**	**19 507 195**	**6 289 031**	**113 266 783**
5. Policy, Management and Administration Services											
Provision for IT Infrastructure and Information Security Investment	9 341 592	9 416 425	7 903 889	8 822 357	8 770 380	10 239 569	7 609 552	10 947 771	10 821 320	10 148 300	94 021 154
Seibersdorf Infrastructure and Common Facilities	4 086 836	4 670 669	1 114 592	1 114 592	1 114 592	1 114 592	1 114 592	1 114 592	1 114 592	1 114 592	17 674 237
Buildings Management Services Capital Fund	1 732 245	1 798 070	1 866 397	1 937 320	2 010 939	2 087 354	2 166 674	2 249 007	2 334 469	2 423 179	20 605 654
UNSSS CIP for Standardization Upgrade of Physical Sec. Arc.(PACT III)	2 012 301	402 460	579 543	1 271 774	1 432 759	466 854	1 336 168	262 941	370 263	1 599 108	9 734 169
Integrated Physical Security Access System (SAS) at the VIC	679 370	1 038 162	-	-	-	-	-	-	-	-	1 717 532
Major Programme 5	**17 852 343**	**17 325 786**	**11 464 421**	**13 146 043**	**13 328 669**	**13 908 368**	**12 226 985**	**14 574 310**	**14 640 644**	**15 285 178**	**143 752 747**
6. Management of Technical Cooperation for Development											
Upgrade of the IAEA Technical Cooperation Programme Cycle Management Framework	2 508 807	1 978 049	-	-	-	-	-	-	-	-	4 486 857
Major Programme 6	**2 508 807**	**1 978 049**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4 486 857**
Major Capital Investment Plan Total	**37 644 696**	**32 010 547**	**24 523 186**	**27 045 314**	**36 253 573**	**40 034 220**	**29 549 277**	**32 115 142**	**39 800 410**	**26 908 326**	**325 884 691**

Table 11. Capital Regular Budget Details 2024–2025

Major Programme/Major Capital Item	2023 Budget	2024 Estimates at 2023 Prices	2024 Estimates at 2024 Prices	2025 Preliminary Estimates at 2024 Prices	2025 Preliminary Estimates at 2025 Prices
2. Nuclear Techniques for Development and Environmental Protection					
ReNuAL 2	1 626 183	1 500 000	1 536 000	-	-
Major Programme 2	**1 626 183**	**1 500 000**	**1 536 000**	**-**	**-**
3. Nuclear Safety and Security					
Enhancing Radiation Safety through Efficient and Modern Dosimetry (RADSED)	325 237	300 000	307 200	307 200	314 266
Major Programme 3	**325 237**	**300 000**	**307 200**	**307 200**	**314 266**
4. Nuclear Verification					
Develop and Implement a Safeguards Approach for J-MOX	1 084 122	700 000	716 800	1 331 200	1 361 818
Major Programme 4	**1 084 122**	**700 000**	**716 800**	**1 331 200**	**1 361 818**
5. Policy, Management and Administration Services					
Provision for IT Infrastructure and Information Security Investment	3 089 748	3 250 000	3 328 000	3 328 000	3 404 544
Seibersdorf Infrastructure and Common Facilities	899 821	350 000	358 400	1 280 000	1 309 440
Buildings Management Services Capital Fund	1 647 865	1 600 000	1 638 400	1 638 400	1 676 083
Major Programme 5	**5 637 434**	**5 200 000**	**5 324 800**	**6 246 400**	**6 390 067**
6. Management of Technical Cooperation for Development					
Upgrade of the IAEA Technical Cooperation Programme Cycle Management Framework	-	300 000	307 200	307 200	314 266
Major Programme 6	**-**	**300 000**	**307 200**	**307 200**	**314 266**
Major Capital Investment Fund	**8 672 976**	**8 000 000**	**8 192 000**	**8 192 000**	**8 380 416**
Capital Carry Forward	**(2 168 244)**	**(2 000 000)**	**(2 048 000)**	**(2 048 000)**	**(2 095 104)**
Capital Regular Budget	**6 504 732**	**6 000 000**	**6 144 000**	**6 144 000**	**6 285 312**

118. The table below lists the capital needs for 2024 and 2025 that will not be funded from the MCIF. It is expected that these needs will attract extrabudgetary pledges from Member States.

Table 12. Unfunded 2024–2025 Capital Needs

Major Programme/Major Capital Item	2024	2025
1. Nuclear Power, Fuel Cycle and Nuclear Science		
Integrated Information Management Systems Upgrade	514 835	217 611
Establishment of an Ion Beam Accelerator Facility in Seibersdorf	1 528 583	1 762 116
Major Programme 1	**2 043 418**	**1 979 727**
2. Nuclear Techniques for Development and Environmental Protection		
ReNuAL 2	3 250 236	1 592 274
Integrated Life Cycle Management of NA Assets (ILNA) (MCIF)	1 443 661	5 308
Major Programme 2	**4 693 897**	**1 597 581**
3. Nuclear Safety and Security		
Enhancing Radiation Safety through Efficient and Modern Dosimetry	104 955	88 469
Radiation Safety Technical Services	-	-
Major Programme 3	**104 955**	**88 469**
4. Nuclear Verification		
Develop and Implement a Safeguards Approach for J-MOX	1 406 231	791 831
Develop and Implement SG Approaches for a SF EPGR	636 922	552 013
Integrated Life Cycle Management of Safeguards Assets (ILSA)	5 838 122	6 058 689
Major Programme 4	**7 881 276**	**7 402 534**
5. Policy, Management and Administration Services		
Provision for IT Infrastructure and Information Security Investment	6 013 592	6 088 425
Seibersdorf Infrastructure and Common Facilities	3 728 436	3 390 669
Buildings Management Services Capital Fund	93 845	159 670
UNSSS CIP for Standardization Upgrade of Physical Sec. Arc.(PACT III)	2 012 301	402 460
Integrated Physical Security Access System (SAS) at the VIC	679 370	1 038 162
Major Programme 5	**12 527 543**	**11 079 386**
6. Management of Technical Cooperation for Development		
Upgrade of the IAEA Technical Cooperation Programme Cycle Management Framework	2 201 607	1 670 849
Major Programme 6	**2 201 607**	**1 670 849**
Unfunded Capital Needs Total	**29 452 696**	**23 818 547**

I.5 Draft Resolutions for 2024

119. This section presents the draft resolutions for 2024, including the appropriations for the Regular Budget for 2024, the allocation for the Technical Cooperation Fund (TCF) in 2024 and the Working Capital Fund (WCF) in 2024.

A. The Regular Budget

120. Regular Budget appropriations for 2024 are presented in two parts: one for the operational Regular Budget (paras 1 and 2 of resolution A); and one for the capital Regular Budget (paras 3–5 of resolution A). The expenditures against these appropriations will be recorded separately, so that funds appropriated for the operational Regular Budget will not be used for major capital investments and vice versa. The total amount of appropriations for the capital Regular Budget will be transferred to the Major Capital Investment Fund.

121. The resolution for the Regular Budget appropriation contains an adjustment formula to take into account the exchange rate variations during the year. Member State contributions will be based on the scale of assessment to be fixed by the General Conference in September 2023.

B. Technical Cooperation Programme

122. The technical cooperation activities of the Agency are financed from the TCF and extrabudgetary contributions. The TCF mainly comprises voluntary contributions, for which a target is recommended each year by the Board of Governors, and National Participation Costs paid by recipient Member States. The target for voluntary contributions to the TCF recommended by the Board of Governors amounts to €96 000 000 for 2024 and €98 000 000 for 2025.

123. The forecast of the resources for the technical cooperation programme for 2024 amounts to €127 240 000, comprising €90 240 000 for estimated core project funding, €2 000 000 for National Participation Costs (to be added to the estimated core funding) and €35 000 000 for the estimated implementation levels of extrabudgetary activities.

124. The forecast of the resources for the technical cooperation programme for 2025 amounts to €128 120 000, comprising €92 120 000 for estimated core project funding, €1 000 000 for National Participation Costs (to be added to the estimated core funding) and €35 000 000 for the estimated implementation levels of extrabudgetary activities.

125. These amounts do not constitute a target for, or limitation on, funds and do not in any way prejudge the technical cooperation programme for 2024 and 2025.

C. Working Capital Fund

126. During its 3rd special session, the General Conference approved a continuation of the WCF at the level of €15 210 000 for 2023. No change in this level is proposed for 2024, although it should be borne in mind that the average monthly requirement of the Regular Budget exceeds the level of the WCF, which constitutes a significant risk to the Agency.

A. REGULAR BUDGET APPROPRIATIONS FOR 2024

The General Conference,

Accepting the recommendations of the Board of Governors relating to the Regular Budget of the Agency for 2024,[1] while reaffirming, in this context, the effectiveness and integrity of all the relevant provisions in the Statute,

1. Appropriates, on the basis of an exchange rate of US $1.00 to €1.00, an amount of € 430 020 873 for the operational portion of the Regular Budget expenses of the Agency in 2024 as follows:[2]

		€
1.	Nuclear Power, Fuel Cycle and Nuclear Science	46 709 512
2.	Nuclear Techniques for Development and Environmental Protection	47 500 612
3.	Nuclear Safety and Security	41 833 006
4.	Nuclear Verification	167 729 812
5.	Policy, Management and Administration Services	92 267 806
6.	Management of Technical Cooperation for Development	30 406 447
	Subtotal of Major Programmes	426 447 195
7.	Reimbursable work for others	3 573 678
	TOTAL	430 020 873

the amounts in the appropriation sections to be adjusted in accordance with the adjustment formula presented in Attachment A.1 in order to take into account the exchange rate variations during the year;

2. Decides that the foregoing appropriation shall be financed, after the deduction of:
   - Revenues deriving from reimbursable work for others (Section 7); and
   - Other miscellaneous income of €3 435 000;

from contributions by Member States amounting, at an exchange rate of US $1.00 to €1.00, to €423 012 195 (€363 616 569 plus US $ 59 395 626), in accordance with the scale of assessment fixed by the General Conference in resolution GC(67)/RES/ ;

[1] Document GC(67)/5.

[2] Appropriation Sections 1–6 represent the Agency's Major Programmes.

3. Appropriates, on the basis of an exchange rate of US $1.00 to €1.00, an amount of €6 144 000 for the capital portion of the Regular Budget expenses of the Agency in 2024 as follows:[3]

		€
1.	Nuclear Power, Fuel Cycle and Nuclear Science	-
2.	Nuclear Techniques for Development and Environmental Protection	1 536 000
3.	Nuclear Safety and Security	307 200
4.	Nuclear Verification	716 800
5.	Policy, Management and Administration Services	3 276 800
6.	Management of Technical Cooperation for Development	307 200
	TOTAL	6 144 000

the amounts in the appropriation sections to be adjusted in accordance with the adjustment formula presented in Attachment A.2 in order to take into account the exchange rate variations during the year;

4. Decides that the foregoing appropriation shall be financed from contributions by Member States amounting, at an exchange rate of US $1.00 to €1.00, to €6 144 000 (€6 072 964 plus US $71 036), in accordance with the scale of assessment fixed by the General Conference in resolution GC(67)/RES/ ;

5. Authorizes the transfer of the capital portion of the Regular Budget to the Major Capital Investment Fund; and

6. Authorizes the Director General:
   a. To incur expenditures additional to those for which provision is made in the Regular Budget for 2024, provided that the relevant emoluments of any staff involved, and all other costs are entirely financed from revenues arising out of sales, work performed for Member States or international organizations, research grants, special contributions or other sources extraneous to the Regular Budget for 2024; and
   b. With the approval of the Board of Governors, to make transfers between any of the Sections listed in paras 1 and 3 above.

[3] See footnote 2.

ATTACHMENT

A.1. APPROPRIATIONS FOR THE OPERATIONAL PORTION OF THE REGULAR BUDGET IN 2024

ADJUSTMENT FORMULA IN EUROS

		€		US$
1.	Nuclear Power, Fuel Cycle and Nuclear Science	39 713 391	+ (	6 996 121 /R)
2.	Nuclear Techniques for Development and Environmental Protection	42 269 624	+ (	5 230 988 /R)
3.	Nuclear Safety and Security	34 261 107	+ (	7 571 899 /R)
4.	Nuclear Verification	142 004 800	+ (	25 725 012 /R)
5.	Policy, Management and Administration Services	82 737 244	+ (	9 530 562 /R)
6.	Management of Technical Cooperation for Development	26 065 403	+ (	4 341 044 /R)
	Subtotal of Major Programmes	367 051 569	+ (	59 395 626 /R)
7.	Reimbursable work for others	3 573 678	+ (	- /R)
	TOTAL	370 625 247	+ (	59 395 626 /R)

Note: R is the average United Nations dollar to euro exchange rate which will be experienced during 2024.

-

ATTACHMENT

A.2. APPROPRIATIONS FOR THE CAPITAL PORTION OF THE REGULAR BUDGET IN 2024

ADJUSTMENT FORMULA IN EUROS

	€		US$
Nuclear Power, Fuel Cycle and Nuclear Science	-	+ (	- /R)
Nuclear Techniques for Development and Environmental Protection	1 464 964	+ (	71 036 /R)
Nuclear Safety and Security	307 200	+ (	- /R)
Nuclear Verification	716 800	+ (	- /R)
Policy, Management and Administration Services	3 276 800	+ (	- /R)
Management of Technical Cooperation for Development	307 200	+ (	- /R)
TOTAL	6 072 964	+ (	71 036 /R)

Note: R is the average United Nations dollar to euro exchange rate which will be experienced during 2024.

B. TECHNICAL COOPERATION FUND ALLOCATION FOR 2024

The General Conference,

(a) Noting the decision of the Board of Governors of June 2023 to recommend the Technical Cooperation Fund target of €96 000 000 for voluntary contributions to the Agency's Technical Cooperation Fund for 2024; and

(b) Accepting the foregoing recommendation of the Board;

1. Decides that for 2024 the target figure for voluntary contributions to the Technical Cooperation Fund shall be €96 000 000;

2. Allocates, in euros, contributions of €96 000 000 for the Agency's technical cooperation programme for 2024; and

3. Urges all Member States to make voluntary contributions for 2024 in accordance with Article XIV.F of the Statute, with para. 2 of its resolution GC(V)/RES/100 as amended by resolution GC(XV)/RES/286 or with para. 3 of the former resolution, as appropriate.

C. THE WORKING CAPITAL FUND FOR 2024

The General Conference,

Accepting the recommendations of the Board of Governors relating to the Agency's Working Capital Fund for 2024,

1. Approves a level of €15 210 000 for the Agency's Working Capital Fund for 2024;

2. Decides that the Fund shall be financed, administered and used in 2024 in accordance with the relevant provisions of the Financial Regulations of the Agency;[4]

3. Authorizes the Director General to make advances from the Fund not exceeding €500 000 at any time to finance temporarily projects or activities which have been approved by the Board of Governors for which no funds have been provided under the Regular Budget; and

4. Requests the Director General to submit to the Board of Governors statements of advances made from the Fund under the authority given in para. 3 above.

[4] Document INFCIRC/8/Rev.4.

PART II

The Agency's Programme and Budget 2024–2025
Details by Major Programme

Major Programme 1
Nuclear Power, Fuel Cycle and Nuclear Science

Introduction

Major Programme 1 aims to provide scientific and technical support, guidance and services for the development and deployment of nuclear power and research reactor technology, including their nuclear fuel cycles and nuclear fuel cycle facilities (NFCFs); for advancing new nuclear power technologies, including small and medium sized or modular reactors (SMRs) and nuclear fusion for energy production; for radioactive waste management, decommissioning and environmental remediation; for energy system analysis and energy planning; and for nuclear knowledge and information management. It also supports advancements in nuclear science, including nuclear fusion science and plasma physics, nuclear and atomic data, accelerator and neutron source applications, and nuclear instrumentation. Major Programme 1 also supports Member States in their own outreach and stakeholder engagement efforts throughout the life cycle of nuclear facilities.

Several Member States consider nuclear power as a key component in the national energy mix to mitigate the effects of climate change, and in achieving energy security and corresponding Sustainable Development Goals (SDGs), in particular SDG 7 (on affordable and clean energy) and SDG 13 (on climate action). Major Programme 1 will continue to support interested Member States in assessing their future energy needs and in evaluating and understanding the potential for nuclear power to be part of their energy strategies. Support will also continue in the field of nuclear knowledge management (NKM), and nuclear information management, dissemination and preservation.

Major Programme 1 provides support for Member States considering, embarking on or expanding nuclear power programmes. It will continue to support for enhancing operating performance; life management; and safe, secure, efficient and reliable long term operation of nuclear power plants (NPPs). Support will continue for the development and deployment of SMRs; innovative reactor systems and associated fuel cycles; non-electric applications of nuclear power, including hydrogen production; and integration of nuclear power with renewable energy sources, and technology development and deployment of nuclear fusion for energy production.

Major Programme 1 support will continue in uranium exploration, mining and milling; and in fuel cycle activities, including those related to spent fuel integrity, design vulnerabilities, defueling and storage. Support will also continue for radioactive waste management, decommissioning of nuclear facilities and management of disused sealed radioactive sources (DSRSs), as well as for environmental remediation. Major Programme 1 will continue to support Member States with an interest in building, operating or accessing research reactors — including via the IAEA-designated International Centre based on Research Reactor (ICERR) scheme — and in improving their utilization. Upon Member State request, support for transitioning from the use of high enriched uranium to low enriched uranium in research reactors will continue.

The Agency will remain a reliable source of nuclear, atomic and molecular data. Training and facilitation of experiments using various types of particle accelerators, neutron sources and nuclear instrumentation will continue. Collaboration with the Abdus Salam International Centre for Theoretical Physics (ICTP), in Trieste, Italy, to support education and training for scientists, especially those from developing countries, will focus more on the areas of relevance to the Agency, such as basic and applied nuclear sciences and nuclear energy.

Major Programme 2

Objectives:	
— *To expand and improve the use of nuclear technology in support of sustainable development, to advance nuclear science and technology, to catalyse innovation, and to build capacity to support the existing and expanded use of nuclear power and nuclear science applications.*	
Outcomes	**Performance Indicators**
• Increased Member State use of Agency information, resources and services, and cooperation opportunities in life cycle management of existing, expanding and new nuclear programmes, including fuel cycles, decommissioning, environmental remediation and radioactive waste management.	• Number of Member States using Agency information, resources and services for managing the life cycle of their nuclear programmes. • Number of Member States engaged in Agency collaborative frameworks.
• Improved Member State understanding of the potential role of nuclear technologies, including electric and non-electric applications of nuclear energy, in support of sustainable development.	• Number of professionals from Member States trained within the biennium in the use of Agency tools, models and methodologies. • Number of Member States using guidance material for infrastructure development.
• Increased Member State use of Agency information, resources and services, and cooperation opportunities in nuclear science for technological and socio-economic advancement.	• Number of participants in Agency events, workshops and training courses on nuclear science. • Number of Member States accessing and retrieving atomic and nuclear data from Agency websites.
Projects	
Title	**Main Planned Outputs**
1.0.0.001 Overall management, coordination and common activities	Executive, programmatic and administrative guidance documents; Board of Governors and General Conference reports; Agency policies and reporting documents; management meetings and provision of services for institutional knowledge and information preservation and sharing.
1.0.0.002 Outreach and stakeholder involvement	Production of relevant Board of Governors documents, briefs, brochures and visuals; public information materials targeted at Department of Nuclear Energy's stakeholders, including web stories, for the Department's webpage and Twitter account; production of information materials aimed at the general public in coordination with the Office of Public Information and Communication; coordination of Department of Nuclear Energy support to Member States in the area of Stakeholder Engagement for nuclear power programmes; IAEA International Conference on Stakeholder Engagement for Nuclear Power Programmes.
1.0.0.003 Partnerships and resource mobilization	Roll-out and maintenance of the database for prospective donors; coordination of Department of Nuclear Energy's donor communication and outreach plan.

Programme 1.1 Nuclear Power

Programme 1.1 supports Member States in their efforts towards better performance and safe, secure, efficient and reliable long term operation of NPPs. Support is provided to existing and expanding nuclear programmes, including for human resource development (HRD) programmes, application of advanced technologies such as artificial intelligence, and digital innovations. It supports the implementation of integrated management systems, development of supply chains and harmonization and standardization efforts for NPPs. The programme also continues to support Member States embarking on new nuclear power programmes by assisting them in building sound nuclear infrastructure for the successful introduction of NPPs and for their safe, secure, efficient and reliable operation. In this regard, the programme coordinates services with all other Agency Departments, in particular the Department of Nuclear Safety and Security, the Department of Safeguards and the Department of Technical Cooperation.

The programme provides a forum for technology users and holders to jointly consider innovations and supports Member States in their long term planning through the International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO). INPRO implements collaborative projects and provides services including scenario-based nuclear energy system (NES) analysis and assessment of sustainability. Furthermore, the programme supports Member States' activities in research, innovation and technical advancement associated with advanced nuclear power reactors, development and deployment of SMRs, non-electric applications of nuclear energy, nuclear fusion energy technology development and deployment, integration of NESs with other clean energy sources. This is achieved by coordinating research, promoting the exchange of information, supporting reactor technology assessment and education and training, developing toolkits, and analysing data and results for various advanced reactor technologies.

Lessons learned from reviews, assessments and evaluations: Member States operating nuclear facilities and those interested in expanding or starting nuclear power programmes expect the Secretariat to continue to disseminate good practices through new and updated publications, support the exchange of information on technical engineering and HRD, and provide tailored review and assistance services. Member States appreciate support such as NPP life management, the Milestones approach to new nuclear power programmes, and the interregional training workshop activities and services that INPRO provides. Member States have recommended that assistance and support should continue to be provided for development and deployment of evolutionary and innovative nuclear technologies and their non-electric applications, including nuclear hydrogen production, with special emphasis on small modular reactors for near-term deployment, integrated energy systems, and transportable reactors and microreactors. In this regard, efforts will be increased to support the Agency's Nuclear Harmonization and Standardization Initiative (NHSI) as well as accelerating progress towards fusion energy development and deployment. Nuclear fusion is transitioning from an experimental science to an industrial application with its emergence in the private sector, the subsequent significant increase in capital invested and recent breakthroughs, as well as the progress of large-scale international and national fusion projects. In this context, 70 years' experience in nuclear fission reactors can potentially help developing fusion technology for energy production by creating a synergy between nuclear fission and fusion. Besides, the development of an adequate legal, institutional and regulatory framework for fusion is intrinsically connected to the development of this new type of technology and its future commercial deployment.

Specific criteria for prioritization:

1. Activities supporting Member States' efforts towards better performance and safe, secure, efficient and reliable long term operation of both existing and new NPPs.
2. Activities supporting the development of nuclear power infrastructure and human resource capacity building in Member States embarking on a nuclear power programme.
3. Activities to maintain and increase international dialogue and cooperation to promote long term nuclear energy strategies and innovations in nuclear energy-related technology in support of NES sustainability.
4. Activities supporting Member States and stakeholders in development and deployment of advanced reactor technologies and related applications, including integrated energy systems, by sharing up-to-date information and providing methods and tools in support of the sustainable use of nuclear energy.

Programmatic changes and trends

Subprogramme 1.1.1 Strengthening Integrated Engineering Support for Nuclear Power Programmes continues its focus on existing NPPs and new nuclear power projects. This includes the provision of support to Member States in plant life management for enhanced performance and safe, secure, efficient, reliable and economically sustainable long term operation of NPPs and in the development and deployment of innovative technical solutions such as artificial intelligence, and digital twin and advanced digital technologies aimed at improving competitiveness. This subprogramme also assists Member States in engineering aspects at all stages of nuclear projects, including Member States embarking on or expanding their nuclear power programmes. To optimize operating costs, Member States can benefit from operational efficiencies and effectiveness identified by the work of this subprogramme. Member States expanding nuclear power programmes will also benefit from the subprogramme's collection and dissemination of good practices and lessons learned in the construction, commissioning and operation of NPPs.

Subprogramme 1.1.2 Management for Construction and Operation of Nuclear Power Plants focuses on support to Member States for the development of management systems, configuration and performance management, project management, contracting, plant deployment models, human performance, leadership and stakeholder involvement for construction and operation of NPPs. It also supports the development of supply chains, industrial involvement, procurement, quality assurance and quality control, codes and standards, and harmonization and standardization efforts for NPPs.

Subprogramme 1.1.3 Integrated Support for Nuclear Power Programme Infrastructure Development is the point of integration for relevant activities throughout Major Programme 1 and for their coordination across the Agency. Thus, some of these activities are implemented in conjunction with technical staff from other Agency Departments. In 2024–2025, the number of Member States embarking on or expanding nuclear programmes and requesting Agency assistance is expected to increase, taking into account the new wave of countries interested in SMRs. Additionally, efforts towards improving the quality, consistency and effectiveness of such assistance will be increased.

Subprogramme 1.1.4 International Project on Innovative Nuclear Reactors and Fuel Cycles will continue to focus on national, regional and global nuclear energy sustainability issues and related cooperation among INPRO members. INPRO activities will continue to include the provision of assistance to Member States with Nuclear Energy System Assessments (NESAs), nuclear energy scenario analysis, collaborative projects, and further development of tools for NESAs and sustainable NES planning services. Provision of training services and guidance to Member States on the application of INPRO products will continue. The INPRO Strategic Plan 2024–2029, to be endorsed by the INPRO Steering Committee in 2023, will be implemented.

Subprogramme 1.1.5 Technology Development for Small and Medium Sized or Modular Reactors, Large Advanced Reactors, Non-electric Applications of Nuclear Power and Fusion Energy supports the development and deployment of evolutionary and innovative nuclear power reactors and their non-electric applications. Deployment of advanced water cooled reactors (AWCRs), as well as development and initial deployment of SMRs, by Member States, including newcomer countries, is expected to increase. Therefore, the subprogramme will address specific development and deployment challenges and opportunities for SMRs, AWCRs, fast reactors, high temperature reactors and microreactors. The subprogramme will also address technology development of nuclear fusion for energy production, with a focus on demonstration fusion power plants (DEMOs) and transfer of knowledge between nuclear fission and nuclear fusion. Additionally, it will assist Member States in developing and applying advanced modelling and simulation tools validated by experimental data. Focus will continue on facilitating the deployment of non-electric applications, i.e., hydrogen and heat production, and nuclear cogeneration to address climate change and support the clean energy transition. Activities aimed at supporting the integration of nuclear power with other clean energy sources will also be strengthened. The subprogramme will ensure the secretariat function for the IAEA Platform on Small Modular Reactors and their Applications (SMR Platform).

Objectives, Outcomes and Performance Indicators by Programme

<table>
<tr><th colspan="2">Programme 1.1 Nuclear Power</th></tr>
<tr><td colspan="2">Objectives:</td></tr>
<tr><td colspan="2">— To support Member States with existing NPPs to enhance operating performance and safe, secure, efficient and reliable long term operation, with a harmonized approach to human, technological and organizational aspects.
— To support Member States embarking on new nuclear power programmes in planning and building their national nuclear infrastructures through coordinated assessment and assistance activities.
— To support Member States in modelling, analysing and assessing future NESs for sustainable development of nuclear energy and to provide them with collaborative frameworks and support for technology development and deployment of advanced nuclear reactors, SMRs, non-electric applications, nuclear fusion energy technology development and deployment, and integrated energy systems.</td></tr>
<tr><th>Outcomes</th><th>Performance Indicators</th></tr>
<tr><td>● Increased Member State use of Agency information, resources and services for efficient and reliable long term operation and life cycle management of existing NPPs, including improved management system, human resource and workforce capabilities.</td><td>● Number of Member States using relevant Agency resources, including Nuclear Energy Series publications, guidelines, recommendations and databases for engineering activities within existing and expanding nuclear power programmes.
● Number of Member States using Agency resources for the development and enhancement of their management capacities in the construction and operation of NPPs.</td></tr>
</table>

Outcomes	Performance Indicators
• Increased Member State understanding of issues and commitments regarding the development of the national infrastructure for embarking on a nuclear power programme.	• Number of Integrated Nuclear Infrastructure Review (INIR) missions, which include self-evaluation support missions, pre-INIR and INIR follow-up missions. • Number of Member States using guidance material for nuclear power infrastructure development.
• Increased cooperation among Member States on global nuclear energy sustainability, long term nuclear energy strategies, nuclear reactor technology development, non-electric applications and integrated energy systems.	• Number of Member States participating in INPRO collaborative projects and the INPRO Dialogue Forum, and using INPRO tools, services and publications. • Number of Member States and stakeholders cooperating in evolutionary and innovative nuclear reactor technology development, SMRs, non-electric applications of nuclear power and fusion energy activities through CRPs, Technical Meetings and training courses.

Subprogramme 1.1.1 Strengthening Integrated Engineering Support for Nuclear Power Programmes

***Objectives*:**

— *To support Member States in the safe, secure, efficient and reliable long term operation of NPPs.*

— *To support Member States in effective operation, maintenance and engineering processes for new NPPs.*

Outcomes	Performance Indicators
• Increased Member State use of Agency information, resources and services for NPP performance and sustainability.	• Number of Member States using Agency publications on NPP performance and sustainability. • Number of Member States participating in training conferences and symposia on NPP performance and sustainability.
• Increased Member State use of Agency information, resources and services for the implementation of new nuclear power projects.	• Number of Member States accessing Agency guidance and requesting Agency services to support efficient and effective implementation of new NPP projects.

Projects

Title	Main Planned Outputs
1.1.1.001 Engineering support for operating nuclear power plants	Publications, databases and events on specific aspects of NPP engineering, operation and maintenance, including life management and innovation relevant to operating NPPs; networks on life management and innovation that foster exchanges of information; national experience among Member States through Technical Meetings, workshops and conferences, including the promotion of excellence within the nuclear power sector.
1.1.1.002 Engineering support for expanding and new nuclear power projects	Publications, databases, toolkits and collaboration events on new NPP projects and major refurbishments of operating plants; capacity building; exchange of information and national experience among Member States through Technical Meetings and workshops in the field of NPP project engineering as well as construction management and technology.

Major Programme 1

Subprogramme 1.1.2 Management for Construction and Operation of Nuclear Power Plants	
Objectives:	
— *To support Member States in the development of management systems, configuration and performance management, project management, contracting, plant deployment models, human performance, leadership, and stakeholder involvement for construction and operation of NPPs.* — *To support Member States in the development of supply chains, industrial involvement, procurement, quality assurance and quality control, codes and standards, and harmonization efforts for NPPs.*	
Outcomes	**Performance Indicators**
• Increased Member State use of Agency guidance and services for development and implementation of management services in Member State organizations.	• Number of Member States using Agency resources for the development and enhancement of their management capacities in the construction and operation of NPPs.
• Increased Member State use of Agency guidance and services for development and implementation of supply chains and quality assurance and control for NPPs.	• Number of Member States using Agency resources for the development and implementation of supply chains and quality assurance and control for NPPs.
Projects	
Title	**Main Planned Outputs**
1.1.2.001 Management support for construction and operation of nuclear power plants	Agency guidance documents, training courses, workshops, Technical Meetings, toolkits, webinars and similar virtual learning modules on configuration management, project and plant management, contracting and human performance; information hubs and mapping/modelling tools for the development of operating organizations for NPP construction and operation.
1.1.2.002 Supply chains and quality assurance and control for nuclear power plants	Agency guidance documents and training courses in the area of nuclear supply chain and quality management; workshops, Technical Meetings, toolkits and similar virtual learning modules on harmonization in uses of codes and standards, procurement and industrial involvement, supply chain webinar series; mapping/modelling tools for nuclear supply chain risk assessment and development, and for industrial localization; development and implementation of enhanced review services.

Subprogramme 1.1.3 Integrated Support for Nuclear Power Programme Infrastructure Development	
Objectives:	
— *To support Member States in improving their understanding of the responsibilities and obligations essential to implementing safe, secure, efficient and reliable nuclear power programmes.* — *To support Member States in developing, in a phased manner, the necessary infrastructure to enable the introduction of nuclear power.* — *To provide integrated and coordinated Agency support to Member States embarking on a nuclear power programme.*	
Outcomes	**Performance Indicators**
• Improved national plans, based on the gaps identified, aligned with the international good practices reflected in the Milestones approach.	• Number of national plans developed by Member States in line with the Milestones approach.
• Improved understanding of specific nuclear infrastructure issues in Member States relevant to different phases of programme development.	• Number of relevant Technical Meetings, training courses and workshops in the area of nuclear infrastructure development.
• Improved assistance to Member States through integrated Agency support.	• Number of Integrated Work Plans and Country Nuclear Infrastructure Profiles.

Projects	
Title	**Main Planned Outputs**
1.1.3.001 Nuclear power infrastructure development	Enhancement of the INIR methodology, including development of electronic tools and adaptation to SMRs; implementation of INIR missions; development or updating of Integrated Work Plans and Country Nuclear Infrastructure Profiles; organization of roundtable and road map meetings; coordination and integration of assistance to embarking and expanding Member States.
1.1.3.002 Support to capacity building for nuclear power infrastructure	Development and implementation of publications and information sharing activities (e.g., Technical Meetings and webinars) for issues addressed in the Milestones approach; enhancement of training programmes; e-learning; Nuclear Infrastructure Bibliography and Nuclear Infrastructure Competency Framework; expert reviews on specific infrastructure issues (policies and strategies, management systems, etc.).

Subprogramme 1.1.4 International Project on Innovative Nuclear Reactors and Fuel Cycles

Objectives:

- *To increase international dialogue and strengthen cooperation among Member States regarding the development of sustainable nuclear energy.*
- *To support Member States in analysing and assessing NES development from the front end to the back end of the nuclear fuel cycle.*

Outcomes	Performance Indicators
• Enhanced Member State understanding of, and cooperation on, actions to achieve NES sustainability in the 21st century.	• Number of Member States participating in INPRO collaborative projects, the INPRO Dialogue Forum and training, and using INPRO tools, services and publications.
• Improved NES sustainability through Member State use of the INPRO toolset, including NES scenario modelling and analysis and the INPRO methodology to measure and track progress.	• Number of Member States using and contributing to development of INPRO tools (INPRO methodology and NES modelling and analysis tools).
• Strengthened Member State capacity for evaluating technological and institutional issues associated with NES sustainability.	• Number of Member States participating in the INPRO Dialogue Forum, regional training and other INPRO training opportunities that enhance Member States' knowledge and communication on NES sustainability.

Projects	
Title	**Main Planned Outputs**
1.1.4.001 International project on innovative nuclear reactors and fuel cycles	Publications on NES scenario modelling; collaborative projects on NES innovations; application of INPRO methodology for NES sustainability assessment; introduction of a service for sustainable NES planning; INPRO Dialogue Forums on NES sustainability; related training and outreach, including INPRO schools and a university outreach initiative.

Subprogramme 1.1.5 Technology Development for Small and Medium Sized or Modular Reactors, Large Advanced Reactors, Non-electric Applications of Nuclear Power and Fusion Energy

Objectives:

- *To support Member States in their efforts towards evolution and innovation in nuclear reactor technology and non-electric applications, in particular for their near-term deployment.*
- *To provide Member States with a collaborative research and technology development framework for the development of and preparation for the deployment of SMRs, large advanced reactors and nuclear fusion energy systems, as well as their integration in clean energy systems, for safe, secure and sustainable use of nuclear power.*
- *To support Member States in the development and deployment of non-electric applications of nuclear power, including nuclear cogeneration, hydrogen and heat production, desalination and industrial applications of nuclear energy.*

Outcomes	Performance Indicators
• Enhanced Member State capacity for technology development and deployment of advanced reactors, non-electric applications of nuclear power, nuclear fusion and integrated energy systems.	• Number of Member States collaborating in the sharing of information; number of Member States using Agency guidance and services to develop and deploy their advanced reactor technologies and non-electric applications of nuclear power. • Number of Member States engaging with the Agency in nuclear fusion technology development and preparation for deployment.
• Strengthened Member State capacity building and HRD in the areas of advanced reactors, nuclear fusion technology and non-electric applications of nuclear power.	• Number of Member States using Agency expertise for conducting workshops and training in the area of advanced reactors, nuclear fusion technology and non-electric applications of nuclear power.
• Increased international cooperation on technology development and deployment for advanced reactors, nuclear fusion technology and non-electric applications of nuclear power.	• Number of institutions and organizations in Member States participating in CRPs and other innovation-oriented activities including Collaborating Centres.

Projects

Title	Main Planned Outputs
1.1.5.001 Technology development for advanced water cooled reactors	Reports; databases; CRPs and Collaborating Centres dealing with AWCR technology development; Technical Meetings and workshops; expert missions under the technical cooperation programme; training courses, training material and e-learning modules; basic principle full plant and part task simulators; reactor technology assessments.
1.1.5.002 Technology development for small and medium sized or modular reactors	Technical Meetings; workshops; CRPs; e-tools; toolkits; databases; publications on key technologies, validation testing, design features, generic user requirements and criteria and topics of common technical interest for SMRs (including high temperature gas cooled reactors (HTGRs) and other advanced technologies); International Conference on Small Modular Reactors and their Applications.
1.1.5.003 Technology development for fast reactors	Technical Meetings; workshops; education and training seminars; CRPs; Collaborating Centres; technical studies; Nuclear Energy Series publications; IAEA Technical Documents; status reports; websites; databases; e-platforms; simulators related to research and technology development and deployment of fast nuclear systems.

Projects	
Title	**Main Planned Outputs**
1.1.5.004 Non-electric applications of nuclear power	Nuclear Energy Series publication on vendor–user interface in nuclear cogeneration projects; release of updated and improved Agency tools on hydrogen production, nuclear desalination and water management; collection and exchange of results of CRP on nuclear hydrogen production; International Conference on Small Modular Reactors and their Applications.
1.1.5.005 Nuclear fusion energy technology development and deployment	IAEA Fusion Energy Conference; DEMO Programme Workshops; Technical Meetings; consultancy meetings; workshops, training courses and webinars; publications; papers at international conferences and in peer-reviewed journals; databases, simulators and tools; CRPs; Collaborating Centres.

Programme 1.2 Nuclear Fuel Cycle and Waste Management

Programme 1.2 supports Member States in the efficient and sustainable use of nuclear technologies, including access to research reactors; fuel cycle for power reactors and research reactors; management of waste arising from all nuclear applications and energy production; life management of fuel cycle and waste management facilities and research reactors; transportation of radioactive material; decommissioning of all power and non-power nuclear related facilities; and environmental remediation.

Sharing of information, capacity building and review services are priorities in all areas of the programme. With growing interest in peaceful applications of nuclear science and technology, including nuclear energy, demand for strategies, approaches and reference information on good practices in the above-mentioned areas is increasing. The retirement of nuclear facilities, as well as the policy of upfront planning in this regard, generates an increased demand for effective solutions for decommissioning and waste management.

In order to enlarge the impact of its activities, the programme will continue publishing technical reference documents, and increase outreach and access to information and good practices through networks of practitioners, further developing virtual and web-based tools, such as e-learning modules, databases and wikis, and widening their availability in different languages. Furthermore, the programme will encourage partnership through Collaborating Centres, ICERRs and DSRSs technical centres that promote research, development of and training on nuclear technologies and provide access to research facilities. Through strengthened coordination within the Secretariat, the programme will provide Member States with a comprehensive approach on strategies and methodologies related to the nuclear fuel cycle, research reactors, radioactive waste management, decommissioning and environmental remediation, as well as integrated services in relevant areas.

Lessons learned from reviews, assessments and evaluations: Addressing the impact of the design and operation of advanced reactors, especially SMRs, on the fuel cycle, radioactive waste management and decommissioning is a key factor to enable the deployment of such technology. Peer review services benefit from the availability of Agency reference publications and information resources, as well as from formalized and documented processes. Regular gap analyses are now performed to ensure completeness of such resources for all peer review services offered under this programme. The development of e-tools, as well as the use of such tools by Member States, is successfully progressing.

Specific criteria for prioritization:

1. Support for Member States in capacity building and the transfer of experience, especially for those without (or with small) nuclear power programmes, including embarking countries.
2. Support for Member States in the sustainable use of nuclear technologies, including safety and innovation, in the nuclear fuel cycle, the nuclear facility life cycle up to decommissioning, waste management and research reactors.
3. Disseminate information through activities fostering international cooperation and the development and promotion of e-tools, such as e-learning modules, wikis, databases and networks.

Programmatic changes and trends

Subprogramme 1.2.1 Uranium Resources and Processing will continue to support Member States in improving their capacity to understand, plan and develop activities in the uranium (and thorium) production cycle(s), as their interest remains strong. The subprogramme will also continue to ensure the safe operation of the IAEA Low Enriched Uranium (LEU) Bank in Kazakhstan to facilitate the supply of LEU, upon request, to Member States experiencing disruption, in accordance with established Agency rules and procedures.

Subprogramme 1.2.2 Nuclear Power Reactor Fuel and Fuel Cycle Facilities will continue to inform Member States about emerging technologies in the field of innovative nuclear fuels and materials for currently operating and advanced reactors and to support Member States in addressing the challenges of industrial deployment of such fuels, by disseminating technical publications on fuel design, fabrication, operational challenges and in-reactor performance assessment. It will continue to support Member States in understanding the factors affecting the ageing of existing (and future) NFCFs and in addressing technical challenges when operating or upgrading these facilities (e.g. improvement of instrumentation and control systems, quality control measurements, environmental impacts, supply of high assay low enriched uranium (HALEU) fuels for SMRs, etc.) by documenting and disseminating industrial best practices in these areas; and will continue to maintain the Agency's Integrated Nuclear Fuel Cycle Information System (iNFCIS).

Subprogramme 1.2.3 Management of Spent Fuel from Nuclear Power Reactor and Radioactive Material Transportation will continue to support Member States (both those operating NPPs and embarking) to address issues and technological challenges related to the effective and safe management of their spent nuclear fuel discharged from the current and next generations of nuclear power reactors (i.e. water cooled, high temperature gas cooled and Generation IV reactors, including all SMRs), regardless of the strategies (options and schedules) they have adopted (i.e. disposal or recycling of their spent fuel, with a possible emphasis on complete actinide recycling). Activities will cover storage, recycling and transportation of spent fuel, in line with the conclusions of the International Conference on the Management of Spent Fuel from Nuclear Power Reactors held in June 2019, as well as transportation of all kinds of radioactive material, through the documentation of existing and emerging technologies, and the sharing of best operational practices and lessons learned among Member States.

Subprogramme 1.2.4 Radioactive Waste Management will continue to support Member States in carrying out their responsibility to manage any waste arising from the use of radioactive techniques in a safe and effective manner, in line with SDG 12 (on responsible consumption and production). Development in this field continues with the adoption of an integrated waste management concept and waste-informed approach in which waste considerations are a fundamental part of the process from the beginning. Member States' demand for support in radioactive waste management remains high.

Subprogramme 1.2.5 Decommissioning and Environmental Remediation will continue to respond to increasing requests from Member States for guidance and support in these areas. This subprogramme will be further strengthened in 2024–2025 to include planning and implementation of sustainable decommissioning of nuclear installations as well as environmental remediation of contaminated sites based on circular economy principles, in line with the proper human resources, available infrastructure, technologies and support of stakeholders.

Subprogramme 1.2.6 Research Reactors will continue to address the main challenges related to the sustainable operation of research reactors, supporting regional and interregional collaboration through networking and ICERRs to enhance performance and access to research reactors. The subprogramme also supports Member States in improving operation and maintenance in order to optimize the operational performance of research reactors; disseminating good practices in modernization, refurbishment and ageing management; planning and implementing research reactor modifications, including those related to utilization; national planning and implementation of a first or new research reactor; spent fuel management; using and accessing research reactors, including distance learning tools (e.g., the Internet Reactor Laboratory (IRL)) for nuclear capacity building in Member States developing nuclear science and technology programmes, including nuclear power programmes; and transitioning away from the use of high enriched uranium in research reactors, upon Member State request.

Objectives, Outcomes and Performance Indicators by Programme

Programme 1.2 Nuclear Fuel Cycle and Waste Management

Objectives:

- *To support Member States in establishing and improving effective, safe, secure and sustainable frameworks and implementing solutions for nuclear programmes and nuclear applications in the fields of fuel cycle, research reactors, radioactive waste management, decommissioning and environmental remediation.*
- *To support Member States in strengthening their capabilities and human resources in the domains of fuel cycle, radioactive waste management, decommissioning and environmental remediation, and research reactors, including collaborative arrangements and shared facilities.*
- *To be a platform to facilitate and strengthen international cooperation, coordination and information sharing among Member States.*

Outcomes	Performance Indicators
• Increased Member State use of Agency information, resources and services for the establishment and continuous improvement of policy frameworks and for the implementation of effective and sustainable solutions in the domains of the programme.	• Number of Member States reporting on important milestones reached in strengthening relevant frameworks or implementing relevant programmes. • Number of Member States requesting peer review services, e.g., Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation (ARTEMIS), Operation and Maintenance Assessment for Research Reactors (OMARR), Integrated Nuclear Infrastructure Review for Research Reactors (INIR-RR), Integrated Uranium Production Cycle Review (IUPCR), or targeted peer review or advisory services.
• Enhanced Member State capacity and knowledge, including programme management.	• Number of Member States providing experts for peer review services, e.g., ARTEMIS, OMARR, INIR-RR, IUPCR, or targeted peer review and advisory services. • Number of designated collaborative and reference centres.
• Improved international cooperation in the fields of nuclear fuel cycle, radioactive waste management, research reactors, decommissioning and environmental remediation.	• Number of Member States participating in relevant CRPs. • Number of Member States participating in Technical Meetings, workshops and forums.

Subprogramme 1.2.1 Uranium Resources and Processing

Objectives:

- *To support Member States in improving their capacity to understand, plan and develop activities in the uranium (and thorium) production cycle(s).*
- *To contribute to energy supply security by facilitating the supply of LEU, upon request, to Member States experiencing disruption for non-commercial reasons, via the IAEA LEU Bank.*

Outcomes	Performance Indicators
• Improved Member State information on and knowledge of uranium (and thorium) global resources by ensuring their access to accurate information, data and references.	• Joint Nuclear Energy Agency of the Organisation for Economic Co-operation and Development/Nuclear Energy Agency (OECD/NEA)–IAEA publication entitled Uranium: Resources, Production and Demand. • Number of record modifications relating to new and existing uranium (and thorium) deposits in the World Distribution of Uranium Deposits (UDEPO) (and World Thorium Deposits and Resources (ThDEPO)) databases to improve the quality and accuracy of data therein.

Outcomes	Performance Indicators
• Improved Member State understanding and implementation of best practices in the uranium (and thorium) production cycle(s), from resource delineation and exploration to production.	• Number of participants in Agency meetings related to good practices in the uranium (and thorium) production cycle(s). • Person-hours of training imparted through training courses on good practices in the uranium (and thorium) production cycle(s).
• Member States provided with assurance of supply of LEU, through the operation of the IAEA LEU Bank in compliance with GOV/2010/67.	• IAEA LEU Bank remains operational and ready for supply to eligible Member States upon request.

Projects

Title	Main Planned Outputs
1.2.1.001 Exploration, mining and processing	Meetings; training workshops (through the technical cooperation programme); Agency publications (Nuclear Energy Series publications and IAEA Technical Documents promoting good practices in uranium and thorium production cycles from exploration to milling); e-tools (Uranium Production Cycle Network web platform; e-learning modules) and peer review services based on the Milestones approach for systematic and phased project development in uranium (or thorium) mining.
1.2.1.002 Resources data analytics	Biennial issuance of the joint OECD/NEA–IAEA publication entitled Uranium: Resources, Production and Demand; e-tools; infographics; well-maintained and updated uranium and thorium deposits databases (UDEPO, ThDEPO).
1.2.1.003 Low Enriched Uranium Bank	Operation of the IAEA LEU Bank in accordance with GOV/2010/67 and GOV/2010/70.

Subprogramme 1.2.2 Nuclear Power Reactor Fuel and Fuel Cycle Facilities

Objectives:

— *To support Member States in understanding and addressing the factors affecting the design, fabrication and in-pile behaviour of currently operated and innovative nuclear fuels and materials for water cooled and fast reactors (including SMRs), as well as HTGRs.*

— *To support Member States in identifying and implementing technical measures to operate and upgrade existing NFCFs in compliance with Agency safety standards, such as addressing the challenges of ageing NFCFs or the supply of HALEU fuels for SMRs.*

Outcomes	Performance Indicators
• Improved Member State understanding of research and development (R&D) challenges in the design, manufacture and operation of conventional and advanced nuclear fuels (including HALEU fuels) and related core materials for currently operating and advanced reactors (including SMRs) to facilitate their industrial deployment.	• Number of experts participating in Agency events on R&D challenges and operation/performance assessment of currently deployed and advanced, innovative fuels for water cooled and fast reactors (including SMRs). • Number of Member States participating in CRPs.
• Improved Member State understanding of technical issues related to the ageing and upgrading of NFCFs.	• Number of participants in Agency events on technical issues related to the ageing and upgrade of NFCFs.

Projects	
Title	**Main Planned Outputs**
1.2.2.001 Nuclear power reactor fuel engineering and operation	Meetings and training workshops (through technical cooperation programmes); Agency publications (Nuclear Energy Series publications and IAEA Technical Documents) promoting good practices in the development and use of existing and innovative fuels and core materials for currently operating and advanced reactors, including SMRs; CRPs; e-tools (Nuclear Fuel Engineering Network web platform, e-learning modules).
1.2.2.002 Fuel cycle facilities operation and life management	Publications on technical issues and best practices related to daily operation of NFCFs (especially upgraded or ageing facilities); management of life cycle and improvement of process efficiencies (e.g. waste minimization, scrap recycling); upgrade of current nuclear fuel cycle infrastructure to address the supply challenges of HALEU fuel for SMRs; development of e-tools, infographics and well-maintained and updated databases (Nuclear Fuel Cycle Facilities Database, PIEDB) and simulation tool (NFCSS).

Subprogramme 1.2.3 Management of Spent Fuel from Nuclear Power Reactor and Radioactive Material Transportation

Objectives:

- *To support Member States in understanding and addressing the challenges of effective and safe storage of their spent nuclear fuels (through wet and dry technologies), including anticipating those generated by small modular reactors.*
- *To facilitate discussion and information sharing among interested Member States on recent and future developments in nuclear fuel recycling processes and technologies for current and next generations of nuclear power reactors.*
- *To support Member States in understanding and addressing the challenges and issues related to the safe transportation of all kinds of radioactive materials used or generated through nuclear fuel cycle activities.*

Outcomes	Performance Indicators
• Improved Member State understanding of, and capabilities for addressing, the challenges of effective and safe storage of their spent nuclear fuel through wet and dry technologies, including anticipation of those generated by small modular reactor designs.	• Number of participants in Agency events on the safe storage of spent fuel. • Number of Member States participating in the relevant CRPs.
• Increased Member State understanding of, and capabilities for addressing, the challenges of nuclear fuel recycling processes and technologies for current and next generations of nuclear power reactors, including all SMR designs.	• Number of participants in Agency events on nuclear fuel recycling. • Number of Member States participating in the relevant CRPs.
• Increased Member State understanding of, and capabilities for addressing, the challenges and issues of the safe transportation of all kinds of radioactive materials used or generated by nuclear fuel cycle activities, including spent fuel from the current fleet of water cooled reactors, Generation IV reactors and all SMR designs.	• Number of participants in Agency meetings on effective and safe transportation of all kinds of radioactive materials.

Projects	
Title	**Main Planned Outputs**
1.2.3.001 Spent fuel storage	Meetings; International Conference on the Management of Spent Fuel from Nuclear Power Reactors; training workshops (through the technical cooperation programme); Agency publications (Nuclear Energy Series publications and IAEA Technical Documents promoting good practices in spent fuel inventories and storage technologies); e-tools (International Network on Spent Fuel Management web platform, e-learning modules) and peer review services (ARTEMIS); coordination of research projects on the performance and the demonstration of safe and effective storage of spent fuel during the envisaged period, including the development and implementation of ageing management programmes for systems, structures and components.
1.2.3.002 Spent fuel recycling	Meetings; International Conference on the Management of Spent Fuel from Nuclear Power Reactors; training workshops; Agency publications (Nuclear Energy Series publications and IAEA Technical Documents disseminating progress in R&D, demonstration and industrial implementation of spent fuel recycling processes and technologies); e-tools (International Network on Spent Fuel Management web platform, e-learning modules) and peer review services (ARTEMIS); coordination of research projects on R&D, demonstration and industrial implementation of nuclear fuel recycling processes and technologies.
1.2.3.003 Radioactive materials transportation	Meetings; training workshops (through the technical cooperation programme); Agency publications (Nuclear Energy Series publications and IAEA Technical Documents promoting good practices and lessons learned on the transportation of high burnup and mixed oxide fuels and on the transportability of spent fuel after long storage periods, including the societal aspects of spent fuel transportation on public roads worldwide); development of e-learning material.

Subprogramme 1.2.4 Radioactive Waste Management	
Objectives:	
— *To support Member States in strengthening their infrastructure and capabilities towards a comprehensive radioactive waste management programme.* — *To facilitate technology and knowledge transfer to support effective progress in Member States and identify cost-effective, fit-for-purpose solutions to safely manage radioactive waste.*	
Outcomes	**Performance Indicators**
• Increased awareness in Member States of options, solutions and good practices in radioactive waste management, including the management of disused sealed radioactive sources.	• Number of Member States having contributed to the Spent Fuel and Radioactive Waste Information System and to *Status and Trends in Spent Fuel and Radioactive Waste Management* publication.
• Strengthened Member State infrastructure and capabilities for addressing radioactive waste management responsibilities.	• Number of Member States supported by the Agency in improving capabilities and national infrastructure for managing radioactive waste.

Projects	
Title	**Main Planned Outputs**
1.2.4.001 Predisposal management	Guidance associated with the development and implementation of sustainable management practices for predisposal of radioactive waste in the form of publications; e-tools, including professional networks and Nuclear Wiki content; courses and workshops; cooperation with international organizations.
1.2.4.002 Waste disposal	Publications; e-tools; training course material; meetings, courses and workshops; cooperation with other international organizations; secretariat services for international networks of professionals focused on disposal.
1.2.4.003 Managing disused sealed radioactive sources (DSRSs)	Guidance on DSRS management practices in the form of publications, e-tools, training, databases and professional networks; upon request, field missions and hands-on operations for establishing inventory, source recovery, conditioning and source removal; development, cataloguing and dissemination of technologies for the management of DSRSs; Disused Sealed Radioactive Sources Technical Centre peer reviews.
1.2.4.004 Capacity building and knowledge sharing	E-tools and web-based systems; training course material; sharing of information with other international organizations on synergies between respective programmes.

Subprogramme 1.2.5 Decommissioning and Environmental Remediation

Objectives:

- *To support Member States in strengthening their capabilities for, and improving their practices in, the decommissioning of nuclear installations and remediation of contaminated sites.*
- *To facilitate experience sharing and knowledge transfer on effective applications of practical measures in the decommissioning of nuclear installations and environmental remediation of contaminated sites.*

Outcomes	Performance Indicators
• Increased awareness in Member States of decommissioning and remediation needs and issues as well as of available options, solutions and good practices for ensuring sustainable decommissioning and environmental remediation based on circular economy principles.	• Number of case studies on nuclear decommissioning and environmental remediation contributed to the Nuclear Wiki by experts and organizations from Member States. • Number of requests from Member States for expert review or peer review services on issues related to decommissioning and environmental remediation per year (except those under ARTEMIS-EC framework).
• Enhanced capabilities of Member States to have in place proper human resources, infrastructure and technologies for the decommissioning of nuclear installations and remediation of contaminated sites.	• Number of Member States offering experts for peer review and expert review services on decommissioning and environmental remediation issues. • Number of Collaborating Centres for decommissioning.

Projects	
Title	**Main Planned Outputs**
1.2.5.001 Decommissioning	Publications; activities organized within the practitioner community (including the International Decommissioning Network); decommissioning input to the wiki and e-learning module development; update of decommissioning databases; cooperation with other international organizations; cross-cutting activities; outreach to attract the young generation, in particular women, to decommissioning-related education and work; support for capacity building in Member States.

Projects	
Title	**Main Planned Outputs**
1.2.5.002 Environmental remediation	Publications; activities organized within the practitioner community (including the Network on Environmental Management and Remediation); workshops and field-based training; training in partnership with higher education institutions; development of wiki case studies and e-learning modules; cooperation with other international organizations; cross-cutting activities; outreach to attract the young generation, in particular women, to environmental remediation-related education and work; support for capacity building in Member States.

Subprogramme 1.2.6 Research Reactors	
Objectives:	
— *To support Member States in enhancing sustainable operation and performance of existing research reactors.* — *To support Member States in nuclear capacity building through the use of, and access to, research reactors.* — *To support Member States in planning and implementing new research reactor projects, including the development of their national infrastructure.*	
Outcomes	**Performance Indicators**
• Increased Member State understanding and use of Agency services for sustainable operation and improved performance of existing research reactors, as well as effective implementation of new research reactor projects.	• Number of peer review services related to sustainable operation of research reactors and infrastructure development (e.g., OMARR missions and INIR-RR missions) requested by Member States.
• Increased Member State use of, and access to, research reactors for developing their national nuclear programmes and strategies, including for developing human resources.	• Number of Member States engaged as providers in Agency capacity building initiatives based on research reactors (ICERR, hands-on training courses, IRL). • Number of Member States engaged as beneficiaries in Agency capacity building initiatives based on research reactors (ICERR, hands-on training courses, IRL).
Projects	
Title	**Main Planned Outputs**
1.2.6.001 Access to research reactors, capacity building and infrastructure development	Support to Member States embarking on new research reactor projects through workshops and expert missions (including INIR-RR missions); delivery of tools for capacity building based on research reactors (ICERR, hands-on training courses, IRL); development of relevant publications.
1.2.6.002 Research reactor fuel cycle	Support to Member States on research reactor fuel cycle issues: sharing experience and knowledge through CRPs, training courses, expert missions and the Research Reactor Database; publications; conversion of research reactor fuel and irradiation targets from high to low enriched uranium and return of high enriched uranium fuel to the country of origin, upon Member State request.
1.2.6.003 Research reactor operation, performance and upgrade	Support to Member States in research reactor operation and life management through training workshops, Technical Meetings, publications, CRPs, expert and peer review missions, including OMARR and in-service inspection missions, updated research reactor information resources, i.e., Research Reactor Database, Research Reactor Ageing Database, Research Reactor Material Properties Database and other relevant delivery tools for experience and knowledge sharing.

Programme 1.3 Capacity Building and Nuclear Knowledge for Sustainable Energy Development

Programme 1.3 supports interested Member States in formulating science-based energy policy and strategies and improving understanding of the unique role of nuclear energy in addressing the SDGs and addressing climate change through building capacity with improved energy models and tailored analytical tools, providing comprehensive energy information and data, and conducting various scenario analyses and case studies at national, regional and global levels.

The programme also supports Member States in preserving and disseminating nuclear knowledge and implementing effective NKM and HRD programmes through providing relevant methodologies, guidance and good practices; fostering nuclear education networking; and offering targeted capacity building and peer review services. It manages the International Nuclear Information System (INIS) and the IAEA Library, which provide comprehensive, authoritative and reliable information and data to Member States in supporting their peaceful uses of nuclear technologies. The programme coordinates the implementation of the IAEA Marie Skłodowska-Curie Fellowship Programme (MSCFP), which provides scholarships for qualified female students and aims to address gender parity issues and encourage more women to enter the nuclear field.

Lessons learned from reviews, assessments and evaluations: Taking into account feedback from Member States and international organizations, analytical tools for energy planning are periodically assessed, upgraded and optimized to ensure their suitability and adaptation to the development of the SDGs and the Paris Agreement. Further scientific case studies and scenario analyses in cooperation with international partners will be undertaken to highlight the indispensable role of nuclear energy in achieving the SDGs, combating climate change and facilitating the clean energy transition. Through the Cyber Learning Platform for Network Education and Training (CLP4NET) and the Nuclear Knowledge Management Hub, a more hybrid format will continue to be applied in capacity building services, such as the Nuclear Energy Management (NEM) and NKM Schools, to address increasing demands of Member States and budget constraints. Taking into account the extent to which a Member State is pursuing nuclear power and nuclear applications, tailored information and knowledge management services will be continuously developed and provided in a holistic approach. Applying modern information technology (IT) will help to improve the acquisition and search of nuclear information and data in INIS, the largest nuclear information repository in the world, and ensure its quality and usage.

Specific criteria for prioritization:

1. Improved analytical tools and integrated approaches to support Member States in formulating science-based energy policies and making informed decisions with regard to facilitating the clean energy transition, mitigating and adapting to climate change and achieving the SDGs and climate targets.
2. High-quality case studies and scenario analyses of clean energy transition pathways at national, regional and global levels.
3. Improved learning modules, a tailored knowledge management service and a hybrid delivery mechanism for effectively and efficiently supporting the increasing needs of Member States.
4. A comprehensive, reliable, accessible and up-to-date nuclear information source with the support of modern IT.

Programmatic changes and trends

Subprogramme 1.3.1 Energy Modelling, Data and Capacity Building will strengthen the provision of support to Member States to allow national experts to conduct energy planning studies, integrating SDG and Paris Agreement targets. Energy planning tools will be further assessed, upgraded and integrated to adapt to the need for multi-objective evaluation as well as net zero objectives. Development activities will continue to be informed through feedback from Member States and international organizations using these tools. E-learning content will be expanded and promoted through standardized Agency platforms and used in combination with in-person training.

Subprogramme 1.3.2 Energy–Economy–Environment (3E) Analysis will strengthen support to Member States in the assessment of uses of nuclear energy within the context of the SDGs and climate objectives, as well as the contribution of nuclear power to the transition to clean, climate-resilient energy systems. Areas of the subprogramme include efforts to understand the economics of nuclear energy (for power and non-electric applications) in markets with increased shares of renewable energy; to establish guidelines, tools and approaches

for developing consistent cost estimates of nuclear energy technology and fuel cycle costs; to continue development of nuclear cost modelling capabilities in partnership with other international organizations; to support the adoption and application of integrated economic assessment methods and approaches, particularly for newcomer countries; and to assist Member States in assessing their climate change mitigation and adaptation strategies in the power sector, as well as approaches to address the SDGs, under a range of deployment scenarios.

Subprogramme 1.3.3 Nuclear Knowledge Management and Human Resource Development will continue to expand the provision of support to Member States through NEM and NKM Schools, the International Nuclear Management Academy, Knowledge Management Assist Visits and the Human Resource and Knowledge Development networking initiative. Member State participation continues to increase in the Agency's NKM and HRD programmes, including nuclear education and networking activities, NKM and NEM Schools and e-learning tools. Priorities include NKM methodology development, supporting education at the university level with a focus on nuclear energy; knowledge organization system technology and life cycle management of design knowledge; and establishing and strengthening knowledge networks, such as technical communities of practice. The subprogramme will also provide for a more integrated range of services for Member States seeking assistance and guidance across the full spectrum of education, training, HRD and NKM. The merging of HRD with NKM under this subprogramme will provide a more focused and efficient service to Member States, in line with the structures deployed by Member States throughout the nuclear energy sector. Having successfully established the MSCFP, the focus will be embedding and sustaining this important initiative.

Subprogramme 1.3.4 Nuclear Information will continue to gather and make available to Member States and to the Secretariat authoritative, validated, up-to-date nuclear information on the peaceful use of nuclear energy through INIS, the IAEA Library and the International Nuclear Library Network (INLN). It will also provide access to the OECD/NEA Data Bank for Agency Member States that are neither OECD/NEA nor OECD members.

Objectives, Outcomes and Performance Indicators by Programme

<table>
<tr><th colspan="2">Programme 1.3 Capacity Building and Nuclear Knowledge for Sustainable Energy Development</th></tr>
<tr><td colspan="2">Objectives:</td></tr>
<tr><td colspan="2">— To support Member States in strengthening their energy planning capacities in formulating science-based energy strategies and programmes, and to improve the understanding of Member States and the international community of the role of nuclear energy in mitigating climate change, facilitating the net zero transition and achieving the SDGs.
— To support Member States in strengthening their organizational capacities in NKM and HRD and to foster and expand international networking in these areas.
— To acquire and preserve nuclear science and technology information and data from Member States and international partners and to provide Member States with effective and efficient access to authoritative information and other resources collected in INIS and the IAEA Library.</td></tr>
<tr><th>Outcomes</th><th>Performance Indicators</th></tr>
<tr><td>● Strengthened Member State capacity in energy planning and improved understanding of the important role of nuclear energy under the framework of the SDGs and the Paris Agreement.</td><td>● Number of professionals from Member States trained in the use of Agency energy models.
● Number of instances where the Agency's economic or 3E analysis relating to the role of nuclear energy with regard to the SDGs and the objectives of the Paris Agreement are requested or incorporated into decision making process of Member States.</td></tr>
<tr><td>● Strengthened Member State capacity in NKM and HRD.</td><td>● Number of Member States engaged in Agency NKM and HRD activities and applying Agency methodologies and guidance.
● Number of new Member States participating in Agency-supported nuclear education networks.</td></tr>
<tr><td>● Increased Member State access to nuclear information and data collected in INIS and the IAEA Library.</td><td>● Number of INIS repository web page views.
● Number of IAEA Library catalogue searches.</td></tr>
</table>

Subprogramme 1.3.1 Energy Modelling, Data and Capacity Building

Objectives:

— *To support Member States in strengthening their capabilities and expertise in developing comprehensive energy analyses to evaluate alternative energy development pathways to achieve climate objectives, including net zero commitments; and carrying out pre-feasibility analyses for the possible introduction of nuclear power.*

Outcomes	Performance Indicators
• Enhanced Member State capacity in designing energy development strategies to meet sustainable development and climate mitigation targets.	• Number of professionals from Member States trained in the use of Agency energy models and planning tools.
• Improved Member State knowledge and understanding of energy and nuclear power status and trends.	• Number of cumulative requests from Member States and international organizations for data on energy and nuclear power.

Projects

Title	Main Planned Outputs
1.3.1.001 Energy, electricity and nuclear power economics: Status and trends	Updated information on status and trends of energy, electricity and nuclear power development in different world regions; updated internal and external websites; publication of *Energy, Electricity and Nuclear Power Estimates for the Period up to 2050* (Reference Data Series No. 1).
1.3.1.002 Models and capacity building for energy and nuclear power planning	Technical support for Member State energy planning studies offered online or through fellowships; enhanced analytical tools (models) applicable in widely diverse country situations; training courses.

Subprogramme 1.3.2 Energy–Economy–Environment (3E) Analysis

Objectives:

— *To support Member States in their understanding of the potential roles of nuclear energy in achieving the SDGs and mitigating climate change, including evaluating economic aspects such as costs of current and advanced reactor concepts, funding/financing and integration with renewables in evolving energy markets.*

— *To support Member States in their understanding of the nexus between SDG 7 and other SDGs, including in developing integrated assessment frameworks (e.g., climate, land, energy, water) and in assessing the effect of government policy (e.g., taxonomies) and financial sector mechanisms (e.g., environmental, social and governance criteria) on investment in low carbon technologies such as nuclear power.*

Outcomes	Performance Indicators
• Increased Member State and international organization use of Agency tools and expertise to improve understanding of the role of nuclear power in climate change and sustainable energy development.	• Number of instances in which the Agency's economic or 3E analysis relating to nuclear technology is requested or incorporated into the decision making process of Member States and other international organizations.
• Increased Member State awareness of the potential role of nuclear energy to contribute to sustainable development and to mitigate climate change.	• Number of publications, presentations and speeches on the potential contribution of nuclear energy to the SDGs and Paris Agreement objectives.

Projects

Title	Main Planned Outputs
1.3.2.001 Technoeconomic analysis	Economic studies and reports (cost assessment methodologies, comparisons, business case composition, macroeconomic impact, funding/financing options and cost–benefit analyses) on various issues in nuclear energy development and deployment, including innovative nuclear systems and SMRs; comparative assessments of energy systems or their attributes.

Projects	
Title	**Main Planned Outputs**
1.3.2.002 Topical issues related to sustainable energy development	Reports and presentations on the potential contribution of nuclear energy to SDG 7 and Paris Agreement objectives; case studies analysing sustainable energy and low carbon energy development strategies and policies focusing on the potential for nuclear energy in energy systems with variable renewables and energy markets beyond electricity.

Subprogramme 1.3.3 Nuclear Knowledge Management and Human Resource Development

Objectives:

- *To support Member States in their application and implementation of NKM and HRD programmes.*
- *To contribute to improving Member State knowledge in applying advanced technologies for sustainable NKM and HRD.*
- *To support Member States in strengthening academic education in the areas of nuclear technology management; nuclear engineering; nuclear science and applications; networking, collaboration and methodology development; and human resource development and sharing.*

Outcomes	Performance Indicators
• Strengthened Member States capacity in the area NKM and HRD.	• Number of Member States engaged in Agency NKM and HRD activities and applying Agency methodologies and guidance.
• Strengthened academic nuclear education in Member States in the areas of nuclear management, nuclear engineering, and nuclear science and applications, as well as increased Member State engagement in nuclear education networks.	• Number of new Member State organizations using or requesting Agency methodology and guidance for their nuclear education curricula improvement programmes or initiatives. • Number of new Member State organizations participating in Agency -supported nuclear education networks.

Projects	
Title	**Main Planned Outputs**
1.3.3.001 Implementing integrated NKM and HRD for nuclear organizations	Publications, reports, conferences, workshops and missions supporting NKM and HRD in Member States. International Conference on Nuclear Knowledge Management and Human Resources Development: Challenges and Opportunities.
1.3.3.002 Facilitating sustainable education in nuclear science and technology	One international NKM School and one international NEM School per year; national and regional schools, as requested by Member States; publications on nuclear education; annual regional and interregional meetings to facilitate networking for nuclear education; additional e-learning opportunities for Member States.
1.3.3.003 Applying nuclear knowledge organizational systems and technology	Platforms for collaboratively managing nuclear knowledge, data and information; support services, activities, documentation, databases and IT -related tools provided.
1.3.3.004 IAEA Marie Sklodowska-Curie Fellowship Programme	Award of MSCFP scholarships to applicants who meet the selection criteria; internship opportunity provided to each interested MSCFP participant; promotional and outreach material.

Subprogramme 1.3.4 Nuclear Information	
Objectives:	
— *To provide Member States with access to authoritative, validated and up-to-date information in the area of nuclear science and technology.* — *To facilitate the sustainable sharing of information generated by Member States on peaceful uses of nuclear energy.*	
Outcomes	**Performance Indicators**
• Increased Member State access to authoritative and validated information and data on peaceful uses of nuclear science and technology through the INIS.	• Number of records added to the INIS repository. • Number of INIS repository web page views.
• Increased Member State access to relevant, reliable and up-to-date library resources.	• Annual number of information resources acquired (books, journals, articles, documents, databases), whether purchased or as open access resources made available to users. • Number of library catalogue, database and electronic journal searches per year.
• Increased membership and use of the INLN.	• Number of members participating in the INLN. • Number of nuclear information requests from INLN members.
Projects	
Title	**Main Planned Outputs**
1.3.4.001 IAEA Library information resources and services	Accessible, relevant and up-to-date information resources in print and electronic format, including monographs and serial publications; research support, reference services and training sessions; operational and active INLN.
1.3.4.002 INIS collection and services	Openly accessible, up-to-date, contextually relevant and trusted digital repository of INIS bibliographic and full text documents; cooperation and information exchange with national INIS centres; high-quality thesaurus using relevant knowledge organization standards.

Programme 1.4 Nuclear Science

Programme 1.4. supports Member States in the provision of nuclear, atomic and molecular data; research reactor and particle accelerator applications; nuclear fusion science and plasma physics; and nuclear instrumentation. The Agency's nuclear, atomic and molecular data libraries on all nuclear applications are evolving and continuously updated. The programme supports Member States in applications of neutrons using both research reactor and accelerator sources, and accelerator technologies for a broad range of applications benefiting Member States' environmental and socio-economic welfare. This programme facilitates and supports nuclear fusion science and plasma physics research worldwide via information exchange among Member States, with the ITER Organization, and through Fusion Energy Conferences and DEMO Programme Workshops. Finally, through this programme, financial support is provided to the ICTP, with the aim of enabling scientists from developing countries to enhance their research capabilities.

Lessons learned from reviews, assessments and evaluations: Support to Member States in the effective and sustainable utilization of particle accelerators and neutron sources, including research reactors, as well as nuclear instrumentation, is vital for the effective application of these tools in a myriad of areas, including medical, industrial, cultural heritage, analytical and capacity building in nuclear sciences and engineering. Such efforts help accelerate the transition to knowledge-based economies in developing countries and serve as a platform for science diplomacy. Nuclear fusion has the potential to be a future source of low carbon energy, and the Agency's assistance in bringing Member States together for the dissemination of knowledge in fusion research is vital for driving development.

Specific criteria for prioritization:

1. Support Member State capacity building in nuclear science through international cooperation to address emerging environmental and socio-economic needs.
2. Foster international cooperation and information exchange in nuclear fusion science and plasma physics.

3. Provide nuclear, atomic and molecular data services.
4. Provide laboratory services, advanced training and materials for HRD.
5. Support Member States in strengthening sustainable utilization of accelerators, research reactors and other neutron sources.

Programmatic changes and trends

Subprogramme 1.4.1 Atomic and Nuclear Data will continue its focus in the areas of nuclear and atomic data evaluation and compilation, provision of data services to Member States, close cooperation with collaborating Nuclear Data Centres, and support for the exchange of information. The key steps in the production of databases include modelling and measurements, evaluation, processing, benchmarking and validation. These steps are typically supported by a large number of experts, many of whom are from outside the Agency, over a long period of time. The subprogramme will follow up on the trend of using artificial intelligence and machine learning techniques to improve atomic and nuclear data for applications and to respond to data requests for the programmatic needs of the Agency's technical Departments, in particular the Department of Nuclear Sciences and Applications, the Department of Nuclear Energy and the Department of Safeguards. A challenge will be to improve the gender balance within this male-dominated field, and initiatives will be launched to do so. This will be combined with ongoing and additional efforts in data library development, helping to combat climate change and support medical radioisotope production.

Subprogramme 1.4.2 Research and Applications with Accelerators and Neutron Sources will continue to support Member States in the development and sustainable utilization of particle accelerators and neutron sources, including research reactors. While the ageing fleet of research reactors continues to decrease in number, (compact) accelerator-based neutron sources can fill the gap for some applications of neutrons. The continuation of periodic accelerator and research reactor conferences and other key activities, such as CRPs and Technical Meetings/workshops, will enhance international cooperation and the sharing of good practices in this technical area.

Subprogramme 1.4.3 Nuclear Instrumentation will continue to support Member States in the development and utilization of nuclear instrumentation in adaptive research and a broad range of applications, the scope being enlarged by the recent development of neutron -based analytical techniques using compact neutron generators in Seibersdorf.

Subprogramme 1.4.4 Nuclear Fusion Science and Plasma Physics will continue to facilitate information dissemination and knowledge transfer as well as to support R&D in the area of nuclear fusion science and plasma physics among Member States. It will contribute to relevant cross-cutting activities within the Agency. The continuation of the periodic Fusion Energy Conference, the DEMO Programme Workshop series, and other key activities such as CRPs and Technical Meetings/workshops, including those in cooperation with the ITER Organization, will enhance international cooperation in nuclear fusion overall. The subprogramme will also implement, as appropriate, advice and recommendations from the International Fusion Research Council on matters relating to the Agency's controlled nuclear fusion programme, with the aim of promoting international cooperation in this field.

Subprogramme 1.4.5 Support to the Abdus Salam International Centre for Theoretical Physics will support Member States, in particular developing countries, in enhancing their scientific capability in nuclear sciences and technologies, both for power and non-power applications. While ICTP R&D activities have grown beyond basic theoretical physics areas in the past few years, not all of these are of relevance to the Agency. Therefore, the Agency's contribution focuses on areas of mutual relevance and benefit, such as basic and applied nuclear sciences, nuclear energy, and nuclear safety and security.

Objectives, Outcomes and Performance Indicators by Programme

Programme 1.4 Nuclear Science
Objectives:
— *To support Member States in strengthening their capabilities in the development and application of nuclear science as a tool for their technological and socio-economic development.* — *To support Member States in enhancing sustainable operation and effective utilization of particle accelerators and neutron sources as well as effective utilization of research reactors, increasing opportunities for access to these facilities and their diverse applications, and in developing relevant qualified professionals.*

Outcomes	Performance Indicators
• Increased Member State capacity in the area of nuclear science for technological and socio-economic advancement.	• Number of relevant scientific events conducted. • Number of participants in scientific events, workshops and training courses on nuclear science.
• Increased Member State knowledge of atomic and nuclear data and capacity for sustainable and effective utilization of particle accelerators and neutron sources, including research reactors.	• Number of reports and publications supported by the Agency and resulting from the use of particle accelerators and neutron sources, including research reactors. • Number of Member States accessing and retrieving atomic and nuclear data from Agency websites.

Subprogramme 1.4.1 Atomic and Nuclear Data

Objectives:

— *To support Member States in increasing their capabilities and expertise for the safe, secure and sustainable deployment of nuclear technologies by providing access to reliable nuclear and atomic data for nuclear power and non-power applications.*

Outcomes	Performance Indicators
• Increased Member State access to atomic and nuclear data for nuclear power and non-power applications.	• Number of Member States accessing and retrieving atomic and nuclear data from Agency websites. • Number of retrieved atomic and nuclear datasets from Agency websites.

Projects

Title	Main Planned Outputs
1.4.1.001 Provision of data services	Easy online access to atomic and nuclear data, with improved search, analysis, retrieval and visualization tools; documentation and reports to enable efficient data use; new and improved atomic and nuclear databases; coordinated data networks and training courses; support of data standards development. a renewed and modernized website to disseminate information on nuclear data science.
1.4.1.002 Nuclear data developments	Update of the fission yield data library; evaluated files of important actinides and structural materials for the International Nuclear Data Evaluation Network (INDEN); an updated version of the fission yield data library for fuel cycle applications; improved nuclear level densities; nuclear data for medical isotope production.
1.4.1.003 Atomic and molecular data developments	Compilation of uncertainty data in the A Labelled Atomic Data Interface (ALADDIN) and the Atomic and Molecular Bibliographic Data System databases (AMBDAS) containing newly evaluated datasets as they become available; continued population and development of the Collision DB and related databases and standards for fusion energy research; improved corresponding dissemination tools.

Subprogramme 1.4.2 Research and Applications with Accelerators and Neutron Sources

Objectives:

— *To support Member States in strengthening their capabilities to conduct research with accelerators and neutron sources.*

— *To support Member States in strengthening their capabilities to expand the applications of accelerators and neutron sources.*

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Outcomes	Performance Indicators
• Strengthened Member State capability in establishing and sustaining well-functioning and optimized nuclear science infrastructures based on particle accelerators and neutron sources, including the development of relevant qualified professionals.	• Number of participants attending relevant Agency's technical and training events. • Number of publications and reports supported by the subprogramme and resulting from utilization of accelerators and neutron sources.
• Increased capacity in Member States to access and utilize accelerators and neutron sources for research and diverse applications.	• Number of research groups from Member States participating in experiments. • Number of Member States requesting Agency assistance in enhancing the utilization of accelerator and neutron source facilities, in operation and maintenance issues, or in setting up new facilities.

Projects

Title	Main Planned Outputs
1.4.2.001 Accelerator and neutron source applications in multiple disciplines	CRPs, Technical Meetings and workshops on a wide variety of accelerator and neutron source applications in different disciplines, with an emphasis on materials science and energy applications; Accelerator Knowledge Portal, databases and e-learning tools; Agency and non-Agency publications.
1.4.2.002 Enhancing research with accelerators and neutrons	Experiments, training courses and workshops with practical hands-on training at the IAEA beamlines at the Elettra institute and the Ruđer Bošković Institute; Collaborating Centres; active CRPs; review missions and services aiming to advise accelerator and neutron source facilities on their strategic planning and enhanced utilization options (e.g. Integrated Research Reactor Utilization Review).

Subprogramme 1.4.3 Nuclear Instrumentation

Objectives:

— *To support Member States in developing and strengthening their capabilities in the use of nuclear instrumentation for applied research and nuclear applications.*

— *To support Member States in environmental and in situ radioactivity mapping as well as other applications of mobile instrumentation.*

Outcomes	Performance Indicators
• Increased Member State capability in developing qualified professionals for establishing, optimizing and utilizing nuclear instrumentation for a wide variety of applications.	• Number of fellows and training workshop participants trained in using experimental infrastructure. • Number of users accessing the Agency's nuclear instrumentation portal.
• Increased Member State use of Agency guidance, support, resources and services in the field of nuclear instrumentation and its applications.	• Number of publications, reports and e-resources supported by the Agency and dedicated to nuclear instrumentation and its applications made available to Member States. • Number of Member States requesting specific Agency assistance with the implementation and use of nuclear instrumentation and its applications.

Projects	
Title	**Main Planned Outputs**
1.4.3.001 Nuclear instrumentation and capacity building	Training courses, scientific and technical publications, Technical Meetings and workshops on nuclear instrumentation, with an emphasis on applications in environmental monitoring; nuclear spectrometry and accelerator-based R&D; training courses and course materials.
1.4.3.002 Mobile instrumentation for radiation monitoring	Detectors and analysis software combined with a geoinformation system for in situ mapping of radiological contamination; uncrewed aerial vehicle- and backpack-based and handheld gamma detector systems for the survey of medium-sized areas; relevant methodologies developed and documented; training events; advisory and demonstration missions.

Subprogramme 1.4.4 Nuclear Fusion Science and Plasma Physics

Objectives:

— *To support Member States' R&D programmes on nuclear fusion science and plasma physics, including capacity building.*

— *To facilitate information exchange and knowledge transfer among Member States in the area of nuclear fusion science and plasma physics.*

Outcomes	Performance Indicators
• Improved nuclear fusion science and plasma physics capacity and infrastructure in Member States.	• Number of research organizations/institutions involved in the relevant CRPs and joint experiments.
• Improved information exchange and knowledge transfer between researchers and engineers in nuclear fusion science and plasma physics.	• Number of participants attending the Fusion Energy Conference, DEMO Programme Workshops, Technical Meetings and schools. • Number of users accessing the IAEA Fusion Portal and the Fusion Device Information System (FusDIS).

Projects

Title	Main Planned Outputs
1.4.4.001 Nuclear fusion science and plasma physics	CRPs; IAEA Fusion Energy Conference; DEMO Programme Workshops; Technical Meetings, training, outreach and other activities in collaboration with different stakeholders on fusion science and plasma physics, artificial intelligence and plasma technology; cooperation with partner organizations such as the ITER Organization and the Princeton Plasma Physics Laboratory; maintaining and updating the IAEA Fusion Portal and FusDIS.

Subprogramme 1.4.5 Support to the Abdus Salam International Centre for Theoretical Physics

Objectives:

— *To support Member States, in particular developing countries, in enhancing their scientific capability through training and information exchange and in advancing their capabilities in nuclear science and technology through cooperation with the ICTP.*

Outcomes	Performance Indicators
• Enhanced knowledge of scientists through their participation in ICTP scientific programmes, including through the exchange of information among scientists.	• Number of ICTP scientific events organized. • Number of scientists participating in ICTP scientific events.

Outcomes	Performance Indicators
• Enhanced knowledge of scientists, including young scientists in particular from developing countries, in relevant Agency programmatic areas.	• Number of joint Agency–ICTP events conducted. • Number of scientists participating in joint Agency–ICTP events.
• Increased opportunity for scientists from developing countries to carry out doctoral research at an internationally renowned institute.	• Number of new Sandwich Training Educational Programme fellowships funded by the Agency.
Projects	
Title	**Main Planned Outputs**
1.4.5.001 Support to ICTP	Training courses, workshops and seminars; scientific publications.

Major Programme 1 — Nuclear Power, Fuel Cycle and Nuclear Science

Summary of Programme Structure and Resources

(excluding Major Capital Investments)

	2024 at 2024 Prices		2025 at 2024 Prices	
Programme/Subprogramme/Project	Regular Budget	Unfunded	Regular Budget	Unfunded
1.0.0.001 Overall management, coordination and common activities	621 216	389 051	621 216	238 159
1.0.0.002 Outreach and stakeholder involvement	619 482	115 150	619 480	115 150
1.0.0.003 Partnerships and resource mobilization	625 389	115 150	625 389	115 150
1.S Corporate shared services	2 416 729	146 706	2 416 729	172 092
	4 282 817	**766 057**	**4 282 815**	**640 552**
1.1.1.001 Engineering support for operating nuclear power plants	1 468 626	687 132	1 468 626	687 132
1.1.1.002 Engineering support for expanding and new nuclear power projects	343 024	-	343 024	-
1.1.1 Strengthening Integrated Engineering Support for Nuclear Power Programmes	**1 811 650**	**687 132**	**1 811 650**	**687 132**
1.1.2.001 Management support for construction and operation of nuclear power plants	610 233	170 328	610 233	170 328
1.1.2.002 Supply chains and quality assurance and control for nuclear power plants	654 586	85 162	654 586	85 162
1.1.2 Management for Construction and Operation of Nuclear Power Plants	**1 264 818**	**255 489**	**1 264 818**	**255 489**
1.1.3.001 Nuclear power infrastructure development	890 204	2 272 409	890 205	2 135 016
1.1.3.002 Support to capacity building for nuclear power infrastructure	2 097 291	452 727	2 097 291	279 998
1.1.3 Integrated Support for Nuclear Power Programme Infrastructure Development	**2 987 495**	**2 725 136**	**2 987 496**	**2 415 014**
1.1.4.001 International project on innovative nuclear reactors and fuel cycles	1 310 538	1 576 658	1 310 538	1 570 979
1.1.4 International Project on Innovative Nuclear Reactors and Fuel Cycles	**1 310 538**	**1 576 658**	**1 310 538**	**1 570 979**
1.1.5.001 Technology development for advanced water cooled reactors	1 116 414	39 580	1 116 414	39 580
1.1.5.002 Technology development for small and medium sized or modular reactors	738 116	979 289	711 578	979 289
1.1.5.003 Technology development for fast reactors	644 289	115 150	644 289	115 150
1.1.5.004 Non-electric applications of nuclear power	494 879	-	487 211	-
1.1.5.005 Nuclear Fusion Energy Technology Development and Deployment	397 407	-	397 410	-
1.1.5 Technology Development for Small and Medium Sized or Modular Reactors, Large Advanced Reactors, Non-electric Applications of Nuclear Power and Fusion Energy	**3 391 105**	**1 134 020**	**3 356 902**	**1 134 020**
1.1 Nuclear Power	**10 765 606**	**6 378 435**	**10 731 403**	**6 062 633**
1.2.1.001 Exploration, mining and processing	661 321	81 425	671 713	81 425
1.2.1.002 Resources data analytics	486 820	-	495 287	-
1.2.1.003 Low Enriched Uranium Bank	-	457 492	-	457 492
1.2.1 Uranium Resources and Processing	**1 148 141**	**538 917**	**1 167 000**	**538 917**
1.2.2.001 Nuclear power reactor fuel engineering and operation	793 315	152 696	808 415	152 696
1.2.2.002 Fuel cycle facilities operation and life management	294 917	-	292 067	-
1.2.2 Nuclear Power Reactor Fuel and Fuel Cycle Facilities	**1 088 233**	**152 696**	**1 100 482**	**152 696**
1.2.3.001 Spent fuel storage	791 651	115 150	734 212	115 150
1.2.3.002 Spent fuel recycling	329 128	-	345 723	-
1.2.3.003 Radioactive materials transportation	201 013	-	210 912	-
1.2.3 Management of Spent Fuel from Nuclear Power Reactor and Radioactive Material Transportation	**1 321 793**	**115 150**	**1 290 847**	**115 150**
1.2.4.001 Predisposal management	1 131 172	247 005	1 129 630	247 005
1.2.4.002 Waste disposal	1 125 485	242 672	1 125 485	56 745
1.2.4.003 Managing disused sealed radioactive sources (DSRSs)	547 914	796 782	549 321	796 782
1.2.4.004 Capacity building and knowledge sharing	281 313	-	281 207	-
1.2.4 Radioactive Waste Management	**3 085 884**	**1 286 459**	**3 085 642**	**1 100 532**
1.2.5.001 Decommissioning	981 413	857 000	981 413	686 627
1.2.5.002 Environmental remediation	950 470	115 150	950 284	115 150
1.2.5 Decommissioning and Environmental Remediation	**1 931 884**	**972 150**	**1 931 698**	**801 777**
1.2.6.001 Access to research reactors, capacity building and infrastructure development	458 781	144 326	469 396	157 797
1.2.6.002 Research reactor fuel cycle	580 723	719 122	570 109	694 255
1.2.6.003 Research reactor operation, performance and upgrade	701 040	96 174	701 040	82 838
1.2.6 Research Reactors	**1 740 545**	**959 621**	**1 740 545**	**934 890**
1.2 Nuclear Fuel Cycle and Waste Management	**10 316 479**	**4 024 994**	**10 316 214**	**3 643 963**

Major Programme 1 — Nuclear Power, Fuel Cycle and Nuclear Science

Summary of Programme Structure and Resources

(excluding Major Capital Investments)

	2024 at 2024 Prices		2025 at 2024 Prices	
Programme/Subprogramme/Project	**Regular Budget**	**Unfunded**	**Regular Budget**	**Unfunded**
1.3.1.001 Energy, electricity and nuclear power economics: status and trends	561 693	-	561 823	-
1.3.1.002 Models and capacity building for energy and nuclear power planning	1 535 208	-	1 535 208	-
1.3.1 Energy Modelling, Data and Capacity Building	**2 096 901**	**-**	**2 097 031**	**-**
1.3.2.001 Technoeconomic analysis	1 023 100	-	1 022 718	-
1.3.2.002 Topical issues related to sustainable energy development	919 483	732 640	919 300	786 088
1.3.2 Energy –Economy –Environment (3E) Analysis	**1 942 583**	**732 640**	**1 942 018**	**786 088**
1.3.3.001 Implementing integrated NKM and HRD for nuclear organizations	751 592	253 363	751 592	253 363
1.3.3.002 Facilitating sustainable education in nuclear science and technology	1 062 725	688 692	1 066 577	643 789
1.3.3.003 Applying nuclear knowledge organizational systems and technology	794 661	147 377	794 661	147 377
1.3.3.004 IAEA Marie Skłodowska-Curie Fellowship Programme	-	8 805 568	-	8 805 568
1.3.3 Nuclear Knowledge Management and Human Resource Development	**2 608 978**	**9 895 000**	**2 612 830**	**9 850 097**
1.3.4.001 IAEA library information resources and services	2 642 403	15 270	2 629 946	15 270
1.3.4.002 INIS collection and services	2 282 297	325 933	2 292 303	325 933
1.3.4 Nuclear Information	**4 924 699**	**341 203**	**4 922 249**	**341 203**
1.3 Capacity Building and Nuclear Knowledge for Sustainable Energy Development	**11 573 162**	**10 968 843**	**11 574 128**	**10 977 388**
1.4.1.001 Provision of data services	1 087 337	-	1 086 731	-
1.4.1.002 Nuclear data developments	1 431 736	-	1 430 626	-
1.4.1.003 Atomic and molecular data developments	856 016	-	856 158	-
1.4.1 Atomic and Nuclear Data	**3 375 089**	**-**	**3 373 515**	**-**
1.4.2.001 Accelerator and neutron source applications in multiple disciplines	1 048 102	243 084	1 048 102	243 084
1.4.2.002 Enhancing research with accelerators and neutrons	769 626	98 530	769 626	98 530
1.4.2 Research and Applications with Accelerators and Neutron Sources	**1 817 728**	**341 614**	**1 817 728**	**341 614**
1.4.3.001 Nuclear Instrumentation and capacity building	876 509	163 407	876 509	163 407
1.4.3.002 Mobile instrumentation for radiation monitoring	523 113	98 568	523 113	98 568
1.4.3 Nuclear Instrumentation	**1 399 622**	**261 976**	**1 399 622**	**261 976**
1.4.4.001 Nuclear fusion science and plasma physics	853 141	115 506	853 141	115 506
1.4.4 Nuclear Fusion Science and Plasma Physics	**853 141**	**115 506**	**853 141**	**115 506**
1.4.5.001 Support to ICTP	2 325 867	-	2 360 945	-
1.4.5 Support to the Abdus Salam International Centre for Theoretical Physics (ICTP)	**2 325 867**	**-**	**2 360 945**	**-**
1.4 Nuclear Science	**9 771 447**	**719 095**	**9 804 951**	**719 095**
Major Programme 1 - Nuclear Power, Fuel Cycle and Nuclear Science	**46 709 512**	**22 857 423**	**46 709 512**	**22 043 631**

Major Programme 1 — Nuclear Power, Fuel Cycle and Nuclear Science

Activities unfunded in the Regular Budget

(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
1.0.0.001 Overall management, coordination and common activities	Programme coordination and facilitation of the development and upgrade of e-learning tools and applications	389 051	238 159
1.0.0.002 Outreach and stakeholder involvement	Support in the field of communication and stakeholder involvement activities	115 150	115 150
1.0.0.003 Partnerships and resource mobilization	Expert support in donors' database enhancement and upgrade	115 150	115 150
1.1.1.001 Engineering support for operating nuclear power plants	Expert support of publications, databases and eLearning	687 132	687 132
1.1.2.001 Management support for construction and operation of nuclear power plants	Support to management systems, leadership and stakeholder involvement	170 328	170 328
1.1.2.002 Supply chains and quality assurance and control for nuclear power plants	Expert support in the area of HRD, workforce planning, training and qualification, behavioural competencies, leadership and organizational culture for operating nuclear power plants and new nuclear power projects	85 162	85 162
1.1.3.001 Nuclear power infrastructure development	Expert support in INIR services development and implementation	2 272 409	2 135 016
1.1.3.002 Support to capacity building for nuclear power infrastructure	Support implementation of capacity building in Member States	452 727	279 998
1.1.4.001 International project on innovative nuclear reactors and fuel cycles	Expert support in transition to sustainable nuclear energy systems	1 576 658	1 570 979
1.1.5.001 Technology development for advanced water cooled reactors	Technology development for advanced water cooled reactors	39 580	39 580
1.1.5.002 Technology development for small and medium sized or modular reactors	Expert support in SMR technology development and deployment	979 289	979 289
1.1.5.003 Technology development for fast reactors	Expert support in technology development and deployment of fast neutron systems and cross-cutting areas between nuclear fission and nuclear fusion for energy production	115 150	115 150
1.2.1.001 Exploration, mining and processing	Technical information and good practices on Uranium and Thorium exploration, mining and processing	81 425	81 425
1.2.1.003 Low Enriched Uranium Bank	Project team costs	457 492	457 492
1.2.2.001 Nuclear power reactor fuel engineering and operation	Research and development and operation of fuels for current and new generation reactors	152 696	152 696
1.2.3.001 Spent fuel storage	Activities related to spent fuel storage techniques and transport	115 150	115 150
1.2.4.001 Predisposal management	Expert support of publications, wiki articles and web based information	247 005	247 005

Major Programme 1 — Nuclear Power, Fuel Cycle and Nuclear Science

Activities unfunded in the Regular Budget

(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
1.2.4.002 Waste disposal	Expert support of developing a framework for the effective implementation of a disposal system	242 672	56 745
1.2.4.003 Managing disused sealed radioactive sources (DSRSs)	Expert support in capacity building, development of training material and publications	796 782	796 782
1.2.5.001 Decommissioning	Facilitate implementation of projects of International Decommissioning Network	857 000	686 627
1.2.5.002 Environmental remediation	Projects of Environmental Remediation Network	115 150	115 150
1.2.6.001 Access to research reactors, capacity building and infrastructure development	Assistance to Member States embarking on new research reactors projects, including project planning and implementation, assessment and development of national nuclear infrastructure, national nuclear capacity building and HR development	144 326	157 797
1.2.6.002 Research reactor fuel cycle	Support to Member States on research reactor fuel cycle issues	719 122	694 255
1.2.6.003 Research reactor operation, performance and upgrade	Research reactor operation, performance and upgrade	96 174	82 838
1.3.2.002 Topical issues related to sustainable energy development	Topical issues related to sustainable energy development	732 640	786 088
1.3.3.001 Implementing integrated NKM and HRD for nuclear organizations	Expert support to develop and maintain NKM methodology, activities and support	253 363	253 363
1.3.3.002 Facilitating sustainable education in nuclear science and technology	Expert support in maintaining and establishing educational networks	688 692	643 789
1.3.3.003 Applying nuclear knowledge organizational systems and technology	Assist and support Member States in the implementation of the Knowledge Organization Systems (KOS) and technology	147 377	147 377
1.3.3.004 IAEA Marie Skłodowska-Curie Fellowship Programme	Scholarships and activities under IAEA Marie Skłodowska-Curie fellowship programme	8 805 568	8 805 568
1.3.4.001 IAEA library information resources and services	IAEA library information resources and services	15 270	15 270
1.3.4.002 INIS collection and services	Expert support in INIS collection and services	325 933	325 933
1.4.2.001 Accelerator and neutron source applications in multiple disciplines	Capacity building in Member States and collaboration in the area of RR utilization	243 084	243 084
1.4.2.002 Enhancing research with accelerators and neutrons	Expert support in the area of research reactors	98 530	98 530
1.4.3.001 Nuclear instrumentation and capacity building	Expert support in the area of nuclear instrumentation	163 407	163 407
1.4.3.002 Mobile instrumentation for radiation monitoring	Mobile instrumentation for radiation monitoring	98 568	98 568
1.4.4.001 Nuclear fusion science and plasma physics	Project management and administration for nuclear fusion research and technology	115 506	115 506
1.S Corporate shared services	Corporate shared services	146 706	172 092
Grand Total		**22 857 423**	**22 043 631**

Major Programme 2
Nuclear Techniques for Development and Environmental Protection

Introduction

Major Programme 2 aims at fostering the development of innovative nuclear science and technology that can contribute to the SDGs and at providing technical support to transfer validated technologies to Member States. The Major Programme supports the peaceful uses of nuclear science and applications, providing Member States with science-based advice, educational materials, standards, guidance on best practices and reference materials, and technical documents. Major Programme 2 encompasses activities in five thematic areas: food and agriculture, human health, water resources, the marine environment, and radiochemistry and radiation technology.

The application of nuclear science and technology continues to grow in areas such as health care, environmental protection, materials, industry, food and agriculture and water resources, as well as in addressing global challenges, such as climate change, zoonotic diseases, non-communicable diseases (NCDs) and plastic pollution.

The Agency's 12 laboratories located in Vienna, Seibersdorf and Monaco, a feature unique in the United Nations system, are the cornerstone for the Agency's technology development and transfer to Member States. The laboratories support Member States in enhancing their capacity to use nuclear applications to reach their development goals, including SDG targets. The laboratories need to remain capable of meeting the increasing and rapidly evolving needs of Member States, as exemplified during the COVID-19 pandemic. The Renovation of the Nuclear Applications Laboratories (ReNuAL) in Seibersdorf is expected to see the completion of its second and final phase, ReNuAL 2, during the 2024–2025 programme and budget cycle.

The Agency's research and development (R&D) activities and its vast number of coordinated research projects (CRPs) contribute to addressing a diverse range of issues. While the Major Programme assists Member States in building their capacity, knowledge and expertise, its CRPs contribute to increasing their R&D capacity. The Agency's Collaborating Centre scheme remains a valuable arrangement for working jointly with Member States' institutions. Efforts will be made to continue strengthening the efficiency of the scheme for more cost-effective delivery of the Major Programme through arrangements with Collaborating Centres.

Partnerships remain an important way to strengthen programmatic activities and engage with Member States. Major Programme 2 will continue to enhance key partnerships with United Nations system organizations such as the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the United Nations Environment Programme (UNEP) and the World Organisation for Animal Health (WOAH, former OIE) and will continue its efforts to further develop partnerships with the private sectors in some key areas.

Major Programme 2 hosts several internationally recognized databases and networks of Member States' scientific and research institutions, such as the network of Analytical Laboratories for the Measurement of Environmental Radioactivity (ALMERA), the Veterinary Diagnostic Laboratory (VETLAB) Network and the network of Zoonotic Disease Integrated Action (ZODIAC) National Laboratories. Education and training will continue to be fundamental to this Major Programme. To reach a wider audience and achieve greater cost savings, the development of e-learning tools and online education platforms such as webinars, and the use of virtual platforms, where relevant, will continue to be emphasized. To increase public awareness of the work and contributions of this Major Programme, efforts will continue in targeted communications strategies using all tools available, including social media.

Objectives:	
— *To support Member States to strengthen their science and application capabilities through the integration of nuclear and isotopic techniques.*	
Outcomes	**Performance Indicators**
• Increased Member State use of nuclear and isotopic techniques in the areas of food and agriculture, human health, water resources management, management of marine and terrestrial environments, and industrial development.	• Number of Member States with active R&D activities in non-power nuclear applications. • Number of Member States using non-power nuclear applications developed in collaboration with the Agency.
Projects	
Title	**Main Planned Outputs**
2.0.0.001 Overall management, coordination and common activities	Annual Report; Nuclear Technology Review; Mid-Term Progress Report; Programme Performance Report; reports to the General Conference; briefings and meeting of the Standing Advisory Group on Nuclear Applications; meetings with Member States; Ministerial Conference on Nuclear Science, Technology and Applications and the Technical Cooperation Programme.
2.0.0.002 Management of the coordinated research activities	Completed CRPs; completed research, technical and doctoral contracts and research agreements; Technical Meetings (Research Coordination Meetings); publications; dissemination of databases and techniques; Collaborating Centre agreements.
2.0.0.003 Outreach and partnerships coordination	Completed documents related to nuclear applications partnerships and networks, such as practical arrangements and memoranda of understanding; reports for management and Member States on nuclear applications partnerships.

Programme 2.1 Food and Agriculture

The programme aims at supporting Member States in their efforts to address challenges related to unsustainable production and consumption patterns. Climate change-induced increases in temperatures, rainfall variation, and the frequency and intensity of extreme weather events are adding to pressures on global agricultural and food systems, including water scarcity and soil degradation. While agriculture is strongly affected by climate and environmental challenges, it also contributes to these problems. Current agri-food systems cause a third of all greenhouse gas emissions, significant biodiversity loss and environmental pollution. The agri-food sector is also being challenged by income growth in low- and middle -income countries; upsurges in transboundary plant/animal pests and diseases, which hamper crop and livestock production, economic productivity and trade; and the increasing demand to improve food safety and quality.

Applied and innovative R&D activities that use nuclear technology to devise concrete and adapted solutions to support Member States in climate action and the attainment of the SDGs are needed. The programme will support Member States in addressing their 2030 Agenda for Sustainable Development through the transition to more efficient, inclusive, resilient and sustainable agri-food systems for better production, nutrition, environment and life.

Lessons learned from reviews, assessments and evaluations: Platforms and networks such as the VETLAB Network are essential for disseminating technologies among Agency stakeholders, particularly under existing and emerging challenges such as zoonotic diseases. In addition, the assistance to Member States should go beyond technology transfer. Working with academia and government institutions is key to the future success and socio-economic impact of the programme.

Specific criteria for prioritization:

1. Achieve sustainable food and agriculture production, support implementing actions to achieve SDGs, and address emerging threats to agriculture and food systems, particularly in response to the impacts of climate change.
2. Address challenges posed by global trends impacting agricultural development and food security, with a focus on emerging issues and challenges requiring further research, development and technology transfer.
3. Develop innovative scientific and technical knowledge addressing current and future challenges for the agriculture and food sector, using nuclear and related techniques.

Programmatic changes and trends

Subprogramme 2.1.1 Sustainable Land and Water Management provides Member States with new technology that can be used to improve land and water management practices for sustainable food production, to improve nutrient and fertilizer management to reduce emissions of greenhouse gases, to adapt to and build resilience of soil to the impacts of climate change, to minimize land degradation and environmental pollution, and to optimize area-wide land and water management. The focus will be on developing tools and technologies that combine nuclear technology with advanced, modern digital technology to improve on-farm and area-wide land and water management practices. Increased emphasis will be placed on the development and validation of new climate-smart agricultural practices to enhance crop production with lower environmental footprints, and on better management of antimicrobial resistance. The subprogramme will also enhance the assistance provided to Member States for preparedness and response to nuclear and radiological emergencies, including remediation of radioactive contamination, affecting food and agriculture.

Subprogramme 2.1.2 Sustainable Intensification of Livestock Production Systems reflects the continual programmatic shift to 'fit-for-purpose' nuclear and derived immunological and molecular based technologies to: optimize the use of available animal feed resources whilst mitigating climate change; improve the production traits of locally available livestock breeds (i.e. greater yields, better quality milk and meat); develop, evaluate, validate and transfer mining, surveillance and diagnostic techniques for transboundary animal and zoonotic diseases enabling Member States to respond to the risks posed by such events earlier and with greater effectiveness. The use of gamma irradiated diagnostic reagents and components, and inactivated or killed disease pathogens as vaccine components, as well as the use of stable isotopes to trace and monitor pathways of disease carriers in a non-invasive way, and the development and use of 'fit-for-purpose' technologies for the timely detection and diagnosis of animal and zoonotic diseases will be enhanced to form the basis of the activities of this subprogramme. A major focus will be on the mining, detection and surveillance of zoonotic pathogens at the environment–wildlife–livestock interface to ensure early diagnosis of zoonotic diseases to protect human lives.

Subprogramme 2.1.3 Improvement of Food Safety and Food Control Systems provides assistance to Member States in implementing food control systems to ensure the safety and quality of the food supply, safeguarding consumer health, protecting consumers and industry from food fraud, and helping to facilitate trade through strengthening of nuclear/isotopic-based analytical testing capabilities, and support for food processing by radionuclide and machine-generated ionizing radiation. It is increasingly recognized that the elements of effective food control systems must interact in a holistic manner, encompassing food safety, food quality and food authenticity. Effective food control is a cornerstone of the One Health approach adopted by the FAO, the WHO and the WOAH (former OIE). Recent events, such as the COVID-19 pandemic, have highlighted vulnerabilities in food control systems, including inadequate capabilities to detect and rapidly respond to the emergence of new food-borne pathogens, antimicrobial resistance, increased incidence of food fraud, changing food contamination patterns resulting from climate change, modern farming practices and the effects of microplastics and other emerging hazards. There is, therefore, a trend towards the development and transfer to Member States of cost-effective, rapid testing methods to improve surveillance for food safety and quality, and to ensure that contamination events can be promptly investigated, and that food safety can be assured as far as possible during periods of disruption. Nuclear technologies such as food irradiation can be used to reduce food safety risks or to mitigate food hazards.

Subprogramme 2.1.4 Sustainable Control of Major Insect Pests responds to increased demands from Member States for effective management of key insect pests of crops, livestock and human health through the One Health approach, and in view of the increased use of broad-spectrum insecticides. Climate change and globalization increased the introduction and establishment of invasive plant pests and human disease vectors, requiring the development of rapid response methods to eradicate or to mitigate the risk posed by these invasive species. In addition, the reduction of other control methods, namely insecticides, has reduced the number of tools available for insect pest control. Therefore, the sterile insect technique (SIT) as a continuous suppression tool has been

expanding and is used more frequently, in addition to other eradication strategies. Furthermore, the SIT has been increasingly used as a preventive tool in pest-free areas. The emphasis of this subprogramme will be on the development of more cost-effective mass-rearing techniques, in-depth studies on the biological effects of radiation on male insects to develop more effective radiation procedures, and protocols to enhance the mating competitiveness of sterile males.

Subprogramme 2.1.5 Crop Improvement for Intensification of Agricultural Production Systems responds to Member State demands to develop and transfer crop improvement technologies to meet the needs for food and nutrition security and farmers' income. Technologies include inducing novel genetic variation in seed and vegetative crops with irradiation, screening procedures for desired crop characteristics, speed breeding to accelerate the pace of developing new and improved crop varieties, and seed system approaches for multiplication and dissemination of quality seeds for cultivation. Induced genetic variation is combined with mutation breeding for increased yield, improved nutritional quality, tolerance to climate change challenges such as heat, drought, salinity, submergence etc., resistance to diseases and pests, and others. Protocols for basic techniques in mutation induction and radiosensitivity analysis; screening procedures for tolerance to banana Fusarium Wilt, *foc* TR4, the parasitic weed, *Striga*, and the fungal disease, *Stemphylium* blight; and molecular-marker mediated selection and breeding for grain digestibility are currently being transferred through training courses and fellowships. Gene editing, where nuclear techniques are used to "mark" and therefore locate the genes on the chromosome, is now being adapted under this subprogramme as a functional genomics tool. Space breeding and astrobiology are being explored for the first time in this subprogramme to determine the mutagenic effects of cosmic rays and microgravity.

Objectives, Outcomes and Performance Indicators by Programme

Programme 2.1 Food and Agriculture	
Objectives:	
— *To increase the sustainability and resilience of agri-food systems and related livelihoods in Member States by reducing the impact of climate change on food and agriculture, including through detecting outbreaks of animal and zoonotic diseases, plant pests, food safety risks and environmental pollutants.*	
Outcomes	**Performance Indicators**
• Increased capacities for agricultural production and enhanced adaptation to climate change for more resilience of agricultural systems in Member States.	• Number of Member States applying Agency recommended techniques, guidelines and products in their farming innovation and extension programmes.
• Improved capacity of relevant national agricultural organizations in using nuclear and related techniques for efficient and sustainable agricultural production.	• Number of national agricultural research institutes and other relevant national organizations using Agency recommended techniques, guidelines and products in their agricultural research and innovation.

Subprogramme 2.1.1 Sustainable Land and Water Management	
Objectives:	
— *To develop new tools and novel climate-smart agricultural practices for the application of nuclear techniques in combination with digital technology for Member States to improve sustainable land and water management practices.* — *To build and enhance the capacities of Member States in using isotopic, nuclear and related techniques to develop improved land and water management practices for sustainable food production, build soil resilience to climate change, and minimize land degradation and environmental pollution.*	
Outcomes	**Performance Indicators**
• Increased Member State ability to use nuclear techniques to reduce the impact of climate change through better adaptation strategies for building resilience of soil, improving nutrient and fertilizer management to reduce GHGs, minimizing land degradation and environmental pollution and monitoring AMR.	• Number of Member States requesting to use isotopic, nuclear and related techniques developed in collaboration with the Agency.

Outcomes	Performance Indicators
• Increased Member State use of Agency services in efforts to monitor and assess the impacts of nuclear or radiological emergencies and in remediation efforts for food and agriculture.	• Number of guidelines and tools for remediation developed in collaboration with the Agency and used in Member States.
• Increased Member State capacity in the use of isotopic, nuclear and related techniques to measure and monitor the impact of on-farm and area-wide land and water management practices, climate change and extreme weather events on soil and water resources for better production.	• Number of Member States using isotopic, nuclear and related techniques to assess the impact of on-farm and area-wide land and water management practices and extreme weather events on soil and water resource conservation.

Projects

Title	Main Planned Outputs
2.1.1.001 Land management for climate-smart agriculture	Publications; protocols, guidelines and standard operating procedures; reports; training courses and workshops.
2.1.1.002 Water management for resource saving agriculture	Publications; protocols, guidelines and standard operating procedures; reports; training courses and workshops.
2.1.1.003 Assessment of food and soil contamination during radiological emergencies	Protocols and guidelines; data collection, management and visualization tools for crisis management; training.

Subprogramme 2.1.2 Sustainable Intensification of Livestock Production Systems

Objectives:

— *To support Member States in enhancing livestock nutrition, reproduction and breeding systems to sustainably improve farmers' livelihoods and food security by developing, transferring and applying nuclear and related techniques, while promoting climate-smart agriculture.*

— *To support Member States in the prevention and control of animal and zoonotic disease risks, including those with a biothreat potential, to improve animal production, enhance livelihoods and protect human lives, by developing, transferring and applying atomic, nuclear and derived technologies.*

Outcomes	Performance Indicators
• Increased Member State use of services and technologies developed or adapted by the Agency in animal nutrition, reproduction and breeding strategies and practices to improve productivity in medium and low input production systems.	• Number of Member States adopting Agency recommended feeding and nutrition strategies using locally available feed resources. • Number of Member States implementing livestock breeding services and animal genetic characterization or breeding strategies based on Agency recommendations to improve reproduction outcomes.
• Increased Member State use of Agency technologies and guidelines on animal health systems to diagnose and control transboundary animal diseases.	• Number of Member States implementing animal disease diagnostic and prevention tools to ensure timely actions using Agency guidelines.
• Increased Member State use of technologies and procedures developed by the Agency for mining, early detection, rapid diagnosis and control of zoonotic diseases, including those with a biothreat potential.	• Number of Member States implementing zoonotic disease diagnostic and control technologies to ensure timely actions using Agency guidelines.

Projects

Title	Main Planned Outputs
2.1.2.001 Improving animal production and breeding	Publications; guidelines, manuals and standard operating procedures; reports; training courses and workshops; database for recording production data.
2.1.2.002 Decreasing transboundary animal disease threats	Development and transfer of nuclear and derived technologies for the early and rapid diagnosis and control of transboundary animal diseases to enhance livestock productivity and promote biosecurity.

Projects	
Title	**Main Planned Outputs**
2.1.2.003 Early detection, rapid diagnosis and control of zoonotic diseases	Development, evaluation, validation and transfer of nuclear and derived technologies for the mining, early and rapid diagnosis, surveillance and control of zoonotic diseases at the environment–wildlife–livestock level and human interface to enhance livestock productivity and to promote biosecurity.

Subprogramme 2.1.3 Improvement of Food Safety and Food Control Systems

Objectives:

- *To enhance food safety and food quality control systems in Member States through the effective application of nuclear and related techniques in order to contribute to food security and public health and to enable sustainable trade.*
- *To improve the capability of Member States to rapidly and effectively respond to food safety incidents and emergencies.*

Outcomes	Performance Indicators
• Increased Member State application of food irradiation, based on established and novel uses for food safety, quality, sanitary and phytosanitary purposes.	• Number of additional Member States requesting support and assistance in food irradiation for sanitary and phytosanitary purposes. • Number of additional food treatment facilities using food irradiation for food safety, sanitary and phytosanitary purposes.
• Increased Member State use of food testing technology developed or adapted by the Agency to support food safety and quality control systems.	• Number of laboratories in Member States adopting new methodology for food safety and quality developed or transferred by the Agency. • Number of new analytical methods for food safety and integrity transferred to, validated by and implemented in Member States.
• Increased Member State capability to use rapid, cost-effective and reliable analytical techniques for a fast response to food contamination incidents or emergencies affecting food safety.	• Number of laboratories in Member States joining food safety or emergency response laboratory networks. • Number of new rapid screening methods for food safety and integrity transferred to and validated in Agency supported laboratory networks.

Projects	
Title	**Main Planned Outputs**
2.1.3.001 Food irradiation applications using novel radiation technologies	International standards, guidelines, protocols and approaches for electron beam, X-ray and relevant radionuclide source technology; new electrical radiation beam technologies.
2.1.3.002 Traceability for food safety and quality to enhance international trade	Validated analytical methods for food contaminant and residue control and food authenticity/origin determination used in Member State laboratories to improve food safety and quality and to support trade; trained laboratory staff; strengthened/expanded laboratory networks; data to support scientific risk assessment and enable risk management, International Symposium on Food Safety and Quality Assurance.
2.1.3.003 Cost-effective nuclear techniques for responding to food contamination during emergencies	Rapid field-based, on-site or portable analytical techniques for the detection of chemical contamination/adulteration or geographical origin tracing of food; food safety emergency response networks; applications of food irradiation to reduce the spread of pathogens in food and food packaging.

Subprogramme 2.1.4 Sustainable Control of Major Insect Pests

Objectives:

— *To increase the capacity of Member States in the suppression, prevention, containment or eradication of key insect pests that threaten crops, livestock and humans, by developing and integrating the SIT with other suppression methods in an area-wide approach.*

Outcomes	Performance Indicators
• Increased capacity of Member States in the application of the SIT and related technologies, and decision support systems to create efficient and cost-effective insect pest management strategies.	• Number of Member States receiving training, support and decision support studies, guidelines, e-learning courses, manuals and standards.
• Increased Member State application of technologies to support the use of improved SIT and related technologies in an area-wide integrated pest control approach.	• Number of Member States receiving support on improved technologies, and the elaboration of technical and economic feasibility studies.

Projects

Title	Main Planned Outputs
2.1.4.001 SIT and related technologies to manage major insect plant pests	Improved mass-rearing methods and more cost-effective and productive strains; protocols to enhance mating competitiveness of sterile male fruit flies; technical and economic feasibility assessments and implementation of area-wide integrated pest management programmes; design of more efficient insect plant pest mass-rearing facilities; development of better detection systems and rapid response for invasive species; post-harvest treatments; guidelines; databases; e-learning courses and models; shipment of strains and materials; capacity development.
2.1.4.002 Management of livestock insect pests for sustainable agriculture	Cost-effective mass-rearing methods; innovative protocols to ensure constant and stable fly production; new designs for accurate separation of the sexes in the pupal phase; in-depth radiation biology data to improve sterilization methods; new chilled adult release systems for the aerial release of sterile males; new mating behaviour protocols; capacity development; provision of materials, feasibility assessments and facility designs; strategy and policy advice; harmonized approaches among key international partners and Member States.
2.1.4.003 Development of the SIT for the control of disease transmitting mosquitoes	Methodologies to enable upscaling of the rearing and sterilization of *Aedes albopictus* and *Ae. aegypti* to a large operational scale; development of genetic sexing systems and strains and engineered equipment to separate the morphological markers; transfer of new technologies to Member States; male mosquito mating behaviour assessments in relation to mass-rearing, radiation, transport and handling processes; guidelines, manuals and designs of more cost -effective rearing facilities and training.

Subprogramme 2.1.5 Crop Improvement for Intensification of Agricultural Production Systems

Objectives:

— *To enhance innovative breeding technologies for Member States to use nuclear and related technologies for crop improvement and crop adaptation to climate change.*

— *To support Member States in addressing major constraints in crop production through the use of induced genetic variation for enhanced crop biodiversity and mutation breeding.*

Outcomes	Performance Indicators
• Enhanced Member State capacity to use nuclear and related technologies, and associated biotechnologies, for the faster development of improved food, feed and cash crops with better yield, quality and adaptation to climate change.	• Number of Member States supported in the use of nuclear and related technologies in crop improvement. • Number of improved crop mutant varieties adaptable to climate change (tolerant to abiotic and biotic stresses, improved yield and quality) released by Member States.
• Increased use of mutation breeding and related innovative in vitro and genomic technologies in seed and vegetative crops for increased crop genetic diversity in Member States.	• Number of Member States applying newly developed technology packages. • Number of technology packages developed or adapted for transfer to Member States.
Projects	
Title	**Main Planned Outputs**
2.1.5.001 Mutation induction for better adaptation to climate change	Protocols, guidelines, database, training, improved crop varieties with broadened adaptation to climate change.
2.1.5.002 Integrated techniques for mutation breeding and biodiversity	Protocols, guidelines, database, training, enhanced crop biodiversity (advanced mutant lines) as breeding resources.

Programme 2.2 Human Health

Nuclear and related techniques help Member States in addressing the SDGs, including SDG 3 "Good Health and Well-Being", as they can be used in the management of NCDs, such as cardiovascular diseases, cancer, neurodegenerative disorders and diabetes; communicable or infectious diseases; as well as of undernutrition, obesity and diet-related NCDs. This programme supports Member States in establishing and ensuring the safe and effective use of medical imaging, radiation therapy and stable isotopes to combat malnutrition in all its forms, within a quality management framework. Databases and analyses of data play an ever-increasing role in understanding the gaps in, supporting decision-making and direction related to, and assessing the effectiveness of implemented interventions, while also supporting relevant clinical research. Data processing technologies can have an increasing role in medical care due to the ability to combine large number of numerical data, process algorithms and continuously increasing computing power to develop systems capable of better and faster interpretation of data and information and will be explored under the planned programmatic activities. Professional development through a life-long learning process is vital in order to provide high standards of quality in health care. Information and communication technologies have revolutionized the educational processes, such as through the development and use of web-based educational resources, and reduced inequity and biases, including gender and income bias, as access is open and free for all. Capacity building will be enhanced by strengthening the education of professionals to improve clinical practice and nutritional programmes.

The programme supports Member States in their review and assessment of new technologies; implementation and strengthening of medical imaging, radiation therapy and related treatment modalities; enhancing safety and quality in the use of nuclear techniques through guidance documents, codes of practice, audits, calibrations and quality assurance services; and the establishment of techniques and guidance on their implementation. Partnerships with the WHO, other United Nations and international organizations, and professional bodies will lead to enhanced synergies and harmonized good practice in health care and quality guidelines. The technical support provided by the Agency will enhance equitable access to radiation technologies used in health, while the beneficiaries of the programme will continue to be patients, health professionals, hospitals, nutritionists, laboratories and research centres in Member States.

Lessons learned from reviews, assessments and evaluations: Investment in new technology is not always accompanied by adequate investment in human resource development in Member States. Additional efforts in Member States should be deployed to properly evaluate the introduction of new technology considering its impact on health systems, equitable access and sustainability, as well as to strengthen the central role for capacity building, especially during the transition to new technology. It is essential that the Agency increase efforts to raise awareness of the need to promote quality management for radiotherapy, radiology and nuclear medicine departments, as well as for the use of nuclear techniques in nutrition assessments in Member States.

The assessment of the use and impact of activities in human health and nutrition should be strengthened through user surveys and other means. This is important to better understand how Agency activities in these areas contribute to improved clinical practice and improved nutrition programming.

Sufficient technical expertise is crucial to the success of human health related initiatives. Staff with extensive experience, along with global specialists, will continue to be essential to furthering programmatic activities, and close collaboration with other organizations and societies through partnerships will continue to benefit outreach in all areas of human health.

Educational training materials are valuable resources to Member States. Substantial time and expertise are required to introduce new materials, as well as to update existing materials on Agency platforms.

Specific criteria for prioritization:

1. Activities having the greatest impact on effectiveness of diagnosis and treatment of patients, while ensuring safety of patients, staff and public.
2. Activities supporting the implementation and sustainability of appropriate technologies to tackle Member States' specific needs.
3. Activities supporting the safe transitioning to new and proven modalities, including those relating to capacity building of professionals.
4. Activities having the greatest impact on improving the effectiveness of nutrition programmes to combat malnutrition in all its forms.
5. Emerging nuclear technologies applicable to human health and nutrition that reflect priorities identified by Member States, and research activities supporting knowledge acquisition to guide future directions.

Programmatic changes and trends

Subprogramme 2.2.1 Nutrition for Improved Human Health will continue to support the use of nuclear techniques to address the double burden of malnutrition and expand clinical applications. Research will focus on protein and amino acid requirements in children, infant and young child feeding, and the role of nutrition assessment and care in cancer treatment. To better tackle current nutritional challenges, additional nutrients and innovative methods, such as precision nutrition and isotope-based metabolomics, will be explored. Emphasis will be placed on the Agency's global nutrition databases to address the rising demand for better understanding of energy metabolism, body composition and infant and young child feeding. Partnerships with nutrition societies, the WHO, the FAO and relevant subprogrammes will focus on early life nutrition, diet quality, cancer and linkages with plant breeding and food safety, as well as on expanding collaborative research and extrabudgetary funding to increase the impact of research projects. Enhancement of isotope usage will continue through the development of new guidance material, the implementation of novel educational approaches and the simplification of field and laboratory procedures, without compromising accuracy.

Subprogramme 2.2.2 Nuclear Medicine and Diagnostic Imaging will continue to focus on the use of datasets and databases, including epidemiology, demographics and available infrastructure to advise Member States on investment needs in terms of well-qualified human resources and equipment in nuclear medicine and radiology to tackle the burden of NCDs and communicable diseases. Special emphasis will be placed on recent development in terms of technology and clinical applications, as well as on the use of emerging technologies, such as machine learning, artificial intelligence and radiomics, for expanding the appropriate use of nuclear medicine and radiology, and diagnostic and therapeutic applications, with a personalized medicine approach. The subprogramme will contribute to the attainment of SDG 3 and will pay particular attention to applying a gender-sensitive approach and supporting vulnerable populations. Specific activities to address prevalent pathologies in women, e.g., cardiovascular diseases and gynaecological cancers, as well as in children, will be implemented. The subprogramme will continue using communication technologies for education and training, by means of different virtual tools, including web -based learning, virtual meetings and symposiums. It will also continue supporting the maintenance of professional certification by granting continuing medical education credits for in-person, blended, and virtual education and training activities.

Subprogramme 2.2.3 Radiation Oncology and Cancer Treatment will use data including epidemiology and demographics and known infrastructure to advise Member States on investment in radiotherapy services to improve access to cancer treatment. This will include developing tools to allow Member States to understand accessibility to radiotherapy centres in terms of population density, transport distance and duration, equity and access for vulnerable populations. For cancer centres, technical advice on organizational workflow, resource stratification and quality measures of services will be delivered. Improving the availability and knowledge of

human resources will be addressed by developing competency-based, curricular e-learning strategies for training and quality improvement activities in low resource environments, and consistent with the overall objectives of the Human Health Programme.

Subprogramme 2.2.4 Dosimetry and Medical Physics for Imaging and Therapy will focus on developing new dosimetry and quality assurance guidance in medical physics, dosimetry and radiation metrology, updating existing guidelines and codes of practice, and maintaining and enhancing databases. Support for the education, training and recognition of medical physicists and radiation metrologists in Member States will continue in cooperation with relevant professional societies and international organizations. The expansion and refurbishment of the Dosimetry Laboratory (DOL) will further enhance opportunities for education, training and the development of guidelines in dosimetry and medical radiation physics. Supported research activities, through CRPs, will be designed to address new developments, including gender sensitivity, whenever appropriate. These activities will encourage the acquisition and dissemination of new knowledge in the field of dosimetry and medical physics. The assessment of new technologies will be conducted in consultation with relevant experts and alongside the development of guidelines for safe and effective implementation of emerging digital modalities and platforms in radiation medicine.

Objectives, Outcomes and Performance Indicators by Programme

Programme 2.2 Human Health	
Objectives:	
— *To support Member States in enhancing their capability to address needs relating to nutrition and the prevention, diagnosis and treatment of health problems through the development and application of nuclear and related techniques within a quality assurance framework.*	
Outcomes	**Performance Indicators**
• Increased use of nuclear techniques by institutions in Member States supported by the Agency to develop more effective programmes in health.	• Number of institutions in Member States engaged in Agency studies and activities using nuclear and related techniques in health.
• Enhanced competencies of health care professionals working in radiation medicine in Member States using the Agency's online platform.	• Number of Member States participating in Agency activities in the use of nuclear and derived or isotopic techniques in human health. • Number of professionals trained through human health related activities.

Subprogramme 2.2.1 Nutrition for Improved Human Health	
Objectives:	
— *To support Member States in enhancing their capability to improve nutrition for better human health.*	
Outcomes	**Performance Indicators**
• Increased Member State use of nuclear techniques to conduct studies and develop informed and gender-sensitive nutrition policies and programmes.	• Number of institutions in Member States engaging in Agency studies and activities using nuclear and related techniques in nutrition, including research, publications and quality assurance. • Number of Member States using or taking part in Agency led activities using nuclear and related techniques in nutrition.
Projects	
Title	**Main Planned Outputs**
2.2.1.001 Health effects of nutrition and the environment	Research studies and improved data quality; guidelines, web-based education tools and resources, publications, and standard quality control procedures made available to Member States; new partnerships.

Subprogramme 2.2.2 Nuclear Medicine and Diagnostic Imaging

Objectives:

— *Improve the management of patients with non-communicable and communicable diseases in Member States through the appropriate and evidence-based use of nuclear medicine and radiology, including diagnostic and therapeutic applications and the implementation of adequate and sustainable nuclear medicine and diagnostic imaging resources (human and infrastructure).*

— *Improve the quality of clinical services provided in radiology and nuclear medicine through the implementation of patient-centred quality management systems.*

Outcomes	Performance Indicators
• Enhanced Member State capabilities for the management of patients with health conditions including knowledge, skills and competencies, processes and infrastructure through the use of Agency resources.	• Number of Member States using relevant gender-sensitive Agency resources related to the clinical practice of nuclear medicine and radiology including clinical research, quality management programmes, clinical audits, data analysis and predictive models, guidelines, recommendations and databases. • Number of institutions participating in Agency led gender-sensitive activities in nuclear medicine and radiology.
• Increased number of medical professionals in Member States taking advantage of competency-based activities focused on elevating nuclear medicine and radiology clinical practices and the appropriate use of medical imaging and therapeutic interventions, while maintaining a gender-sensitive approach.	• Number of professionals accessing educational materials or engaging in education and training activities for continuous professional development in the fields of nuclear medicine and radiology.

Projects

Title	Main Planned Outputs
2.2.2.001 Nuclear medicine and radiology techniques in health conditions	Coordinated research activities improved and harmonized; peer-reviewed and Agency publications, guidance, guidelines and meeting reports made available; International Conference on Hybrid Imaging (IPET 2024) and virtual events; in-person and virtual conferences implemented and quality management audits in nuclear medicine (QUANUM) and radiology (QUAADRIL) implemented in Member States.
2.2.2.002 Clinical data management and education in nuclear techniques in health	Nuclear medicine and radiology content of Human Health Campus continuously updated; Agency nuclear medicine and medical imaging databases (Nuclear Medicine Database (NUMDAB) and IAEA Medical Imaging and Nuclear Medicine Global Resources Database (IMAGINE)) updated; interactive e-learning and other educational materials developed; online seminars broadcasted and recorded; major international congresses organized by Agency partners broadcast; leadership and other soft skills promoted; nuclear medicine and radiology training curriculums unified and harmonized.
2.2.2.003 Medical imaging and radiomics	Availability of datasets, databases and data analysis models to assess the educational, staffing and diagnostic imaging equipment needs in Member States; big data for the analysis of clinical futures of communicable and non-communicable diseases collected.
2.2.2.004 Communicable disease management	Establishment of a molecular biology laboratory to support health systems in Member States.

Subprogramme 2.2.3 Radiation Oncology and Cancer Treatment	
Objectives:	
— *To support Member States in enhancing their capabilities for radiotherapy and cancer treatment and other applications of radiation in human health, and for the effective, efficient and safe utilization of current and future advanced radiotherapy technologies.*	
Outcomes	**Performance Indicators**
• Strengthened Member State use of Agency guidelines to optimize the management of cancer cases through the implementation of evidence-based gender -sensitive approaches.	• Number of Member States trained through Agency led activities in radiotherapy and radiobiology. • Number of institutions in Member States using or taking part in Agency research, publications and quality management activities in radiotherapy and radiation biology.
Projects	
Title	**Main Planned Outputs**
2.2.3.001 Clinical radiation oncology	Publications; databases; teaching materials and e-learning resources; International Conference on Advances in Radiation Oncology (ICARO-4).
2.2.3.002 Biological effects of radiation	Training materials; publications; teaching materials, including e-learning; provision of expertise for clinical and accidental biodosimetry.

Subprogramme 2.2.4 Dosimetry and Medical Physics for Imaging and Therapy	
Objectives:	
— *To support Member States in enhancing their capabilities to implement radiation imaging and treatment modalities safely and effectively through optimized dosimetry and medical physics practice.*	
Outcomes	**Performance Indicators**
• Increased use of Agency guidelines and dosimetry services to enhance quality assurance and dosimetry in national calibration laboratories and hospitals.	• Number of Member States using Agency's Dosimetry Laboratory (DOL) services (calibrations, comparisons and dosimetry audits). • Number of professionals, partners or organizations that benefit from collaboration and training activities at the DOL.
Projects	
Title	**Main Planned Outputs**
2.2.4.001 Calibration and auditing services	Results of dosimetry postal audit services; results of calibrations of national dosimetry standards; results of comparisons; resolution of discrepancies of beam calibrations in Member States; updated databases.
2.2.4.002 Developments in radiation dosimetry	Agency publications providing dosimetry guidance; dosimetry codes of practice; training materials on radiation dosimetry; relevant databases.
2.2.4.003 Clinical medical radiation physics	Publications on quality assurance guidelines for the physical, technical and safety aspects of clinical medical physics; training events and educational materials for medical physicists working in medical radiation imaging and therapy.

Programme 2.3 Water Resources

Water security is a key factor for human well-being and ecosystem health, as recognized in SDG 6 "Clean Water and Sanitation". Estimates of available freshwater, its replenishment and pathways in the hydrological cycle, and the factors controlling access and water quality are not always clearly understood. Groundwater resources play a crucial role in reliable food production and clean water supplies. Overexploitation of fossil or non-renewable water

resources often leads to severe declining water levels and water scarcity. Increasing demand for food and energy requires that governments appropriately allocate water across different economic sectors. Additional uncertainties are related to the role of water in global hydroclimate changes (SDG 13).

Comprehensive ground and surface water resource assessment and management require multidisciplinary approaches that must be supported by sound scientific hydrological data and environmental information. The general lack of national ground and surface water resource assessments restrict many Member States' ability to effectively manage the demands for water supply and achieve water security. This programme contributes to addressing SDG 6 targets by deploying isotope hydrology techniques to improve national hydrological understanding. The programme prioritizes capacity building and self-reliance in Member States through the application of isotopic methods which help inform the assessment and management of water resources.

Lessons learned from reviews, assessments and evaluations: In keeping with previous budget cycles, the involvement of Member States in all stages of proper hydrological design is regarded as essential for the successful adoption of isotope hydrology as a key pillar of water resource assessment. The revised IAEA Water Availability Enhancement 2.0 (IWAVE 2.0) approach is a powerful tool available to Member States for analysing the sustainability of their water supply management structures, as well as the long term commitment and involvement of all key stakeholders with a mandate for water resources, including relevant local water authorities. Additionally, informed assessment of the need and appropriate role of nuclear and isotopic techniques in addressing specific water problems ensures that proposed work plans have a comparative advantage compared to conventional hydrological investigations. There is a rapid expansion in the application of stable isotopes, radioisotopes and noble gases in hydrology, as well as increasing attention being paid to non-traditional isotope tracers in water systems by Member States, particularly those concerned with water quality, leading to the need for self-reliance in providing analytical results. The Agency continues to support hundreds of Member State laboratories in improving the reliability and capabilities of analytical outcomes through the use of biennial proficiency testing for stable isotopes and radioisotopes in hydrology, and increasingly seeks to run regional tests that help to build a sense of community among the laboratories being supported. Projects related to water quality and pollution issues (e.g., nitrogen pollution) and aquifer vulnerability mapping are increasingly identified by Member States as being vital to ensure sustainable water supply and quality, and training courses are being set up in support thereof.

Specific criteria for prioritization:

1. Support Member States in their identified priority areas for isotope hydrology efforts relating to water resource security.
2. Identify and evaluate institutional and legal framework needs, as well as comprehensive hydrological information at national and regional levels, to enable sustainability of the impact of isotope hydrology on water resource security.
3. Ensure isotope and nuclear techniques have a comparative advantage compared to traditional non-nuclear alternatives for the proposed application.

Programmatic changes and trends

Subprogramme 2.3.1 Isotope Hydrology Data Networks and Climate Change compiles and provides public access to the Agency's long-standing global isotope databases — the Global Network of Isotopes in Precipitation (GNIP) and the Global Network of Isotopes in Rivers (GNIR) — for hydrological and climatological studies. Member State participation has significantly increased over the past decade. Demand for these global data has risen, as they are increasingly used to study climate change and environmental impacts. New efforts are being established to expand the databases to include other water resources, including lakes, and other hydrological tracers, such as nitrogen-15, and to mainstream machine learning and artificial intelligence tools to evaluate the Agency's global isotope data trends for climatic impacts on hydrology. The Agency's Isotope Hydrology Laboratory continues to support Member States in enhancing self-reliance and performance of established and new isotope hydrology laboratories through training and e-learning activities in hydrological sciences and isotope data interpretation.

Subprogramme 2.3.2 Isotope Based Integrated Water Resource Management supports a growing number of Member States to conduct comprehensive water resources assessments at the local, national and regional levels to achieve water security. Support will often be based on completion of the IWAVE 2.0 evaluation process. Through its technical cooperation (TC) programme and projects with other United Nations organizations, the Agency plays a unique role in helping Member States conduct comprehensive, science-based assessments using nuclear techniques. Definitions of projects and work plans are based on the water issue priorities identified by Member States and through IWAVE 2.0 and existing institutional and legal frameworks. The number of requests for TC projects to assess vulnerability to groundwater pollution and related water quality issues has increased in recent

years. The Agency will foster and promote the development of new field and laboratory approaches and methods based on the application of environmental isotopes to address these requests. This includes groundwater vulnerability mapping assessments and modelling fluxes between different parts of the water cycle using a range of isotope tracers depending on the environmental context and the management strategies being adopted by Member States.

Subprogramme 2.3.3 Radioisotope Applications for Hydrology facilitates and promotes access to the use of environmental radionuclides, dissolved noble gases and their isotopes in the context of groundwater age, the timescales of water cycle processes, and the impact of climate change on those timescales and processes. The planned activities consolidate the efforts to improve the use of such tracers in TC projects and coordinated research activities, and to broaden the use of long lived and short lived radionuclides for tracking recharge volumes and pathways and for assessing vulnerability to pollution. Several of these activities will develop new field and laboratory methodologies aimed at routine application of these approaches in combination with other hydrological and geochemical tools in Member States.

Objectives, Outcomes and Performance Indicators by Programme

Programme 2.3 Water Resources	
Objectives:	
— *To support Member States in applying isotope hydrology techniques for assessment and management of their freshwater resources, including the characterization of climate change impacts on water resources distribution and availability.*	
Outcomes	**Performance Indicators**
• Increased Member State use of Agency services for sustainable water resources management and related legal and policy development based on a scientifically sound evaluation of water resource availability and quality.	• Number of Member States using Agency isotope hydrology methodologies and global isotope datasets for water resources assessment and management, including supporting adaptation to climate change.
• Trained human resources and available infrastructure in Member States using Agency services for the integration and routine use of isotope hydrology methods in water resources assessments.	• Number of Member States participating in Agency training activities for enhancing capacity in the development of sustainable water management strategies to improve water resource security. • Number of Member States with laboratories able to produce good-quality isotope data from water samples with Agency assistance.

Subprogramme 2.3.1 Isotope Hydrology Data Networks and Climate Change	
Objectives:	
— *To provide Member States with access to global water isotope data and training for hydrological and climate studies.*	
Outcomes	**Performance Indicators**
• Increased use by Member State institutions of isotope hydrology tools and techniques for water resources assessment and management.	• Number of Member States contributing to Agency global isotope data networks.
• Increased availability of trained technical professionals in Member States able to conduct isotope hydrology studies for water resources assessment.	• Number of Member State professionals who successfully complete Agency isotope hydrology training on the acquisition and use of water isotope data.

Projects	
Title	**Main Planned Outputs**
2.3.1.001 IAEA global water isotope data networks	Annual updates of the Agency's global water isotope databases (GNIP and GNIR), including adding a growing number of monitoring stations in Member States; training courses on analytical methods; best practice guidelines and scientific publications on the use of global water isotope data.
2.3.1.002 Synthesis and dissemination of global isotope data and related information	Training courses, e-learning materials, digital maps, databases and outreach materials produced by the Agency and in collaboration with various partners.

Subprogramme 2.3.2 Isotope Based Integrated Water Resource Management	
Objectives:	
— *To support Member States in adopting isotopic techniques for water resources assessment and management at a variety of spatial and temporal scales to enhance national surface water and groundwater management.*	
Outcomes	**Performance Indicators**
• Increased number of Member States incorporate isotope hydrology tools and techniques to strengthen surface water and groundwater management and enhance national water management.	• Number of Member States using isotope hydrology tools and techniques for national and transboundary water resources assessments, and the incorporation of those assessments into water resources management strategies for Member States.
Projects	
Title	**Main Planned Outputs**
2.3.2.001 Comprehensive assessment of water resources	National assessment reports for participating Member States; technical meetings on best practice guidelines for water resources assessment; training courses and teaching materials; scientific and technical reports and publications.
2.3.2.002 Management strategies for groundwater and surface water resources	Best practice guidelines for isotope-enabled water resources management; training courses and teaching materials; scientific and technical reports and publications; outreach materials produced by the Agency and in collaboration with various United Nations and Member State partners.

Subprogramme 2.3.3 Radioisotope Applications for Hydrology	
Objectives:	
— *To increase the number of Member States incorporating the timescales of water cycle processes into their water management strategies and plans.* — *To support Member States in strengthening their capacity in the analysis and interpretation of natural environmental radioisotopes in water samples.*	
Outcomes	**Performance Indicators**
• Increased number of Member States incorporating radioisotope age constraints in the evaluation of water resource sustainability.	• Number of Member States using groundwater age estimation and calculation in water resource evaluations.
• Increased Member State use of Agency assistance to develop analysis capacity of radioisotopes in water samples for water management evaluations.	• Number of water analysis laboratories in Member States developing and improving capacity in tritium and noble gas isotope analysis and interpretation with Agency assistance.

Projects	
Title	**Main Planned Outputs**
2.3.3.001 Quantification of groundwater age	Expanded network of Member State laboratories providing high-quality analysis of tritium and noble gases; sampling protocols for groundwater age determination; proficiency tests and training courses.
2.3.3.002 Noble gas isotopes for groundwater recharge and pollution studies	Technical reports illustrating the use of tritium and noble gases for recharge estimation; training courses; Technical Meetings on best practice; scientific publications.

Programme 2.4 Marine Environment

Understanding and protecting coastal and marine ecosystems and their associated resources is essential for a healthy life, for sustainable development, and to help Member States work towards SDGs, especially SDG 13 "Climate Action" and SDG 14 "Life Below Water". Major threats to the coastal and marine environment, such as resource overexploitation, ecosystem degradation, pollution, including from microplastics, and ocean-change impacts, including climate-related impacts, continue to reduce biodiversity and affect seafood safety, while compromising the provision of key ecosystem services.

Nuclear and isotopic techniques have an important role to play in the implementation of tailored science for real-time and future mitigation and adaptation strategies. The goal of this programme is to support Member States in enhancing their capacity to use nuclear and isotopic techniques to better understand ocean-change impacts, including climate-related impacts, and to identify and address marine problems caused by radioactive and non-radioactive pollutants.

The activities of this programme support Member States in improving the analytical and assessment capabilities of their laboratories, thus contributing to international trade, ecological sustainability, effective marine environmental risk assessment, emergency preparedness and response (EPR), climate change mitigation and adaptation, and remediation of environmentally stressed marine ecosystems. The programme further supports Member States in building their capacity to assess blue carbon and elevated environmental levels of radioactive or other contaminants, including marine plastics, as well as to sustainably manage marine environments and their natural resources. The programme also provides scientific information to other international organizations and plays a coordination role in important areas such as ocean acidification, and international transparency and validation of marine environmental monitoring data.

Lessons learned from reviews, assessments and evaluations: Member State feedback, scientific studies and conclusions of the 2022 United Nations Conference to Support the Implementation of SDG 14 have demonstrated that ocean health is an increasing concern worldwide and a top priority for many Member States, and that their ability to participate in and lead their own science-based associated decision making remains paramount. Accurate and timely assessments of the impacts of marine pollution and ocean changes, including climate-related impacts, and the identification of mitigation measures and key information gaps in national, regional and interregional efforts remain of critical importance. This has further highlighted the added value of nuclear and isotopic technologies in addressing scientific knowledge gaps to complement conventional methods.

The IAEA Marine Environment Laboratories will continue their efforts in line with available resources to address knowledge gaps, develop methods and gather monitoring data, in order to provide relevant marine science-based assessments and associated tools and data to assist Member States to address their priority marine environment challenges and contribute towards their SDG goals and targets, and, in particular, to meet Member States' growing demands for the provision of science for marine plastics and blue carbon assessments.

Specific criteria for prioritization:

1. Activities that enable Member States to address and work towards the SDGs.
2. Activities that support Member State laboratories through networking and development of guidelines and best practices, and to enhance their environmental awareness and management using nuclear and derived techniques.
3. Activities that support Member States in actions conducive to lowering technical barriers to trade and supporting the competitiveness of least developed and developing countries.
4. Enhancing cooperation with Member State institutions via networks (e.g., the ALMERA network), UNEP, the Programme for the Assessment and Control of Pollution in the Mediterranean Region, the Baltic Marine

Environment Protection Commission (HELCOM) and the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, as well as through Agency Collaborating Centres and other partnerships at national, regional and international levels.

Programmatic changes and trends

Subprogramme 2.4.1 Nuclear Techniques to Understand Climate and Environmental Changes will promote the use of nuclear and isotopic techniques to advance the understanding of climate- and ocean-change impacts such as blue carbon, ocean warming, acidification and deoxygenation effects on coastal and marine ecosystems and their associated biota. The IAEA Marine Environment Laboratories address scientific knowledge gaps and assist Member States in enhancing analytical self-reliance and performance in new and existing laboratories, complementing other training activities on ocean-change impacts, including climate-related impacts, and promoting associated data interpretation/comparison.

Subprogramme 2.4.2 Nuclear Techniques to Monitor and Assess Pollution applies nuclear and isotopic techniques to reliably measure and assess radioactive and non-radioactive pollution in the marine environment. This subprogramme will reinforce the capability to provide Member States with emergency response and expand collaboration with global organizations, marine conventions, Collaborating Centres, and the ALMERA network. The Agency's Marine Radioactivity Information System (MARIS) database has been substantially upgraded and will continue to be developed.

Subprogramme 2.4.3 Analytical Techniques to Protect Biodiversity and Ecosystem Services will continue to develop nuclear and isotopic techniques to provide Member States with powerful tools to assess marine contaminant levels, including microplastics, and will study the sources, behaviour and impact of contaminants on marine ecosystem services. This subprogramme will support Member States through international initiatives, such as the UNEP-administered Barcelona, Minamata and Stockholm Conventions, by providing analytical quality assurance services to Member States and their laboratories to produce reliable-quality marine contaminants monitoring data, developing knowledge, strengthening analytical capacities of Member States, and transferring know-how on marine environmental assessments of contaminated sites.

Objectives, Outcomes and Performance Indicators by Programme

Programme 2.4 Marine Environment	
Objectives:	
— *To support Member States in understanding, addressing and mitigating their most pressing marine challenges using nuclear and isotopic techniques, while enhancing their expertise and capability to develop tailored science-based strategies for the sustainable management of marine ecosystems and resources.*	
Outcomes	**Performance Indicators**
• Increased Member States use of nuclear and derived techniques to address marine climate change and ocean-change impacts.	• Number of new Agency and scientific publications and information materials addressing coastal and marine challenges using nuclear and isotopic techniques and working towards relevant SDGs, including the United Nations Decade of Ocean Science for Sustainable Development.
• Increased Member State use of Agency services, knowledge and capacities to enhance expertise and capabilities in Member States to develop strategies for the sustainable management of marine ecosystems and resources.	• Number of Member State professionals participating in Agency research or training activities to enhance their capabilities to develop strategies to protect the marine environment and use natural resources sustainably. • Number of new certified reference materials produced, proficiency tests organized, and analytical methodologies published or validated.
Subprogramme 2.4.1 Nuclear Techniques to Understand Climate and Environmental Changes	
Objectives:	
— *To support Member States in building expertise and capacity to assess climate- and ocean-change impacts through the development and application of tailored nuclear and derived research and development.*	

Major Programme 2

Outcomes	Performance Indicators
• Increased Member State expertise and capacity to develop tailored science-based strategies for the sustainable management of marine ecosystems affected by climate change and human activities.	• Number of Member State professionals trained by the Agency in the use of nuclear and isotopic techniques to assess climate- and ocean-change impacts. • Number of Member State experts visiting the Ocean Acidification International Coordination Centre (OA-ICC) website for information on ocean acidification and potential socio-economic impacts.
• Increased Member State use of Agency services to develop and apply nuclear and isotopic techniques to assess the effects of climate- and ocean-change impacts.	• Number of Agency reports and scientific publications addressing pressing coastal and marine challenges in Member States, such as blue carbon, ocean acidification, ocean warming and deoxygenation.
Projects	
Title	**Main Planned Outputs**
2.4.1.001 Isotopic tools to study climate and environmental change	Publications and best practices guidelines on the application of nuclear and isotopic techniques to studies of ocean-change impacts, including climate-related impacts; International Symposium on Tracer Applications to Climate Change Studies (TrACCS).
2.4.1.002 Assessing carbon cycle and impacts of ocean acidification	Publications, reports and best practices guidelines on the application of nuclear and derived techniques to the impacts of ocean acidification and the carbon cycle in the marine environment, with a focus on blue carbon as a nature-based solution to mitigate climate-change impacts; transfer of fit-for-purpose knowledge to Member States; updates of the OA-ICC website; training events and information exchange.

Subprogramme 2.4.2 Nuclear Techniques to Monitor and Assess Pollution	
Objectives:	
— *To support Member States in enhancing their capabilities to use nuclear techniques for assessing pollution and the impacts of contaminants on the marine environment for informed environmental management decisions in routine and emergency situations.*	
Outcomes	**Performance Indicators**
• Increased Member State use of Agency services supporting the application of nuclear and isotopic techniques for monitoring the occurrence, dispersion and trends of radioactive and non-radioactive pollutants and for assessing their origin, behaviour and impacts on the marine environment.	• Number of scientific institutions in Member States receiving support from the Agency in efficiently using nuclear applications to assess pollution and impacts of contaminants on the coastal and marine environment. • Number of certified reference materials and proficiency test and interlaboratory comparison samples produced.
• Increased use of information, data, real -time measurements and numerical tools by Member State experts in support of marine environmental management and decision making for routine and emergency situations.	• Number of Member State experts accessing the MARIS database.
Projects	
Title	**Main Planned Outputs**
2.4.2.001 Radioactive and non-radioactive pollution and impact on environment	Publications and guidelines on the application of nuclear and derived techniques to the study of marine environmental pollution.

Subprogramme 2.4.3 Analytical Techniques to Protect Biodiversity and Ecosystem Services	
Objectives:	
— *To provide scientific and technical support and expertise to Member States on the application of nuclear and isotopic techniques to understand the transfer, behaviour and impact of contaminants, including marine plastics, biotoxins related to harmful algal blooms (HABs) and radionuclides with regard to biodiversity, food safety and ecosystem services of the marine environment.*	
Outcomes	**Performance Indicators**
• Increased Member State use of Agency quality assurance and R&D services to apply nuclear and isotopic techniques to assess the occurrence, transfer and impact of contaminants in the marine environment.	• Number of training courses organized and analytical methods developed or improved to increase the quality of Member States' contaminant analysis data. • Number of scientific institutions in Member States assisted in obtaining or verifying the results of their contaminant monitoring and analysis studies.
• Increased Member State use of Agency tools to improve knowledge on the sources, accumulation, transfer and impacts of marine contaminants (radioactive and non-radioactive, biotoxins related to HABs, and microplastics) in target marine organisms.	• Number of Agency and scientific publications presenting the use of nuclear and isotopic techniques related to the accumulation, transfer and impacts of marine contaminants.
Projects	
Title	**Main Planned Outputs**
2.4.3.001 Developing methodologies for environmental monitoring and assessment	Analytical methodologies for the determination of nuclear and non-nuclear marine pollutants and contaminants of emerging concern; provision of quality assurance services to improve or maintain the quality of Member States' laboratories; capacity building in Member States to improve knowledge of environmental monitoring, assessment and remediation.
2.4.3.002 Nuclear and isotopic techniques for management of ecosystem services, including addressing marine plastics	Best practices guidelines and scientific publications; reports on the application of nuclear and isotopic techniques to assess the impacts of pollutants on biota, coastal and marine ecosystems, and seafood; transfer of fit-for-purpose knowledge to Member States.

Programme 2.5 Radiochemistry and Radiation Technology

Radioisotopes and radiation technology have numerous beneficial applications in diverse areas such as health care, food safety and security, the environment and industry. This Programme will continue to focus on strengthening applications in these diverse areas to address the needs of Member States. Radiochemical and stable isotope techniques can help to assess pollution problems, climate change and other environmental processes by providing suitable tools to ensure the generation of high-quality, suitable data/impact assessments to guide science-based policy decisions.

In response to continue increasing demand, the programme's technical activities will be aimed at supporting Member States in building their capacity for the sustainable use of relevant technologies, with an emphasis on best laboratory/industrial work practice, quality assurance, safety, compliance with relevant national regulatory requirements and certification. These technical activities will be complemented by the development of technical documents, guidelines, web-based educational materials and e-learning modules.

In health care, the focus will continue to be on activities relating to the production of medical and industrial radioisotopes and other diagnostic isotopes; emerging therapeutic radionuclides, including alpha emitters; and theragnostic and molecular targeting radiopharmaceuticals, with a strong emphasis on regulatory aspects. Supporting activities will include topics such as the use of biomaterials and tissue regeneration using radiation-assisted processing. Activities in industrial and environment applications of radiotracers, radiation technology and nuclear analytical methods will focus on training and certification to support Member States in enabling the safe use of such techniques, on environmental processes monitoring applications and on the assessment of civil engineering structures and cultural artefacts. In addition, the use of non-destructive testing (NDT) will strengthen

the collaborative network for response to natural disasters. Another area of focus is radiation technologies that address emerging needs such as radiation treatment of industrial effluents or potential biohazards; preservation of cultural heritage objects; recycling of plastics; and production of high -value products such as nanomaterials, biomaterials and bioplastics. Practical training will be provided, and e-learning tools will be produced in cooperation with collaborating institutes.

Lessons learned from reviews, assessments and evaluations: Successful, sustainable deployment and applications of nuclear techniques in Member States require the engagement of all stakeholders from the very beginning, including appropriate training and certification of personnel. The Agency's support to Member States in the use of NDT for structural integrity evaluation of civil infrastructures following recent natural disasters underpins the need to remain ready to respond to such events, which includes the provision of training in NDT techniques. Applications of radiotracer and radiation-based techniques in industry are well established in many countries, but these applications are continually evolving to suit emerging needs, such as for plastic reuse and recycling.

Specific criteria for prioritization:

1. Support Member States in their use of nuclear techniques that have a clear advantage over non-nuclear techniques.
2. Support Member States in developing holistic training strategies for skilled human resources, safe working practices and compliance with national regulatory requirements.
3. Support Member States in the global production and supply of radioisotopes.
4. Support Member States in developing methodologies for recycle plastics using radiation.

Programmatic changes and trends

Subprogramme 2.5.1 Radioisotope Products for Cancer Management and Non-communicable Diseases will continue to address alternative technologies for producing molybdenum-99 (^{99}Mo)/technetium-99m (^{99m}Tc), novel kits for labelling with ^{99m}Tc and gallium-68 (^{68}Ga), and emerging therapeutic radionuclides and radiopharmaceuticals, including the use of radiopharmaceuticals for COVID-19 related disorders, as a response to Member State interest in the stable supply of medical isotopes. The subprogramme will focus on supporting Member States in developing diagnostic radiopharmaceuticals (based on copper-64 (^{64}Cu), ^{68}Ga, ^{99m}Tc and zirconium-89 (^{89}Zr)) and therapeutic radiopharmaceuticals (based on lutetium-177, actinium-225 (^{225}Ac) and new beta, alpha and Auger emitters). It will also assist Member States in implementing good manufacturing practice and quality assurance programmes in radioisotope and radiopharmaceutical production. Education and training, including e-learning and certification programmes, will be pursued. Close internal coordination with Programmes 1.4 and 2.2 will be ensured as well as collaboration with external partners such as the WHO, associations and societies, and the Agency's Collaborating Centres in relevant areas. Developments related to industrial radiotracers and radionuclide generators will also be supported.

Subprogramme 2.5.2 Radiation Technology Applications in Health Care, Industries and the Environment will continue to focus on the use of emerging radiation technologies for material modification to produce high performing, environmentally friendly materials; deactivate biothreats and other toxic materials; preserve cultural heritage; recycle plastics; and the use of radiotracers, non-destructive techniques and nucleonic gauges in industry and environment. The emphasis will be on supporting Member States in education, training and quality assurance aspects of these technologies through training workshops, training meetings and e-learning (web-based) tools as well as through the establishment of a repository of the most important literature. Efforts will be made to carry out practical training activities and methodologies in cooperation with the Agency's Collaborating Centres. The subprogramme will also aim at providing technical support in the aftermath of natural disasters at the request of Member States.

Subprogramme 2.5.3 Terrestrial Environmental Radiochemistry incorporates aspects of former Subprogrammes 2.4.1 and 2.4.4 and focuses on assisting Member States in addressing terrestrial and atmospheric pollution problems. The subprogramme will focus on providing support to Member States in tackling pollution problems and climate change, in order to contribute to the achievement of the SDGs, supported by laboratory quality assurance activities involving reference materials, proficiency tests and ensuring radiological emergency analytical preparedness of Member State laboratories. Support to the ALMERA network will continue.

Objectives, Outcomes and Performance Indicators by Programme

Programme 2.5 Radiochemistry and Radiation Technology	
Objectives:	
— *To support Member States in strengthening their capability to produce radioisotopes and radiopharmaceuticals.* — *To support Member States in applications of radiotracers and radiation technology for industrial, cultural heritage, food safety, health care and environmental applications, among other uses.* — *To support Member States in offering suitable tools to ensure the generation of high-quality, suitable data/impact assessments to guide science-based policy decisions.*	
Outcomes	**Performance Indicators**
• Increased Member State use of Agency services to produce radioisotopes and radiolabelled products for use in health care, industry, research and other suitable areas.	• Number of Member State laboratories involved in developing and utilizing methodologies for radioisotope production using research reactors, cyclotrons, linear accelerators and generators as well as for radiopharmaceutical production for diagnosis and therapeutic applications. • Number of technical documents produced and made available to Member States on topics related to medical radioisotope or radiopharmaceutical production.
• Increased Member State use of Agency services in the use of radiotracers and radiation technologies for industrial applications, environmental remediation and production of novel high -performance materials.	• Number of Member State laboratories trained in developing and utilizing methodologies dealing with radiotracers, NDT, nucleonic control systems, radiation processing for material modification, and for efficient industrial processes, environmental remediation and preservation of cultural artefacts. • Number of technical documents, databases and guidebooks made available and used in Member States.
• Increased capability of Member States' institutions to address pollution, climate change and other environmental challenges and to mitigate their detrimental consequences.	• Number of scientists and technicians participating in training events, round robin tests and proficiency testing.

Subprogramme 2.5.1 Radioisotope Products for Cancer Management and Non-communicable Diseases	
Objectives:	
— *To support Member States in enhancing their capability to locally produce medical radioisotopes or radiopharmaceuticals for use in support of the management of cancer and other non-communicable diseases.*	
Outcomes	**Performance Indicators**
• Increased Member State use of Agency services in developing and producing radioisotopes or radiopharmaceuticals that contribute to improving health care.	• Number of Member State laboratories involved in developing and utilizing methodologies for radioisotope production using research reactors, cyclotrons, linear accelerators and generators as well as for radiopharmaceuticals production for diagnosis and therapeutic applications. • Number of technical documents produced and made available to Member States on topics related to medical radioisotope or radiopharmaceutical production.

Major Programme 2

Projects	
Title	**Main Planned Outputs**
2.5.1.001 Development and production of medical radioisotopes	Guidelines on quality assurance for the production and analysis processes of medical radioisotopes; alternative technologies for production of important medical radioisotopes, such as ^{99}Mo and ^{99m}Tc generators; production methodologies for medical radioisotopes used for positron emission tomography diagnosis (^{68}Ga, ^{89}Zr, Cu radioisotopes, etc.), for therapy (beta, alpha and Auger emitters) and for theranostics; worldwide databases for facilities involved in the production of medical radioisotopes via accelerators and research reactors.
2.5.1.002 Development of diagnostic and therapeutic radiopharmaceuticals	Guidelines on procedures and regulatory issues in radiopharmaceutical production; development of new radiopharmaceuticals and respective quality control procedures and pre-clinical tests, including the use of radiopharmaceuticals for COVID-19; educational and training programmes, including e-learning.

Subprogramme 2.5.2 Radiation Technology Applications in Health Care, Industries and the Environment	
Objectives:	
— *To support Member States in enhancing their capability to adopt and use radiation technologies for the development of products for health care and industry, environmental remediation, preservation of artefacts, and cleaner and safer industrial processes.*	
Outcomes	**Performance Indicators**
• Increased national capabilities to use radiation techniques for efficient industrial process management and development, and in the assessment of civil engineering structures and environment impacts.	• Number of Member State laboratories trained in developing and utilizing methodologies dealing with radiotracer techniques, NDT and nucleonic control systems for efficient industrial processes management and development, and in assessment of civil engineering structures and environment impacts. • Number of technical documents and training materials made available and used in Member States.
• Increased national capabilities to use radiation technologies for sterilization, development of advanced products for health care and industry, environment remediation and preservation of cultural heritage artefacts.	• Number of Member State laboratories trained in developing and utilizing methodologies of radiation processing for material modification, for development of products for health care and industry, for environmental remediation and for preservation of cultural heritage artefacts. • Number of technical documents, databases and guidebooks made available and used in Member States.
Projects	
Title	**Main Planned Outputs**
2.5.2.001 Applications of radiotracers and radiation techniques	Manuals, e-learning modules, guidelines and training materials on NDT, nucleonic control systems (sealed radiation sources) and radioactive tracer applications in industry, civil engineering and environment; projects and meetings dealing with new technologies for existing and emerging applications; organization and implementation of the International Conference on Applications of Radiation Science and Technology (ICARST-2025).

Projects	
Title	**Main Planned Outputs**
2.5.2.002 Radiation processing technologies and applications	Methodologies, guidelines, e-learning modules, training materials and standard procedures for radiation applications for food safety, health care, industry, recycling of plastics and remediation of pollutants; workshops and meetings on emerging techniques; organization and implementation of the International Conference on Applications of Radiation Science and Technology (ICARST-2025).

Subprogramme 2.5.3 Terrestrial Environmental Radiochemistry	
Objectives:	
— *To support Member States in delivering reliable scientific data and applying impact assessment tools to address challenges posed by environmental pollution and climate change.*	
Outcomes	**Performance Indicators**
• Increased capability of Member States' institutions to address pollution problems, climate change and environmental challenges and to mitigate their detrimental consequences.	• Total number of scientists and technicians participating in training events and proficiency testing.
Projects	
Title	**Main Planned Outputs**
2.5.3.001 Quality assurance and control in environmental nuclear analytical techniques	Annual proficiency tests for the ALMERA network and worldwide open proficiency tests on radionuclides in environmental samples; tailored reference materials for Member State laboratories; analytical procedures for analysis of radionuclides; training courses on sampling and analysis; quality system maintenance and expanded accreditation.
2.5.3.002 Nuclear techniques to monitor and assess terrestrial and atmospheric pollution	Publications; online training material on environmental sampling; training courses.

Major Programme 2

Major Programme 2 — Nuclear Techniques for Development and Environmental Protection

Summary of Programme Structure and Resources
(excluding Major Capital Investments)

	2024 at 2024 Prices		2025 at 2024 Prices	
Programme/Subprogramme/Project	Regular Budget	Unfunded	Regular Budget	Unfunded
2.0.0.001 Overall management, coordination and common activities	2 151 518	1 376 746	2 145 743	594 643
2.0.0.002 Management of the coordinated research activities	690 032	-	690 032	-
2.0.0.003 Outreach and partnerships coordination	111 608	-	111 608	-
2.S Corporate shared services	7 168 092	314 759	7 168 092	338 617
	10 121 250	**1 691 505**	**10 115 475**	**933 260**
2.1.1.001 Land management for climate-smart agriculture	1 371 794	52 932	1 315 644	52 932
2.1.1.002 Water management for resource saving agriculture	831 251	370 952	869 555	370 952
2.1.1.003 Assessment of food and soil contamination during radiological emergencies	385 979	20 631	403 824	20 631
2.1.1 Sustainable Land and Water Management	**2 589 023**	**444 516**	**2 589 023**	**444 516**
2.1.2.001 Improving animal production and breeding	965 997	338 814	972 730	338 814
2.1.2.002 Decreasing transboundary animal disease threats	776 323	681 858	719 226	681 858
2.1.2.003 Early detection, rapid diagnosis and control of zoonotic diseases	775 085	15 941 362	825 449	17 714 093
2.1.2 Sustainable Intensification of Livestock Production Systems	**2 517 405**	**16 962 034**	**2 517 405**	**18 734 765**
2.1.3.001 Food irradiation applications using novel radiation technologies	477 901	228 664	438 757	228 664
2.1.3.002 Traceability for food safety and quality to enhance international trade	1 431 529	1 000 755	1 470 761	858 813
2.1.3.003 Cost-effective nuclear techniques for responding to food contamination during emergencies	94 220	247 788	94 132	196 359
2.1.3 Improvement of Food Safety and Food Control Systems	**2 003 650**	**1 477 207**	**2 003 650**	**1 283 836**
2.1.4.001 SIT and related technologies to manage major insect plant pests	1 646 486	756 552	1 745 124	756 552
2.1.4.002 Management of livestock insect pests for sustainable agriculture	971 952	301 598	958 209	301 598
2.1.4.003 Development of the SIT for the control of disease transmitting mosquitoes	1 326 440	1 173 901	1 241 544	1 173 901
2.1.4 Sustainable Control of Major Insect Pests	**3 944 878**	**2 232 051**	**3 944 878**	**2 232 051**
2.1.5.001 Mutation induction for better adaptation to climate change	1 051 958	442 888	1 113 679	386 097
2.1.5.002 Integrated techniques for mutation breeding and biodiversity	1 057 993	483 261	996 272	483 261
2.1.5 Crop Improvement for Intensification of Agricultural Production Systems	**2 109 951**	**926 149**	**2 109 951**	**869 358**
2.1 Food and Agriculture	**13 164 907**	**22 041 956**	**13 164 907**	**23 564 525**
2.2.1.001 Health effects of nutrition and the environment	1 984 624	115 150	1 984 624	115 150
2.2.1 Nutrition for Improved Human Health	**1 984 624**	**115 150**	**1 984 624**	**115 150**
2.2.2.001 Nuclear medicine and radiology techniques in health conditions	1 405 104	-	1 399 921	-
2.2.2.002 Clinical data management and education in nuclear techniques in health	734 906	152 696	740 089	152 696
2.2.2.003 Medical imaging and radiomics	54 096	167 745	54 096	167 745
2.2.2.004 Communicable disease management	34 753	-	34 753	-
2.2.2 Nuclear Medicine and Diagnostic Imaging	**2 228 859**	**320 440**	**2 228 858**	**320 440**
2.2.3.001 Clinical radiation oncology	1 602 242	-	1 614 978	-
2.2.3.002 Biological effects of radiation	492 729	-	479 992	-
2.2.3 Radiation Oncology and Cancer Treatment	**2 094 970**	**-**	**2 094 970**	**-**
2.2.4.001 Calibration and auditing services	1 512 353	-	1 512 371	-
2.2.4.002 Developments in radiation dosimetry	614 412	-	614 392	-
2.2.4.003 Clinical medical radiation physics	1 316 288	-	1 316 289	-
2.2.4 Dosimetry and Medical Physics for Imaging and Therapy	**3 443 053**	**-**	**3 443 052**	**-**
2.2 Human Health	**9 751 506**	**435 591**	**9 751 504**	**435 591**

Major Programme 2 — Nuclear Techniques for Development and Environmental Protection

Summary of Programme Structure and Resources

(excluding Major Capital Investments)

	2024 at 2024 Prices		2025 at 2024 Prices	
Programme/Subprogramme/Project	Regular Budget	Unfunded	Regular Budget	Unfunded
2.3.1.001 IAEA global water isotope data networks	723 044	-	701 282	-
2.3.1.002 Synthesis and dissemination of global isotope data and related information	758 282	185 927	759 813	185 927
2.3.1 Isotope Hydrology Data Networks and Climate Change	**1 481 325**	**185 927**	**1 461 095**	**185 927**
2.3.2.001 Comprehensive assessment of water resources	764 550	-	781 852	-
2.3.2.002 Management strategies for groundwater and surface water resources	539 913	-	507 550	-
2.3.2 Isotope Based Integrated Water Resource Management	**1 304 462**	**-**	**1 289 402**	**-**
2.3.3.001 Quantification of groundwater age	536 484	-	490 446	-
2.3.3.002 Noble gas isotopes for groundwater recharge and pollution studies	899 791	-	981 120	-
2.3.3 Radioisotope Applications for Hydrology	**1 436 275**	**-**	**1 471 566**	**-**
2.3 Water Resources	**4 222 063**	**185 927**	**4 222 062**	**185 927**
2.4.1.001 Isotopic tools to study climate and environmental change	842 884	134 924	855 381	282 581
2.4.1.002 Assessing carbon cycle and impacts of ocean acidification	810 062	421 478	815 369	421 478
2.4.1 Nuclear Techniques to Understand Climate and Environmental Changes	**1 652 946**	**556 403**	**1 670 751**	**704 059**
2.4.2.001 Radioactive and non-radioactive pollution and impact on environment	1 863 854	-	1 875 703	-
2.4.2 Nuclear Techniques to Monitor and Assess Pollution	**1 863 854**	**-**	**1 875 703**	**-**
2.4.3.001 Developing methodologies for environmental monitoring and assessment	758 468	716 714	763 776	716 714
2.4.3.002 Nuclear and isotopic techniques for management of ecosystem services, including addressing marine plastics	1 019 147	745 800	984 295	745 800
2.4.3 Analytical Techniques to Protect Biodiversity and Ecosystem Services	**1 777 615**	**1 462 514**	**1 748 071**	**1 462 514**
2.4 Marine Environment	**5 294 415**	**2 018 917**	**5 294 524**	**2 166 574**
2.5.1.001 Development and production of medical radioisotopes	512 701	-	512 532	-
2.5.1.002 Development of diagnostic and therapeutic radiopharmaceuticals	649 290	-	669 367	-
2.5.1 Radioisotope Products for Cancer Management and Non-communicable Diseases	**1 161 991**	**-**	**1 181 899**	**-**
2.5.2.001 Applications of radiotracers and radiation techniques	652 680	-	658 349	-
2.5.2.002 Radiation processing technologies and applications	943 942	185 927	924 034	185 927
2.5.2 Radiation Technology Applications in Health Care, Industries and the Environment	**1 596 623**	**185 927**	**1 582 382**	**185 927**
2.5.3.001 Quality assurance and control in environmental nuclear analytical techniques	1 062 223	-	1 083 453	-
2.5.3.002 Nuclear techniques to monitor and assess terrestrial and atmospheric pollution	1 125 635	-	1 104 406	-
2.5.3 Terrestrial Environmental Radiochemistry	**2 187 858**	**-**	**2 187 858**	**-**
2.5 Radiochemistry and Radiation Technology	**4 946 471**	**185 927**	**4 952 139**	**185 927**
Major Programme 2 - Nuclear Techniques for Development and Environmental Protection	**47 500 612**	**26 559 822**	**47 500 612**	**27 471 803**

Major Programme 2

Major Programme 2 — Nuclear Techniques for Development and Environmental Protection

Activities unfunded in the Regular Budget
(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
2.0.0.001 Overall management, coordination and common activities	Overall management, coordination and common activities	1 376 746	594 643
	Support to the Ministerial Conference		
	Coordination of Flagship Initiatives		
2.1.1.001 Land management for climate-smart agriculture	Land management for climate smart agriculture and crisis response in food and agriculture	52 932	52 932
2.1.1.002 Water management for resource saving agriculture	Water Management for Resource Saving Agriculture	370 952	370 952
2.1.1.003 Assessment of food and soil contamination during radiological emergencies	Assessment of Food and Soil Contamination during Radiological Emergencies	20 631	20 631
2.1.2.001 Improving animal production and breeding	Improving Animal Production and Breeding	338 814	338 814
2.1.2.002 Decreasing transboundary animal disease threats	Decreasing Transboundary Animal Disease Threats	681 858	681 858
2.1.2.003 Early detection, rapid diagnosis and control of zoonotic diseases	Four CRP projects Enhancing Laboratory Preparedness for the Detection and Control of Emerging and Re-emerging Zoonotic Diseases – ZODIAC in Asia and the Pacific, in the Americas and the Carribean, in Europe and Central Asia and in Africa	15 941 362	17 714 093
	Innovative Technologies, Methods and Protocols for Zoonotic Diseases Pathogens (ZODIAC Pillar 2), IAEA IT platforms on Zoonotic Diseases Strengthened including Geo-visualization Tools for Multiple Users (ZODIAC Pillar 3), Emergency Related to Zoonotic Diseases Outbreaks (ZODIAC Pillar 5)		
	CRP on Antimicrobial Resistance (AMR) at the Animal-Human Interface		
2.1.3.001 Food irradiation applications using novel radiation technologies	Food Irradiation Applications Using Novel Radiation Technologies	228 664	228 664
2.1.3.002 Traceability for food safety and quality to enhance international trade	International Symposium on Food Safety and Control. International Symposium to Discuss Research on the Application of Nuclear and Related Techniques within Food Control Systems	1 000 755	858 813
	CRP on Implementation of Nuclear Techniques for Authentication of Foods with High-Value Labelling Claims.		
2.1.3.003 Cost-effective nuclear techniques for responding to food contamination during emergencies	Research and Development on Rapid Methods for Food Safety Emergencies	247 788	196 359
	CRP on Rapid Screening for Safe Food		
2.1.4.001 SIT and related technologies to manage major insect plant pests	Sterile Insect Technique and Related Technologies to Manage Major Insect Plant Pests	756 552	756 552
	Harmonization of Phytosanitary Treatments for Exotic Fruit Flies		
2.1.4.002 Management of livestock insect pests for sustainable agriculture	Management of Livestock Insect Pests for Sustainable Agriculture	301 598	301 598
	Creation of Tsetse-free Zones in Senegal - Improve Livestock Productivity in West Africa through the Creation of Sustainable Tsetse-free Zones		

Major Programme 2 — Nuclear Techniques for Development and Environmental Protection
Activities unfunded in the Regular Budget
(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
2.1.4.003 Development of the SIT for the control of disease transmitting mosquitoes	Development of Sterile Insect Technique (SIT)'s for the Control of Disease Transmitting Mosquitoes	1 173 901	1 173 901
	Hunan Disease Vectors - Development and Validation of the Sterile Insect Technique to Control Disease Transmitting Mosquitoes		
2.1.5.001 Mutation induction for better adaptation to climate change	Adaptive Research and Development Activities for Crop Improvement using Nuclear and Related Technologies, for better Adaptation to Climate Change - Project on Space Mutagenesis and Astrobiology for Crop Adaptation to Climate Change	442 888	386 097
2.1.5.002 Integrated techniques for mutation breeding and biodiversity	Integrated Techniques for Mutation Breeding and Biodiversity	483 261	483 261
2.2.1.001 Health effects of nutrition and the environment	Health effects of nutrition and the environment	115 150	115 150
2.2.2.002 Clinical data management and education in nuclear techniques in health	The importance of communicating scientific facts to the public: addressing radiation concerns in societies - the role of science technology and society	152 696	152 696
2.2.2.003 Medical imaging and radiomics	Databases and datasets in medical imaging and other medical infrastructure	167 745	167 745
	CRP 13054: CT Findings in Patients with COVID-19: An IAEA International Cooperative Study		
2.3.1.002 Synthesis and dissemination of global isotope data and related information	Synthesis and dissemination of global isotope data and related information	185 927	185 927
2.4.1.001 Isotopic tools to study climate and environmental change	International Symposium on Tracer Applications to Climate Change Studies (TrACCS)	134 924	282 581
	CRP for advancing knowledge on the effects of climate change on contaminants in the ocean		
2.4.1.002 Assessing carbon cycle and impacts of ocean acidification	PUI Project Ocean Acidification International Coordination Centre (OA-ICC)	421 478	421 478
	PUI Project Coastal Dead-Zones		
2.4.3.001 Developing methodologies for environmental monitoring and assessment	Development of methodologies to assess contaminants in the marine environment, transfer technology to MS, enhance partnerships with int. organizations, and provide services for the quality assurance of contaminant analysis	716 714	716 714
2.4.3.002 Nuclear and isotopic techniques for management of ecosystem services, including addressing marine plastics	PUI Project Marine Plastics	745 800	745 800
	Improving Knowledge on the Prevention of Risks due to the Consumption of Marine Organisms		
	CRP Optimizing Nuclear Techniques to Assess Microplastic Pollution in Coastal Areas		
	CRP Advancing Transdisciplinary Knowledge on Marine Plastic Pollution		
	CRP Development & Application of Isotopic Technqs to Assess Eutrophication & HABs in Coastal Areas		
2.5.2.002 Radiation processing technologies and applications	Supporting Member States on the use of radiation technologies	185 927	185 927
2.S Corporate shared services	Corporate shared services	314 759	338 617
Grand Total		**26 559 822**	**27 471 803**

Major Programme 3
Nuclear Safety and Security

Introduction

Major Programme 3 promotes the worldwide achievement and maintenance of high levels of nuclear safety and security to protect people, society and the environment from ionizing radiation. It supports Member States in meeting the demand for a higher level of safety at the growing number of nuclear installations — including uranium mining facilities — and at existing nuclear power plants (NPPs) and research reactors, whose average age continues to increase. It also supports Member States in addressing the wider use of ionizing radiation in industry, medicine and agriculture; the continuous threat of nuclear terrorism; and the accumulation of radioactive waste and spent nuclear fuel. In conducting these activities, the Agency fosters a strong safety and security culture. Through Major Programme 3, the Agency performs its statutory function of establishing safety standards and providing for their application in Member States, upon request, as well as to its own operations.

Major Programme 3 assists Member States in building national capacities by promoting international cooperation and by transferring nuclear safety knowledge from States with mature nuclear energy and nuclear applications programmes to States with emerging nuclear energy and nuclear applications programmes through knowledge networks. The activities under this Major Programme will continue to cover the strengthening of nuclear, radiation, transport and waste safety in a comprehensive manner, including design safety, external hazard assessment, safety culture, communication on safety, severe accident management, post-accident remediation and transition to recovery, as well as aspects related to NPP operating life extension, including organizational and human performance, decommissioning of facilities, disposal of low and high level radioactive waste, innovative technologies such as fast reactors and small and medium sized or modular reactors, and the safety of radiation sources used in non-power applications.

The security of nuclear and other radioactive material and facilities remains a high priority. The Agency develops and publishes nuclear security recommendations and guidance and maintains an effective information platform for their application. At the request of a State, the Agency assists in developing and implementing a robust nuclear security infrastructure, including prevention, detection and response. Despite the nuclear safety and security arrangements in place, the risk of a nuclear or radiological emergency — of various origins or severity — cannot be entirely eliminated. This Major Programme also focuses on providing assistance in developing and strengthening national and international capacities to prepare to respond effectively to, and to mitigate, the consequences of such an emergency. The Incident and Emergency Centre will continue responding to the growing demands from Member States. The Agency is the global focal point for international preparedness for and response to nuclear and radiological incidents or emergencies and implements its response roles under this Major Programme.

Radiation safety and nuclear security regulations for the Agency's own activities will continue to be strengthened. Major Programme 3 will continue a focus on enhancing timely coordination within this Major Programme and with other Major Programmes to contribute to, as well as to build synergies and increase effectiveness and efficiency in, the planning and implementation of activities such as the IAEA Platform on Small Modular Reactors and their Applications, the Nuclear Harmonization and Standardization Initiative (NHSI), Rays of Hope (RoH) and other initiatives.

Objectives:
— *To continuously improve global safety and security through the establishment and application of safety standards and security guidance; adherence to international legal instruments; and strengthened experience sharing through peer reviews and advisory services, capacity building and networking.*
— *To continuously enhance national, regional and international capabilities and arrangements for ensuring a high level of safety and security and emergency preparedness and response.*

Outcomes	Performance Indicators
• Increased Member State use of Agency tools, methodologies and expertise to strengthen nuclear safety and security at the national, regional and international levels.	• Number of peer review and advisory services conducted in the areas of nuclear safety and security. • Percentage of Agency recommendations from safety and security services addressed by Member States.
• An integrated and comprehensive set of up-to-date safety standards and security guidance available to Member States.	• Number of new or revised safety standards and security guidance.
• Enhanced global knowledge sharing networks on nuclear safety.	• Number of thematic safety areas within the safety networks. • Number of safety network members.
Projects	
Title	**Main Planned Outputs**
3.0.0.001 Overall management, coordination, communication and common activities	Nuclear Safety Review; Programme Performance Report; reports responding to General Conference resolutions on nuclear safety and security; International Nuclear Safety Group (INSAG) publications; outreach materials; effective coordination of interdepartmental activities and services.
3.0.0.002 Capacity building, knowledge networks and partnerships	Capacity building self-assessment; nuclear safety knowledge products; International Conference on Challenges Faced by Technical and Scientific Support Organizations (TSO) in Enhancing Nuclear Safety and Security: Enhancing science and adaptability in a changing world and creating perspective for a young generation; senior-level meetings; partnership and resource mobilization tools and processes.
3.0.0.003 Coordination of safety standards and security guidance	Safety Requirements and Safety Guides; Nuclear Security Recommendations, Implementing Guides and Technical Guidance and means for their promotion.
3.0.0.004 Internal control for radiation safety and nuclear security	Documents on regulatory processes; status reports on safety and security at the Agency's laboratories; progress reports on implementation of the recommendations of the self-assessments and peer reviews conducted.

Programme 3.1 Incident and Emergency Preparedness and Response

Member States and the international community need to be prepared to respond effectively to nuclear and radiological emergencies, should they occur. Programme 3.1 supports Member States in enhancing specific elements of preparedness for and response to nuclear and radiological emergencies, irrespective of the triggering event(s) by, for example, developing and maintaining national infrastructure elements; improving cooperation between the safety and security communities; assessing hazards and emergency management; and keeping the international community and the general public well informed. The programme also assists Member States in developing effective national and global response capabilities and arrangements to minimize the impacts of nuclear or radiological incidents and emergencies.

An effective emergency response requires a coherent initial assessment followed by adequate emergency management, which can only be achieved through coordinated emergency preparedness and response (EPR) at both the national and international levels. The Agency is the focal point in EPR for nuclear and radiological emergencies, regardless of whether they arise from an accident, natural disaster, negligence, nuclear security event or any other cause. This role derives from responsibilities mandated to the Agency by the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, as well as by decisions of the Agency's Policy-Making Organs. The role is also established as part of a number of mechanisms and practical arrangements and builds upon the expertise and long experience of the Agency in the area of EPR. The Agency also has a statutory function to develop safety standards and to provide for their application. Finally, the Agency has a role in assessing nuclear and radiological incidents and emergencies and in communicating their significance and potential consequences.

Lessons learned from reviews, assessments and evaluations: This programme takes into account Member States' needs and lessons identified during the performance assessment of the previous programme cycle, particularly in relation to operational arrangements for implementing relevant Conventions, to emergency responses and exercises, to peer review missions, and to the establishment of capacity building centres and networks.

Specific criteria for prioritization:

1. Activities necessary to fulfil obligations under the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.
2. Activities to support Member States in enhancing EPR in line with Preparedness and Response for a Nuclear or Radiological Emergency (IAEA Safety Standards Series No. GSR Part 7).
3. Activities to enhance international EPR.
4. Activities to address lessons from response to emergencies, and from the Level 3 Convention Exercise (ConvEx-3) conducted in 2021.

Programmatic changes and trends

Subprogramme 3.1.1 National and International Emergency Preparedness will continue to follow up on relevant EPR activities from the preceding biennial programme cycle. The subprogramme's activities have been prepared based on EPR needs identified through assessment and evaluation of national and international EPR utilizing various means (e.g. the Emergency Preparedness and Response Information Management System (EPRIMS), Emergency Preparedness Review and advisory missions, recommendations from the International Conference on the Development of Preparedness for National and International Emergency Response held in 2021 and provisions of General Conference resolutions), taking into account the long -term recommendations of the International Action Plan for Strengthening the International Preparedness and Response System for Nuclear and Radiological Emergencies, the conclusions of meetings of the Emergency Preparedness and Response Standards Committee, meetings of Competent Authorities and meetings of the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE).

Subprogramme 3.1.2 IAEA IES and Operational Arrangements with Member States and International Organizations will continue to follow up on relevant activities aimed at maintaining and continuously enhancing the Agency's Incident and Emergency System (IES) and operational arrangements with Member States and relevant international organizations. The subprogramme's activities have been prepared on the basis of needs identified through the evaluation of EPR exercises, the conclusions of meetings of the Competent Authorities and relevant General Conference safety-related resolutions.

Objectives, Outcomes and Performance Indicators by Programme

Programme 3.1 Incident and Emergency Preparedness and Response	
Objectives:	
— *To maintain and further enhance efficient Agency, national and international EPR capabilities and arrangements for effective response to nuclear or radiological incidents and emergencies, irrespective of the triggering event(s).* — *To improve exchange of information on nuclear or radiological incidents and emergencies among Member States, international stakeholders, and the public and media in the preparedness stage of, and during response to, nuclear or radiological incidents and emergencies, irrespective of the triggering event(s).*	
Outcomes	**Performance Indicators**
• Enhanced EPR arrangements and capabilities to effectively respond to a nuclear or radiological incident or emergency at the national and international levels, irrespective of the triggering event(s).	• Percentage of recommendations from peer review missions for the improvement of national and international EPR addressed.
• Enhanced EPR arrangements and capabilities to effectively respond to a nuclear or radiological incident or emergency at the Agency level, irrespective of the triggering event(s).	• Percentage of recommendations from internal full response exercises for improvement of the Agency's IES addressed.

Outcomes	Performance Indicators
• Maintained and improved information systems, including the Unified System for Information Exchange in Incidents and Emergencies, the International Radiation Monitoring Information System, and the Emergency Preparedness and Response Information Management System, for providing and sharing technical information and monitoring data in a nuclear or radiological incident or emergency, irrespective of the triggering event(s).	• Percentage of recommendations from the use of information systems for improvement of the information sharing systems in a nuclear or radiological incident or emergency addressed.

Subprogramme 3.1.1 National and International Emergency Preparedness

Objectives:

— *To strengthen EPR arrangements and capabilities at the national level for effective response to nuclear or radiological emergencies, irrespective of the triggering event(s), by developing and providing assistance in the application of safety standards, operational guidelines and tools through capacity building activities and EPR peer reviews.*

— *To enhance transparency and knowledge sharing in the area of EPR through more effective and comprehensive use of peer review missions and collaborative networks.*

— *To further strengthen the international EPR framework.*

Outcomes	Performance Indicators
• Strengthened national EPR arrangements and capabilities and enhanced transparency in the sharing of information on EPR for nuclear or radiological incidents and emergencies, irrespective of the triggering event(s).	• Number of Member States that have provided or updated input in EPRIMS. • Percentage of Member States in EPRIMS with high implementation of Agency safety standards for EPR.
• Strengthened inter-agency EPR arrangements and enhanced international cooperation and coordination in EPR.	• Percentage of recommendations from IACRNE meetings and related exercises and/or lessons for improvement of international EPR arrangements addressed.

Projects

Title	Main Planned Outputs
3.1.1.001 Member State emergency preparedness	Agency safety standards on EPR; technical guidance documents and tools; training events and materials; capacity building centres; EPRIMS database as a tool for self-assessment of Member State EPR arrangements; EPR education and training networks; peer review and advisory mission reports, effective coordination of interdepartmental activities and services.
3.1.1.002 International emergency management	Joint Radiation Emergency Management Plan of the International Organizations reviewed and updated; IACRNE meeting reports; report on the 2024 meeting of Competent Authorities; IACRNE procedures reviewed and updated; IACRNE website maintained; EPR activities coordinated at the international level; harmonized inter-agency response to a nuclear or radiological emergency, irrespective of the triggering event(s).

Subprogramme 3.1.2 IAEA IES and Operational Arrangements with Member States and International Organizations

Objectives:

— *To maintain and continuously enhance arrangements for effective Agency emergency response, including notification, exchange of information, assessment and prognosis, international assistance, public communication and coordination of inter-agency response.*

— *To respond effectively to nuclear or radiological incidents and emergencies, irrespective of the triggering event(s).*

— *To develop, maintain and continuously improve systems facilitating the exchange of specific information in a nuclear or radiological incident and emergency.*

Outcomes	Performance Indicators
• Increased effectiveness of the Secretariat's response and response coordination with relevant international organizations in a nuclear or radiological incident or emergency.	• Percentage of recommendations by Competent Authorities addressed.
Increased efficiency of the international assistance mechanism and effectiveness of the provision of requested assistance in a nuclear or radiological incident or emergency.	• Number of Member States registering or updating their national assistance capabilities.
Projects	
Title	**Main Planned Outputs**
3.1.2.001 Preparedness of the Incident and Emergency System	Annual training programme, schedule and training records; maintained and enhanced response arrangements (appendices to the Response Plan for Incidents and Emergencies, procedures, checklists and instructions); updated contact point lists; ConvEx-1 reports.
3.1.2.002 Response and assistance arrangements with Member States and international organizations	Effective response to nuclear or radiological emergencies irrespective of the triggering event(s); operational protocols with international organizations; Member States trained in operational arrangements; conduct of exercises, including on assessment and prognosis, public information during a nuclear or radiological emergency triggered by a nuclear security event; updated arrangements for international assistance.
3.1.2.003 Public communication in emergencies	Agency publications; implementation of the new International Nuclear and Radiological Event Scale guidance; training materials; outreach activities (newsletter, tweets, web articles, brochures) in coordination with the Office of Public Information and Communication; workshops and training activities.

Programme 3.2 Safety of Nuclear Installations

Programme 3.2 supports Member States in establishing the appropriate safety infrastructure and in continuously improving the safety of nuclear installations through the availability and application of up-to-date safety standards. Relevant information from sources such as the Convention on Nuclear Safety (CNS), including the Vienna Declaration on Nuclear Safety, the Code of Conduct on the Safety of Research Reactors and the feedback from safety review services, will be considered to ensure that the needs of Member States are addressed.

The Agency will continue to focus on the revision of existing safety standards to reflect the current state of practice in nuclear safety, rather than the establishment of new ones. Specifically, increased interest in new nuclear power technologies and long term operation (LTO) of existing installations requires clear design safety requirements and assessment capabilities consistent with advances in technology, methods and tools. Priority will thus be given to the design safety of evolutionary and innovative nuclear power technologies, such as small modular reactors (SMRs), and the operational safety of existing installations, including organizational and human performance. Work will continue to develop supporting guides with regard to site and design safety and severe accident prevention and mitigation, drawing on relevant lessons learned from the Fukushima Daiichi accident.

Application of the safety standards will continue to be actively promoted through the conduct, upon request, of safety review services and capacity building activities. Safety review services are an important component of assisting Member States in their efforts to continuously improve the regulatory infrastructure and the safety performance of nuclear installations, and the effectiveness of these services will continue to be assessed and enhanced as necessary. Analysis of findings, including the implementation rate of recommendations and suggestions, will be published on a periodic basis. In addition, Member States will be supported in building capacity and enhancing national safety infrastructure to improve regulatory effectiveness through education and training and international cooperation. For countries with mature nuclear power programmes, activities will focus on both deployment of innovative reactors and LTO of existing installations. For countries either restarting or embarking on a nuclear power programme, capacity building will focus on regulatory and operational readiness and will be strengthened to ensure sustainability. Feedback from operating experience and the results of research and development will be widely disseminated.

Lessons learned from reviews, assessments and evaluations: Programme 3.2 considers the results of international safety conventions, the conclusions of Agency conferences on regulatory effectiveness and on design and operational safety of nuclear installations, the findings from safety review services, and the lessons learned from operating and regulatory experience shared, respectively, through the international event reporting systems and regulatory forums and networks. Informed by these insights, the programme focuses on current and emerging challenges, such as the effectiveness and transparency of regulatory bodies, the competency of human resources, safety assessments of evolutionary and innovative nuclear power technologies, such as SMRs, safety of LTO of nuclear installations, and leadership and management for safety. Specifically, the programme responds to a continued demand for assistance in the development of safety infrastructure in countries expanding or embarking on a new nuclear power programme and in extending operation of existing nuclear installations. In addition, the programme participates in the IAEA Platform on Small Modular Reactors and their Applications.

Specific criteria for prioritization:

1. Maintaining up-to-date safety standards, reflecting the current state of practice, and supporting conventions and codes of conduct.
2. Providing for more effective application of safety standards through continuously improving the delivery of safety review services and development of supporting documents.
3. Supporting Member States in capacity building through education and training, and the exchange of information and operating experience; and
4. Strengthening international cooperation, including enhanced coordination of research and development activities.

Programmatic changes and trends

Subprogramme 3.2.1 Governmental Regulatory Framework and Safety Infrastructure Development will support the effective implementation of regulatory core functions, both in countries with mature nuclear power programmes and in those either expanding or embarking on a nuclear power programme. The subprogramme will respond to an increasing number of requests from Member States seeking support to enhance their safety infrastructure through, for example, Agency workshops on the licensing process for a first NPP, on developing and implementing core regulatory processes, on establishing integrated management systems, on developing programmes on leadership and management for safety, on the safety–security interface, and on conducting safety culture self-assessments for regulatory bodies. Many Member States considering or actively implementing a nuclear power programme also face difficulties in developing competence to perform regulatory functions effectively; this subprogramme will respond to these needs through providing support in the areas of education and training, human resource development, knowledge management and knowledge networks. With the growing interest worldwide in deploying new nuclear technologies, and specifically SMRs, the Agency will support an increasing number of Member States in addressing the regulatory challenges through the work of the SMR Regulators' Forum and other instruments, such as the IAEA Platform on Small Modular Reactors and their Applications and the NHSI.

Subprogramme 3.2.2 Safety Assessment of Nuclear Installations will, in the light of the increased interest in nuclear power as one of the means to combat climate change, in particular in the deployment of innovative and advanced technologies, including SMRs, as well as in LTO of existing nuclear installations worldwide, continue to revise the safety assessment and design safety standards to ensure they represent state of the art. A goal-oriented, risk-informed and performance-based technical framework to support the application of the safety standards to innovative technologies will be elaborated to facilitate Member State efforts in reviewing and licensing nuclear power innovations. Thorough application of the safety standards will be supported through Advisory and Technical Safety Review (TSR) peer reviews and the deployment of safety assessment and design safety competency building programmes. Emphasis will be placed on effective assistance in emerging topics, such as new design features, innovative technologies, updated safety demonstration, periodic safety reviews, and microreactors and small and medium sized or modular reactors.

Subprogramme 3.2.3 Safety and Protection Against External Hazards will address many challenges to safety and protection against external hazards, including the following, highlighted by recent experiences: the effects of low probability events beyond the design basis; the importance of accurate knowledge and scientific evidence in periodic safety reviews; combined external hazards that simultaneously affect multiple units on a site; and mechanisms for sharing operating experience in the case of external events. It is expected that requests from Member States for technical insights on these issues will increase. The subprogramme will deliver safety documents and safety review services containing practical advice to Member States in an effective and efficient manner.

Subprogramme 3.2.4 Safe Operation of Nuclear Power Plants will increase its assistance to host organizations in addressing issues identified during safety review missions and expand its support to corporate nuclear organizations and conduct more 'train the trainer' sessions on operational safety related topics based on the needs of Member States. The Agency will continue to support Member States in enhancing their capability to review LTO and ageing management and to implement the safety requirements established in *Leadership and Management for Safety (*IAEA Safety Standards Series No. GSR Part 2) and in *Ageing Management and Development of a Programme for Long Term Operation of Nuclear Power Plants* (IAEA Safety Standards Series No. SSG-48). The updated requirements are now included in the Operational Safety Review Team (OSART) and Safety Aspects of Long Term Operation (SALTO) services, in the Independent Safety Culture Assessment process, and in capacity building through assistance to Member States for self-assessment and continuous improvement. The Secretariat will continue to support Member States in the use of operating experience for safety performance improvement.

Subprogramme 3.2.5 Safety of Research Reactor and Fuel Cycle Facilities will continue to assist Member States in addressing priority needs, identified challenges and emergent trends with focus on regulatory effectiveness, ageing of facilities, preparation for decommissioning, the interface between safety and security, and infrastructure for new programmes. Work is also needed to ensure the safety of research reactors and nuclear fuel cycle facilities in supporting design and manufacturing of new fuels, including for SMRs, and development of nuclear power programmes. The activities of the subprogramme include the development of up-to-date safety standards and assistance for Member States in their application; support for the application of the Code of Conduct on the Safety of Research Reactors; the organization of safety reviews and advisory services; the conduct of capacity building activities; and the fostering of information networks and exchange of feedback experience.

Objectives, Outcomes and Performance Indicators by Programme

<table>
<tr><th colspan="2">Programme 3.2 Safety of Nuclear Installations</th></tr>
<tr><td colspan="2">Objectives:</td></tr>
<tr><td colspan="2">— To support Member States in improving the safety of nuclear installations during site evaluation, design, construction and operation through the availability and application of up-to-date safety standards.
— To support Member States in establishing and enhancing their national safety infrastructure through the conduct of safety review services and facilitation of adherence to, and implementation of, the CNS and the Code of Conduct on the Safety of Research Reactors.
— To support Member States in capacity building through human resource development, education and training, and knowledge management and knowledge networks by means of international cooperation, including exchange of information and operating experience, and coordination of research and development activities.</td></tr>
<tr><th>Outcomes</th><th>Performance Indicators</th></tr>
<tr><td>● An integrated and comprehensive set of up-to-date safety standards and supporting documents, reflecting the current state of practice, in the general areas of legal and governmental framework and safety of nuclear installations during their entire lifetime.</td><td>● Number of published new and revised safety standards and supporting documents, relevant to governmental organizations or the safety of nuclear installations.</td></tr>
<tr><td>● Appropriate safety infrastructure established, and safety of nuclear installations continuously improved through the application of safety standards in Member States.</td><td>● Number of safety review services conducted.
● Percentage of recommendations from safety review services addressed by the host Member State/host organization.</td></tr>
<tr><td>● Increased Member State use of Agency services in the areas of safety infrastructure and safety of nuclear installations focusing on the effectiveness of regulatory control, leadership and management for safety, and design and operational safety, including LTO.</td><td>● Number of training events conducted in the areas of safety infrastructure and safety of nuclear installations.</td></tr>
</table>

Subprogramme 3.2.1 Governmental Regulatory Framework and Safety Infrastructure Development

Objectives:

- *To support Member States in establishing and maintaining effective, independent and sustainable governmental, regulatory and safety frameworks for nuclear installations through peer reviews, advisory services and activities supporting the implementation of up-to-date IAEA safety standards.*
- *To support Member State regulatory bodies in enhancing their regulatory and safety capacity building process, and in fostering strong leadership and safety culture.*

Outcomes	Performance Indicators
• An integrated, comprehensive and consistent set of up-to- date safety standards in the area of governmental and regulatory frameworks for the safety of nuclear installations.	• Number of relevant new and revised safety standards and supporting documents.
• Sustained Member State use of Agency services and safety standards to support the development and strengthening of regulatory infrastructure.	• Number of Integrated Regulatory Review Service (IRRS) missions conducted. • Percentage of recommendations and suggestions from IRRS missions addressed.
• Use of Agency capacity building services, competency assessment tools and training programmes by Member State regulatory bodies to support the sustainability of resources for the safety of nuclear installations for emerging and mature nuclear programmes.	• Number of Agency regulatory-related events to support capacity building programmes in Member States. • Number of Member States utilizing a national strategy for building and sustaining capacity in nuclear safety.

Projects

Title	Main Planned Outputs
3.2.1.001 Regulatory effectiveness and safety infrastructure for new programmes	Safety standards, guidelines, information exchange and mission reports; information exchange facilitated through the International Regulatory Network; coordination and provision of expert support to countries with nuclear installations and to embarking countries.
3.2.1.002 Safety standards and CNS promotion/support	Support for the CNS, safety standards and reports.
3.2.1.003 Capacity building for installations safety and regulatory functions	Strategy for capacity building; capacity building support programme and annual plan; workshops/training events; reports; self-assessment tools; training materials and enhanced web platforms.

Subprogramme 3.2.2 Safety Assessment of Nuclear Installations

Objectives:

- *To support Member States in achieving a high level of safety in nuclear power plant design and excellence in safety assessment through the provision of state-of-the-art safety assessment and design safety standards and providing for their application to current and innovative reactor technologies.*
- *To support Member States with advice and review services in the implementation of safety assessment and design safety standards to current and innovative technologies.*
- *To support Member States in safety assessment competency building and to assist them in addressing topical issues on safety assessment and design safety.*

Outcomes	Performance Indicators
• An integrated, comprehensive and consistent set of state-of-the-art safety standards and supporting documents in the areas of safety assessment and design safety available to Member States.	• Number of relevant new and revised safety assessment and design safety standards and supporting documents.

Outcomes	Performance Indicators
• Increased Member State use of Agency services to support safety of nuclear power plant design and safety assessment performance.	• Number of safety review services conducted. • Percentage of Agency recommendations from safety review services addressed by Member States.
• Increased Member State use of Agency training methodologies in the areas of safety assessment and design safety, including for innovative reactor technologies.	• Number of Member States participating in training activities. • Number of training activities conducted in the areas of safety assessment and design safety.

Projects

Title	Main Planned Outputs
3.2.2.001 Design safety of current, evolutionary and innovative power reactors	Technical documents and reports associated with new or revised design safety standards; reports on Technical Safety Reviews and advisory services for design safety; design safety related training events and materials.
3.2.2.002 Development and application of safety assessment methods	New and revised safety assessment standards and associated technical documents and reports; reports from technical safety assessment peer review and advisory services; safety assessment related training events and materials.

Subprogramme 3.2.3 Safety and Protection Against External Hazards

Objectives:

— *To support Member States in enhancing site and installation design safety with respect to external hazards, including hazards resulting from human activity and with special reference to the effects from climate change, through the development of safety standards and technical guidelines for their application.*

— *To support Member States in assessing site and installation design safety with respect to external hazards, through advisory services, peer review services and capacity building initiatives.*

— *To support Member States in capacity building through education and training.*

Outcomes	Performance Indicators
• An integrated, comprehensive, and consistent set of up-to-date safety standards and supporting technical documents in the areas of site safety, design safety and safety assessment in relation to external hazards.	• Number of new and revised safety standards and supporting documents in this area.
• Improved level of safety and protection against external hazards, demonstrated by follow-up review services.	• Number of Site and External Events Design (SEED) review services implemented upon request by Member States. • Percentage of recommendations from SEED missions addressed by Member States after receiving a full-scope SEED review.
• Increased Member State use of Agency training methodologies in the area of safety and protection against external hazards and external hazard assessment.	• Number of Member States participating in training activities. • Number of training activities conducted in the area of safety protection against external hazards and external hazard assessment.

Projects

Title	Main Planned Outputs
3.2.3.001 Site evaluation and installation design safety	Safety standards and supporting documents in the areas of site selection and evaluation, and protection of nuclear installations against external hazards; safety review services, expert missions, workshops, training materials, standard review guidelines, handbooks and webinars for capacity building in Member States; software tools for assessment of damage to nuclear installations induced by external events and for the assessment of lessons learned.

Projects	
Title	**Main Planned Outputs**
3.2.3.002 Evaluation methods and tools for installation safety assessment	Safety reports and IAEA Technical Documents (TECDOCs) on technical methods and tools required for implementing safety standards for site evaluation and safety assessment; workshops, training materials and webinars for capacity building in Member States; dissemination and sharing of information; International Conference Resilience of Nuclear Installations against External Events from Safety Perspective; databases and tools for improved qualification methods and design for nuclear safety.

Subprogramme 3.2.4 Safe Operation of Nuclear Power Plants

Objectives:

- *To support Member States in improving operational safety performance through the development of safety standards and other publications and providing support for their application.*
- *To support Member States in improving operational safety through safety review services for operational safety, safe LTO and ageing management, operating experience, and management, leadership and culture for safety.*
- *To support Member States in capacity building by arranging training and workshops and providing advice on conducting self-assessments.*

Outcomes	Performance Indicators
• An integrated, comprehensive and consistent set of up-to-date safety standards in the areas of operational safety, safe LTO and ageing management, operating experience, and management, leadership and culture for safety available to Member States.	• Number of new and revised safety standards and supporting documents.
• Improved operational safety in Member States.	• Number of OSART, SALTO, operating experience, and leadership and culture for safety review missions conducted. • Percentage of Agency recommendations from safety review services addressed by Member States.
• Enhanced competency in Member States in the areas of operational safety, safe LTO, ageing management, operating experience, and management, leadership and culture for safety.	• Number of training events conducted in the areas of OSART, LTO, ageing management, operating experience, and management, leadership and culture for safety.

Projects	
Title	**Main Planned Outputs**
3.2.4.001 Operational safety performance	OSART mission reports; training materials on corporate/ plant self-assessment; updated OSART Mission Results database; integrated revision of safety guides on operational safety; publication of OSART mission highlights; International Conference on Enhancing the Operational Safety of Nuclear Power Plants; dissemination of OSART-related information on a dedicated website.
3.2.4.002 Sharing and use of international operating experience	Event reports from NPPs shared through the International Reporting System for Operating Experience (IRS); operating experience summary reports (IRS Blue Books, IRS annual report); assistance mission reports; safety standards and TECDOCs on operating experience and continuous performance improvement programmes; training courses on performance improvement, operating experience and root cause analysis.

Projects	
Title	**Main Planned Outputs**
3.2.4.003 Leadership and management for safety, and safety culture in Member States	Revised Safety Guides on leadership and management for safety; safety culture continuous improvement workshops for Member States; independent safety culture assessments; training activities, meetings and workshops.
3.2.4.004 Safety of long term operation	SALTO mission and expert mission reports; support missions conducted; workshops and Technical Meetings; Safety Reports; TECDOCs and guidelines on ageing management and LTO; International Generic Ageing Lessons Learned ageing management programmes, time-limited ageing analyses, ageing management review tables and other ageing management related activities.

Subprogramme 3.2.5 Safety of Research Reactor and Fuel Cycle Facilities

Objectives:

— *To support Member States in strengthening safety of research reactors and fuel cycle facilities in all phases of their lifetime, including support for the development of safety infrastructure for new research reactors and fuel cycle facilities.*

— *To foster the international exchange of information on operating experience and capacity building for research reactors and fuel cycle facilities.*

Outcomes	Performance Indicators
• A comprehensive set of up-to-date safety standards on research reactors and nuclear fuel cycle facilities made available to Member States.	• Number of new or revised safety standards and supporting documents for research reactors and fuel cycle facilities.
• Increased Member State use of Agency services to support safety of research reactors and nuclear fuel cycle facilities.	• Number of safety review services conducted. • Percentage of Agency recommendations from safety review services addressed by Member States.
• Increased Member State use of Agency capacity building activities on safety of research reactors and nuclear fuel cycle facilities.	• Percentage of Member States with operating research reactors and nuclear fuel cycle facilities participating in Agency capacity building activities and in the platform for exchange of operating experience.

Projects	
Title	**Main Planned Outputs**
3.2.5.001 Safety of research reactors	Safety standards and supporting documents; meeting and mission reports; feedback on Member States' self-assessments against application of the Code of Conduct on the Safety of Research Reactors; Incident Reporting System for Research Reactors database.
3.2.5.002 Safety of fuel cycle facilities	Safety standards and supporting documents; meeting and mission reports; training material; Fuel Incident Notification and Analysis System database.

Programme 3.3 Radiation and Transport Safety

Programme 3.3 focuses on the protection of people and the environment from the harmful effects of ionizing radiation. It covers the establishment of safety standards and provisions for their application — both being statutory functions of the Agency. Capacity building, including education and training, and networking, as well as communication strategies on radiation risks, are cross-cutting key elements of the global safety framework, and they are included throughout this programme. The importance of international undertakings, such as applicable conventions and codes of conduct, as an element of the safety framework, is also recognized. The activities within the programme are still mainly ongoing, with some changes of emphasis. The target audience includes national bodies and relevant international organizations dealing with radiation and transport safety issues. The beneficiaries are governments, regulators, workers, patients, the general public, and users and operators.

Agency safety standards will continue to be reviewed. The programme will provide for the implementation of Agency safety standards and the Code of Conduct on the Safety and Security of Radioactive Sources. This is done through various means, including peer review and advisory services, outreach and the exchange of information, and guidance and training materials. These activities provide essential feedback and assurances on the overall effectiveness of the programme, and facilitate planning and anticipating future issues.

Lessons learned from reviews, assessments and evaluations: Peer review and advisory missions are in strong demand and show the importance of stable, adequately resourced and effectively independent regulatory systems. The Agency will tailor its approach to the delivery of IRRS and Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation (ARTEMIS) missions to better meet the needs of individual Member States requesting combined or separate missions. Member State support for the Code of Conduct on the Safety and Security of Radioactive Sources, as well as for its supplementary Guidance on the Import and Export of Radioactive Sources and Guidance on the Management of Disused Radioactive Sources, remains strong. The transport of radioactive material and of nuclear facilities remains of interest to Member States and, consequently, there is a need to retain strong links with other international organizations dealing with transport. The Agency's strategic approach to education and training continues to assist Member States in strengthening radiation and transport safety infrastructure.

Specific criteria for prioritization:

1. Activities that strengthen the global safety framework by establishing safety standards and cooperating with other international organizations that also assist in harmonization and international undertakings.
2. Activities that support Member States in strengthening regulatory infrastructure for radiation and transport safety through peer review and advisory missions.
3. Activities that promote the Code of Conduct on the Safety and Security of Radioactive Sources and assist Member States in strengthening national strategies for sealed source end of life management, in order to avoid orphan sources.

Programmatic changes and trends

Subprogramme 3.3.1 Radiation Safety and Monitoring focuses on the provision of assistance to Member States in reaching or maintaining the highest level of radiation safety. In 2024–2025, the Agency will continue to provide for application of *Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards* (IAEA Safety Standards Series No. GSR Part 3), as well as the associated Safety Guides. The Secretariat will continue to advise Member States on enhancing safety in relevant medical procedures, and to assist in the implementation of justification and optimization principles. The Agency will revise or develop new safety guidance on the protection of workers. Efforts will be made to prepare joint documents or position statements, namely on radiation protection from exposure to radon; on the application of the 2012 report of the United Nations Scientific Committee on the Effects of Atomic Radiation and its annexes on attribution of health effects and inference of risk; on radiation protection in the naturally occurring radioactive material (NORM) industry; and on any other subjects jointly agreed.

Subprogramme 3.3.2 Regulatory Infrastructure and Transport Safety will continue to address the increasing demand from Member States for independent peer reviews and advisory missions supported by self-assessments in the area of regulatory infrastructure and transport of radiation sources. Recognizing the need to build competence in radiation safety in a sustainable manner, the number of Member States that are developing and implementing their own national strategy based on a national needs analysis in line with Agency safety standards and guidance is expected to continue to increase. In transport safety, the revision of relevant Agency safety standards will continue. Upon the request of Member States, of technical assistance recipient countries and of donor countries, the subprogramme, on both regulatory infrastructure and transport safety, will increase coordination and cooperation with the relevant subprogrammes in nuclear security in order to foster the integrated strengthening of national infrastructure for radiation safety and security of radioactive material.

Objectives, Outcomes and Performance Indicators by Programme

Programme 3.3 Radiation and Transport Safety

Objectives:

- *To support Member States in improving radiation safety of people and the environment through the development of safety standards and by providing for their application.*
- *To support Member States in establishing the appropriate safety infrastructure through support and implementation of the Code of Conduct on the Safety and Security of Radioactive Sources and its supplementary guidance, as well as through safety reviews and advisory services.*
- *To support Member States in capacity building through education and training, and in encouraging the exchange of information and experience.*

Outcomes	Performance Indicators
• An integrated, comprehensive and consistent set of up-to-date safety standards in the area of radiation and transport safety available to Member States.	• Number of relevant new and revised safety standards and supporting documents.
• Increased Member State use of Agency services to support radiation and transport safety.	• Number of safety review, appraisal and advisory missions conducted.
• Increased Member State use of Agency methodologies for analysing training needs in the area of radiation and transport safety.	• Number of Member States having conducted an analysis of training and education needs in radiation and transport safety.

Subprogramme 3.3.1 Radiation Safety and Monitoring

Objectives:

- *To support Member States in reaching the highest level of radiation safety through the development of safety standards and guides and by providing for their use in all sectors of industry, medicine and other applications, and also through providing relevant information on the risks and benefits of such applications.*
- *To provide services for a high level of radiation protection for the Agency's own operations and for all operations making use of materials, services, equipment, facilities and information made available by the Agency, including assistance in technical cooperation projects.*

Outcomes	Performance Indicators
• Strengthened cooperation among relevant international organizations with responsibilities and mandates for radiation safety.	• Number of safety standards, other documents and workshops jointly sponsored by members of the Inter-Agency Committee on Radiation Safety (IACRS). • Number of guidance documents (revision of existing documents or development of new documents) to support implementation of the revised GSR Part 3 jointly sponsored by international organizations.
• Increased efficiency and effectiveness of dosimetry systems protecting occupationally exposed workers for Agency staff, and increased Member State capabilities for their application.	• Number of Safety Guides and TECDOCs developed in cooperation with the International Labour Organization in the area of the occupational radiation protection. • Number of accredited methods maintained in the Agency's laboratories.
• Increased Member State use of Agency materials on good practices in medical radiation protection among health professionals and organizations involved in medical radiation exposure.	• Number of page views, including downloads of Agency guidance and other information on methods for improving radiation protection of patients from the Agency's Radiation Protection of Patients website.

Projects

Title	Main Planned Outputs
3.3.1.001 Public and environment radiation protection	New and revised safety standards and guidance documents; meetings and workshops for Member States to support implementation of GSR Part 3 and cooperation with relevant international organizations on radiation safety issues.

Projects	
Title	**Main Planned Outputs**
3.3.1.002 Radiation protection of patients	Safety related documents on the radiation protection of patients; reporting systems for radiological procedures and radiotherapy; a dedicated website for health professionals and patients containing up-to-date information on dose reduction in radiation exposure in medicine; International Conference on Radiation Protection in Medicine: X Ray Vision.
3.3.1.003 Occupational radiation protection	New and revised safety documents supporting the safety standards on occupational radiation protection; new or expanded radiation protection optimization networks; operation of the Information System on Occupational Exposure, and promotion and upgrade of the Information System on Occupational Exposure in Medicine, Industry and Research — Industrial Radiography; newly developed and updated training packages, reports and information management system for the Occupational Radiation Protection Appraisal Service; expansion and use of Occupational Radiation Protection Networks.
3.3.1.004 Radiation safety technical services	Accredited individual dosimetry and workplace monitoring services; instrument calibration services; radiation safety and monitoring assistance in accidents and incidents; novel dosimetry and monitoring methodologies and practices.

Subprogramme 3.3.2 Regulatory Infrastructure and Transport Safety	
Objectives:	
— *To support Member States in strengthening their regulatory infrastructure for radiation and transport safety through the development of safety standards and by providing for their application.* — *To support Member States in strengthening their regulatory infrastructure for radiation and transport safety through peer review and advisory services.* — *To support Member States in enhancing their radiation safety competence building.*	
Outcomes	**Performance Indicators**
• An integrated, comprehensive and consistent set of up-to-date safety standards in the area of transport safety and regulatory infrastructure available to Member States.	• Number of new and revised safety standards and supporting documents in in the area of transport safety and regulatory infrastructure approved by the Safety Standards Committees/Commission on Safety Standards, as appropriate.
• Increased Member State use of Agency services to support transport safety and regulatory infrastructure in Member States.	• Number of safety review services conducted.
• Increased Member State application of education and training safety standards for building competence in radiation safety.	• Number of Member States having carried out an analysis of training and education needs in radiation, transport and waste safety.
Projects	
Title	**Main Planned Outputs**
3.3.2.001 Regulatory control of radiation sources	Meetings of legal and technical experts on the implementation of the Code of Conduct on the Safety and Security of Radioactive Sources; regional workshops on the implementation of the Code; revised safety standards; advisory missions reports; regulatory review services; recommendations to Member States on regulatory aspects.
3.3.2.002 Transport safety	A comprehensive set of transport safety standards, TECDOCs and other guidance, and training courses; Technical Meetings and other consultancy meetings to support the implementation of such guidance.

Projects	
Title	**Main Planned Outputs**
3.3.2.003 Technical assistance and information management	Updated radiation safety infrastructure profiles in the Radiation Safety Information Management System; reports of the Steering Committee on Education and Training in Radiation, Transport and Waste Safety and of the directors of postgraduate educational courses; a revised and updated approach to education and training in this area; updated training materials for postgraduate educational courses and train the trainer events for radiation protection officers; updated impact analysis of postgraduate educational courses and train the trainer events.

Programme 3.4 Radioactive Waste Management and Environmental Safety

Programme 3.4 provides support to Member States in establishing a safety framework for the management of radioactive waste and nuclear spent fuel, and in planning and implementing safe decommissioning of nuclear installations and other facilities using radioactive material as well as safety in environmental remediation and releases of radioactive material to the environment. This programme includes the development of relevant Agency safety standards, the provision of assistance to Member States in the use and application of these safety standards, coordination of the Waste Safety Standards Committee (WASSC), and the provision of secretariat services for meetings of the Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention).

Lessons learned from reviews, assessments and evaluations: Programme 3.4 is informed by the conclusions of Agency conferences, findings of safety review services, common overarching issues identified by Contracting Parties to the Joint Convention, and experiences shared by Member States, as well as lessons learned from the technical aspects of programme implementation. There is recognition of using e-learning and virtual meetings to increase participation with a caution that their use should be optimised, and the effectiveness and quality of information dissemination should not be compromised. While ensuring that the suite of safety standards remains comprehensive and up to date, there is also a need to increase emphasis on their application. Facility-specific guidance is well received (e.g., guidance on the safe management of disused sealed radioactive sources and on the decommissioning of small facilities) and will continue. There is increasing interest in taking a graded approach to safety when applying the safety standards. Progress continues regarding the disposal of radioactive waste, from geological disposal of spent fuel to borehole disposal of disused sealed radioactive sources, and there is a need to capture lessons learned. There is also increasing interest in safely managing discharges to the marine environment; the Agency continues to maintain a database of radioactive materials entering the marine environment, provides guidance on control of discharges and maintains links with related international conventions. With regard to review missions, experience suggests an initial preference for the ARTEMIS missions to be conducted back-to-back with IRRS missions. The Agency will continue to monitor opportunities for further developing its review services.

Specific criteria for prioritization:

1. Maintaining a comprehensive set of up-to-date safety standards on the safety of the management of radioactive waste, spent nuclear fuel and environmental releases, decommissioning and remediation.
2. Providing for more effective application of safety standards and thereby strengthening national safety infrastructure for managing radioactive waste, spent nuclear fuel and environmental releases, decommissioning and remediation.
3. Supporting Member States in increasing capacities and capabilities for safely managing radioactive waste, spent nuclear fuel and environmental releases, decommissioning and remediation.
4. Promoting adherence to and implementation of the Joint Convention.

Programmatic changes and trends

Subprogramme 3.4.1 Safety of Spent Fuel and Radioactive Waste Management covers projects on predisposal and disposal of spent fuel and radioactive waste related to near surface, borehole and geological disposal. International projects on predisposal management and disposal of all types of radioactive waste, including high level waste, will continue. For both predisposal and disposal projects, the central component of work will be the development and review of safety cases for demonstrating the safety of facilities and activities in all phases of waste management, including both operational and post-closure phases. The application of a graded approach will also be considered. The Secretariat will ensure that these international projects and corresponding peer review services (e.g., ARTEMIS), will foster exchange and sharing of experience in this domain to the benefit of Member States and work towards harmonization of safety activities.

Subprogramme 3.4.2 Safety of Decommissioning, Remediation and Environmental Releases consists of projects addressing the safety of the interrelated elements of decommissioning, remediation, and the management and assessment of radioactive releases to the environment. Efforts will continue towards developing safety standards and guidance with increased emphasis on site-specific guidance, including guidance on the safe management and decommissioning of uranium production facilities, and determining decommissioning strategies and end states for small facilities in countries with limited safety infrastructure, where a graded approach is essential. Consideration will be given to the need for guidance on decommissioning innovative reactors to avoid the creation of future legacy situations. Recent work on the remediation of contaminated areas will be expanded to address long-term post-remediation management, and the role of clearance in managing large volumes of radioactive waste. The subprogramme will explore ways of helping Member States to determine whether managing contamination from past practices or uranium production facilities should be managed as an existing or planned exposure situation. With growing interest in the area of releases to the marine environment, the Agency will maintain its understanding of radioactive materials entering the marine environment; and enhance its guidance on environmental monitoring and radiological environmental impact assessments, including guidance on a graded approach to assessing impacts on the environment (flora and fauna).

Objectives, Outcomes and Performance Indicators by Programme

Programme 3.4 Radioactive Waste Management and Environmental Safety	
Objectives:	
— *To support Member States in improving the safety of radioactive waste and spent nuclear fuel management, including geological repositories for high level waste, decommissioning, remediation and environmental releases, through the development of safety standards and providing for their application.* — *To support Member States in improving the safety of radioactive waste and spent nuclear fuel management, including geological repositories for high level waste, decommissioning, remediation and environmental releases, through peer reviews and advisory services; and to assist in their adherence to, and facilitate implementation of, the Joint Convention.* — *To support Member States in capacity building through education and training and by encouraging the exchange of information and experience.*	
Outcomes	**Performance Indicators**
• An integrated and comprehensive set of up-to-date safety standards and support documents in the area of safety of radioactive waste management, including predisposal and disposal of waste (near surface and geological), and decommissioning and remediation available to Member States.	• Number of new and revised safety standards and supporting documents accepted for publication. • Number of document preparation profiles approved for development.
• Enhanced safety infrastructure in Member States for managing radioactive waste, spent nuclear fuel and environmental releases, decommissioning and remediation.	• Number of peer review and advisory missions conducted in the area of spent fuel and radioactive waste management, including predisposal and disposal. • Number of contracting parties to the Joint Convention.
• Increased capacity in Member States for safely managing radioactive waste, spent nuclear fuel and environmental releases, decommissioning and remediation.	• Number of training events and Technical Meetings held. • Number of new or revised e-learning materials prepared.

Subprogramme 3.4.1 Safety of Spent Fuel and Radioactive Waste Management

Objectives:

— *To support Member States in improving the safety of radioactive waste and spent nuclear fuel management through the development of safety standards and providing for their application.*

— *To support Member States in improving the safety of radioactive waste and spent fuel management through peer reviews and advisory services; and to assist in their adherence to, and facilitate implementation of, the Joint Convention.*

— *To support Member States in capacity building through education and training and by encouraging the exchange of information and experience.*

Outcomes	Performance Indicators
• An integrated and comprehensive set of up-to-date safety standards and support documents in the area of safety of radioactive waste management, including predisposal and disposal of waste (near surface and geological), and decommissioning and remediation available to Member States.	• Number of new and revised safety standards and supporting documents accepted for publication. • Number of document preparation profiles approved for development.
• Enhanced safety infrastructure in Member States for managing radioactive waste and spent nuclear fuel.	• Number of ARTEMIS peer review missions and advisory missions conducted. • Number of contracting parties to the Joint Convention.
• Increased capacity in Member States for safely managing radioactive waste and spent nuclear fuel.	• Number of training events and Technical Meetings held. • Number of new or revised e-learning materials prepared.

Projects

Title	Main Planned Outputs
3.4.1.001 Waste management safety standards and Joint Convention support	Safety standards on the predisposal management and disposal of radioactive waste and spent fuel; provision of secretariat services for the Joint Convention (including organization of Review Meetings); provision of secretariat services for the WASSC.
3.4.1.002 Application of safety standards and support for inter-comparison projects	Work plans, and periodic and final reports for existing and new projects on the safety of radioactive waste and spent fuel management (predisposal and disposal) and organization of peer reviews (ARTEMIS) in Member States.

Subprogramme 3.4.2 Safety of Decommissioning, Remediation and Environmental Releases

Objectives:

— *To support Member States in improving the safety of their programmes with regard to decommissioning, remediation and environmental releases, including post-accident situations, through the development of safety standards and by providing for their application.*

— *To support Member States in improving the safety of their programmes with regard to decommissioning, remediation and environmental releases, including post-accident situations, through peer reviews and advisory services.*

— *To support Member States in capacity building through education and training and by encouraging the exchange of information and experience.*

Outcomes	Performance Indicators
• An integrated and comprehensive set of up-to-date safety standards and supporting documents in the area of safety of decommissioning, remediation and environmental releases, including post-accident situations, available to Member States.	• Number of new and revised safety standards and supporting documents accepted for publication. • Number of document preparation profiles approved for development.

Outcomes	Performance Indicators
• Enhanced safety infrastructure in Member States for managing environmental releases, decommissioning and remediation.	• Number of advisory missions conducted.
• Increased capacity in Member States for safely managing environmental releases, decommissioning and remediation.	• Number of training events and Technical Meetings held. • Number of new or revised e-learning materials prepared.
Projects	
Title	**Main Planned Outputs**
3.4.2.001 Safety for decommissioning and remediation	Agency safety standards pertaining to decommissioning, remediation and residue management from uranium production and processing of naturally occurring radioactive material; supporting documents and training materials to assist Member States with the application of these standards.
3.4.2.002 Safety for assessment and management of environmental releases	New and revised safety standards, and new TECDOCs to assist in elaborating examples for the application of safety standards in practice; recommendations to Member States for performing radiological impact assessments and environmental monitoring to enhance nuclear safety.

Programme 3.5 Nuclear Security

The risk that nuclear or other radioactive material could be used in malicious acts continues to be a serious threat to international peace and security. Even though the responsibility for nuclear security within a State rests entirely with that State, Member States have consistently recognized the central role of the Agency in strengthening the nuclear security framework globally and in coordinating international cooperation in nuclear security activities.

Much progress has been made in recent years in addressing nuclear security, including via the entry into force of the Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM) in 2016 and the first Conference of the Parties to the Amendment to the CPPNM in 2022, which reviewed the Convention as amended and resulted in a consensus outcome document highlighting its adequacy. Efforts will continue to promote the universal adherence to, and full implementation of, the Convention and its Amendment, as well as commitment to non-binding instruments under Agency auspices.

This programme is designed to assist States, upon request, in meeting the requirements of legally binding and non-binding international instruments, and to establish, maintain effective national nuclear security regimes. It takes into account the activities set out in the Nuclear Security Plan 2022–2025. Greater emphasis is placed on the publication of comprehensive guidance documents as part of the IAEA Nuclear Security Series (NSS); promotion of their use, as appropriate, including through peer reviews and advisory services; capacity building, including education, training and professional networks, as well as through activities at the Agency's Nuclear Security Training and Demonstration Centre (NSTDC); and promotion of nuclear security culture, ensuring coordination and promotion of international cooperation activities on nuclear security and improving cooperation between the security and safety communities, while avoiding duplication and overlap.

Lessons learned from reviews, assessments and evaluations: The overall priorities remain to develop coordination and priority setting by the Nuclear Security Guidance Committee, to release Nuclear Security Series publications and to provide applicable services to promote their use. The Agency builds on its capacity building foundation with training courses utilizing specialized technical infrastructure through the NSTDC. The NSTDC will complement and fill gaps in training capabilities that do not commonly exist among institutions in States, and will add new capabilities to the Agency, for delivering nuclear security programme with the advanced technology and expertise needed to respond to States' requests. The implementation of this programme will continue to be dependent on Nuclear Security Fund (NSF) contributions and conditions attached to those contributions. Dialogue with States and other relevant organizations and initiatives needs to be maintained to increase awareness of the Agency's central role in facilitating the strengthening of nuclear security globally.

Specific criteria for prioritization:

1. Completion and maintenance of universally applicable Nuclear Security Series recommendations and guidance, and provision of assessment and evaluation services at the request of States.
2. The provision, upon request for assistance, in capacity building, human resource development programmes, nuclear security culture and risk reduction activities, inter alia, based on an analysis of needs, including those identified through Integrated Nuclear Security Support Plans (INSSPs).

Programmatic changes and trends

Subprogramme 3.5.1 Information Management continues to respond to the interest of States in computer and information security at nuclear power plants and nuclear facilities. Attacks on computer systems have increased worldwide, and there is a need for information sharing meetings, technical guidance documents and training for the global community. Agency assistance to individual States, upon request, through the development and implementation of INSSPs and self-assessment tools, has increased owing to the international nuclear security community's increased awareness of Agency nuclear security activities.

Subprogramme 3.5.2 Nuclear Security of Materials and Facilities aims to respond to global trends associated with increased demand for radioactive material for health and sustainable development needs, increased interest in novel and advanced reactor designs capable of meeting projected future clean energy requirements, continued interest by States in assessing and mitigating nuclear security risks and threats, and rapid advancements in computing and other technical fields that are driving increased nuclear security requirements and requests under this subprogramme. The development or enhancement of regulatory infrastructures in nuclear security, nuclear material control and accounting systems at nuclear facilities for security purposes, specific guidance on insider threats, nuclear security culture, and contingency planning continue to be important security elements. A further increase in State requests for technical assistance for risk-reduction activities, advisory services and assessment missions on the physical protection of materials, facilities and activities is also anticipated.

Subprogramme 3.5.3 Nuclear Security of Material outside of Regulatory Control assists States in improving coordination and cooperation between the various State competent authorities and stakeholders dealing with the security of nuclear and other radioactive material out of regulatory control (MORC).

Subprogramme 3.5.4 Programme Development and International Cooperation aims to further strengthen the Agency's central coordinating role in nuclear security, including through increasing efforts to promote the universalization and effective implementation of the CPPNM and its Amendment. It also assists States by facilitating participation in the development of education and training networks, and through the continued development and maintenance of the set of Nuclear Security Series publications. Through the NSTDC, it assists States in enhancing knowledge sharing with a complementary advanced curriculum in nuclear security.

Objectives, Outcomes and Performance Indicators by Programme

Programme 3.5 Nuclear Security	
Objectives:	
— *To promote adherence to relevant legally and non-legally binding international instruments to enhance nuclear security globally.* — *To assist States in establishing, maintaining and sustaining national nuclear security regimes for nuclear and other radioactive materials, including during transport, and associated facilities used for peaceful purposes.* — *To play the central role of facilitating and enhancing international cooperation and increasing visibility and awareness through communication on nuclear security.*	
Outcomes	**Performance Indicators**
• Increased State commitment to meeting international obligations under relevant international instruments.	• Number of additional States' adherence to the CPPNM and/or its Amendment. • Number of additional States expressing political support to the Code of Conduct on the Safety and Security of Radioactive Sources and/or its supplementary guidance.

Outcomes	Performance Indicators
• Enhanced capability of States to establish, maintain and sustain a national nuclear security regime by developing comprehensive nuclear security guidance and providing technical assistance (including peer reviews, advisory services and capacity building, including education and training).	• Percentage of State-requested nuclear security assistance activities addressed by the Agency. • Number of States receiving technical assistance through results based nuclear security projects.
• Enhanced coordination and cooperation globally in the delivery of assistance to complement national efforts in the establishment, maintenance and sustainability of nuclear security regimes.	• Number of events jointly organized by the Agency in cooperation with other organizations and donors addressing coordination of activities in the establishment, maintenance and sustainability of nuclear security regimes.

Subprogramme 3.5.1 Information Management

Objectives:

— *To provide a comprehensive framework for systematically identifying and prioritizing States' nuclear security needs and to support planning and prioritizing the provision of Agency nuclear security assistance to States, as well as to facilitate international cooperation and coordination in meeting States' nuclear security needs.*

— *To assist States with the timely exchange of authoritative information on incidents involving illicit trafficking and other related unauthorized activities involving nuclear and other radioactive material.*

— *To raise awareness of the threat of cyberattacks, and their potential impact on nuclear security, and to support States in taking effective security measures against such attacks.*

Outcomes	Performance Indicators
• Increased use of a single reliable, comprehensive and systematic process by States to identify, prioritize and implement their nuclear security needs.	• Number of States that have provided or updated input to the Nuclear Security Information Management System (NUSIMS) self-assessment tool. • Percentage of needs identified through the INSSP and NUSIMS processes for a given year of implementation addressed with the support of the Agency.
• Information is timely shared and high quality analysis of incidents performed through the leveraging of information technology services.	• Percentage of incident reports, received from reporting States, disseminated to participating States within approximately one working day.
• Enhanced information and computer security capabilities at the State and facility levels to support the prevention and detection of, and response to, computer security incidents that have the potential to either directly or indirectly adversely impact nuclear safety and security.	• Number of States participating in Agency activities to improve computer and information security capabilities.

Projects

Title	Main Planned Outputs
3.5.1.001 Assessing nuclear security needs and priorities	Development and implementation of INSSPs, where appropriate; hosting and management of a voluntary self-assessment tool for States' use.
3.5.1.002 Information sharing on incidents and trafficking	Incident and Trafficking Database (ITDB); incident analysis reports; information exchange meetings; training of appropriate State professionals to improve the effectiveness of information sharing activities implemented through the ITDB.
3.5.1.003 Information and computer security, and information technology services	Information and computer security guidance documents; expert meetings; training courses and workshops; computer security webinars; technical assistance for Member States; CRPs.

Subprogramme 3.5.2 Nuclear Security of Materials and Facilities

Objectives:

— *To support States in establishing, enhancing, and maintaining effective national competencies, capacities and capabilities for the security of nuclear and other radioactive material and associated facilities, including during transport.*

Outcomes	Performance Indicators
• Enhanced State capacities, competencies and capabilities to protect nuclear and other radioactive material, including during transport, and associated facilities, through the provision of Agency guidance, expert advice and technical assistance.	• Number of States in which the national regulatory infrastructure was established or enhanced with the support of the Agency. • Percentage of States participating in Agency activities reporting increased awareness of, or capacities in, nuclear security subjects.
• Enhanced State capacities and capabilities to reduce risks related to the security of nuclear and other radioactive material, including during transport, and associated facilities through the provision of Agency guidance and technical assistance.	• Number of States in which physical protection measures and systems have been strengthened with the support of the Agency. • Number of States in which the safe and secure management of nuclear and other radioactive material has been enhanced with the support of the Agency.

Projects

Title	Main Planned Outputs
3.5.2.001 Integrated nuclear security approaches	IAEA Nuclear Security Series guidance and other Agency publications; international, regional and national training courses, meetings/workshops and consultancy meetings; expert missions; advisory services; standing technical discussion fora.
3.5.2.002 Enhancing security of nuclear material and associated facilities	IAEA Nuclear Security Series guidance and other Agency publications; international, regional and national training courses; physical protection enhancements; technical meetings/workshops and consultancy meetings; expert missions; advisory services; standing technical discussion fora.
3.5.2.003 Upgrading security of radioactive material and associated facilities	IAEA Nuclear Security Series guidance, methodologies, meetings/workshops and consultancy meetings; nuclear security services; standing technical discussion fora; international, regional and national training courses; physical protection enhancements; safe and secure management enhancements for radioactive sources.
3.5.2.004 Nuclear security in transportation of nuclear and radioactive material	IAEA Nuclear Security Series guidance and other Agency publications; international, regional and national training courses; exercises and physical protection enhancements; technical meetings/workshops and consultancy meetings; expert missions; advisory services; standing technical discussion fora.

Subprogramme 3.5.3 Nuclear Security of Material outside of Regulatory Control

Objectives:

— *To assist States in establishing and sustaining an effective institutional infrastructure to strengthen national efforts to protect people, property, the environment and society from the unauthorized use of nuclear and other radioactive material by utilizing nuclear security measures in response to nuclear security events, as well as nuclear security systems and measures for major public events.*

— *To assist States in strengthening and maintaining effective national nuclear security detection architectures, and enhancing and improving capabilities in detecting, locating and interdicting nuclear and other radioactive material out of regulatory control.*

— *To assist States in strengthening their national framework for managing radiological crime scenes, collecting evidence for use in subsequent legal proceedings, and undertaking nuclear forensics examinations to support investigations and help determine the origin and history of the material.*

Outcomes	Performance Indicators
● Increased national capability to establish sustainable and harmonized national nuclear security systems and reaction measure infrastructure within response in a State in order to ensure that national and international obligations are met, including the effective provision of assistance to States hosting major public events in enhancing the implementation of nuclear security measures.	● Number of States where assistance is provided in implementing nuclear security measures at major public events. ● Number of activities implemented related to the nuclear security systems and reaction measures infrastructure for managing MORC.
● Enhanced capabilities and capacities resulting from improved Nuclear Security Detection Architecture, CRPs and the use of Nuclear Security Series publications to strengthen nuclear security systems and measures for detection of MORC.	● Number of States using the newly developed or enhanced technologies and systems through CRPs on nuclear security systems and measures for detection ● Number of activities implemented related to detection of materials outside of regulatory control.
● Improved capability of States to conduct investigations involving nuclear and other radioactive material, and to determine the point at which such material left regulatory control and address nuclear security vulnerabilities.	● Number of relevant Nuclear Security Series publications, including revisions and the Agency non-serial publications resulting from CRPs. ● Number of activities implemented related to radiological crime scene management and nuclear forensics science.

Projects

Title	Main Planned Outputs
3.5.3.001 Institutional response infrastructure for material out of regulatory control	Related Nuclear Security Series guidance; expert missions and the International Nuclear Security Advisory Service (INSServ); activities arising from INSSPs to support States in establishing a national nuclear security response infrastructure, in capacity building and in hosting major public events.
3.5.3.002 Nuclear security detection architecture	Related Nuclear Security Series guidance; expert missions and INSServ; activities arising from INSSPs to support States in establishing and strengthening their capabilities in the detection of MORC; CRPs in the field of detection technology for MORC.
3.5.3.003 Radiological crime scene management and nuclear forensics science	Related Nuclear Security Series guidance; nuclear security training programmes; assessment missions, including INSServ; assistance to States and international, regional and national organizations in strengthening their capacity; CRPs.

Subprogramme 3.5.4 Programme Development and International Cooperation

Objectives:

- *To ensure the coordination and implementation of the Programme 3.5 (Nuclear Security) to address Member States' needs.*
- *To assist in the promotion and strengthening of nuclear security globally, including the production and relevant use of guidance in the Nuclear Security Series and to promote the universalization of the CPPNM and its Amendment.*
- *To provide coordinated education and training programmes, including at the NSTDC, that meet the requirements of States and to facilitate delivery of those programmes through the International Nuclear Security Education Network (INSEN), Nuclear Security Support Centres (NSSCs) and the Nuclear Security Information Portal.*

Outcomes	Performance Indicators
● Improved nuclear security regime through the production of current nuclear security guidance and adherence to, including effective implementation of, the CPPNM and its Amendment.	● Number of publications and revisions in the Nuclear Security Series. ● Number of States additionally adhering to the CPPNM and/or its Amendment.

Outcomes	Performance Indicators
• Strengthened State capacity through the implementation of nuclear security education and training programmes, available to all States, including through the INSEN and NSSC networks.	• Percentage of participants demonstrating or reporting knowledge improvement resulting from instruction. • Number of member institutions in the INSEN and NSSC networks
• Coordinated delivery of the Nuclear Security programme.	• Number of reports to various stakeholders on the implementation of Programme 3.5.

Projects

Title	Main Planned Outputs
3.5.4.001 International cooperation on nuclear security networks and partnerships	Practical arrangements; agreements on partnership and collaboration centres; Information Exchange Meetings; meetings and workshops related to the CPPNM and its Amendment; International Conference on Nuclear Security (ICONS 2024).
3.5.4.002 Education and training programmes for human resource development	Education and training materials reflecting Agency nuclear security publications, including e-learning and the development of advanced training tools; materials, resources and tools for supporting an integrated approach to human resource development in nuclear security by States, including through the INSEN and NSSC networks.
3.5.4.003 Coordinating nuclear security guidance and advice services	Related Nuclear Security Series guidance documents and other documents; recommendations by experts.

Major Programme 3 — Nuclear Safety and Security
Summary of Programme Structure and Resources
(excluding Major Capital Investments)

Programme/Subprogramme/Project	2024 at 2024 Prices		2025 at 2024 Prices	
	Regular Budget	Unfunded	Regular Budget	Unfunded
3.0.0.001 Overall management, coordination, communication and common activities	1 396 099	301 077	1 417 329	301 077
3.0.0.002 Capacity building, knowledge networks and partnerships	359 211	1 620 015	337 980	1 620 015
3.0.0.003 Coordination of safety standards and security guidance	289 722	499 703	289 722	499 703
3.0.0.004 Internal control for radiation safety and nuclear security	251 835	142 707	251 835	142 707
3.S Corporate shared services	2 578 549	146 734	2 578 549	172 948
	4 875 416	**2 710 235**	**4 875 415**	**2 736 450**
3.1.1.001 Member State emergency preparedness	1 704 449	1 745 424	1 711 363	890 356
3.1.1.002 International emergency management	286 225	171 651	286 258	171 651
3.1.1 National and International Emergency Preparedness	**1 990 674**	**1 917 075**	**1 997 620**	**1 062 007**
3.1.2.001 Preparedness of the Incident and Emergency System	1 122 162	141 978	1 122 162	136 299
3.1.2.002 Response and assistance arrangements with Member States and international organizations	1 264 938	297 563	1 250 692	297 563
3.1.2.003 Public communication in emergencies	606 447	79 388	613 746	79 388
Organizations	**2 993 547**	**518 929**	**2 986 601**	**513 250**
3.1 Incident and Emergency Preparedness and Response	**4 984 221**	**2 436 004**	**4 984 221**	**1 575 256**
3.2.1.001 Regulatory effectiveness and safety infrastructure for new programmes	1 974 092	2 224 435	1 973 686	2 255 837
3.2.1.002 Safety standards and CNS promotion/support	1 184 920	135 098	1 188 530	126 509
3.2.1.003 Capacity building for installations safety and regulatory functions	303 833	252 299	311 435	290 848
3.2.1 Governmental Regulatory Framework and Safety Infrastructure Development	**3 462 845**	**2 611 832**	**3 473 652**	**2 673 193**
3.2.2.001 Design safety of current, evolutionary and innovative power reactors	1 510 024	268 474	1 531 896	200 349
3.2.2.002 Development and application of safety assessment methods	1 032 243	1 398 949	1 031 149	1 347 112
3.2.2 Safety Assessment of Nuclear Installations	**2 542 267**	**1 667 423**	**2 563 045**	**1 547 460**
3.2.3.001 Site evaluation and installation design safety	745 614	28 498	723 259	67 313
3.2.3.002 Evaluation methods and tools for installation safety assessment	500 999	1 239 622	585 780	1 256 560
3.2.3 Safety and Protection Against External Hazards	**1 246 613**	**1 268 120**	**1 309 039**	**1 323 873**
3.2.4.001 Operational safety performance	1 167 532	948 172	1 039 253	875 143
3.2.4.002 Sharing and use of international operating experience	977 498	98 260	978 912	67 353
3.2.4.003 Leadership and management for safety, and safety culture in Member States	448 146	145 727	459 124	146 727
3.2.4.004 Safety of long term operation	410 825	537 234	413 659	510 408
3.2.4 Safe Operation of Nuclear Power Plants	**3 004 002**	**1 729 394**	**2 890 948**	**1 599 631**
3.2.5.001 Safety of research reactors	1 102 573	171 457	1 112 537	162 601
3.2.5.002 Safety of fuel cycle facilities	581 803	82 586	590 882	74 349
3.2.5 Safety of Research Reactor and Fuel Cycle Facilities	**1 684 375**	**254 042**	**1 703 418**	**236 950**
3.2 Safety of Nuclear Installations	**11 940 102**	**7 530 810**	**11 940 102**	**7 381 106**

Major Programme 3 — Nuclear Safety and Security

Summary of Programme Structure and Resources
(excluding Major Capital Investments)

Programme/Subprogramme/Project	2024 at 2024 Prices		2025 at 2024 Prices	
	Regular Budget	Unfunded	Regular Budget	Unfunded
3.3.1.001 Public and environment radiation protection	1 261 132	495 875	1 256 552	342 241
3.3.1.002 Radiation protection of patients	996 544	68 206	979 776	102 162
3.3.1.003 Occupational radiation protection	798 072	171 962	798 072	171 849
3.3.1.004 Radiation safety technical services	1 936 292	115 150	1 952 622	115 150
3.3.1 Radiation Safety and Monitoring	**4 992 040**	**851 194**	**4 987 023**	**731 403**
3.3.2.001 Regulatory control of radiation sources	1 278 877	2 141 148	1 278 877	1 726 633
3.3.2.002 Transport safety	1 094 173	362 241	1 099 192	137 345
3.3.2.003 Technical assistance and information management	1 201 804	327 764	1 201 804	327 764
3.3.2 Regulatory Infrastructure and Transport Safety	**3 574 854**	**2 831 153**	**3 579 872**	**2 191 742**
3.3 Radiation and Transport Safety	**8 566 894**	**3 682 347**	**8 566 895**	**2 923 145**
3.4.1.001 Waste management safety standards and Joint Convention support	945 511	64 246	1 441 448	64 246
3.4.1.002 Application of safety standards and support for inter-comparison projects	981 707	576 437	789 314	415 090
3.4.1 Safety of Spent Fuel and Radioactive Waste Management	**1 927 218**	**640 682**	**2 230 761**	**479 335**
3.4.2.001 Safety for decommissioning and remediation	1 402 790	449 775	1 193 632	185 927
3.4.2.002 Safety for assessment and management of environmental releases	965 026	518 442	870 642	535 825
3.4.2 Safety of Decommissioning, Remediation and Environmental Releases	**2 367 816**	**968 217**	**2 064 274**	**721 751**
3.4 Radioactive Waste Management and Environmental Safety	**4 295 034**	**1 608 900**	**4 295 035**	**1 201 087**
3.5.1.001 Assessing nuclear security needs and priorities	539 523	2 191 803	534 365	2 172 952
3.5.1.002 Information sharing on incidents and trafficking	378 371	562 787	373 212	562 787
3.5.1.003 Information and computer security, and information technology services	558 180	2 376 098	551 303	2 253 619
3.5.1 Information Management	**1 476 075**	**5 130 687**	**1 458 880**	**4 989 357**
3.5.2.001 Integrated nuclear security approaches	628 806	4 710 205	628 806	5 144 344
3.5.2.002 Enhancing security of nuclear material and associated facilities	450 180	3 056 710	450 180	3 062 764
3.5.2.003 Upgrading security of radioactive material and associated facilities	412 910	5 453 549	412 910	5 509 474
3.5.2.004 Nuclear security in transportation of nuclear and radioactive material	276 417	1 037 665	276 417	1 049 754
3.5.2 Nuclear Security of Materials and Facilities	**1 768 313**	**14 258 129**	**1 768 313**	**14 766 336**
3.5.3.001 Institutional response infrastructure for material out of regulatory control	748 339	482 297	748 339	487 562
3.5.3.002 Nuclear security detection architecture	691 829	4 490 854	715 613	4 662 470
3.5.3.003 Radiological crime scene management and nuclear forensics science	414 494	1 826 598	414 494	1 764 555
3.5.3 Nuclear Security of Material outside of Regulatory Control	**1 854 661**	**6 799 749**	**1 878 446**	**6 914 586**
3.5.4.001 International cooperation on nuclear security networks and partnerships	930 538	3 942 359	935 125	3 346 145
3.5.4.002 Education and training programmes for human resource development	490 195	5 874 994	484 177	5 987 149
3.5.4.003 Coordinating nuclear security guidance and advice services	651 555	213 753	646 396	216 098
3.5.4 Programme Development and International Cooperation	**2 072 289**	**10 031 106**	**2 065 699**	**9 549 392**
3.5 Nuclear Security	**7 171 338**	**36 219 672**	**7 171 338**	**36 219 671**
Major Programme 3 - Nuclear Safety and Security	**41 833 006**	**54 187 967**	**41 833 006**	**52 036 715**

Major Programme 3 — Nuclear Safety and Security
Activities unfunded in the Regular Budget
(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
3.0.0.001 Overall management, coordination, communication and common activities	Enhancement of effectiveness and efficiency of peer review and advisory services	301 077	301 077
3.0.0.002 Capacity building, knowledge networks and partnerships	Activities on capacity building, knowledge management, networks and partnerships	1 620 015	1 620 015
3.0.0.003 Coordination of safety standards and security guidance	Development and maintenance of processes and tools for safety standards and security guidance	499 703	499 703
3.0.0.004 Internal control for radiation safety and nuclear security	Activities to ensure that IAEA safety standards and nuclear security guidance are consistently applied in the Agency laboratories and operations involving exposure to ionizing radiation in accordance with article III.A.6 of the IAEA statute	142 707	142 707
3.1.1.001 Member State emergency preparedness	Assistance to Member States in building, maintaining and enhancing their EPR arrangements by: providing capacity building services; developing knowledge sharing tools; conducting peer review services; and supporting Capacity Building Centres in EPR	1 745 424	890 356
3.1.1.002 International emergency management	Training in international emergency management and inter-agency EPR arrangements	171 651	171 651
3.1.2.001 Preparedness of the Incident and Emergency System	Maintenance and improvement of the IEC's response arrangements, infrastructure and relevant software solutions	141 978	136 299
3.1.2.002 Response and assistance arrangements with Member States and international organizations	Response to emergencies and enhancement of international response arrangements	297 563	297 563
	Enhancement of international assistance arrangements		
	Enhancement of information exchange supporting the assessment and prognosis process		
3.1.2.003 Public communication in emergencies	Development of guidance and training tools for public communication in nuclear or radiological emergencies for Member States and the Secretariat	79 388	79 388
3.2.1.001 Regulatory effectiveness and safety infrastructure for new programmes	Support to implementation of the nuclear safety infrastructure based on SSG-16 for Member States embarking on a new nuclear power programme	2 224 435	2 255 837
	Development, review and revision of safety standards and related documents on governmental and regulatory frameworks for nuclear installations		
	Support to application of legal and non-binding instruments in the regulatory bodies and fostering international cooperation, coordination and information exchange activities in the regulatory area		
	Enhancement of the Integrated Regulatory Review Services (IRRS) and assistance to Member States in the implementation of recommendations		
	Support to international cooperation and information exchange by organizing and participating in the Small Modular Reactor Regulators' Forum, Regulatory Cooperation Forum (RCF), the Nuclear Harmonization and Standardization Initiative (NHSI) and other international conferences, networks and activities		
3.2.1.002 Safety standards and CNS promotion/support	Support to CNS review meetings of the contracting parties, including maintenance of the CNS secure website	135 098	126 509
3.2.1.003 Capacity building for installations safety and regulatory functions	Support to regulatory training networks and implementing the E&T review and advisory services	252 299	290 848
3.2.2.001 Design safety of current, evolutionary and innovative power reactors	Development and review of safety standards and associated documents	268 474	200 349
	Support and implement Technical Safety Review (TSR) Peer Reviews		
	International cooperation and information exchange		
	Conducting a Coordinated Research Project to develop a phenomena identification and ranking table (PIRT) and a validation matrix, and perform a benchmark for In-Vessel Melt Retention		

Major Programme 3 — Nuclear Safety and Security

Activities unfunded in the Regular Budget

(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
3.2.2.002 Development and application of safety assessment methods	Development and review of safety standards and associated documents	1 398 949	1 347 112
	Update and implementation of safety assessment competency building programmes		
3.2.3.001 Site evaluation and installation design safety	Conducting SEED review service missions and assisting Member States in implementing their recommendations	28 498	67 313
3.2.3.002 Evaluation methods and tools for installation safety assessment	Development and revision of supporting documents with technical methods and tools required for implementing safety standards of site evaluation and safety assessment	1 239 622	1 256 560
	Development of capacity of embarking countries in conducting safety analysis of nuclear installations in light of site evaluation, site-related safety assessments, design and risk reduction		
3.2.4.001 Operational safety performance	Development, review and revision of safety standards and supporting documents on operational safety of NPPs	948 172	875 143
	Conducting Operational Safety Review Team (OSART) missions and assistance to Member States in implementation of the findings		
	Support to international cooperation and information exchange		
3.2.4.002 Sharing and use of international operating experience	Development, review and revision of safety standards and supporting documents on operating experience and continuous performance improvement	98 260	67 353
	Conducting operating experience programme review (PROSPER) and assistance to Member States in the implementation of the recommendations		
	Sharing and use of international operating experience		
3.2.4.003 Leadership and management for safety, and safety culture in Member States	Conducting missions and advisory services for Leadership, Management for Safety and Safety Culture and assisting Member States in implementing the recommendations	145 727	146 727
3.2.4.004 Safety of long term operation	Conducting Safety Aspects of Long Term Operation (SALTO) peer review service and assistance to Member States in preparation for safe Long Term Operation	537 234	510 408
	Conducting International Generic Ageing Lessons Learned (IGALL) programme and fostering international exchange of information and knowledge sharing on Ageing Management and Long Term Operation of nuclear power plants		
3.2.5.001 Safety of research reactors	Support to capacity building for research reactor safety infrastructure	171 457	162 601
	Conducting safety review and advisory services missions and assisting Member States in implementing the recommendations		
3.2.5.002 Safety of fuel cycle facilities	Support to capacity building for fuel cycle facilities' safety infrastructure	82 586	74 349
	Conducting safety review and advisory services missions and assisting Member States in implementing the recommendations		
3.3.1.001 Public and environment radiation protection	Provision of assistance to Member States in application of safety standards	495 875	342 241
3.3.1.002 Radiation protection of patients	Radiation protection and safety in medical uses of ionizing radiation	68 206	102 162

Major Programme 3 — Nuclear Safety and Security
Activities unfunded in the Regular Budget
(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
3.3.1.003 Occupational radiation protection	Operation of the Information System on Occupational Exposure (ISOE) system jointly with OECD/NEA	171 962	171 849
3.3.1.004 Radiation safety technical services	Implementation of accredited individual monitoring services for the Agency staff and workers participating in the Agency operations	115 150	115 150
3.3.2.001 Regulatory control of radiation sources	Organization of the Code of Conduct open ended meetings to share experience on its implementation by Member States	2 141 148	1 726 633
3.3.2.002 Transport safety	Assisting Member States in establishing and strengthening national regulatory infrastructures for facilities and activities using radiation sources	362 241	137 345
3.3.2.003 Technical assistance and information management	Support to international cooperation and information exchange	327 764	327 764
	Development, review and revision of safety standards and supporting documents		
	Maintenance of radiation safety profiles of recipient Member States in RASIMS		
3.4.1.001 Waste management safety standards and Joint Convention support	Assistance to Member States in development and implementation of a national strategy for education and training in radiation, transport and waste safety	64 246	64 246
3.4.1.002 Application of safety standards and support for inter-comparison projects	Conducting review and advisory missions to strengthen radiation safety infrastructure	576 437	415 090
3.4.2.001 Safety for decommissioning and remediation	Coordination of Waste Safety Standards Committee and providing the secretariat for the Joint Convention	449 775	185 927
3.4.2.002 Safety for assessment and management of environmental releases	Assistance to Member States in the application of safety standards	518 442	535 825
3.5.1.001 Assessing nuclear security needs and priorities	Support to the implementation of the Nuclear Security Plan 2022-2025	2 191 803	2 172 952
3.5.1.002 Information sharing on incidents and trafficking	Support to the implementation of the Nuclear Security Plan 2022-2025	562 787	562 787
3.5.1.003 Information and computer security, and information technology services	Support to the implementation of the Nuclear Security Plan 2022-2025	2 376 098	2 253 619
3.5.2.001 Integrated nuclear security approaches	Support to the implementation of the Nuclear Security Plan 2022-2025	4 710 205	5 144 344
3.5.2.002 Enhancing security of nuclear material and associated facilities	Support to the implementation of the Nuclear Security Plan 2022-2025	3 056 710	3 062 764
3.5.2.003 Upgrading security of radioactive material and associated facilities	Support to the implementation of the Nuclear Security Plan 2022-2025	5 453 549	5 509 474
3.5.2.004 Nuclear security in transportation of nuclear and radioactive material	Support to the implementation of the Nuclear Security Plan 2022-2025	1 037 665	1 049 754
3.5.3.001 Institutional response infrastructure for material out of regulatory control	Support to the implementation of the Nuclear Security Plan 2022-2025	482 297	487 562
3.5.3.002 Nuclear security detection architecture	Support to the implementation of the Nuclear Security Plan 2022-2025	4 490 854	4 662 470
3.5.3.003 Radiological crime scene management and nuclear forensics science	Support to the implementation of the Nuclear Security Plan 2022-2025	1 826 598	1 764 555
3.5.4.001 International cooperation on nuclear security networks and partnerships	Support to the implementation of the Nuclear Security Plan 2022-2025	3 942 359	3 346 145
3.5.4.002 Education and training programmes for human resource development	Support to the implementation of the Nuclear Security Plan 2022-2025	5 874 994	5 987 149
3.S Corporate shared services	Corporate shared services	146 734	172 948
Grand Total		**54 187 967**	**52 036 715**

Major Programme 4
Nuclear Verification

Introduction

Major Programme 4 supports the Agency's statutory mandate to establish and administer safeguards designed to ensure that special fissionable and other materials, services, equipment, facilities and information made available by the Agency, or at its request or under its supervision or control, are not used in such a way as to further any military purpose; and to apply safeguards, at the request of the parties to any bilateral or multilateral arrangement, or at the request of a State to any of that State's activities in the field of atomic energy.

To this end, the Agency concludes safeguards agreements with States, which confer upon the Agency the legal obligation and authority to apply safeguards to nuclear material, facilities and other items subject to safeguards. Under this Major Programme, the Agency carries out verification activities, such as the collection and evaluation of safeguards relevant information; the development of safeguards approaches; and the planning, conduct and evaluation of safeguards activities, including the installation of safeguards instrumentation, in-field verification activities and sample analysis required for implementing safeguards. These activities enable the Agency to draw soundly based safeguards conclusions. In addition, the Agency, in accordance with its Statute, assists with other verification tasks, including in connection with nuclear disarmament or arms control agreements as requested by States and approved by the Board of Governors.

For the 2024–2025 period, the main challenges for Major Programme 4 include:

- Meeting increasing safeguards responsibilities effectively and efficiently;
- Enhancing business continuity and disaster recovery capabilities to respond to large-scale external events, such as pandemics, in order to ensure that critical safeguards verification activities are carried out without interruption, including through the strengthening of the Agency's existing regional offices;
- Implementing, as appropriate, the necessary verification and monitoring of the nuclear-related commitments of the Islamic Republic of Iran (Iran), as set out in the Joint Comprehensive Plan of Action (JCPOA), in light of United Nations Security Council resolution 2231 (2015);
- Preparing to safeguard new types of nuclear facilities and more complex or larger-scale nuclear facilities, such as the Mixed Oxide Fuel Fabrication Plant (J-MOX) in Japan, the encapsulation plant and geological repository (EPGR) in Finland and Sweden, and small modular reactors, including through securing sources of financing;
- Planning for and conducting verification activities related to the transfer of spent fuel to dry storages, and to the decommissioning of nuclear facilities;
- Addressing areas of difficulty in safeguards implementation;
- Strengthening State systems of accounting for and control of nuclear material (SSACs) and State or regional authorities responsible for safeguards implementation (SRAs) through additional support provided to States in the context of the IAEA Comprehensive Capacity-Building Initiative for SSACs and SRAs (COMPASS);
- Strengthening the effectiveness and improving the efficiency of the Agency's safeguards by facilitating the conclusion of comprehensive safeguards agreements (CSAs) and additional protocols (APs);
- Promoting the rigorous implementation of the 2005 Board of Governors decisions regarding small quantities protocols based on the original standard text, with the aim of enabling the States concerned to amend or rescind such protocols, as applicable;
- Maintaining the Agency's enhanced readiness to return to the Democratic People's Republic of Korea (DPRK);
- Ensuring the availability of a safeguards workforce with the necessary skills and expertise to enhance cost-effectiveness, and maintaining critical institutional knowledge;
- Maintaining and enhancing the modernized IT infrastructure, including the technical systems, services and instrumentation that underpin effective and efficient safeguards implementation and provide for, inter alia, the highest standards of information security;
- Securing predictable sources of funding in order to continue delivering high-quality safeguards services and implementing effective safeguards in States, including funding for the safeguards equipment necessary to implement effective and efficient safeguards approaches, and encouraging Member States and outside donors to provide co-funding or in-kind contributions to support the implementation of relevant activities, as appropriate; and

- Operating in a challenging security environment, which may require additional measures to ensure the physical safety of staff operating in the field and to ensure information security.

Objectives:	
— *To deter the proliferation of nuclear weapons by detecting early the misuse of nuclear material or technology and by providing credible assurances that States are honouring their safeguards obligations, and, in accordance with the Agency's Statute, assist with other verification tasks including in connection with nuclear disarmament or arms control agreements, as requested by States and approved by the Board of Governors.*	
Outcomes	**Performance Indicators**
• Soundly based safeguards conclusions regarding States' fulfilment of their safeguards obligations.	• Percentage of States for which an annual implementation plan has been developed and executed. • Percentage of anomalies resolved in a timely manner.
• Timely response to requests by States to carry out verification tasks approved by the Board of Governors.	• Percentage of approved verification tasks carried out in a timely manner.
Projects	
Title	**Main Planned Outputs**
4.0.0.001 Overall management and coordination	Inputs for reports of the Director General to the Policy-Making Organs; communication plans on safeguards priorities; dialogue with States on safeguards implementation matters; engagement activities with States and other stakeholders; contribution to the Agency's Annual Report; Department of Safeguards senior management meetings; safeguards human resources strategy (e.g., staffing, recruitment, gender equality and the associated plan); coordination of planning, monitoring and reporting on results.
4.0.0.002 Safeguards effectiveness evaluation	Safeguards Implementation Report (SIR) and other safeguards reports to the Policy-Making Organs; internal reports on performance monitoring and independent reviews of State evaluation reports (SERs), annual implementation plans, safeguards approaches and procedures.

Programme 4.1 Safeguards Implementation

The effective implementation of safeguards requires the Agency to conduct a variety of activities to verify that States are honouring their safeguards obligations. These activities include the development and/or updating of safeguards approaches to be implemented in States and at specific types of facility; the conduct of in-field verification activities in relevant locations in States; the collection, processing and analysis of safeguards relevant information; the provision, development, standardization and maintenance of safeguards equipment; the analysis of nuclear material and environmental samples; the continued provision of information and communication support; the evaluation of performance; and the training of staff. These activities enable the Agency to establish a complete and comprehensive basis upon which safeguards conclusions can be drawn.

Lessons learned from reviews, assessments and evaluations: An advanced technology framework including business continuity measures is a strategic enabler for safeguards implementation — as demonstrated, for example, during the COVID-19 pandemic — and needs to be continuously supported. Other major lessons learned from the COVID-19 pandemic include the demonstrated critical role of remote data transmission and the importance of the Agency's regional offices to sustain the Agency's safeguards capabilities. Further efforts are focused on the evaluation and improvement of the technical capabilities of States and of the performance and effectiveness of State and regional systems of accounting for and control of nuclear material, for example in the context of COMPASS and other initiatives enhancing cooperation with States and regional authorities. A standardized methodology for State-level safeguards approaches (SLAs) enhances the consistency and effectiveness of safeguards implementation at the State level.

Specific criteria for prioritization:

1. Projects responding directly to the Agency's statutory and legal obligations, and decisions of the Board of Governors and the General Conference. The Agency must conduct these projects and cannot defer their implementation.
2. Projects enhancing the Agency's ability to conduct mandatory activities effectively and efficiently: providing technological, methodological, information management and research infrastructure.
3. Non-mandatory projects carried out at the request of States and subject to decisions of the Board of Governors.

Programmatic changes and trends

Subprogramme 4.1.1 Concepts and Planning will continue to be dedicated to high-priority operational support activities and to providing resources and expertise that are critical to ensuring that the Agency's safeguards obligations can be carried out effectively, efficiently and consistently. Minor adjustments to the main planned outputs have been made to better reflect the activities of the subprogramme, in particular with regard to quality management supporting the effectiveness and consistency of safeguards implementation, and integration of COMPASS into regular programmatic activities.

Subprogramme 4.1.2 Safeguards Implementation for States under the Responsibility of Division SGOA will continue to implement safeguards for States under its responsibility without substantive programmatic changes as compared with the previous biennium.

Subprogramme 4.1.3 Safeguards Implementation for States under the Responsibility of Division SGOB will continue to implement safeguards for States under its responsibility without substantive programmatic changes as compared with the previous biennium. Safeguards activities in the Islamic Republic of Iran under the CSA and the AP (provisionally applied) conducted by the Office for Verification in Iran will continue under this subprogramme.

Subprogramme 4.1.4 Safeguards Implementation for States under the Responsibility of Division SGOC will continue to implement safeguards for States under its responsibility without substantive programmatic changes as compared with the previous biennium.

Subprogramme 4.1.5 Information Analysis continues to include all projects dedicated to ongoing safeguards relevant information collection, advanced technical expert evaluations, and processing and analysis of all safeguards relevant information required to draw soundly based safeguards conclusions from mandatory verification activities. It also involves the development of relevant methodologies, including data science, artificial intelligence and machine learning, to strengthen the analytical tools needed by experts and analytical processes. It will also address the need to secure long-term safeguards knowledge in order to limit the impact of time and, in particular, staff rotation.

Subprogramme 4.1.6 Provision and Development of Safeguards Instrumentation continues to cover all Departmental activities related to the development, provision, maintenance, and asset management of safeguards equipment and instrumentation. In line with these efforts, the subprogramme has been further optimized by reducing the number of projects from six to two, which has aligned the subprogramme structure with the evolution of safeguards-related technologies, infrastructure and services needed to carry out the Department of Safeguards' verification mandate.

Subprogramme 4.1.7 Analytical Services will continue to provide analytical services, in collaboration with the Network of Analytical Laboratories (NWAL). The number of environmental and nuclear material samples submitted for analysis each rose by about 15% during the previous biennium (2020–2021 as compared to the 2018–2019 biennium). Although the number of nuclear material samples may return to previous levels, the number of environmental samples is expected to rise even further. The recent acquisition of a new large geometry secondary ion mass spectrometer provides the Agency with enhanced particle analysis capability. Additional capacity will be achieved by maintaining the existing instrument in operational status, and by seeking increased support from the NWAL.

Subprogramme 4.1.8 Special Projects includes planned activities related to J-MOX in Japan and the EPGR in Finland and Sweden, which are progressing according to schedule in the respective States. The Integrated Life Cycle Management of Safeguards Assets (ILSA) project, which aims to ensure the optimum management of assets and associated financial resources, is also included under this subprogramme.

Subprogramme 4.1.9 Safeguards Information and Communication Technology (ICT) includes the set of activities related to the safeguards centre of competence for the specification, development, improvement and maintenance of safeguards information and communication technology (ICT) systems and for the management of

all safeguards ICT infrastructure. Following rapidly evolving needs and trends, from digitalization to collaborative environments with enhanced data analysis capabilities, this subprogramme will ensure that specific safeguards ICT systems continue to be available.

Objectives, Outcomes and Performance Indicators by Programme

Programme 4.1 Safeguards Implementation	
Objectives:	
— *To verify States' undertakings under their respective safeguards agreements with the Agency.* — *To support safeguards implementation effectively and efficiently.*	
Outcomes	**Performance Indicators**
• Soundly based safeguards conclusions regarding States' fulfilment of their safeguards obligations.	• Percentage of States for which an annual implementation plan has been developed and executed. • Percentage of anomalies resolved in a timely manner.
• Enhanced cooperation in safeguards implementation between State and/or regional authorities and the Agency.	• Percentage of States and regional authorities engaged in Agency activities, including through assistance and training supporting safeguards implementation. • Percentage of States and regional authorities that have submitted timely declarations and nuclear material accounting reports.
• Effective and efficient safeguards implementation.	• Percentage of safeguards activities supported by effective and efficient implementation of safeguards approaches, processes and procedures, including information and physical security, business continuity and disaster recovery. • Percentage of safeguards activities utilizing advanced tools, methodologies and technologies.

Subprogramme 4.1.1 Concepts and Planning	
Objectives:	
— *To support safeguards implementation by ensuring that resources from Member State Support Programmes (MSSPs) and other partners are focused on meeting high-priority needs.* — *To support the effective, efficient and consistent implementation of safeguards at the State level by developing and maintaining Departmental methodologies and tools, policies, procedures, approaches and guidance, including with regard to addressing emerging safeguards challenges and risks.* — *To provide the tools and support for continuous improvement of the Departmental processes by effectively maintaining the Department's quality management system. To provide assurance that processes are carried out as planned, deliver intended results and consistently meet requirements.* — *To strengthen safeguards knowledge, skills and abilities within the Department of Safeguards and in States, through effective and innovative safeguards training and learning opportunities.*	
Outcomes	**Performance Indicators**
• Substantively addressed resource mobilization priorities and preparedness for the future, through well-coordinated support from MSSPs and non-traditional partnerships.	• Percentage of the Department's resource mobilization priorities that are being supported by activities of MSSPs or by non-traditional partnerships.
• Up-to-date internal processes and documentation to support effective, efficient and consistent safeguards implementation.	• Number of review meetings held by the Safeguards State-Level Sub-Committee and Technical Review Committee with recommendations to the Department of Safeguards. • Percentage of internal quality audits, assessments and evaluations conducted according to the approved programme.
• Improved knowledge and skills of Agency staff, as well as counterparts in States, to perform and support safeguards implementation.	• Percentage of safeguards training courses carried out, according to the annual safeguards staff training programme. • Percentage of participants from SSACs who have indicated or demonstrated increased knowledge and/or skills as a result of training.

Projects	
Title	**Main Planned Outputs**
4.1.1.001 Strategic planning and coordination	Strategic analyses, including on the operating environment; Departmental resource mobilization priorities for enhanced safeguards capabilities; biennial development and implementation support (D&IS) programme; MSSP coordination meetings; coordinated non-traditional partnerships.
4.1.1.002 Safeguards approaches and concepts	Technical approaches, procedures, Departmental references and tools to support the development of safeguards approaches; technical analyses to support Departmental committees; safeguards concepts and approaches developed for new facility designs and types, and for decommissioning and waste management activities; Standing Advisory Group on Safeguards Implementation meetings.
4.1.1.003 Process design and quality management	An implemented Departmental quality management system including audits, assessments and evaluations; controlled documented information.
4.1.1.004 Safeguards staff training and traineeship	Training needs analysis; training programme; training evaluation guides and mechanisms; training courses for staff; reports and assessment of training courses; teaching materials and training tools.
4.1.1.005 Training and assistance to SSACs	SRA and SSAC training programme; online and in-person courses for SRAs and SSACs; training and learning aids, materials and guides; IAEA Safeguards and SSAC Advisory Service mission reports; Safeguards Traineeship Programme.

Subprogramme 4.1.2 Safeguards Implementation for States under the Responsibility of Division SGOA

Objectives:

- *To verify that all nuclear material remains in peaceful activities in States with CSAs in force.*
- *To verify that nuclear material to which safeguards are applied in selected facilities pursuant to voluntary offer agreements (VOAs) remains in peaceful activities unless withdrawn as provided for in the agreements.*

Outcomes	Performance Indicators
• Effective verification activities performed in the field.	• Percentage of satisfactory statements, results and conclusions of the Agency's in-field activities.
• Evaluation of safeguards relevant information for all States.	• Percentage of States with safeguards agreements in force for which an SER has been produced and reviewed.

Projects	
Title	**Main Planned Outputs**
4.1.2.001 Verification for States with a CSA and an AP in force	SERs; SLAs[1]; annual implementation plans; design information verification (DIV) plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections, complementary access (CA) and DIVs.
4.1.2.002 Verification for States with a CSA in force	SERs; SLAs[2]; annual implementation plans; DIV plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections and DIVs.

[1, 2] It is noted that the development and implementation of State-level approaches is to be carried out in close consultation and coordination with the State and/or regional authority and includes agreement by the State concerned on practical arrangements related to the implementation of safeguards measures identified for use in the field if not already in place.

Projects	
Title	**Main Planned Outputs**
4.1.2.003 Verification for States with a VOA and an AP in force	SERs; annual implementation plans; DIV plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections and DIVs.

Subprogramme 4.1.3 Safeguards Implementation for States under the Responsibility of Division SGOB	
Objectives:	
— *To verify that all nuclear material remains in peaceful activities in States with CSAs in force.* — *To verify that nuclear material, facilities and other items to which safeguards are applied pursuant to INFCIRC/66-type safeguards agreements remain in peaceful activities.* — *To verify that nuclear material to which safeguards are applied in selected facilities pursuant to VOAs remains in peaceful activities unless withdrawn as provided for in the agreements.*	
Outcomes	**Performance Indicators**
• Effective verification activities performed in the field.	• Percentage of satisfactory statements on the activities, results and conclusions of the Agency's in-field activities.
• Evaluation of safeguards relevant information for all States.	• Percentage of States with safeguards agreements in force for which an SER has been produced and reviewed.
Projects	
Title	**Main Planned Outputs**
4.1.3.001 Verification for States with a CSA and an AP in force	SERs; SLAs[3]; annual implementation plans; DIV plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections, CAs and DIVs.
4.1.3.002 Verification for States with a CSA in force	SERs; SLAs[4]; annual implementation plans; DIV plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections and DIVs.
4.1.3.003 Verification for States with an INFCIRC/66-type agreement in force	SERs; annual implementation plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections.
4.1.3.004 Verification for States with a VOA and an AP in force	SERs; annual implementation plans; DIV plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections, CAs (as applicable) and DIVs.
4.1.3.005 Verification for Iran (CSA (in force) and AP (provisionally applied))	SER; acquisition path analysis; SLA[5]; annual implementation plan; DIV plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections, CAs and DIVs.

[3, 4, 5] See footnote 1 on page 143.

Subprogramme 4.1.4 Safeguards Implementation for States under the Responsibility of Division SGOC

Objectives:

- *To verify that all nuclear material remains in peaceful activities in States with CSAs in force.*
- *To verify that nuclear material to which safeguards are applied in selected facilities pursuant to VOAs remains in peaceful activities unless withdrawn as provided for in the agreements.*

Outcomes	Performance Indicators
● Effective verification activities performed in the field.	● Percentage of satisfactory statements on the activities, results and conclusions of the Agency's in-field activities.
● Evaluation of safeguards relevant information for all States.	● Percentage of States with safeguards agreements in force for which an SER has been produced and reviewed.

Projects

Title	Main Planned Outputs
4.1.4.001 Verification for States with a CSA and an AP in force	SERs; SLAs[6]; annual implementation plans; DIV plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections, CAs and DIVs.
4.1.4.002 Verification for States with a CSA in force	SERs; SLAs[7]; annual implementation plans; DIV plans; safeguards approaches and inspection procedures; statements and documentation on activities, results and conclusions of inspections and DIVs.
4.1.4.003 Verification for States with a VOA and an AP in force	SERs; annual implementation plans; DIV plans; safeguards approaches and inspection procedures; and statements and documentation on activities, results and conclusions of inspections, CAs (as applicable) and DIVs.

Subprogramme 4.1.5 Information Analysis

Objectives:

- *To contribute to drawing soundly based safeguards conclusions through collecting, processing, evaluating, analysing, structuring, securing and disseminating necessary information in a timely manner, while preserving long-term organizational knowledge.*

Outcomes	Performance Indicators
● Enhanced verification effectiveness and soundness of safeguards conclusions through the provision of safeguards relevant information and analytical added value.	● Absence of instances where additional information that later comes to light brings into question a previously drawn safeguards conclusion.
● Timely availability of information and competence contributing to Departmental collaborative processes (State evaluation and implementation of in-field activities).	● Percentage of information available on time to meet State evaluation schedules.
● Necessary methodologies, approaches, processes, tools and procedures in place.	● Percentage of information management processes in place improved yearly through the implementation of methodologies, approaches, tools and procedures.

[6, 7] See footnote 1 on page 143.

Projects	
Title	**Main Planned Outputs**
4.1.5.001 Declared information analysis	Comprehensive and up-to-date State-declared information processed and stored in databases compliant with analytical needs; official statements to States; analytical reports backing verification activities and State evaluation; contribution to the SIR; improved methodologies; training support for SSACs.
4.1.5.002 Nuclear fuel cycle information analysis	Evaluation reports on in-field measurement and sample results and estimation of their uncertainties; developed probabilistic verification schemes; documented evaluation methodologies and IT solutions; training and consultancy meetings; extensive contribution to in-field activities and safeguards implementation (e.g., reports, ad-hoc written or verbal feedback, sampling plans and random inspection schemes).
4.1.5.003 State infrastructure analysis	Analytical reports from commercially available satellite imagery and other sources providing geo-referenced information; analytical reports on advanced fuel cycle issues; contributions to State evaluation and in-field activities.
4.1.5.004 Information collection and analysis	Analytical reports from open source information and commercially available databases; analytical reports based on information on nuclear procurement activities; contributions to State evaluation and field activities (e.g., reports, replies to questions, meeting participation).

Subprogramme 4.1.6 Provision and Development of Safeguards Instrumentation

Objectives:

- *To enable and improve the implementation of safeguards through the timely provision of appropriate and reliable safeguards instruments with adequate field support.*
- *To ensure the safety of Department of Safeguards staff through properly organized equipment flow, contamination checking and decontamination measures, as well as the provision of personal protective equipment (PPE).*
- *To develop innovative approaches and upgrades in safeguards technologies, to evaluate the application of new technologies for the detection of undeclared nuclear material and activities, and to ensure synergy between safeguards equipment development and innovations originating from other technical areas.*
- *To maintain and enhance a system of asset management and operational equipment tracking compliant with International Public Sector Accounting Standards (IPSAS) that supports equipment life cycle management; and to assure safety in equipment handling through properly organized equipment flow, contamination check and decontamination measures.*

Outcomes	Performance Indicators
• Timely availability of appropriate and reliable safeguards instruments for inspections and adequate field support.	• Percentage of inspector requests for authorized safeguards equipment completed in a timely manner. • Equipment performance rate of safeguards instruments.
• Increased use of improved technologies enabling safeguards implementation.	• Number of new and upgraded instruments, components and systems authorized for inspection use.
• Asset inventory compliant with IPSAS and occupational safety and radiation regulations.	• Ratio of equipment with incomplete tracking information compared to the overall equipment pool at the Agency's Headquarters and the Safeguards Analytical Laboratory. • Percentage of items returned from radiation-controlled areas that are measured for radioactive contamination.

Projects	
Title	**Main Planned Outputs**
4.1.6.001 Provision of Safeguards Instrumentation and Services	Authorized safeguards systems and instruments prepared, tested and provided to inspectors; field support by relevant experts and in-house expertise for the development of safeguards systems and instrumentation; safeguards assets management, handling of equipment, storage, contamination checks and shipments; suitable documentation supporting safeguards systems and instruments, and the Divisional activities; occupational health and safety of safeguards staff managed in compliance with applicable regulations and standards.
4.1.6.002 Development of Safeguards Instrumentation	New and upgraded instruments and components available; documented studies on promising new technologies; innovative solutions addressing gaps in the technologies currently in use for safeguards and laboratory activities; innovative methodologies used for identifying, testing, developing and deploying innovative solutions supporting safeguards scientific development activities.

Subprogramme 4.1.7 Analytical Services	
Objectives:	
— *To maintain and improve capabilities, capacity and services for destructive analysis of nuclear material samples and environmental sample analysis in order to strengthen the Agency's verification capabilities.* — *To strengthen quality assurance and control of nuclear material and environmental sample analyses.* — *To optimize sample logistics and coordinate NWAL management.*	
Outcomes	**Performance Indicators**
• Accurate and timely analysis of all required nuclear material and environmental samples.	• Number of nuclear material and environmental sample analytical results reports produced by the NWAL, including the Safeguards Analytical Laboratory. • Percentage of safeguards samples analysed within agreed timeframes.
Projects	
Title	**Main Planned Outputs**
4.1.7.001 Analytical services and sample analysis	Nuclear material and environmental sample analytical results; shipment and logistics of samples; NWAL management; stockpile and provision of sampling kits and materials; design and conduct of the NWAL external quality assurance programme.

Subprogramme 4.1.8 Special Projects	
Objectives:	
— *To ensure the successful and timely implementation of effective and efficient safeguards approaches requiring significant capital investments for special projects.*	
Outcomes	**Performance Indicators**
• Effective and efficient safeguards approaches and verification methods available and implemented for all special projects in State facilities.	• Percentage of applicable safeguards approaches and equipment, software and systems and associated information made available in accordance with planned schedules. • Percentage of projects implemented in a timely manner.
• Efficient management of resources for safeguards assets.	• Number of critical asset replacement projects delivered on time.

Projects	
Title	**Main Planned Outputs**
4.1.8.001 Develop and implement a safeguards approach for J-MOX	Project plan and schedule updated in line with construction plan; development of a safeguards approach and related equipment and documentation as required.
4.1.8.002 Integrated Life Cycle Management of Safeguards Assets (ILSA)	Updated asset management strategy and plans explaining, justifying and planning investments needed for the timely introduction and effective implementation of asset replacement projects.

Subprogramme 4.1.9 Safeguards Information and Communication Technology (ICT)	
Objectives:	
— *To enhance the Department of Safeguards' evolving processes and to continue enabling the Department to deliver on its mandate by providing reliable, efficient and secure ICT infrastructure and solutions, and user support services.* — *To ensure the security of safeguards information, physical security, business continuity and disaster recovery.*	
Outcomes	**Performance Indicators**
• Effective and efficient delivery of ICT projects to address safeguards business requirements.	• Percentage of completed product/project road map items compared to what was planned to fulfil business requirements. • Satisfaction rate of internal stakeholders of the Department of Safeguards ICT solutions.
• Effectively managed operational processes providing secure and highly available ICT infrastructure with strong user support.	• Availability of core ICT communication infrastructure among all Department of Safeguards staff, and availability of ICT systems at Headquarters and regional offices. • Percentage of reported incidents solved within one working day by the Safeguards Service Desk.
• Improved information security, physical security, and business continuity and disaster recovery.	• Maturity level for the critical security controls that support Department of Safeguards information technology security. • Percentage of successful tests of disaster recovery scenarios annually.
Projects	
Title	**Main Planned Outputs**
4.1.9.001 ICT development	Effectively implemented and maintained ICT solutions (developed in-house or utilizing commercial solutions) for the Department, as well as for States to collaborate on safeguards specific matters including their safeguards reporting responsibilities.
4.1.9.002 ICT infrastructure and support	Help desk, email, file storage, network, database, IT security and applications hosting services; desktop/laptop design services; equipment standards and evaluation, and life cycle management and training; mobile devices management; mobile platform, disaster recovery and next generation security implementation.
4.1.9.003 Security	Security procedures and response to physical/information security incidents; business continuity and disaster recovery plans; security awareness campaigns; training for staff on classifying and handling sensitive information; coordination/cooperation with the Agency's overall security efforts.

Programme 4.2 Other Verification Activities

When requested by States and approved by the Board of Governors, the Agency will respond to requests for additional verification tasks. Since 16 January 2016 (JCPOA Implementation Day), the Agency has verified and monitored Iran's implementation of its nuclear-related commitments under the JCPOA.

Furthermore, the Agency is maintaining enhanced readiness to return to the DPRK if and when requested, in accordance with its mandate, to monitor and verify the DPRK's nuclear programme.

The Agency will assist with other verification tasks, in accordance with its Statute, in connection with nuclear disarmament or arms control agreements, as requested by States and approved by the Board of Governors.

Lessons learned from reviews, assessments and evaluations: The Agency needs to remain ready to implement its mandate, in an effective and agile manner, as requested by States and approved by the Board of Governors, as was demonstrated in the context of the JCPOA. The Agency maintains its enhanced readiness to return to the DPRK if and when requested and as approved by the Board of Governors. An advanced technology framework including business continuity measures is a strategic enabler for safeguards implementation of other verification tasks and, as also demonstrated during the COVID-19 pandemic, needs to be continuously supported for the Agency to remain agile and prepared to implement its mandate.

Specific criteria for prioritization:

1. Projects responding directly to the Agency's statutory and legal obligations, and decisions of the Board of Governors and the General Conference. The Agency must conduct these projects and cannot defer their implementation.
2. Projects enhancing the Agency's ability to conduct mandatory activities effectively and efficiently: providing technological, methodological, information management and research infrastructure.
3. Non-mandatory projects carried out at the request of States and subject to decisions of the Board of Governors.

Programmatic changes and trends

Subprogramme 4.2.1 Other Verification Activities covers the verification and monitoring of the nuclear-related commitments of the Islamic Republic of Iran as set out in the JCPOA, in light of United Nations Security Council resolution 2231 (2015), as well as activities to maintain Agency's enhanced readiness to play its essential role in verifying the DPRK's nuclear programme.

Objectives, Outcomes and Performance Indicators by Programme

Programme 4.2 Other Verification Activities	
Objectives:	
— *To assist with other verification tasks, in accordance with the Agency's Statute, as requested by States and approved by the Board of Governors.*	
Outcomes	**Performance Indicators**
• Timely response to requests by States to carry out verification tasks, approved by the Board of Governors.	• Percentage of approved verification tasks carried out in a timely manner.

Subprogramme 4.2.1 Other Verification Activities
Objectives:
— *To implement effective verification and monitoring of the nuclear-related commitments of the Islamic Republic of Iran as set out in the JCPOA.*
— *To enhance the Agency's readiness to play its essential role in monitoring and verifying the DPRK's nuclear programme.*
— *To follow any developments in verification agreement(s) to be concluded between the Agency and States when requested by States and as approved by the Board of Governors.*

Outcomes	Performance Indicators
• Verification and monitoring activities performed in relation to the nuclear-related commitments of the Islamic Republic of Iran as set out in the JCPOA.	• Timely reports to the Board of Governors and, in parallel to the United Nations Security Council.
• Enhanced readiness and preparedness to implement safeguards under INFCIRC/403 and to conduct other verification activities in the DPRK, as approved by the Board of Governors.	• Timely reports to the Board of Governors and General Conference. • Percentage of required documents and plans in place to allow for verification activities in the DPRK.
• Necessary legal framework, verification approaches and equipment to conduct verification related to specific verification agreement(s), if concluded.	• Percentage of required arrangements, approaches and systems in place to allow for verification related to specific verification agreement(s), if concluded.
Projects	
Title	**Main Planned Outputs**
4.2.1.001 Verification activities in the Democratic People's Republic of Korea	Regular updates provided to the Board of Governors and General Conference; SER; knowledge management and training; plans to implement safeguards or other monitoring and/or verification measures under different scenarios.
4.2.1.002 Verification and monitoring of Iran's nuclear related commitments	Regular updates provided to the Board of Governors and, in parallel to the United Nations Security Council.

Major Programme 4 — Nuclear Verification

Summary of Programme Structure and Resources
(excluding Major Capital Investments)

Programme/Subprogramme/Project	2024 at 2024 Prices		2025 at 2024 Prices	
	Regular Budget	Unfunded	Regular Budget	Unfunded
4.0.0.001 Overall management and coordination	3 405 546	846 393	3 405 546	846 393
4.0.0.002 Safeguards effectiveness evaluation	1 035 062	-	1 035 062	-
4.S Corporate shared services	13 220 002	630 219	13 220 002	714 853
	17 660 610	**1 476 612**	**17 660 610**	**1 561 246**
4.1.1.001 Strategic planning and coordination	1 326 961	881 305	1 343 876	653 756
4.1.1.002 Safeguards approaches and concepts	2 729 034	542 339	2 727 425	549 474
4.1.1.003 Process design and quality management	1 730 109	115 150	1 730 109	115 150
4.1.1.004 Safeguards staff training and traineeship	2 332 270	1 941 684	2 302 635	1 953 790
4.1.1.005 Training and assistance to SSACs	1 166 535	2 969 988	1 180 866	3 152 742
4.1.1 Concepts and Planning	**9 284 909**	**6 450 467**	**9 284 910**	**6 424 912**
4.1.2.001 Verification for States with a CSA and an AP in force	18 345 372	-	18 278 345	-
4.1.2.002 Verification for States with a CSA in force	327 441	-	327 441	-
4.1.2.003 Verification for States with a VOA and an AP in force	532 354	-	532 354	-
4.1.2 Safeguards Implementation for States under the Responsibility of Division SGOA	**19 205 168**	**-**	**19 138 141**	**-**
4.1.3.001 Verification for States with a CSA and an AP in force	9 975 802	-	9 981 110	-
4.1.3.002 Verification for States with a CSA in force	5 157 220	-	5 151 912	-
4.1.3.003 Verification for States with an INFCIRC/66-type agreement in force	3 329 096	-	3 329 096	-
4.1.3.004 Verification for States with a VOA and an AP in force	(0)	708 032	(0)	708 032
4.1.3.005 Verification for Iran (CSA (in force) and AP (provisionally applied))	10 055 275	-	10 055 275	-
4.1.3 Safeguards Implementation for States under the Responsibility of Division SGOB	**28 517 394**	**708 032**	**28 517 394**	**708 032**
4.1.4.001 Verification for States with a CSA and an AP in force	17 964 176	-	17 964 176	-
4.1.4.002 Verification for States with a CSA in force	454 035	-	454 035	-
4.1.4.003 Verification for States with a VOA and an AP in force	910 047	561 096	910 047	561 096
4.1.4 Safeguards Implementation for States under the Responsibility of Division SGOC	**19 328 258**	**561 096**	**19 328 258**	**561 096**

Major Programme 4 — Nuclear Verification

Summary of Programme Structure and Resources

(excluding Major Capital Investments)

	2024 at 2024 Prices		2025 at 2024 Prices	
Programme/Subprogramme/Project	**Regular Budget**	**Unfunded**	**Regular Budget**	**Unfunded**
4.1.5.001 Declared information analysis	2 768 319	1 752 011	2 768 263	1 752 011
4.1.5.002 Nuclear fuel cycle information analysis	4 071 887	1 947 103	4 074 340	1 947 103
4.1.5.003 State infrastructure analysis	3 010 767	2 730 340	2 901 135	2 730 340
4.1.5.004 Information collection and analysis	4 330 787	2 423 381	4 328 392	2 423 381
4.1.5 Information Analysis	**14 181 760**	**8 852 834**	**14 072 130**	**8 852 834**
4.1.6.001 Provision of Safeguards Instrumentation and Services	21 652 207	7 596 351	21 581 540	10 258 723
4.1.6.002 Development of Safeguards Instrumentation	2 781 952	613 289	2 852 620	537 675
4.1.6 Provision and Development of Safeguards Instrumentation	**24 434 160**	**8 209 640**	**24 434 160**	**10 796 398**
4.1.7.001 Analytical services and sample analysis	12 337 297	3 090 028	12 340 189	2 522 452
4.1.7 Analytical Services	**12 337 297**	**3 090 028**	**12 340 189**	**2 522 452**
4.1.8.001 Develop and implement a safeguards approach for J-MOX	598 305	-	772 067	-
4.1.8.002 Integrated Life Cycle Management of Safeguards Assets (ILSA)	1 061 516	-	1 061 516	-
4.1.8 Special Projects	**1 659 820**	**-**	**1 833 583**	**-**
4.1.9.001 ICT development	7 842 385	5 727 873	7 842 387	5 727 872
4.1.9.002 ICT infrastructure and support	8 025 395	3 075 579	8 025 395	1 292 339
4.1.9.003 Security	1 913 781	283 292	1 913 781	283 292
4.1.9 Safeguards Information and Communication Technology (ICT)	**17 781 561**	**9 086 744**	**17 781 563**	**7 303 503**
4.1 Safeguards Implementation	**146 730 327**	**36 958 841**	**146 730 326**	**37 169 227**
4.2.1.001 Verification activities in the Democratic People's Republic of Korea	881 424	367 571	881 424	367 571
4.2.1.002 Verification and monitoring of Iran's nuclear related commitments	2 457 452	4 545 119	2 457 452	4 545 119
4.2.1 Other Verification Activities	**3 338 876**	**4 912 690**	**3 338 876**	**4 912 690**
4.2 Other Verification Activities	**3 338 876**	**4 912 690**	**3 338 876**	**4 912 690**
Major Programme 4 - Nuclear Verification	**167 729 812**	**43 348 143**	**167 729 812**	**43 643 164**

Major Programme 4 — Nuclear Verification

Activities unfunded in the Regular Budget

(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
4.0.0.001 Overall management and coordination	Overall management and coordination	846 393	846 393
4.1.1.001 Strategic planning and coordination	Strategic planning, Member States Support Programme (MSSP) coordination	881 305	653 756
4.1.1.002 Safeguards approaches and concepts	Safeguards approaches and concepts	542 339	549 474
4.1.1.003 Process design and quality management	Quality management system performance and improvement	115 150	115 150
4.1.1.004 Safeguards staff training and traineeship	Training implementation; Safeguards traineeship programme; Development and evaluation of safeguards training courses	1 941 684	1 953 790
4.1.1.005 Training and assistance to SSACs	Training	2 969 988	3 152 742
4.1.3.004 Verification for States with a VOA and an AP in force	Verification in States with voluntary offer agreements	708 032	708 032
4.1.4.003 Verification for States with a VOA and an AP in force	Verification in States with voluntary offer agreements	561 096	561 096
4.1.5.001 Declared information analysis	Development activities and methodology and support tasks	1 752 011	1 752 011
4.1.5.002 Nuclear fuel cycle information analysis	Development activities and methodology and support tasks	1 947 103	1 947 103
4.1.5.003 State infrastructure analysis	Development activities and methodology and support tasks	2 730 340	2 730 340
4.1.5.004 Information collection and analysis	Development activities and methodology and support tasks	2 423 381	2 423 381
4.1.6.001 Provision of Safeguards Instrumentation and Services	Provision of Safeguards Instrumentation and Services	7 596 351	10 258 723
4.1.6.002 Development of Safeguards Instrumentation	Development of Safeguards Instrumentation	613 289	537 675
4.1.7.001 Analytical services and sample analysis	Coordinate and support the provision of analytical services	3 090 028	2 522 452
4.1.9.001 ICT Development	Keeping Information and Communication Technology (ICT) updated	5 727 873	5 727 872
4.1.9.002 ICT Infrastructure and support	Information and Communication Technology (ICT) operations	3 075 579	1 292 339
4.1.9.003 Security	Business continuity and disaster recovery	283 292	283 292
4.2.1.001 Verification activities in the Democratic People's Republic of Korea	Maintain readiness and preparedness to implement safeguards under INFCIRC/403 and to conduct other verification activities in the DPRK, as approved by the Board of Governors	367 571	367 571
4.2.1.002 Verification and monitoring of Iran's nuclear related commitments	Nuclear related commitments	4 545 119	4 545 119
4.S Corporate shared services	Corporate shared services	630 219	714 853
Grand Total		**43 348 143**	**43 643 164**

Major Programme 5
Policy, Management and Administration Services

Introduction

Under the leadership, direction and authority of the Director General, the Agency's programmes seek to achieve the objectives of the Agency's Member States. This requires effective guidance on priorities; quality assurance; interactions with Member States; services provided to the Policy-Making Organs (PMOs), commensurate with evolving demands, including interpretation; development and implementation of programmes; results based management, including performance assessment and risk management; gender mainstreaming; partnerships and resource mobilization; and the wider dissemination of information within the Secretariat, between the Secretariat and Member States, and for the benefit of the general public and the media. Furthermore, an independent Ethics function continues to promote and sustain an ethical organizational culture of integrity, accountability and transparency, and continues to assist the Director General in ensuring that all staff members observe and perform their functions consistent with the highest standards of integrity.

To help achieve the Agency's mandate, a wide range of administrative, managerial, oversight and legal services continues to support Agency programmes, enabling efficient and effective programme delivery to Member States.

Ensuring the sustainable operation of facilities maintained or used by the Agency, such as its laboratories and the Vienna International Centre (VIC), remains a priority. Approximately a quarter of the Major Programme 5 budget is related to the cost of common security services and the cost of the UNIDO operated management of the VIC premises that are expected to continue to increase. Adequate funding is needed to cover the maintenance of the infrastructure of the VIC. However, the Agency's contribution to these common buildings management services must also consider the current budget climate of having to do 'more with the same'.

Major Programme 5 remains strongly focused on efficiencies and productivity as well as on adopting agile working methods to enable the Agency to respond to emerging situations. It continues to proactively optimize the delivery of its support services by streamlining processes, adopting new technologies and leveraging existing investments. Recent examples of building sustainable efficiencies are the further expansion of cloud service, improvements in procurement processing, the streamlined handling of official documents, standardized tools for managing virtual meetings and the diversification of the range of output formats for publications including greater use of e-publishing.

The increased reliance on IT to facilitate programme delivery and enable a more data driven management of operations, as well as constantly evolving information security landscape, also require the management of the corresponding information security risks. It is therefore necessary to continue to build and sustain a secure IT infrastructure and to ensure that robust and appropriate measures are in place to address the growth and sophistication of information security threats.

Procurement Services will continue to explore innovative, efficient options to address the increasing demand for services and ensure continued improvements, including maintaining the Agency's capacity to deliver rapid response assistance to Member States, as required.

Human resources management remains focused on identifying opportunities to promote the Agency as a employer of choice, enhancing a culture of accountability and improving the agility and effectiveness of the Agency's work force, bearing in mind the technical competence of staff and gender balance.

The Agency will continue to strengthen accountability, efficiency and effectiveness through the activities of the Office of Internal Oversight Services (OIOS) — including audits, evaluations, investigations and the provision of advisory support to senior management and Member States — as well as through the Secretariat's support to the External Auditors.

Objectives:
— *To continuously provide guidance and improve the results based management approach to ensure the quality, relevance, effectiveness and efficiency of all Agency programmes and the use of resources.*
— *To enhance understanding of the work of the Agency and to ensure timely access by stakeholders to relevant scientific and technical information.*

Outcomes	Performance Indicators
• Improved planning, implementation, assessment and evaluation of the Agency's programme in a fully coordinated manner, following the results based approach.	• Degree of achievement of high quality implementation of Agency planned programme.
• Increased timeliness and quality of administrative and legal services provided in relation to the scientific and technical programmes of the Agency.	• Timeliness and quality of legal services. • Timeliness and quality of administrative services.
• Enhanced efficiency and effectiveness of information support services and communications.	• Number of outreach activities to media and the public on the activities of the Agency

Programmatic changes and trends

Subprogramme 5.0.1 Executive Leadership and Policy will continue to provide guidance for planning and implementation to ensure that all activities are undertaken within the Agency's statutory mandate and in line with the guidance of the PMOs. The results based culture across the Agency will continue to be strengthened through a dedicated mid-year review to ensure timely and effective implementation of the Agency's programmes and delivery of concrete results, with consistent integration of cross-organizational issues such as those relating to partnerships, gender and the Sustainable Development Goals. The use of results based techniques and tools, as well as the dissemination of results and lessons learned, is central to the collection, storing, codification, transfer and communication of knowledge generated. To this end, the coordination of knowledge management will continue to be integrated into the Agency's results based management framework. The Agency will continue to make progress in improving its risk management system and processes throughout the programme cycle and to support accountability and decision-making. The Agency will continue to follow a harmonized, corporate approach towards resource mobilization and to seek new initiatives, partnerships and innovative sources of funding to enable the expansion of services offered to Member States. The independent Ethics function will continue ensuring that all staff members observe and perform their functions consistent with the highest standards of integrity.

Subprogramme 5.0.2 Legal Services will continue to provide support across the Agency in response to the steadily increasing number of requests for legal advice. The increase in requests over the past ten years is expected to continue, in particular with regard to the extension of existing, or the establishment of new, partnerships with traditional and non-traditional partners, including partnerships with universities for the development of educational programmes on nuclear law, as well as the development of training for staff at appropriate levels in management skills and the administrative framework. Outreach to Member States to raise awareness about the treaties for which the Director General is depositary, development of training and reference material, and support to Member States in the implementation of international agreements and the preparation of corresponding national nuclear legislation is also expected to continue to increase, and webinars and other high-quality virtual tools will be used to facilitate these efforts. Substantial work in support of Agency safeguards and verification, and nuclear safety and security activities, including the development of templates related to the Agency's emergency preparedness and response framework, will continue. Increasing programmatic demands are being met through staffing stabilized during the previous biennium, as well as efficiencies achieved through the internal knowledge management strategies of the Office of Legal Affairs (OLA), such as digitizing OLA records, developing a modern documents management system (including the use of automation and artificial intelligence tools), modernizing the internal database for legislative assistance activities and optimizing the use of the logbook (including enhanced reporting options), which have optimized work planning and the timeliness of response.

Subprogramme 5.0.3 Oversight Services will continue to support the Agency in delivering efficient, effective, high quality results; in managing risk; and in demonstrating accountability to Member States. Through its investigations and advisory services, OIOS also contributes to the Agency's focus on ensuring that it operates in an ethical working environment in line with its values.

Subprogramme 5.0.4 Public Information and Communications will continue to promote the Agency's activities and achievements, using existing communication channels (e.g., web, social media, events, media relations, multimedia and podcasts) as well as communication campaigns. Particular attention will be given to creating content providing scientific information with visuals (e.g., photos, videos, animations and infographics) to be easily disseminated by Member States and stakeholders to increase knowledge and understanding of the media, stakeholders and the general public about the safe, secure and peaceful uses of nuclear science and technologies and the work of the Agency. The Office of Public Information and Communication (OPIC) will explore impact measurement and management tools to produce quantitative and qualitative metrics to inform and enhance its

operational efficiency and effectiveness through data collection and analysis. The Agency will continue its efforts to provide information in Arabic, Chinese, English, French, Russian and Spanish to the extent possible and relevant.

Subprogramme 5.0.5 Management and Administrative Services will continue to support the Agency to do 'more with the same' and to further strengthen the results based approach in all areas of the Agency's work to provide high quality support to Member States. This is particularly relevant given the global economic situation and the financial difficulties faced by many Member States. Given the accelerating rate of change, the ability to swiftly respond to emerging challenges remains critical. Support for online collaboration, where possible, will continue as well as the emphasise on ensuring efficient, innovative and effective operation of the support services that underpin all other programmes.

Subprogramme 5.0.6 Information and Communication Technology will continue investing in IT to address, as the highest priority, the continuing growth and sophistication of IT and information security threats. Where possible, commercial and cloud platforms and industry-standard technologies will be leveraged to drive efficiency and effectiveness in how technology investment is managed. The Agency will continue to assess the utilization of robotic process automation and artificial intelligence to identify opportunities to optimize programme performance where applicable.

Subprogramme 5.0.7 Financial Management and Services will continue to support the Agency regarding proper and transparent financial management. A focus will be on optimization of resources, mainly through efficiencies. Efforts for promoting innovative and effective operation of budget and finance will continue.

Subprogramme 5.0.8 Human Resources Management focuses on identifying opportunities to promote the Agency as an employer of choice; enhancing a culture of accountability; fostering a respectful and inclusive workplace, including new diversity initiatives; creating an agile workforce; increasing human resources process efficiencies; and providing excellent client services. In addition, the health and well-being of staff is being assessed, including the monitoring of occupationally exposed workers, including focus on mental health issues.

Subprogramme 5.0.9 General Services will continue to face increased demand for the provision of services, especially at the Seibersdorf site, where the focus will be on the comprehensive administration of the site, including security and site-wide engineering and infrastructure functions. Continued modernization of the Agency's document retention, retrieval and archiving practices, space management systems, improved systems for managing service requests, and the AIPS travel function are expected to produce efficiencies. The cost related to the VIC Common Buildings Management Services (BMS) operated by UNIDO, has been increasing significantly over the past years. The Agency share of the energy costs are expected to more than double in 2024 and 2025. Bearing in mind the European Energy Exchange Index, the secretariat projections of estimated increases have been absorbed through the use of cost savings and efficiencies applied proportionally to all major programmes. The Agency will continue to closely coordinate with the other VBOs on this topic.

Subprogramme 5.0.10 Conference, Language and Publishing Services will continue to strengthen the application of IT to the conference, language and publishing processes. This will include diversifying the range of output formats of publications and other material; greater use of e-publishing and electronic dissemination of conference materials; enhancing and streamlining the processing of official documents, including summary records; as well as continuously improving internal processes and electronic workflows. The focus will be on maintaining the adequate timeliness and high quality of documentation and correspondence submitted to Member States. Outsourcing of appropriate tasks in the publishing and language areas will continue.

Subprogramme 5.0.11 Procurement Services will continue to explore innovative, efficient options to ensure continued improvements in programmatic activities, emergency procurement, sustainable procurement and the optimization of procurement tools and systems (iProcurement).

Objectives, Outcomes and Performance Indicators by Subprogramme

Subprogramme 5.0.1 Executive Leadership and Policy
Objectives:
— *To provide leadership and guidance for Agency activities at the executive level, and to continuously strengthen an integrated, results based management approach.*

Outcomes	Performance Indicators
• Improved effectiveness, efficiency and transparency in the execution of Agency programmes and activities relevant to Member States.	• Member State satisfaction with the efficiency, effectiveness and transparency of the programme delivered.

Projects

Title	Main Planned Outputs
5.0.1.001 Executive leadership	Direction and leadership; guidance for Secretariat activities; liaison with Member States, and intergovernmental and non-governmental organizations.
5.0.1.002 Policy-Making Organs	Servicing of meetings of PMOs and subsidiary bodies, in alignment with Member States' current expectations on the conduct of PMO meetings, including interpretation; assistance to presiding officers; documents for PMO meetings; assistance to Member States on PMO issues; coordination with in-house Departments; compilation of PMO decisions/resolutions.
5.0.1.003 Ethics function	Prevention, outreach and training activities; strengthening of the ethics framework; provision of advice to staff members and other personnel, as well as to management, on ethics issues; administration of the protection against retaliation provisions under the Agency's Whistle-blower Policy; administration of the Agency's financial/conflict of interest disclosure programme.

Subprogramme 5.0.2 Legal Services

Objectives:

— *To provide the highest standard of legal services to the Director General, Secretariat, PMOs and Member States in the development and implementation of Agency activities.*

Outcomes	Performance Indicators
• Consistently timeliness and high quality of legal services provided to the Director General, Secretariat, PMOs and Member States in the development and implementation of Agency activities.	• Percentage of requests for legal services addressed on time. • Percentage of feedback from clients that is positive.

Projects

Title	Main Planned Outputs
5.0.2.001 Legal Services	Provision of legal services to the Director General, Secretariat, PMOs and Member States in the development and implementation of Agency activities.

Subprogramme 5.0.3 Oversight Services

Objectives:

— *To provide the Director General, management, Member States and other stakeholders with independent, objective advice and assurance that Agency activities are carried out efficiently, effectively and in compliance with regulations and rules and with sound management practice.*

Outcomes	Performance Indicators
• Consistently high-quality and timely assurance and advice provided by OIOS to help the Agency manage its risks, strengthen its activities, and demonstrate its accountability and transparency.	• Percentage of OIOS assignments finalized within the work plan cycle. • Percentage of satisfactory stakeholder feedback on the quality and utility of OIOS assignments.

Projects	
Title	**Main Planned Outputs**
5.0.3.001 Oversight services	Reports and advice on the efficiency, effectiveness and compliance with rules and regulations and sound management practice of the work of the Agency.

Subprogramme 5.0.4 Public Information and Communications	
Objectives:	
— *To increase positive recognition of the Agency's work — externally and internally — and its contribution to accelerate and enlarge the contribution of nuclear science and technology for peace and development.*	
Outcomes	**Performance Indicators**
• Enhanced efficiency and effectiveness of public information and communication support services.	• Number of materials produced, and events held internally for staff and externally for the media and the public, on the activities of the Agency.
• Increased knowledge and reporting of nuclear issues and the Agency's mission, activities and achievements by its stakeholders and the media.	• Number and accuracy of media articles about or related to the Agency and its activities. • Number of participants in public events, including the Long Night of Research, World Cancer Day and the Scientific Forum.
• Increased public knowledge of and engagement on nuclear issues and the Agency's mission, activities and achievements through direct communication channels.	• Monthly audience on website. • Monthly audience on social media.
Projects	
Title	**Main Planned Outputs**
5.0.4.001 Public information and communications	Press conferences; media briefings; interviews; press releases; replies to media and public queries; web articles; print and digital publications; social media posts; multimedia products (e.g., videos and animations, photos, and infographics); campaigns; events; presentations for visitors; internal communication.

Subprogramme 5.0.5 Management and Administrative Services	
Objectives:	
— *To provide coordination of all management activities in order to achieve efficient and effective implementation of the Agency's programme in line with the established policies.*	
Outcomes	**Performance Indicators**
• Increased efficiency and client satisfaction in respective programme support functions.	• Percentage of survey respondents who indicated that they are satisfied with the services provided by the Department of Management.
Projects	
Title	**Main Planned Outputs**
5.0.5.001 Management and administrative services	Overarching direction for support services and related communication including coordination of the programme and budget; optimization of operational efficiency; liaison with United Nations system organizations and the Host Government; reviews of security and coordination with other VIC based organizations.
5.0.5.002 United Nations common system contribution	Coordination with other United Nations System organizations.

Subprogramme 5.0.6 Information and Communication Technology	
Objectives:	
— *To provide a secure IT environment and solutions that enable the efficient and effective delivery of the Agency's programme.*	
Outcomes	**Performance Indicators**
• Increased security and efficiency of IT services and infrastructure.	• Percentage of Agency events held virtually. • Percentage of applications using unsupported components.
• Enhanced consistency in supporting the Agency's programme through reliable IT services and infrastructure.	• Availability of critical IT applications and infrastructure services. • Percentage of Agency staff expressing satisfaction with IT services in a survey.
Projects	
Title	**Main Planned Outputs**
5.0.6.001 Information and communication technology	IT end-user services; IT infrastructure services; IT solutions; IT security; IT programme management; IT processes and procedures.

Subprogramme 5.0.7 Financial Management and Services	
Objectives:	
— *To ensure the continued confidence of Member States in the financial management of the Agency, and to deliver relevant services efficiently and effectively in support of all Agency programmes.*	
Outcomes	**Performance Indicators**
• Enhanced timeliness and reliability of financial planning and budgeting; relevant, accurate and reliable financial reporting.	• Percentage of official budget and financial documents issued within Board of Governors and General Conference deadlines. • Unqualified opinion by the External Auditor of the Agency's annual Financial Statements.
• Increased efficiency and effectiveness of the financial administration of the Agency that supports all Agency programmes.	• Percentage of staff expressing satisfaction with financial services.
Projects	
Title	**Main Planned Outputs**
5.0.7.001 Financial management and services	The Agency's Programme and Budget; the Agency's Financial Statements; reports to governing bodies and donors; effective delivery of financial services.

Subprogramme 5.0.8 Human Resources Management	
Objectives:	
— *To provide a modern, strategic, client focused and solution oriented human resources management function.* — *To achieve operational excellence and higher productivity in the human resources management function.* — *To promote the occupational health and well-being of staff.*	
Outcomes	**Performance Indicators**
• Improved human resources function with a strong client orientation and efficient workflows.	• Percentage of customers satisfied with the quality of human resources services. • Average time to process transactions.

Outcomes	Performance Indicators
• Improved gender parity.	• Jointly with other Departments/Offices, increased representation of women in the Professional and higher categories as measured by the gender parity score card. • Increased percentage of staff awareness, knowledge and skills in relation to gender equality as defined by the periodic IAEA Survey on Gender Equality.
• Improved occupational health and well-being of staff.	• Total number of work-related accidents, incidents and illnesses. • Percentage of customers satisfied with the service provided by the VIC Medical Service.

Projects

Title	Main Planned Outputs
5.0.8.001 Human resource advisory and administration services	Organizational development; workforce planning; contract administration; talent management; service level agreements; documents on human resources procedures; medical evaluations, surveillance assessments and statistics on health.

Subprogramme 5.0.9 General Services

Objectives:

— *To provide effective and efficient facilities management services, including safety and security.*

— *To ensure timely delivery of services related to logistics and travel as well as to coordinate matters related to privileges and immunities.*

— *To ensure the consistent application of harmonized records and mail management policies and procedures.*

Outcomes	Performance Indicators
• Improved customer satisfaction with quality of general support services.	• Percentage of customers satisfied with the quality of general support services provided.
• Effective delivery and coordination of customer oriented service support.	• Percentage of service requests processed on time.

Projects

Title	Main Planned Outputs
5.0.9.001 General services management	Visa applications; customs forms; office moves; completed facility maintenance requests; insurance contracts; records archived; mail processed.
5.0.9.002 Buildings Management Services and United Nations Security and Safety Service costs	Buildings management and safety and security services provided.

Subprogramme 5.0.10 Conference, Language and Publishing Services

Objectives:

— *To enable effective exchange and dissemination of knowledge and information relevant to the Agency's work and mandate between the Secretariat and Member States by organizing and managing events, issuing documents in the six official languages of the PMOs, and producing and disseminating publications.*

Outcomes	Performance Indicators
• Enhanced and efficient multilingual dialogue and communication between the Secretariat, Member States and major stakeholders.	• Productivity as measured by number of words translated per hour worked. • Percentage of clients satisfied with the Agency's conference services.

Outcomes	Performance Indicators
• Strengthened exchange of scientific and technical information on peaceful uses of atomic energy.	• Percentage of manuscripts processed. • Percentage of clients satisfied with the conference, language and publishing services.
Projects	
Title	**Main Planned Outputs**
5.0.10.001 Conference, language and publishing services	Organizational support, and administrative and logistical services for Agency events; translated documents and summary records in six official languages of the PMOs; production of scientific and technical publications and other materials.

Subprogramme 5.0.11 Procurement Services	
Objectives:	
— *To support achievement of the Agency's programmatic goals and objectives through procurement services.* — *To achieve best value for money through fair, transparent and effective competition.*	
Outcomes	**Performance Indicators**
• Enhanced Agency procurement system (iProcurement) and achievement of best value for money to support the Agency's programmatic activities through efficient processes in procuring goods and services, and through fair, transparent and effective competition.	• Number of enhancements to the Agency's procurement system (iProcurement and/or other systems or tools). • Savings to the Agency in the procurement of goods and services.
• Achievement of client satisfaction in procurement services.	• Percentage of customers satisfied with the quality of services provided by the Office of Procurement Services. • Number of client review meetings per year with each Division.
• Readiness for remote working in case of emergencies.	• Percentage of all Office of Procurement Services staff that have the necessary resources and training to be able to work remotely in the event of an emergency.
Projects	
Title	**Main Planned Outputs**
5.0.11.001 Procurement services	Procurement strategies based on prioritization, standardization and consolidation, purchase orders, agreements, service orders, long term agreements and service level agreements; alignment of policies, processes and procedures with best procurement practices; on-site installation and training.

Major Programme 5 — Policy, Management and Administration Services

Summary of Programme Structure and Resources
(excluding Major Capital Investments)

	2024 at 2024 Prices		2025 at 2024 Prices	
Programme/Subprogramme/Project	**Regular Budget**	**Unfunded**	**Regular Budget**	**Unfunded**
5.0.1.001 Executive leadership	5 668 040	215 487	5 668 040	215 487
5.0.1.002 Policy-Making Organs	2 878 735	100 844	2 878 735	100 844
5.0.1.003 Ethics function	359 757	230 301	359 757	230 301
5.0.1 Executive Leadership and Policy	**8 906 532**	**546 632**	**8 906 532**	**546 632**
5.0.2.001 Legal services	3 315 215	636 537	3 315 215	636 537
5.0.2 Legal Services	**3 315 215**	**636 537**	**3 315 215**	**636 537**
5.0.3.001 Oversight services	3 751 489	369 406	3 751 489	369 406
5.0.3 Oversight Services	**3 751 489**	**369 406**	**3 751 489**	**369 406**
5.0.4.001 Public information and communications	4 019 545	751 687	4 019 545	751 687
5.0.4 Public Information and Communications	**4 019 545**	**751 687**	**4 019 545**	**751 687**
5.0.5.001 Management and administrative services	902 543	142 707	902 543	142 707
5.0.5.002 United Nations common system contribution	366 885	-	385 741	-
5.0.5 Management and Administrative Services	**1 269 428**	**142 707**	**1 288 284**	**142 707**
5.0.6.001 Information and communication technology	11 317 738	1 570 260	11 317 738	1 570 260
5.0.6 Information and Communication Technology	**11 317 738**	**1 570 260**	**11 317 738**	**1 570 260**
5.0.7.001 Financial management and services	7 512 690	632 827	7 511 131	632 827
5.0.7 Financial Management and Services	**7 512 690**	**632 827**	**7 511 131**	**632 827**
5.0.8.001 Human resource advisory and administration services	7 504 099	2 124 106	7 504 099	2 008 956
5.0.8 Human Resources Management	**7 504 099**	**2 124 106**	**7 504 099**	**2 008 956**
5.0.9.001 General services management	9 238 286	409 151	9 204 774	407 781
5.0.9.002 Buildings Management Services and United Nations Security and Safety Service Costs	21 610 872	-	21 610 871	-
5.0.9 General Services	**30 849 158**	**409 151**	**30 815 645**	**407 781**
5.0.10.001 Conference, language and publishing services	5 555 113	152 696	5 557 152	152 696
5.0.10 Conference, language and publishing services	**5 555 113**	**152 696**	**5 557 152**	**152 696**
5.0.11.001 Procurement services	2 318 142	1 188 058	2 332 320	1 188 058
5.0.11 Procurement Services	**2 318 142**	**1 188 058**	**2 332 320**	**1 188 058**
5.S Corporate shared services	5 948 657	386 799	5 948 657	452 830
Major Programme 5 - Policy, Management and Administration Services	**92 267 806**	**8 910 867**	**92 267 806**	**8 860 377**

Major Programme 5 — Policy, Management and Administration Services

Activities unfunded in the Regular Budget

(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
5.0.1.001 Executive leadership	General guidance and management	215 487	215 487
5.0.1.002 Policy-Making Organs	Policy-Making organs	100 844	100 844
5.0.1.003 Ethics function	Ethics function	230 301	230 301
5.0.2.001 Legal services	Legal services	636 537	636 537
5.0.3.001 Oversight services	Oversight services	369 406	369 406
5.0.4.001 Public information and communications	Public information and communications	751 687	751 687
5.0.5.001 Management and administrative services	General coordination and management	142 707	142 707
5.0.6.001 Information and communication technology	Information and communication technology	1 570 260	1 570 260
5.0.7.001 Financial management and services	Financial management and services	632 827	632 827
5.0.8.001 Human resource advisory and administration services	Human resources advisory and administration services	2 124 106	2 008 956
5.0.9.001 General services management	General services management	409 151	407 781
5.0.10.001 Conference, language and publishing services	Conference, languages and publishing services	152 696	152 696
5.0.11.001 Procurement services	Procurement services	1 188 058	1 188 058
5.S Corporate shared services	Corporate shared services	386 799	452 830
Grand Total		**8 910 867**	**8 860 377**

Major Programme 6
Management of Technical Cooperation for Development

Introduction

Major Programme 6 enables the management, development and implementation of technical cooperation (TC) projects within the framework of the biennial technical cooperation programme (TCP). The TCP is designed to respond to relevant developmental priorities of Member States through effective programme management, in accordance with its strategic objective, and will continue to serve as the major vehicle for the transfer of nuclear science and technology and to build capacity — with an emphasis on human resource development — in nuclear applications in Member States, contributing to Members States efforts to achieve the Sustainable Development Goals (SDGs).

The TCP is a cross-cutting Agency programme that supports Member States' efforts to address their sustainable development needs, including in the areas of human health, especially for cancer control; food and agriculture; irradiation technology and processing; energy planning and nuclear power development; and water resources management and the environment. The TCP further helps Member States in preventing and combating zoonotic diseases, coping and responding to unforeseen needs and emergencies related to disease outbreaks, extreme climate events and natural disasters; combating plastic pollution; and promoting greater engagement of women in the nuclear field. It facilitates partnership building, supports knowledge sharing, and builds and reinforces scientific networking through national, regional and interregional projects funded from the Technical Cooperation Fund (TCF), extrabudgetary resources and in-kind contributions. TC projects are developed through a consultative process with Member States and address national development priorities outlined in Country Programme Frameworks (CPFs) and national development plans, as well as issues of common interest and needs identified through various regional frameworks. Under the 2024–2025 TCP cycle, a total of 148 Member States and territories (including 36 least developed countries) will have national TC projects. For planning purposes, it is assumed that the overall rate of attainment of the TCF will reach 94%.

The TCP for the 2024–2025 cycle is formulated with an emphasis on the following:

- Enhancing dialogue with, and participation of, Member States at all stages of the programme cycle, in particular in the planning, design, implementation, monitoring and reporting of TC projects;
- Ensuring the provision of adequate support to meet the growing demand and needs of Member States in using nuclear technology for sustainable development, including supporting their efforts to achieve the SDGs, particularly SDGs 2, 3, 6, 7, 9, 13, 14, 15 and 17;
- Supporting Member States in capacity building related to the early detection and control of zoonotic diseases;
- Supporting Member States that require assistance with building and expanding cancer care capacity by integrating radiotherapy, diagnostic imaging and nuclear medicine services into a comprehensive cancer control programme;
- Supporting Member States in addressing global challenges such as climate change and plastic pollution;
- Supporting Member States in energy planning, long term operation of nuclear power plants and the development of nuclear power infrastructure, including small modular reactors;
- Supporting Member States to build and strengthen their regulatory and safety infrastructures for the safe and secure use of nuclear science and applications;
- Promoting cooperation among Member States in response to evolving development challenges through information and knowledge exchange utilizing, in particular, the expertise available regionally;
- Ensuring the Agency's continued capacity to plan and deliver the programme and to swiftly and adequately respond to Member States' emerging and urgent requests for support through the TCP;
- Enhancing the effectiveness, efficiency and quality of the TCP by further strengthening the results based approach and increasing in-house coordination with Technical Departments;
- Enhancing partnerships and resource mobilization efforts with traditional donors, non-traditional donors and public–private partnerships;
- Support enhancing South–South and triangular cooperation with Member States, financial institutions and official development agencies to develop and implement projects related to the application of nuclear technology;
- Strengthening the visibility and role of the TCP in nuclear technology transfer and development through outreach efforts, including through the Ministerial Conference on Nuclear Science, Technology and

Applications and the Technical Cooperation Programme to be held in 2024; and
- Promoting gender mainstreaming, with a particular focus on the participation of women in TC activities.

Objectives:	
— *To manage, develop and implement a needs-based, responsive technical cooperation programme in an effective and efficient manner, and thus to strengthen the technical capacities of Member States in the peaceful application and safe use of nuclear technologies for sustainable development.*	
Outcomes	**Performance Indicators**
• Increased effectiveness and efficiency of the TCP.	• Percentage of Member States with national TC projects that have valid CPFs. • Percentage of completed TC projects during the previous year that achieved their established objectives at the output level.
• Improved quality of the TCP.	• Percentage of projects meeting quality criteria. • Percentage of projects with an annual Project Progress Assessment Report.
• Strengthened partnerships and resource mobilization.	• Number of valid partnership agreements. • Mobilization of additional resources for the TCP.

Programmatic changes and trends

Subprogramme 6.0.1 Management of the Technical Cooperation Programme. Requests for TCP assistance are expected to increase in 2024–2025, driven, inter alia, by an increased number of Member States requesting national TC projects and an increasing demand for the application of nuclear technology in support of sustainable development. Member States' efforts to achieve the SDGs — including in the areas of human health, especially for cancer control; nuclear energy, including small modular reactors; food and agriculture; and water resources management and the environment — are also contributing to increased demand. Strengthening regulatory and safety infrastructures remains a priority for Member States, and it is expected that there will be an increase in requests for assistance in coping with possible disease outbreaks, particularly those related to zoonotic diseases, or with natural disasters, as well as in addressing global challenges such as climate change and plastic pollution.

Main Planned Outputs by Project

Projects	
Title	**Main Planned Outputs**
6.0.1.001 Overall management and strategic guidance	Technical cooperation related guidance, criteria and procedures; statements at major meetings and events; reports to the Agency's Policy-Making Organs; Technical Cooperation Reports; Technical Assistance and Cooperation Committee (TACC) documentation; contribution to relevant United Nations reports; Peaceful Uses Initiative reports; concept notes and papers; strategic analyses; high TCF rate of attainment; extrabudgetary resources mobilized.
6.0.1.002 Coordination of and support to the TC programme	Development and implementation of the TC programme supported through the provision of services to the TC regional Divisions, including the Programme of Action for Cancer Therapy (PACT); TACC documentation; support documents for the Agency's Policy-Making Organs; partnerships established and strengthened; extrabudgetary resources mobilized.
6.0.1.003 Management of the TC programme for Africa	Drafted/signed/updated CPFs; regional strategic cooperative framework; TACC documentation; Country Programme Notes; expert missions; fellowships; training courses; procurement of equipment; programming and monitoring reports; partnership documents; extrabudgetary resources mobilized.

Projects	
Title	**Main Planned Outputs**
6.0.1.004 Management of the TC programme for Asia and the Pacific	Drafted/signed/updated CPFs; TACC documentation; Country Programme Notes; expert missions, fellowships, training courses, procurement processed; programming and monitoring reports; partnership documents; extrabudgetary resources mobilized.
6.0.1.005 Management of the TC programme for Europe	Effective and timely delivery of all components of the TC programme in the region, including human resource and equipment components; preparation of all relevant documentation, including, inter alia, new and updated CPFs; TACC documentation, annual reports, Country Programme Notes; partnership documents; extrabudgetary resources mobilized.
6.0.1.006 Management of the TC programme for Latin America and the Caribbean	Drafted/signed/updated CPFs; regional strategic cooperative framework; TACC documentation; Country Programme Notes; expert missions, fellowships, training courses, procurement processed; programming and monitoring reports; partnership documents; extrabudgetary resources mobilized.
6.0.1.007 Procurement services	Procurement requisitions processed; purchase orders issued; delivery of goods, equipment and services; on-site installation and training, where necessary.
6.0.1.008 Coordination of and support to the PACT	imPACT Reviews; expert advisory missions; national cancer control plans; extrabudgetary resources mobilized; partnerships established; project proposals; bankable documents.

Major Programme 6 — Management of Technical Cooperation for Development
Summary of Programme Structure and Resources
(excluding Major Capital Investments)

Programme/Subprogramme/Project	2024 at 2024 Prices		2025 at 2024 Prices	
	Regular Budget	Unfunded	Regular Budget	Unfunded
6.0.1.001 Overall management and strategic guidance	1 224 168	391 573	1 224 168	107 617
6.0.1.002 Coordination of and support to the TC programme	4 513 819	662 928	4 513 819	662 928
6.0.1.003 Management of the TC programme for Africa	5 754 955	152 696	5 754 955	152 696
6.0.1.004 Management of the TC programme for Asia and the Pacific	4 709 790	535 693	4 709 790	535 693
6.0.1.005 Management of the TC programme for Europe	3 931 291	479 130	3 931 291	479 130
6.0.1.006 Management of the TC programme for Latin America and the Caribbean	3 853 777	382 997	3 853 778	382 997
6.0.1.007 Procurement services	1 909 452	-	1 909 452	-
6.0.1.008 Coordination of and support to the PACT	2 740 889	836 770	2 740 888	836 770
6.0.1 Management of the Technical Cooperation Programme	**28 638 141**	**3 441 785**	**28 638 141**	**3 157 829**
6.S Corporate shared services	1 768 306	127 418	1 768 306	149 926
6.0 Management of Technical Cooperation Programme	**30 406 447**	**3 569 203**	**30 406 447**	**3 307 755**
Major Programme 6 - Management of Technical Cooperation for Development	**30 406 447**	**3 569 203**	**30 406 447**	**3 307 755**

Major Programme 6 — Management of Technical Cooperation for Development
Activities unfunded in the Regular Budget
(excluding Major Capital Investments)

Project	Tasks	2024 Unfunded	2025 Unfunded
6.0.1.001 Overall management and strategic guidance	Management of the TC programme	391 573	107 617
6.0.1.002 Coordination of and support to the TC programme	Management of the TC programme	662 928	662 928
6.0.1.003 Management of the TC programme for Africa	Management of the TC programme for Africa	152 696	152 696
6.0.1.004 Management of the TC programme for Asia and the Pacific	Management of the TC programme for Asia and the Pacific	535 693	535 693
6.0.1.005 Management of the TC programme for Europe	Management of the TC programme for Europe	479 130	479 130
6.0.1.006 Management of the TC programme for Latin America and the Caribbean	Management of the TC programme for Latin America and the Caribbean	382 997	382 997
6.0.1.008 Coordination of and support to the PACT	Coordination of and support to the PACT	836 770	836 770
6.S Corporate shared services	Corporate shared services	127 418	149 926
Grand Total		**3 569 203**	**3 307 755**

ANNEXES

Annex 1. List of Acronyms

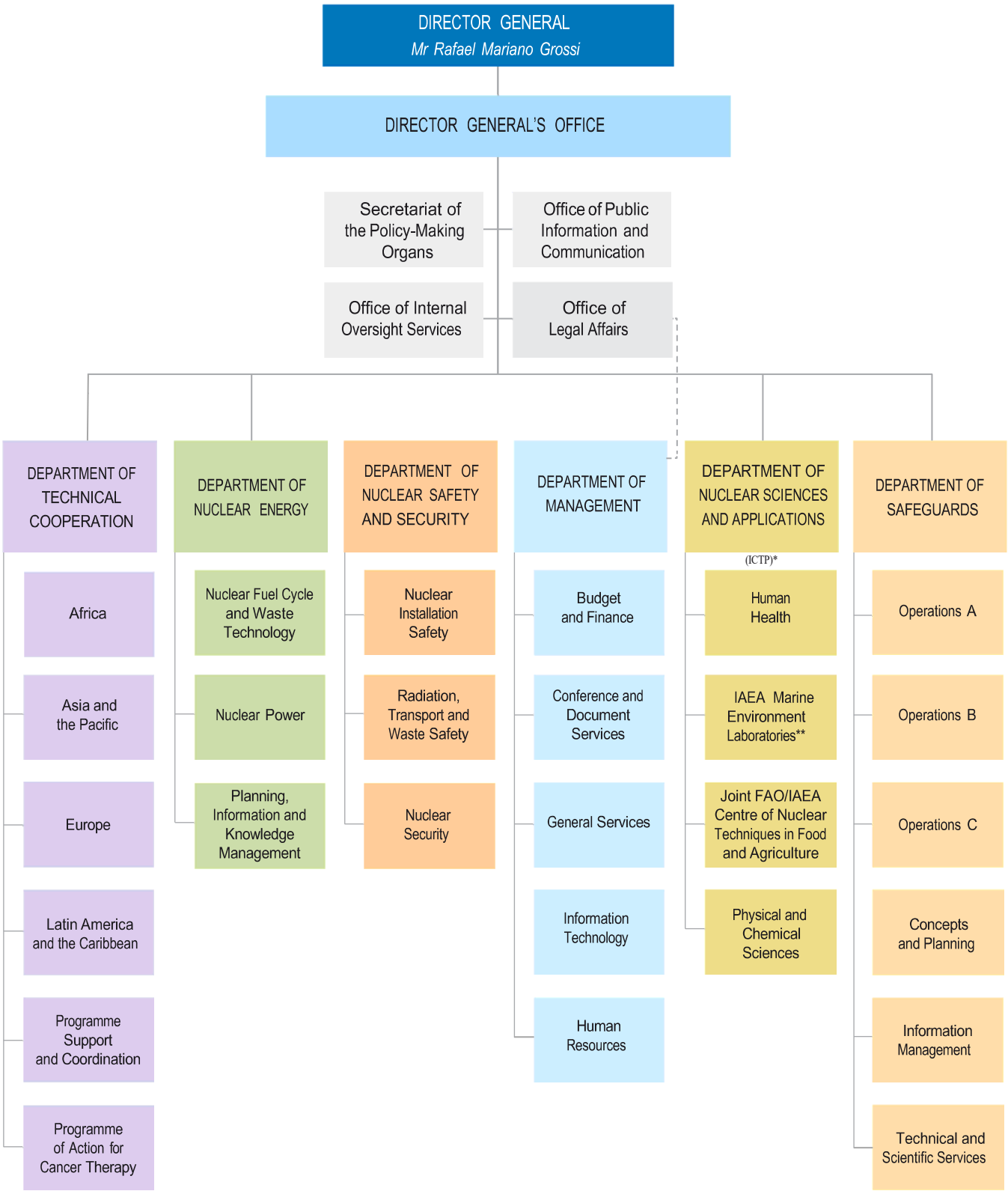
^{225}Ac	Actinium-225
AIPS	Agency-wide Information System for Programme Support
ALMERA	Analytical Laboratories for the Measurement of Environmental Radioactivity
APs	additional protocols
ARTEMIS	Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation
ASHI	After-service health insurance
AWCR	advanced water cooled reactor
BMS	Buildings Management Services
CNS	Convention on Nuclear Safety
ConvEx	Convention Exercise
COVID-19	Coronavirus disease 2019
CPF	Country Programme Frameworks
CPPNM	Convention on the Physical Protection of Nuclear Material
CRP	coordinated research project
CSA	comprehensive safeguards agreement
^{64}Cu	Copper-64
DEMO	demonstration fusion power plant
DIV	design information verification
DOL	Dosimetry Laboratory
D&IS	development and implementation support
DPRK	Democratic People's Republic of Korea
DSRS	disused sealed radioactive sources
EPGR	encapsulation plant and geological repository
EPR	emergency preparedness and response
EPRIMS	Emergency Preparedness and Response Information Management System
FAO	Food and Agriculture Organization of the United Nations
FTE	full-time equivalent
^{68}Ga	Gallium-68-Generator
GNIP	Global Network of Isotopes in Precipitation
GNIR	Global Network of Isotopes in Rivers
GSR	General Safety Requirements
HABs	harmful algal blooms
HALEU	high assay low enriched uranium
HTGR	high temperature gas cooled reactor
IACRNE	Inter-Agency Committee on Radiological and Nuclear Emergencies
ICERR	IAEA designated International Centre based on Research Reactor
ICT	information and communication technology
ICTP	International Centre for Theoretical Physics
IES	Incident and Emergency System
ILSA	Integrated Life Cycle Management of Safeguards Assets
IMAGINE	IAEA Medical Imaging and Nuclear Medicine Global Resources Database
INFCIRC	Information Circular

INLN	International Nuclear Library Network
INIR	Integrated Nuclear Infrastructure Review
INIR-RR	Integrated Nuclear Infrastructure Review for Research Reactors
INIS	International Nuclear Information System
INPRO	International Project on Innovative Nuclear Reactors and Fuel Cycles
INSEN	International Nuclear Security Education Network
INSSP	Integrated Nuclear Security Support Plan
IO	international organization
IOC	Intergovernmental Oceanographic Commission
IPSAS	International Public Sector Accounting Standards
IRL	Internet Reactor Laboratory
IRRS	Integrated Regulatory Review Service
IRS	International Reporting System for Operating Experience
ISE	Integrated Safeguards Environment
IT	information technology
ITDB	Incident and Trafficking Database
IWAVE	IAEA Water Availability Enhancement Project
JCPOA	Joint Comprehensive Plan of Action
J-MOX	Japan Mixed Oxide Fuel Fabrication Plant
LEU	low enriched uranium
LTO	long term operation
^{177}Lu	Lutetium-177
MARIS	Marine Radioactivity Information System
MCIF	Major Capital Investment Fund
MCIP	Major Capital Investment Plan
MORC	material out of regulatory control
MSCFP	IAEA Marie Sklodowska-Curie Fellowship Programme
MSSP	Member State Support Programme
^{99m}Tc	technetium-99m
NCD	Non-Communicable Diseases
NDT	non-destructive testing
NEA	Nuclear Energy Agency
NEM	Nuclear Energy Management
NFCF	nuclear fuel cycle facility
NHSI	Nuclear Harmonization and Standardization Initiative
NKM	nuclear knowledge management
NPP	nuclear power plant
NSGC	Nuclear Security Guidance Committee
NSIL	Nuclear Science and Instrumentation Laboratory
NSTDC	Nuclear Security Training and Demonstration Centre
NSS	IAEA Nuclear Security Series
NSSC	Nuclear Security Support Centre
NWAL	Network of Analytical Laboratories
OA-ICC	IAEA Ocean Acidification International Coordination Centre
OECD	Organisation for Economic Co-operation and Development

OMARR	Operation and Maintenance Assessment for Research Reactors
OSART	Operational Safety Review Team
PACT	Programme of Action for Cancer Therapy
PET	positron emission tomography
PET/CT	positron emission tomography-computed tomography
PMO	Policy-Making Organs
R&D	research and development
RADSED	Enhancing Radiation Safety through Efficient and Modern Dosimetry
ReNuAL	Renovation of the Nuclear Applications Laboratories
RIPL	Reference Input Parameter Library
RR	research reactor
RWM	radioactive waste management
SAGNA	Standing Advisory Group on Nuclear Applications
SAGSI	Standing Advisory Group on Safeguards Implementation
SALTO	Safety Aspects of Long Term Operation
SDG	Sustainable Development Goals
SEED	Site and External Events Design
SGOA	Safeguards Division of Operations A
SGOB	Safeguards Division of Operations B
SGOC	Safeguards Division of Operations C
SIT	sterile insect technique
SLA	State-level safeguards approach
SMR	small and medium sized or modular reactors
SRA	State or regional authority responsible for safeguards implementation
SSAC	State system of accounting for and control of nuclear material
SSG	Specific Safety Guide
TACC	Technical Assistance and Cooperation Committee
TC	Department of Technical Cooperation
TCF	Technical Cooperation Fund
TCP	technical cooperation programme
TECDOC	IAEA Technical Document
ThDEPO	World Thorium Deposits and Resources
UDEPO	World Distribution of Uranium Deposits
UN	United Nations
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
VETLAB	Veterinary Diagnostic Laboratory Network
VIC	Vienna International Centre
VOA	voluntary offer agreement
WASSC	Waste Safety Standards Committee
WCF	Working Capital Fund
WOAH	World Organization for Animal Health
3E	energy–economy–environment
ZRG	zero real growth
ZODIAC	Zoonotic Disease Integrated Action

Annex 2. Organizational Chart

(as of 1 February 2023)



* The Abdus Salam International Centre for Theoretical Physics (ICTP) operates under a tripartite agreement with the Italian Government, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Agency. Administration is carried out by UNESCO on behalf of all parties.

** With the participation of UNEP and Intergovernmental Oceanographic Commission (IOC).

Annex 3. Cost Savings and Efficiencies

1. As established by the Director General, the process of identifying cost-savings and efficiencies has been embedded at every stage in the preparation of the programme and budget, which were reinvested to meet the increased costs and growing demands.

2. Feedback from the assessment of programme performance for the biennium 2020–2021 has been extensively used, together with recommendations from Member States in the programme and budget preparation. The 2020–2021 biennium was unique due to the way the Agency had adapted and responded to the challenges of the pandemic. A series of innovative measures were put in place, which have been integrated into the Agency's business model. For example, the benefit of IT upgrades implemented to overcome the COVID-19 related restrictions are increasingly being drawn upon to achieve more cost savings and efficiencies. The experience of organizing virtual meetings and training and use of specially developed IT based training programmes is being optimized to enhance the Agency's programmatic deliveries.

3. The sustainable efficiencies of €10.7 million per annum that were identified during the preparation of 2022–2023 biennium, mainly in the areas of human resources and travel will continue for the 2024–2025 biennium.

4. For identifying cost savings and efficiencies in the 2024–2025 programme and budget, all the major programmes were thoroughly scrutinised leading to identification of efficiency of about €6.2 million. The outcome of this exercise is summarised below:

- A comprehensive exercise was conducted to identify ways of improving organizational effectiveness and operational efficiency through, inter alia, administrative restructuring of common functions within and among the Departments and enhancing Agency-wide coordination — such as for partnerships and resources mobilization, communication, administrative and support processes, etc. These measures helped in the centralizing some administrative functions within the Departments, and in establishing an Agency-wide mechanism to coordinate resource mobilization efforts across the Agency. This restructuring has resulted in the streamlining of processes, establishment of clear accountability and achievement of further efficiencies. Similar exercises will continue across the Agency in other common administrative process and functions.
- Streamlining and automation of business processes allowed redistribution of tasks among staff which enabled abolition of some posts and optimizing of HR vacancies.
- A total of 27.9 General Service FTEs[1] could be abolished in 2024–2025, due to the ability of the Agency to reduce administrative tasks. This was partially offset with 10.1 Professional FTEs created to address the growing demands for the Agency's services. This has led to an overall net decrease of 17.8 FTEs, which is in addition to the 29.6 FTEs abolished in the 2022–2023 biennium.
- Appointments of consultants were further reviewed to ensure that their services are taken only when the task is a priority and inhouse expertise is unavailable.
- Rationalization of travel will continue with a view to reduce cost and achieve higher productivity, for example, clubbing assignments, using virtual means where appropriate, reducing duration of travel periods, etc, without compromising quality of the programmatic delivery.

[1] Full-time equivalent (FTE) is a measure of planned volume of human resources devoted to the implementation of specific Agency programmatic activities, where one FTE means that the staff member is equivalent to a full-time worker.

- Other items, such as purchases of supplies and equipment will be improved, where possible, through simplified processes, better coordination of common purchasing and enhanced procurement planning. In addition, to ensure the agility and responsiveness of its systems, the Agency will continue to leverage technology, including automation.

5. In addition, exceptionally high energy price estimates will affect the cost of the Seibersdorf laboratories and the VIC Buildings Management Services. The Director General has decided that these increases will be covered within the proposed zero real growth budget.

6. As a consequence of this decision, approximately €4.7 million per year (or 1.1% of the Regular Budget) related to energy cost increases will be absorbed proportionally by all Major Programmes through additional costs savings and efficiencies. The programmatic balance will be maintained. In view of the high component of HR costs in the budget of Major Programme 6, it has been compensated with an additional allocation of €0.25 million (or 0.8%) to mitigate any negative impact on the delivery of the TC programme.

7. While the HR cost continues to remain within the 75% cap established by the Director General in the previous biennia, the extraordinary measures to absorb estimated increased energy costs have resulted in a decrease in the current overall share of the staff costs to 74%.

2024–2025 Programme and Budget Cost Savings and Efficiencies

Taking into account the financial constraints faced by Member States, the 2024–2025 programme and budget is proposed at **zero real growth**, which required:

- additional cost savings and efficiencies to absorb increased demand and higher costs.
- an organization-wide review of common approaches, including cross-cutting measures, to improve operational efficiency.
- cost savings and efficiencies so as not to compromise the quality of the Agency's performance in delivering on its mandate.

€6.2m additional cost savings and efficiencies to cover growing demands/increased costs

- New cost savings and efficiencies reinvested to cover growing demands and increased costs, which included cost reductions in HR (€3.6M) as a result of the common approaches, reclassification of posts and redeployment of several posts.

- Cost savings and efficiencies (€2.6M) consisting of cost reductions for events, travel, consultancies and other items.

€4.7m additional cost savings and efficiencies to cover estimated increased energy costs

- Across-the-board cost savings and efficiencies, shared proportionally by all Major Programmes, to cover the higher energy costs.

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