INT6063: Improving Quality of Radiotherapy, Nuclear Medicine and Radiology Services Through the Implementation of Quality Management Programs

Objective
To improve the quality of Nuclear Medicine, Radiology and Radiation Oncology practice by implementing quality management systems in the clinical practice.

Project activities
1. To build human capacity in QUANUM, QUAADRIL and QUATRO.
2. To develop training and supplementary material for auditors.
3. To enhance the capacity of the auditors through interregional training courses and workshops.
4. To implement QUATRO, QUANUM and QUAADRIL auditing missions.

Duration
Four years

Beneficiary Countries
Member States in Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

Expected Outcome
Improved quality of health care and radiation medicine services in Member States.

Total Estimated Budget
Budget (EUR) with 7% PSC NOT included

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<th>Year</th>
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Project total: 1 286 675

For more information, please refer to the document "Technical Cooperation: The Agency’s Proposed programme for 2020-2021" as produced in GOV/2019/47 and its attachments.
INT6064: Supporting Member States to Increase Access to Affordable, Equitable, Effective and Sustainable Radiation Medicine Services within a Comprehensive Cancer Control System

**Objective**

To improve the readiness of health systems in providing access to affordable, qualitative, effective and sustainable radiation medicine services within a comprehensive cancer control approach.

**Project activities**

1. To implement comprehensive cancer control assessments (imPACT reviews) to support planning and implementation of IAEA cancer-related projects.
2. To develop strategic documents on cancer control as a follow up to imPACT reviews, and in support of planning and implementation of IAEA cancer-related projects.
3. Targeted outreach to traditional and non-traditional donors to mobilize resources for unfunded cancer-related activities in Member States or other IAEA projects.

**Duration**

Four years

**Beneficiary Countries**

Member States from Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

**Expected Outcome**

Availability of evidence, strategies and resources for efficient and effective planning and implementation of cancer control capacity development activities in IAEA Member States is improved.

**Total Estimated Budget**

Budget (EUR) with 7% PSC NOT included

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Project total: 2 717 400

RAF6055: Improving the Quality of Radiotherapy in the Treatment of Frequently Occurring Cancers (AFRA)

Objective
To enhance the quality of the delivery of radiotherapy services in AFRA Member States through harmonized clinical training schemes and sensitization of policy makers.

Project activities
Building the human capacity in the relevant medical institutions in the participating Member States in the following areas:
2. Introduction of advanced techniques (IMRT, VMAT, SRS, SRT, SBRT, IGRT).
5. Sensitize on QMS.
7. Implement QUATRO audits.
8. Continuous Professional development Framework developed.
9. Harmonized academic programmes available.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Africa region.

EXPECTED OUTCOME
Enhanced capacity of radiation medicine professionals to treat existing and new cancer cases in Africa using new techniques.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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<thead>
<tr>
<th>Year</th>
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Project total: 1 431 675

RAF6056: Supporting Human Resources Development in Radiation Medicine (AFRA)

Objective
To strengthen the treatment of cancer through the training and education of radiation medicine professionals in AFRA States.

Project activities
1. Reviewing regional designated centers (RDCs) delivery of training in radiation medicine.
2. Training of fellows in radiation medicine.
3. Procurement of small equipment to support training.
4. Developing a mechanism to monitor the impact of programmes on careers of fellows.
5. Developing and revising curricula where needed.
6. Drafting HR Strategy in radiation medicine.

EXPECTED OUTCOME
Highly qualified and clinically ready radiation medicine professionals available to deliver cancer treatment services in Africa.

TOTAL ESTIMATED BUDGET

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Project total: 2 784 657

RLA6082: Strengthening Regional Capabilities in the Provision of Quality Services in Radiotherapy (ARCAL CLXVIII)

Objective
To contribute to increasing the quality of life of cancer patients through strengthened radiotherapy services.

Project activities
1. Establish structured and harmonized clinical training for Medical Physics (MPs) in the region.
2. Establish structured and harmonized clinical training for Radiation Oncologists (ROs) and Radiation Therapists (RTTs) in the region.
3. Develop guidelines and protocols.
4. Disseminate protocols and guidelines among the participating countries.
5. Train internal auditors’ teams.
6. Implement external quality audits.
7. Elaborate and divulgate information and documents regarding the project activities with the status of hybrid imaging.

DURATION
Three years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean region.

EXPECTED OUTCOME
Services of radiotherapy treatments homogenized in the region.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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<th>Year</th>
<th>Funded</th>
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Project total: 1 349 505

INT6065: Contributing towards Improved Survival in Childhood Cancer Using Radiation Medicine and Nutrition

**Objective**
To improve paediatric cancer care and outcomes in LMICs through enhanced paediatric medical imaging diagnosis, radiotherapy treatment and nutritional support.

**Project activities**
1. Development of Standard Operating Procedures for childhood cancer
2. Building human capacity in paediatric radiotherapy
3. Provision of quality assurance kits and equipment
4. Evaluation of interventions in areas of radiotherapy, imaging, and nutrition.

**DURATION**
Four years

**BENEFICIARY COUNTRIES**
Member States from Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

**EXPECTED OUTCOME**
Improved quality of paediatric cancer services by enhancing the capacities of a multidisciplinary team and implementing clinical guidelines.

**TOTAL ESTIMATED BUDGET**

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Project total: 5 999 110
RAF6058: Strengthening the Capacities for Radiopharmacy and Medical Physics and Radiology for Expansion and Sustainability of Medical Imaging Services — Phase II (AFRA)

Objective
To strengthen and sustain imaging services in Africa through academic education programmes (radiopharmacy) and training as well as effective diagnostic and interventional radiological practices.

Project activities
1. Building human capacity in radiopharmacy and medical physics
2. Developing educational and training material for radiologists and radiographers to strengthen their radio-clinical interpretation and reporting of different medical imaging modalities.

DURATION
Two years

BENEFICIARY COUNTRIES
Member States from Africa.

EXPECTED OUTCOME
Enhanced safety and quality of medical imaging services through capacity building in radiopharmacy, medical physics and radiology.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 2 304 577
RAS6099: Developing Sustainable, High Quality, and Safe Medical Diagnostic Imaging and Radiotherapy Services (SAPI)

Objective
To support national health care systems in ensuring the development and sustainable implementation of high quality and safe medical diagnostic imaging and radiotherapy services for the Pacific Islands.

Project activities
1. Building human resources in Radiology in QA/QC, dosimetry, and remote QC
2. Strengthening human resources in teleradiology services
3. Enhancing nuclear medicine services in the SAPI region
4. Establishing a quality assurance and dose optimization programme
5. Establishing a cooperative network for referral and radiotherapy of cancer patients in SAPI region

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
National capacities and implementation modalities for planning and delivery of high quality and safe medical diagnostic imaging and radiotherapy services enhanced.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1,076,888
RAS6100: Strengthening Clinical Application of Hypofractionated Radiotherapy (RCA)

Objective
To enhance cancer treatment in the RCA region through the application of hypofractionated radiotherapy.

Project activities
1. Building human capacity in hypofractionated radiotherapy, clinical aspects of frequent cancer sites for radiation oncologist and medical physicists, and medical physicists and radiation therapists.
2. Enhancing capacity in safety and quality of hypofractionated radiotherapy

Expected outcome
Comprehensive adaptation of hypofractionated radiotherapy from physics to clinic strengthened for efficient cancer treatment.

Total estimated budget
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<th>Year</th>
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Project total: 511 000
RAS6102: Strengthening Capabilities in Nuclear Medicine, Radiation Oncology, and Radiopharmaceutical Production for Diagnostics and Treatment of Cancer and Non-Communicable Diseases (ARASIA)

Objective
To improve the life of cancer patients through the enhancement of regional best practices in multidisciplinary management of cancer and NCDs.

Project activities
2. Provision of equipment, software for provision of quality services in radiotherapy for cancer treatment.
3. Enhancing human capacities in nuclear medicine/diagnostic radiology for NCD management.
4. Enhancing the capabilities in the production of radiopharmaceuticals for nuclear medicine.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Cancer diagnostics and treatment methods and protocols of cancer and NCDs improved in ARASIA State Parties.

TOTAL ESTIMATED BUDGET

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<td>2025</td>
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Project total: 1 921 864
Objective
To strengthen the national nutrition programmes to improve the quality of life of the population.

Project activities
1. Support to prepare an action plan per country on nutrition priorities and the role of nuclear nutrition techniques
2. Building Member States capacities to use nuclear techniques to assess body composition in children
3. Developing subregional guidance on the use of nuclear techniques to address nutrition priorities in the Pacific Island Member States and baseline body composition data in children.
RAS6103: Applying Stable Isotope Techniques to Assess Protein Quality of Sustainable Food Sources for the Improvement of Maternal and Child Nutrition

Objective
To improve maternal and young child nutrition and health through the enhancement of dietary protein quality from local and sustainable food sources for accelerating the achievement of SDGs and the regional social, economic, and environmental development.

Project activities
1. Building capacity in the participating Member States on IAAO and other standard methods to determine metabolic availability of amino acids in food
2. Enhance regional laboratory capacity to apply the stable isotope technique and analyze IAAO
3. Supporting Member States to get ethics approval
4. Collecting and analyzing data on protein quality from plant based diets and link to maternal and child health.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Data on protein quality of local/indigenous food sources commonly consumed in Asia and the link to maternal and child nutrition and health established.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

<table>
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<tr>
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Project total: 594 480
RLA6085: Strengthening the Capacities of Cyclotron/Positron Emission Tomography Centres in the Region (ARCAL CLXXXIII)

**Objective**
To improve the management of cancer patients through timely and effective diagnosis.

**Project activities**
1. Exchanging of experience on the operational aspects of cyclotrons, the production and quality control of FDG, PSMA, and NaF, and their clinical applications
2. Building capacity in the operation and maintenance of cyclotrons
3. Provision of equipment related to PET quality control
4. Supporting guidance and materials provision for countries with plans to introduce the first cyclotron/PET facility.

**DURATION**
Three years

**BENEFICIARY COUNTRIES**
Member States from Latin America and the Caribbean.

**EXPECTED OUTCOME**
Enhanced human capacities to increase the contribution of selected PET radiopharmaceuticals in cancer management.

**TOTAL ESTIMATED BUDGET**

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Project total: 965 375
RLA6086: Integrating Nuclear Medicine Techniques in a Multimodality Approach in Cardiology for Early Diagnosis and Risk Stratification of Cardiovascular Disease in Latin American Women (ARCAL CLXXXV)

Objective
To improve care of patients with Chronic Noncommunicable Diseases, in particular cardiovascular disease in Latin American women.

Project activities
1. Establishing a reference frame regarding epidemiological situation/atherosclerotic risk factors and utilization of imaging techniques in the management of CVDs in Latin American women
2. Building human capacity on the use of nuclear techniques, imaging multimodality and their benefits in the management of CVDs in Latin American women
3. Establishing a consensus document on the utilization of multimodality imaging in CVDs in women.

DURATION
Two years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Improving early diagnosis and risk stratification in IHD and cardiotoxicity in Latin American women.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 337 700
RLA6087: Building Capacity in the Use of Stable Isotope Techniques to Address Childhood Obesity in English-Speaking Member States

Objective
To contribute towards the prevention of childhood obesity and later non-communicable diseases through building capacity for measuring body composition and collecting childhood nutrition related data.

Project activities
1. Human capacity building in using stable isotope techniques to measure body composition
2. Provision of equipment to the national laboratories for using stable isotope techniques to measure body composition
3. Establishing protocols and standard operating procedures for the use of stable isotopes to study and assess body composition in children

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Increased capacity to assess childhood malnutrition/obesity using stable isotope techniques in the Caribbean.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 588 110
RLA6088: Strengthening Radiation Medicine Services through Human Capacity Development, Improved Quality Assurance, Quality Control and Networking

Objective
To improve the management of patients in nuclear medicine, diagnostic radiology and radiotherapy through the provision of high-quality diagnostic and therapeutic services.

Project activities
1. Defining standardised sub-regional guidelines for education and training of medical physicists
2. Adopting qualification programme for medical physics professionals
3. Provision of quality control equipment to support training needs
4. Building human capacities in radiation medicine
5. Establishing an online platform for health professionals working in radiation medicine.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Improved quality assurance and dosimetry programmes in radiation medicine at the national level toward establishing quality management systems across the region.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 921 595
Objective
To prevent child malnutrition and the risk of developing non-communicable diseases in later life.

Project activities
1. Enhancing institutional capacity by provision of laboratory consumables for field implementation and other laboratory equipment
2. Building capacity in standardization in the stable isotope technique for the evaluation of body composition, anthropometry, electrical bioimpedance, biochemical methods and procedures for breastfeeding promotion activities
3. Establishing a regional database, and identify any discrepancies between countries.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 507 728
Objective
To improve the quality and safety of radiotherapy procedures in cervical cancer therapy through critical analysis of the practices and processes involved in the region.

Project activities
1. Enhancing capacities for quality care in reference hospitals in participating Member States
2. Enhancing standards and QA protocols for radiotherapy for cervical carcinoma
3. Enhancing capacities in auditing methodology for cervical cancer
4. Provision of equipment for enhancing the quality of cervical cancer management
5. Collecting data on brachytherapy equipment in LAC
6. Finalizing ImPACT review in some Member States.
Objective
To improve the quality and safety in diagnostic and interventional radiology and nuclear medicine services through strengthening knowledge, skills and competences of medical physicists, contributing to patient care improvement and reducing potential risks of adverse effects of radiation.

Project activities
1. Initiating clinical training programmes in Member States updated to new IAEA recommendations
2. Establishing a network of reference hospitals with qualified medical physicists, QC/QA procedures, dose assessment, monitoring and dose management, and institutional DRLs.
3. Building capacity in complex technologies related to nuclear medicine.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Knowledge and skills of medical physicists improved in the region.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

<table>
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Project total: 959 305
INT5156: Building Capacity and Generating Evidence for Climate Change Impacts on Soil, Sediments and Water Resources in Mountainous Regions

Objective
To increase the resilience of mountainous populations and ecosystems towards the impacts of climate change.

Project activities
1. To build human resources capacity in nuclear and isotopic techniques for monitoring area-wide climate change impacts on land-water-ecosystem interactions and integrated watershed management.
2. To hold technical meetings for data synthesis and integration over drivers and sites.
3. To provide expert support to benchmark sites for monitoring climate change impacts on land-water-ecosystem interactions in high mountain regions.
4. To conduct isotope and related laboratory analyses of soil, water and sediment samples collected during expert missions (of at least 1000 samples).
5. To conduct integrated watershed assessments.
6. To support regional exchange of knowledge and networking through workshops and meetings.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States in Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

EXPECTED OUTCOME
Strengthened evidence-based decision making on land and water management for climate change adaptation in mountainous regions.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 546 964

RAF5082: Enhancing Veterinary Diagnostic Laboratory Biosafety and Biosecurity Capacities to Address Threats from Zoonotic and Transboundary Animal Diseases (AFRA)

Objective
To establish and implement biosafety and biosecurity regulations for and in veterinary diagnostic laboratories and to enhance capacities for bio-threat action.

Project activities
1. Expert services to develop procedures and documentation and to provide technical support.
2. Risk-based assessment of biosafety and bio security regulations.
3. Designing national biological safety and security (BS&S) regulation.
4. Designing laboratory infrastructure according to BS&S.
5. Implement BS&S in diagnostic processes.
6. Harmonize diagnostic protocols and methods to meet BS&S regulations.
8. Establish a network of local experts for dissemination of BS&S standards information to Governments and institutions.

DURATION
Five years

BENEFICIARY COUNTRIES
Member States from Africa region.

EXPECTED OUTCOME
Biosafety and biosecurity regulations for veterinary laboratories are developed and implemented in each Member States.

TOTAL ESTIMATED BUDGET

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Project total: 2 019 800

RER5026: Enhancing the Capacity to Integrate Sterile Insect Technique in the Effective Management of Invasive Aedes Mosquitoes

Objective
To protect human health from mosquito-borne diseases and to contribute to improve the quality of life.

Project activities
1. Establishing awareness and support of the policy makers and other stakeholders.
2. Enhancing the capacity in mosquito mass rearing and sterilizing technique and releasing of sterile males and monitoring results.
3. Conducting feasibility studies for informed decision on pilot mass rearing facilities or importation of sterile males.
4. Harmonizing the methodology and adaptation of standard operating procedures (SOPs) in the European context.

DURATION
Three years

BENEFICIARY COUNTRIES
Member States from Europe region.

EXPECTED OUTCOME
Capabilities of participating Member States improved to enhance application of SIT within their integrated environment-friendly mosquito control methods for invasive Aedes mosquito.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 619 650

RLA5084: Developing Human Resources and Building Capacity of Member States in the Application of Nuclear Technology to Agriculture

Objective
To raise awareness among participating Member States of the various applications of nuclear science and technology in agriculture as well as develop their human resource and institutional capacity in the use of these technologies towards the Region’s effort to improve agricultural productivity.

Project activities
1. Supporting the establishment of laboratory networks among regional animal health, plant health and food safety laboratories.
2. Supporting activities to strengthen database(s) to house laboratory network information.
3. Conducting needs assessment to identify existing capabilities in the areas of plant mutation breeding, biotechnology and water and nutrient use efficiency in the region.
4. Building human resource capacity in mutation induction and mutation breeding, invitro techniques and micropropagation, and soil, nutrient and water management best practices for agricultural crops.
5. Conduct needs assessment to identify existing capabilities in the use of integrated pest management including the SIT in the region.
6. Building human capacity in pest prevention, including systematic operation of pest surveillance networks and emergency response, particularly in the use of integrated pest management (IPM) and SIT.
7. Conduct needs assessment to identify existing capabilities related to animal breeding, improved animal nutrition and rapid disease diagnosis in the region.
8. Building human capacity in early and rapid detection of animal diseases, and genetic characterization and breeding improvement in livestock.
9. Capacity building in the use of new techniques in food traceability and food authenticity.
10. Conducting sensitization sessions to raise awareness on the use of nuclear applications related to Food Safety and Agriculture.
11. Producing awareness material on the application of nuclear technology in the priority areas of the project.

DURATION
Three years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean region.

EXPECTED OUTCOME
Improved awareness, knowledge and application of nuclear science and technology within the agriculture sector of Member States in the Caribbean Region.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 475 290

**Objective**

To enhance national and regional capacity in the surveillance, detection and control of emerging or re-emerging zoonotic diseases (including Pillar I of ZODIAC).

**Project activities**

1. Mapping institutional capabilities of Member States
2. Establishing human and institutional capacities for early detection of emerging or re-emerging zoonotic diseases
3. Establishing ZODIAC Collaborating Centres in all regions.
4. Implementing disease surveillance, monitoring and tracing systems, allowing for early warning.

**DURATION**

Five years

**BENEFICIARY COUNTRIES**

Member States in Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

**EXPECTED OUTCOME**

Enhanced technical and operational capabilities with a solid global network of national and sub-regional diagnostic laboratories with the capacity to conduct coordinated surveillance, monitoring, early detection and diagnosis of emerging and re-emerging zoonotic diseases.

**TOTAL ESTIMATED BUDGET**

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Project total: 85 526 610
INT5158: Strengthening Member State Capacities to Combat Banana Fusarium Wilt (TR4) through Early Detection, New Resistant Varieties, and Integrated Management

Objective
To strengthen Member State capacities in the prevention and containment of Fusarium Wilt (TR4) disease in banana through surveillance, early detection, genetic resistance and integrated management.

Project activities
1. Building human and institutional capacities in disease surveillance, detection and containment
2. Building human and institutional capacities in TR4 prevention, surveillance and reporting, containment and integrated management options
3. Supporting Member States in developing native and mutant germplasm of banana and plantains with confirmed resistance to Fusarium TR4.

DURATION
Five years

BENEFICIARY COUNTRIES
Member States from Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

EXPECTED OUTCOME
Enhanced technical and infrastructure capacities at the institutional level and within national, regional and global networks for the detection, surveillance, genetic resistance and management of banana Fusarium wilt (TR4).

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 5 028 900
RAF5085: Providing Emergency Support In Case of Outbreaks — Footnote a (AFRA)

Objective
To support Member States to respond to and control emergency situations that affect the well-being of the population and the socioeconomic context.

Project activities
1. Providing Member States with ad hoc technical assistance not included in the approved regular programme in the form of the provision of equipment and materials
2. Organizing national or regional training courses and advisory missions.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Africa.

EXPECTED OUTCOME
Member States supported to respond adequately to an arising emergency situation in a country or region.

TOTAL ESTIMATED BUDGET

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Project total: 1 803 800
RAF5087: Enhancing Regional Capacity for the Implementation of the Sterile Insect Technique as a Component for Area-Wide Tsetse and Trypanosomosis Management (AFRA)

Objective
To enhance population control of tsetse species transmitting African trypanosomosis with the adoption of the sterile insect technique as a component of area-wide integrated vector management.

Project activities
1. Supporting Member States to establish an entomological and parasitological baseline data for assessing the socioeconomic feasibility of tsetse and trypanosomosis (T and T) intervention with the SIT
2. Enhancing institutional capacity in tsetse mass rearing facilities in participating Member States
3. Establishing capabilities for data management, standardization, storage, and analysis of tsetse flies established at the regional level; and
4. Establishing collaboration mechanisms with other T and T programmes to harmonize policy and strategies

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Africa.

EXPECTED OUTCOME
Human health improved, livestock production and productivity in expanded areas that are free of tsetse and trypanosomosis increased.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 503 065
RAF5089: Strengthening the Capacities of National Veterinary Laboratories for the Early Warning, Control and Prevention of Outbreaks of Animal and Zoonotic Diseases (AFRA)

Objective
To strengthen regional and national capabilities for the early detection, identification, and control of transboundary animal and zoonotic diseases, using nuclear and nuclear derived techniques, such as molecular diagnostic, serology, genomics, and proteomics technologies.

Project activities
Strengthening the capacities and expertise of national veterinary laboratories in the early detection and identification of animal and zoonotic diseases of regional and national concern through training and equipment provision

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Africa.

EXPECTED OUTCOME
Capacities to detect, identify, and control priority transboundary animal and zoonotic diseases and to assess the risk of antimicrobial resistance improved.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 5 840 900
RAS5092: Increasing Crop Productivity under Drought Conditions by Using Isotope Techniques to Optimize Water Usage (RCA)

Objective
To contribute to food security by improving crop productivity under water limiting conditions using isotope and related techniques.

Project activities
1. Building human capacity in basic isotopic techniques, field work design, sampling procedures, laboratory method development and remote sensing
2. Building human capacity in advanced isotopic and related techniques to understand water use efficiency of selected crops
3. Conduct field work, sample preparation and sample analysis
4. Provision of minor equipment, accessories and consumable chemicals
5. Establish protocols based on isotope techniques applied.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Productivity of selected crops increased by improving water use efficiency.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 570 950
Objective
To facilitate the development of climate smart agricultural practices in rice production towards sustainability and regional food security through integrated application of nuclear techniques coupled with modern technologies.

Project activities
1. Capacity building of participating countries on the use of modern technologies and nuclear techniques for smart agriculture
2. Conducting field experiments and pilot project in participating Member States.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Livelihoods and capability of rice farmers to withstand the impact of climate change towards a sustainable rice production system improved.

TOTAL ESTIMATED BUDGET

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<th>Year</th>
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Project total: 880 350
Objective
To enhance the capacities in ASEAN countries in promoting sustainable agriculture and food productivity and trade.

Project activities
1. Building human and institutional capacities in mutation breeding and associated biotechnologies
2. Define protocols to be implemented by each participating institution
3. Provision of laboratory equipment, and field equipment
4. Building human capacity in climate smart agricultural practices for enhanced rice and maize production.

EXPECTED OUTCOME
Capacities built in crop adaptation to climate change through mutation breeding, and in adopting and scaling up CSA practices to enhance the production of rice, maize, and other crops in the ASEAN region.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 338 650
RAS5095: Enhancing the Capacity and the Utilization of the Sterile Insect Technique for Aedes Mosquito Control

Objective
To enhance the capacity of Member States in Asia Pacific region in the applications of sterile insect technique (SIT) for Aedes mosquito control and its impact on mosquito borne disease prevention.

Project activities
1. Building human capacity on mass-rearing, irradiation, handling and quality control
2. Building human capacity on mosquito surveillance techniques, packing, transportation and release
3. Provision of equipment for national mass-rearing facilities
4. Provision of equipment for handling, transport and release of sterile male mosquitoes for SIT pilot trials

EXPECTED OUTCOME
Enhanced capacity of Member States in large scale utilizations of sterile insect technique (SIT) for Aedes mosquito control and mosquitoborne disease prevention.

TOTAL ESTIMATED BUDGET

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Project total: 1 134 200

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.
RAS5096: Strengthening Multi-Stakeholder Food Safety Monitoring Programmes for Chemical Contaminants and Residues in Plant and Animal Products Using Nuclear/Isotopic Techniques

Objective
To improve food safety control systems that better safeguard consumers from harmful contaminants, residues, and associated hazards, and enhance competitiveness of agricultural exports through a multi-stakeholder approach.

Project activities
1. Strengthening analytical knowledge and capabilities for residue/contaminants analysis
2. Developing monitoring programmes on chemical contaminants and residues in plant and animal products
3. Implement sampling and analysis of residues/contaminants in a range of food matrices
4. Training on production of reference/PT materials to enhance testing of chemical residues and contaminants in plant and animal products
5. Undertake sampling and gathering reliable occurrence data on contaminants/residues of interests in targeted food matrices
6. Sharing protocols/residue data and other information among the counterpart institutes
7. Prepare for the process of accreditation of techniques and/or laboratories; include facilitating proficiency testing (internal or external) and inter-laboratory studies.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Strengthened national and region capacity in implementing food safety monitoring plans for chemical contaminants and residues in plant and animal products using nuclear/isotopic and complementary analytical techniques.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 881 255
RAS5097: Strengthening and Harmonizing Surveillance and Suppression of Fruit Flies

Objective
To enhance agricultural productivity by supporting the production of fruit fly free fruits and vegetables, meeting international standards.

Project activities
1. Implementing and enhancing national trapping system in the participating countries
2. Enhancing diagnostic capabilities of fruit fly identification
3. Supporting the improvements of the fruit fly sampling laboratory
4. Establishment and maintenance of the databases
5. Facilitating the information sharing among participating Member States

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
National IPM (including SIT) strategies for fruit fly control based on pre-season, in-season and post-harvest techniques adapted in participating MSs, and networking among the countries strengthened.

TOTAL ESTIMATED BUDGET

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Project total: 2 783 725
RAS5098: Improving the Resilience of Crops to Climate Change through Mutation Breeding – Phase II (SAPI)

Objective
To enhance food security through the use of new mutant varieties with increased productivity and better adaptation to biotic/abiotic stress, as well as the ability to plan and manage national mutation breeding programmes as an integral part of the national agricultural programme.

Project activities
1. Building human capacity in the application of molecular techniques in crop improvement
2. Building human capacity in invitro techniques in mutation breeding
3. Provision of equipment for designated laboratories.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Enhanced national capacities for the utilization of mutation breeding techniques to achieve higher productivity/production and crop diversification.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 842 125
RAS5099: Developing Climate Smart Crop Production including Improvement and Enhancement of Crop Productivity, Soil and Irrigation Management, and Food Safety Using Nuclear Techniques (ARASIA)

Objective
To establish and strengthen climate smart agriculture practices to improve crop production, and enhance nutrient and water efficiency, and food safety in the ARASIA region.

Project activities
1. Building capacity in improving soil fertility, nutrient and water use efficiencies and reducing GHGs
2. Developing mutant lines, varieties tolerant and resistant to abiotic and biotic stress on crops
3. Upgrading infrastructure and facilities for mutation breeding
4. Building capacities for residue monitoring
5. Developing laboratory quality assurance and control
6. Strengthening analytical tools and techniques and develop or enhance sharing of analytical and sampling methods.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Holistic climate smart agriculture practices in crop production, nutrient, soil and water usage, and enhanced food safety control established and applied.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 2 487 200

Food and Agriculture
Objective

To strengthen diagnostic capacity building of official veterinary laboratories in the Latin American and the Caribbean region for monitoring and responding to outbreaks of priority animal and zoonotic diseases.

Project activities

1. Building capacities in advanced molecular technologies for genetic differentiation of animal pathogens and zoonotic diseases in selected laboratories in the Latin America region
2. Establishing and harmonizing diagnostic procedures for priority animal and zoonotic diseases, including standard operating procedures, verification methodologies, quality assurance and quality control protocols across participating laboratories
3. Integrating diagnostic procedures on ISO 17025 in all participating Member States
4. Disseminating informative material on the five diseases with essential information on prevention measures.

DURATION

Four years

BENEFICIARY COUNTRIES

Member States from Latin America and the Caribbean.

EXPECTED OUTCOME

Improved diagnostic capabilities and laboratory response for priority animal and zoonotic diseases in Latin America and the Caribbean.

TOTAL ESTIMATED BUDGET

Budget (EUR) with 7% PSC NOT included

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Project total: 994 060
RLA5086: Decreasing the Mortality Rate of Rainbow Trout Associated with Infectious Pancreatic Necrosis Virus and Emerging Diseases Using Molecular and OMIC Techniques (ARCAL CLXXV)

Objective
To contribute to the strengthening of trout farming in the Latin American and Caribbean region.

Project activities
1. Elaborating on communication and outreach strategy and material (web articles, video, social media, guidebook)
2. Identifying potential candidate molecular markers
3. Setting up a PCR protocol to detect molecular markers and analyze molecular raw data
4. Establishing parameters and criteria for the selection of trout resistant to IPNV
5. Establishing an integrated system for early detection of diseases.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Increased population of rainbow trout resistant to infectious diseases, especially infectious pancreatic necrosis (IPN).

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 583 570
RLA5087: Validating the Sterile Insect Technique for the Control of the South American Fruit Fly (ARCAL CLXXVI)

Objective
To promote plant health, food security and food safety through the application of the sterile insect technique (SIT) and the establishment of areas with low prevalence of fruit flies.

Project activities
1. Building capacity in the genetic sexing strain of Anastrepha fraterculus, production indices and quality control
2. Developing dosimetry tests and evidence of sexual compatibility and competitiveness
3. Building capacity in breeding and production process of the genetic sexing strain of A. fraterculus
4. Carrying out quality control tests in the packing and emergency centers and evaluating SIT in the field
5. Developing genetic sexing strain, and evaluating its quality and productivity
6. Provision of equipment for field QC test including field cages.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Improved technical capabilities in the South American region in the use of SIT against the fruit fly Anastrepha fraterculus, Wiedemann.

TOTAL ESTIMATED BUDGET

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Project total: 625 490
Objective
To contribute to food security and safety through sustainable reduction of the damage caused by the New World Screwworm (NWS) to livestock production in South America.

Project activities
1. Elaborating a communication strategy for the visibility of the project (web articles, video, social media)
2. Elaborating financial and technical plans guidance for area-wide NWS control programmes
3. Elaborating a comprehensive communication plan for the involvement of stakeholder groups involved or affected by the eradication programme
4. Supporting the establishment of a physical infrastructure.

EXPECTED OUTCOME
National capacities and control of the NWS from selected areas in South America and the Caribbean strengthened using the sterile insect technique resulting in a reduction of financial loss of local farmers.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 7 292 625
RLA5089: Evaluating the Impact of Heavy Metals and Other Pollutants on Soils Contaminated by Anthropogenic Activities and Natural Origin (ARCAL CLXXVII)

Objective
Contribute to the improvement of sustainable management of soils in the LAC region.

Project activities
1. Establishing an inventory of existing regulations and analytical procedures in the region for the evaluation of soil contamination by heavy metals
2. Elaborating a regional harmonized manual of procedures for the evaluation of soil contamination by heavy metals: sampling, analytical methods, and quality assurance
3. Building capacity in sampling and nuclear and related analytical techniques for the evaluation of soil contamination by heavy metals
4. Providing equipment for sampling and soil sample preparation for the completion of laboratories in the region responsible for monitoring and evaluations of soil contamination, and for analysis of heavy metals
5. Building capacity in the evaluation and interpretation of the results obtained.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Increased knowledge of environmental impact of heavy metals and other pollutants on soils for the sustainable soil management in the LAC.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 393 800
INT9186: Sustaining Cradle-to-Grave Control of Radioactive Sources – Phase II

Objective
To strengthen the safe, secure and sustainable cradle to grave management of sealed radioactive sources (SRS), including disused sealed radioactive sources (DSRS), to protect health and the environment.

Project activities
1. To develop a model safety case for predisposal activities of DSRS.
2. To raise awareness of the significance and the requirements for a security plan for DSRS management.
3. To develop a model national strategy for safety and security of SRS.
4. To develop a national strategy for radioactive waste management, including DSRS.
5. To develop transport safety and security plan for SRS.
6. To raise awareness of the existing technologies for SRS management and identify potential gaps.
7. To raise awareness of orphan sources and appropriate recovery strategies.
8. To utilize the tools and technologies for SRS management.
9. To raise awareness of disposal options for DSRS.
10. To establish and maintain national SRS inventories.
11. To raise awareness of centralized storage options for DSRS.
12. To perform high activity source recovery.
13. To develop human resources of participating Member States through e-learning.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

EXPECTED OUTCOME
Enhanced national, regional and interregional infrastructure for the safe, secure and sustainable cradle-to-grave management of SRS.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 4 045 525

RAF9069: Strengthening the Implementation of Basic Safety Standards andRadioactive Waste Management – Phase II (AFRA)

Objective
To improve the awareness and application of radiological protection to control public exposure to non-medical human imaging, and to contribute to establishing safe, secure, effective and sustainable radioactive waste management.

Project activities
1. Conducting gap analysis for status of participating Member States in the radiation protection of the public and the environment
2. Enhancing human resource capacity to contribute to national environmental radioactivity surveillance programmes
3. Increasing knowledge about IAEA safety standards for radioactive waste management through training and expert missions
4. Improving institutional capacity waste management facilities and collecting spent sources
5. Building human and institutional capacity in the safety of the management of NORM residues
6. Building human and institutional capacity in waste and DSRS conditioning operations in Member States.

DURATION
Two years

BENEFICIARY COUNTRIES
Member States from Africa.

EXPECTED OUTCOME
Awareness of safety requirements for workers and public protection and safety for X ray generators and other types of radiation sources used for inspection purposes and non-medical human imaging improved, and radiation safety (for disused radioactive sources) improved.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 023 975
RAS9093: Strengthening Technical Services in Occupational Radiation Protection in Compliance with the International Basic Safety Standards

Objective
To enhance protection of workers occupationally exposed to ionizing radiation in the region of Asia and the Pacific.

Project activities
1. Increasing the understanding of the IAEA GSR Part 3 requirements and to update radiation safety regulations in the participating Member States accordingly
2. Supporting Member States in the establishment/upgrade of national TSP
3. Improving the technical capabilities of service providers including the implementation of Management System
4. Implementing Radiation Protection Programme (RPP) including International/national requirements and to train staff on established RPP.
5. Developing technical capabilities to initiate occupational exposure control programs at NORM facilities and related activities.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Improved national capabilities to provide technical services in occupational radiation protection in compliance with IAEA GSR Part 3 requirements and GSG-7 recommendations.

TOTAL ESTIMATED BUDGET

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Project total: 1 287 340
RAS9094: Enhancing Nuclear Emergency Preparedness and Response in the Member States of the Association of Southeast Asian Nations

Objective
To strengthen the ASEAN region’s capabilities for EPR coordination, decision making, and operational interfaces.

Project activities
1. Evaluating and enhancing the existing EPR framework of ASEAN Member States
2. Building capabilities to conduct regional technical assessments of transboundary/transnational emergencies and disseminate harmonized information to all key stakeholders
3. Establishing standards for emergency operations and communications.
4. Establishing response capability of the Point of Contact, Contact for Public Communication, ASEAN Radiological Assessment Centre, and NCA during a nuclear or radiological emergency
5. Enhancing Member States capacity for transition from emergency to recovery phase.

EXPECTED OUTCOME
Improved EPR arrangements in the ASEAN MSs, especially in the areas of transboundary/transnational emergency assessment, protective action decision making, and information sharing.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 327 670
RAS9095: Strengthening Radiation Safety Infrastructure — Phase I (SAPI)

Objective
To strengthen the national radiation safety frameworks, including the establishment of an independent national regulatory authority in the participating Member States and the delivery of adequate radiation protection services, while aiming to promote regional networks on radiation safety related matters.

Project activities
1. Supporting Member States to establish their national regulatory infrastructure for radiation safety
2. Supporting Member States to establish their national radiological protection in occupational exposure.
3. Supporting Member States to establish their national radiological protection in medical exposure.
4. Supporting Member States to establish their national radiological protection in the environment.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
National capabilities to establish national radiation safety infrastructure strengthened.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 858 625
RAS9096: Strengthening Radiation Safety Infrastructure

**Objective**
To enhance the radiation safety infrastructure in the region through developing a robust regulatory infrastructure to control radiation facilities and activities, to improve the protection of workers, patients, the public, and the environment, and to enhance the capabilities of MSs to prepare for and respond to radiological or nuclear emergencies.

**Project activities**
1. Supporting Member States to establish their national regulatory infrastructure for radiation safety in occupational, and medical exposure
2. Supporting Member States to establish their national radiological protection in the environment
3. Enhancing the capabilities in managing EPR arrangements.

**DURATION**
Four years

**BENEFICIARY COUNTRIES**
Member States from Asia and the Pacific.

**EXPECTED OUTCOME**
Radiation safety infrastructure and EPR capabilities in the region improved.

**TOTAL ESTIMATED BUDGET**
Budget (EUR) with 7% PSC NOT included

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**Project total:** 3 052 320
RER9158: Strengthening the Regulatory Infrastructure for Radiation Safety

Objective
Contribute to protecting workers, public and the environment from the hazardous effects of ionising radiation.

Project activities
1. Developing radiation safety regulations and guides developed in line with the IAEA Safety Standards
2. Improving regulatory system for control of existing exposure situations and risk communication
3. Strengthening core regulatory activities
4. Implementing regulatory infrastructure self-assessment by the regulatory bodies
5. Developing competence and capabilities for safety culture within the regulatory bodies, competent authorities and authorized organization.

EXPECTED OUTCOME
Strengthened national regulatory infrastructures for radiation safety in planned and existing exposure situations.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 823 158
RLA9090: Strengthening the Regulatory Infrastructure to Enhance Radiation Safety in Latin America and the Caribbean

**Objective**
To ensure the safe use of radiation sources, radioactive waste management and transport safety, including the strengthening of emergency preparedness and response capacities, and the adequate education and training in radiation protection, to protect the people and the environment from the hazardous effects of ionizing radiation.

**Project activities**
1. Building capacity of relevant regulators and operators on safety assessment authorization processes in industrial and medical facilities, cyclotron installations.
2. Facilitating the exchange of experience among share best practices among regulators in the region.
3. Building capacity on drafting regulations, including safety, security and legal.
4. Supporting the development of guidelines for the estimated personnel needed in the regulatory bodies.
5. Building capacity on transport of radioactive materials.
6. Harmonizing procedures for transport safety.

**DURATION**
Two years

**BENEFICIARY COUNTRIES**
Member States from Latin America and the Caribbean.

**EXPECTED OUTCOME**
Regulatory infrastructure for radiation safety strengthened to effectively deliver the required regulatory functions, ensure adequate radioactive waste management, enhance emergency preparedness and response capacities, facilitate strategic and professional training, and enhance transport safety.

**TOTAL ESTIMATED BUDGET**
Budget (EUR) with 7% PSC NOT included

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Project total: 2 866 245
Objective
To raise the level of compliance with radiation protection requirements with regard to occupational and medical exposure, including calibration capabilities, as well as requirements for emergency preparedness and response.

Project activities
1. Setting up cooperation mechanisms for efficient and effective project implementation.
2. Capacity building in calibration methodology of activimeters used in nuclear medicine, biological dosimetry, occupational safety.
3. Capacity building in SSDLs about brachytherapy, neutron, survey and contamination monitors
4. Strengthening regional capacity for responding to radiological emergencies and the management of radiological accidents.
5. Supporting assistance to international conferences.

DURATION
Two years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Capabilities and networking of end-users, metrology laboratories and technical support organizations on occupational and medical radiation protection as well as on emergency preparedness and response improved and strengthened in line with IAEA Safety Standards.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 2 115 045
INT0099: Maximizing the Socioeconomic Benefit of the SESAME Lightsource

Objective

SESAME provides socio-economic benefit to societies within and beyond the Middle East.

Project activities

1. To provide ancillary devices to improve the utilisation of existing beamlines.
2. To provide optical components, monochromator and beamline source.
3. To enhance remote training and remote access to online learning.
4. To provide travel support to users from non-SESAME Member States.
5. To outreach to recruit new SESAME members to increase its utilisation.

EXPECTED OUTCOME

SESAME has a widespread and active user base generating knowledge concerning medical/pharmaceutical research, environment, advanced materials and the cultural heritage of its Members.

TOTAL ESTIMATED BUDGET

Budget (EUR) with 7% PSC NOT included

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Project total: 1 023 305

RAF0058: Enhancing the Management and Ownership of the Programme (AFRA)

**Objective**
To enhance regional cooperation among AFRA Member States for using nuclear science and technology for development under good governance and excellence in management.

**Project activities**
1. Continuous evaluation of the AFRA committees.
2. Conducting technical working group meetings.
3. Supporting high level meetings.
4. Sourcing regional expertise and reviewing project scientific consultants.
5. Monitoring the progress of Regional Designated Centres.
6. Identification of potential partnerships to increase funding for AFRA activities.
7. Providing assistance to facilitate trilateral arrangements between AFRA Member States.

**DURATION**
Four years

**BENEFICIARY COUNTRIES**
Member States from Africa region.

**EXPECTED OUTCOME**
Capacity within AFRA states enhanced for the promotion of nuclear science and technology for development.

**TOTAL ESTIMATED BUDGET**

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*Project total: 1 432 250*

For more information, please refer to the document "Technical Cooperation: The Agency’s Proposed programme for 2020-2021" as produced in GOV/2019/47 and its attachments.
INT0101: Supporting Member States in Human Capacity Building Related to Nuclear Science and Technology and Quality Management of the Technical Cooperation Programme

Objective
To enhance the socioeconomic development of Member States through improved nuclear science and technology and project management capacities.

Project activities
1. Building human capabilities for completing high quality project plans and a sound application of result-oriented TC monitoring and evaluation tools by stakeholders
2. Training opportunities offered by third parties which are relevant to country needs and consistent with the Country Programme Frameworks (CPF), or National Development Plans
3. Qualification of clinical medical physicists in Member States through the master's in medical physics programme (MMP)
4. Participation in relevant international meetings or conferences, usually of thematic networks of specific interest.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States in Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

EXPECTED OUTCOME
Member States’ capacity and networks related to nuclear science and technology and results-based management of TC projects strengthened.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 7 127 621
RAF0061: Establishing and Enhancing National Legal Frameworks (AFRA)

Objective
To assist African Member States in establishing and maintaining adequate national legal frameworks for the safe, secure and peaceful use of nuclear energy and ionizing radiation, in line with the relevant international legal instruments, IAEA safety standards and guidance documents.

Project activities
1. Assisting Member States in Africa with adherence to and implementation of the relevant international legal instruments concluded under IAEA auspices
2. Assessing, revising, and drafting corresponding national legislation
3. Enhancing overall understanding and national capabilities through training in nuclear law
4. Informing and raising awareness of decision makers on the requirements of a national legal framework for the safe, secure, and peaceful uses of nuclear energy and ionizing radiation.

DURATION
Two years

BENEFICIARY COUNTRIES
Member States from Africa.

EXPECTED OUTCOME
Member States in the African region with national nuclear legal frameworks established or enhanced in compliance with the international instruments for the safe, secure and peaceful use of nuclear technology.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 340 300
RAS0088: Supporting Overall Programme Management and Sustainability

Objective
To support national and regional programme review and planning to meet high priority needs of Member States related to enhancing sustainability.

Project activities
1. Enhancing regional strategy for establishing and enhancing partnerships
2. Developing target-oriented outreach material
3. Providing support for planning, monitoring, and coordinating the regional programme in line with TC quality criteria
4. Supporting Member States in updating CPFs
5. Supporting other unforeseen needs of Member States for TC programme management

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific region.

EXPECTED OUTCOME
National and regional programmes in the Asia and Pacific region supported to meet Member States’ high priority needs for the use of nuclear technologies for national and regional development, and unforeseen needs of Member States met.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 460 940
RAS0089: Developing Human Resources to Support the Utilization of Nuclear Technology for Development Including Emerging Needs

Objective
To upgrade and strengthen the skills and capabilities of human resources within the broad range of peaceful nuclear applications, and to support capacity building efforts in nuclear science and technology in the Asia and Pacific region.

Project activities
Building and enhancing human resources in the following areas:
1. Programme management for the effective use of nuclear technologies to support activities
2. Complementary training on nuclear applications to support or supplement training opportunities offered by third parties, and within IAEA technical competence
3. Outreach and dissemination of results through technical events
4. Support for ensuring the sustainability of completed TC projects
5. Address emergency response situation

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific region.

EXPECTED OUTCOME
Enhanced capability developed enabling to absorb, apply, and benefit from the innovative and emerging nuclear technologies in the Asia and Pacific region, and high priority emergency needs addressed.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 4 047 035
Objective
To assist Member States in Asia and the Pacific region in establishing and maintaining adequate national legal frameworks for the safe, secure, and peaceful use of nuclear energy and ionizing radiation, in line with the relevant international legal instruments, IAEA safety standards, and guidance documents.

Project activities
1. Supporting Member States in drafting, assessing their nuclear legislations
2. Providing training in the field of nuclear law
3. Enhancing Member States capacities in the implementation of the relevant international legal instruments
4. Supporting Member States in establishing action plans for enhancing nuclear legal frameworks.

EXPECTED OUTCOME
National nuclear legal frameworks in Member States in the Asia and Pacific region established or enhanced in compliance with the international instruments for the safe, secure, and peaceful use of nuclear technology.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 855 750
RAS0091: Supporting Nuclear Science and Technology Education at the Secondary and Tertiary Level

**Objective**
To strengthen and sustain regional cooperation in NST education at the tertiary and secondary levels to ensure the training of the next generation of human resources in harnessing the power of NST.

**Project activities**
1. Establishing a roadmap for ANENT
2. Setting up communication and information sharing platform
3. Conducting outreach activity to engage teachers, universities, nuclear sectors including training institutes to join the relevant regional network
4. Prepare, review, and standardize nuclear science and technology curriculum
5. Developing resources responding to curriculum
6. Organizing NST competitions including Nuclear Olympiads

**DURATION**
Four years

**BENEFICIARY COUNTRIES**
Member States from Asia and the Pacific.

**EXPECTED OUTCOME**
Enhanced cooperation in the area of nuclear education in the region.

**TOTAL ESTIMATED BUDGET**
Budget (EUR) with 7% PSC NOT included

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**Project total:** 2 051 251
RER0049: Enhancing the Capacities of Educational Institutions for the Sustainable use of Nuclear Technologies

Objective
To enhance capacity and quality of educational institutions for the sustainable, safe, and secure use of nuclear technologies.

Project activities
1. Evaluating training needs in the nuclear field
2. Conduct a Knowledge Management Assist Visits
3. Assessing, identifying and improving training materials
4. Integrating training materials via the existing learning management system
5. Developing Train-the-Trainers programmes
6. Establishing a methodology for Member States to assess the effectiveness of nuclear education programmes.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Europe.

EXPECTED OUTCOME
Established and strengthened capacities in nuclear education and training programmes.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 341 100
RLA0070: Strengthening Regional Cooperation (ARCAL CLXXXVI)

Objective
To enhance regional cooperation by establishing mechanisms aimed at strengthening technical cooperation among developing countries and the regional programming for Latin America and the Caribbean, through ensuring the quality of the ARCAL programme and promoting communication and partnerships in the region.

Project activities
1. Enhancing the regional strategy for establishing and enhancing partnerships and target-oriented outreach material
2. Promoting regional communication strategy
3. Planning and managing future programmes
4. Strengthening regional WiN ARCAL Chapter.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Impact, visibility and participation in the regional programme for Latin America and the Caribbean enhanced.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 971 900
Objective
Increase the contribution of nuclear science and technology to the development priorities of Latin America and the Caribbean.

Project activities
1. Strengthening the NLO/NLA and project counterpart capabilities to design, implement, report and manage the TCP
2. Raising awareness on TCP and partnership building
3. Supporting regional strategic initiatives to expand nuclear applications and optimise resources through strengthening of regional centres
4. Establishing capacity to respond adequately to arising emergency situations in their respective country or region
5. Establishing physical protection (PP) system for Brachytherapy Centres.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Capacities strengthened for an effective, efficient and sustainable implementation of the TCP in Latin America and the Caribbean.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 8 551 075
Objective
To assist Member States in Latin America and the Caribbean in establishing and maintaining adequate national legal frameworks for the safe, secure and peaceful use of nuclear energy and ionizing radiation, in line with relevant international legal instruments, IAEA safety standards and guidance documents.

Project activities
1. Assessment, drafting and adoption of nuclear laws
2. Building human capacity in the field of nuclear law
3. Enhancing participation in the relevant international instruments governing their safety, security, safeguards and civil liability
4. Developing country-specific work plans for enhancing national legal framework.

EXPECTED OUTCOME
Increased number of Member States in the region with comprehensive and adequate national legal frameworks in place through enhanced competencies and better understanding of the relevant international legal instruments.

TOTAL ESTIMATED BUDGET

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Project total: 336 525
INT7020: Developing Capacity towards the Wider Use of Stable Isotopic Techniques for Source Attribution of Greenhouse Gases in the Atmosphere

Objective
To enhance evidence-based decision making in support of SDG 13.2 “Integrate climate change measures into national policies, strategies and planning.”

Project activities
1. Identifying and selecting regional training and service centers.
2. Developing training materials on the use of stable isotope techniques in GHG measurements at three levels and adapting them according to the regional needs and the languages.
3. Providing training in the use of stable isotope techniques in atmospheric observations of greenhouse gases.
4. Analyzing requirements and specific needs by WMO for Quality Assurance.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States in Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

EXPECTED OUTCOME
Capacity to perform high quality stable isotope measurements and generate data for emission verification of greenhouse gas (GHG) is established.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1,197,135

RER7013: Evaluating Groundwater Resources and Groundwater-Surface-Water Interactions in the Context of Adapting to Climate Change

Objective
To enhance evidence-based decision making in support of SDG target 6: “By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.”

Project activities
1. Improving technical capacity of participating isotope hydrology institutions.
2. Establishing monitoring network.
3. Sampling, sample analyses and development of analytical reports.
4. Developing comprehensive analyses on hydrology infrastructure.
5. Implementing IWAVE in selected Member States.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Europe region.

EXPECTED OUTCOME
Enhanced scientific basis for evidence-based decision-making in integrated water management, provided by improved characterization, and monitoring of groundwater resources.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 654 080

RAF7020: Establishing Regional Capacities to Assess the Importance of Carbon Sequestration in Aquatic Systems for Climate Change Mitigation, Environmental Conservation and Economic Purposes (AFRA)

Objective
To strengthen regional capacities for using nuclear and isotopic techniques to apply standardized methodologies for carbon accounting in aquatic ecosystems.

Project activities
1. Strengthening human and institutional capacities of Member States in the measurement and use of radiotracers and isotopes through training and equipment provision
2. Raising awareness among decision makers in Member States of the importance of carbon sequestration in aquatic ecosystems
3. Harmonizing sediment sampling procedures and relevant analytical techniques and methodologies.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Africa.

EXPECTED OUTCOME
Capacities of Member States for applying nuclear and isotopic tools strengthened, allowing to assess carbon stocks and sequestration rates.

TOTAL ESTIMATED BUDGET

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Project total: 1 419 000
RAF7021: Enhancing, Planning, Management and Sustainable Utilization of Water Resources (AFRA)

Objective
To enable Member States to enhance the quantity and quality of available water, including groundwater.

Project activities
1. Gap analysis review for the participating countries capacities in the assessment of ground water resources
2. Developing plan for building the capacities of Member States
3. Building a regional network of existing laboratories to promote regional self-reliance
4. Building regional capacities in nitrogen isotopes for water quality studies.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Africa.

EXPECTED OUTCOME
Enhanced evidence-based decision making for the characterization, management and monitoring of groundwater resources, including transboundary systems.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 5 408 210
RAS7038: Monitoring the Marine Environment for Enhanced Understanding of the Abundance and Impact of Marine Plastic Pollution

Objective
To enhance regional understanding of the abundance and impact of marine plastic pollution.

Project activities
1. Establishing national interinstitutional coordination mechanisms for sustainable marine management of marine plastic pollution
2. Establishing a regional network for monitoring and impact assessment of marine plastic pollution
3. Supporting laboratories with adequate equipment and trained staff, and appropriate protocols adopted
4. Building capacity in the sources, distribution, and trends of nanoplastics and microplastics from nuclear and advanced techniques.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Plastic management improved in the Asia and Pacific region through the establishment of downstream baseline surveys, and the status and trends of marine plastic pollution impacts.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 2 609 070
RAS7039: Enhancing the Protection of Marine, Terrestrial, and Coastal Environments through Holistic Environmental Monitoring Programmes (ARASIA)

Objective
To enhance informed decision making for the protection of marine, terrestrial, and coastal environments through regional holistic environmental monitoring programmes.

Project activities
1. Strengthening human and institutional capacities on marine radioactivity assessment
2. Strengthening capabilities for terrestrial environmental radioactivity monitoring and assessments
3. Establishing database on environment radioactivity
4. Building capacity in the assessment of air pollution, including radioactive particles.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Regional capabilities for the protection of marine, terrestrial, and coastal environments improved.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 4 582 755
RAS7041: Developing an Effective and Sustainable Implementation of Integrated Management of Water Resources and Related Ecosystems (SAPI)

Objective
To strengthen the national and subregional capabilities of the Pacific Islands’ Member States for the systematic assessment and resolution of their water resource and coastal zone management issues in a manner that ensures access to clean water and management of these resources in a sustainable fashion.

Project activities
1. Improving technical capacity of participating institutions in isotope hydrology and related techniques
2. Establishing monitoring/intervention capabilities and implementing regular verification and reporting
3. Establishing monitoring networks and acquiring new hydrological information

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

EXPECTED OUTCOME
Enhanced national capacities for the utilization of isotopic techniques and relevant complementary methods to assess water resources in support of integrated water resource and coastal zone management.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 957,373
RLA7026: Evaluating Organic and Inorganic Environmental Pollution in Aquatic Environments and Their Impact on the Risk of Cyanotoxin-Producing Cyanobacteria

Objective
Strengthened the governance and sustainable management in rivers, lakes, and reservoirs of Latin America and the Caribbean (LAC).

Project activities
1. Harmonized sampling and analysis techniques for water quality and trophic state assessment, with an approach in CyanoHABs.
2. Strengthening the human and technological resources to establish appropriate environmental assessments and monitoring programs, with an approach in CyanoHABs in water bodies of LAC.
3. Establishing regional capacities for the use of nuclear techniques in the analysis of saxitoxins produced by cyanobacteria and isotopic characterization of contaminants in water bodies of LAC.
RAS1030: Using Radioisotope Techniques and Computational Fluid Dynamics Simulation for Troubleshooting and Optimizing of Industrial Processes

Objective
To integrate RTM with CFD for industrial process applications.

Project activities
1. Building human capacity through conducting radiotracer certification programme
2. Conducting a case study on hybrid activities in industrial applications.

EXPECTED OUTCOME
Enhanced competencies for optimized application of RTM in industries in complement with CFD simulation through advanced technology and standardized RTM implementation.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Asia and the Pacific.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 200 700
RLA1020: Promoting Radiation Technology in Natural and Synthetic Polymers for the Development of New Products, with Emphasis on Waste Recovery (ARCAL CLXXIX)

Objective
To contribute to the reduction of the environmental impact of natural and synthetic polymer wastes using irradiation techniques.

Project activities
1. Building capacity in modification of natural and synthetic polymers waste with radiation for products and advance material development
2. Establishing pilot scale simulated recycling process, through capacity building
3. Transferring the know-how of the design, implementation and operation of a recycling plant to the countries of the region.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Demonstrated the feasibility of radiation technology for the modification of different polymer wastes at a pilot scale.

TOTAL ESTIMATED BUDGET

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Project total: 5 459 785
RLA1021: Strengthening Capacities and Promoting New Trends Related to Irradiation Technologies for Quarantine Purposes (ARCAL CLXXXI)

Objective
To strengthen the competitiveness of agro-industrial regional economies, minimize the environmental impact and improve the quality of life of the population.

Project activities
1. Developing a technical-economic feasibility study in the region on irradiation facilities
2. Strengthening links between technical sector, decision makers and the private sector
3. Strengthening regulatory and normative field and implementation system

DURATION
Two years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.

EXPECTED OUTCOME
Feasibility and cost effectiveness of irradiation technologies for quarantine purposes demonstrated.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 489 525
RLA1022: Improving the Satisfaction of Regional Demand for Products and Services of Nuclear Research Reactors (ARCAL CLXXX)

Objective
To increase the accessibility of users to nuclear applications in the various socioeconomic sectors of the region.

Project activities
1. Consolidating a regional network of countries with and without Research Reactors
2. Approving the agreed methodology and work plan of the regional network
3. Transferring new technologies from research reactors within the region.

EXPECTED OUTCOME
Satisfaction for regional demand for HR products and services improved.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 625 525

DURATION
Two years

BENEFICIARY COUNTRIES
Member States from Latin America and the Caribbean.
INT2020: Enhancing Capacity Building to Promote Successful Decommissioning and Environmental Remediation (D&ER) Projects

Objective
To enhance MSs’ preparedness for the implementation of decommissioning and environmental remediation of projects in a safe, sustainable, timely and cost-effective way.

Project activities
1. To develop national frameworkes to enable implementation of the D&ER.
2. To create and maintain capacity through staff training and associated mechanisms.
3. To establish and update the regulatory requirements for decommissioning and remediation.
4. To build the human resources for regulatory oversight of decommissioning and remediation.

DURATION
Four years

BENEFICIARY COUNTRIES
Member States in Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

EXPECTED OUTCOME
Enhanced MSs’ preparedness for the implementation of decommissioning and environmental remediation of projects in a safe, sustainable, timely and cost-effective way.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 1 780 800

INT2021: Supporting Member States Considering or Planning to Introduce or Expand Nuclear Power Programmes in Developing the Sustainable National Infrastructure Required for a Safe, Secure and Peaceful Nuclear Power Programme

Objective
To support participating Member States in creating an enabling environment to facilitate the safe, secure and sustainable introduction or expansion of nuclear power.

Project activities
1. To provide the needed training and capacity building for an informed decision on the introduction or expansion of nuclear power, including on the licensing process for nuclear power plants, qualification programmes, and energy planning.
2. To support participating Member States in their preparation of the entire national infrastructure for building nuclear power plant.
3. To develop the capabilities of the participating Member States to regulate and operate a nuclear power plant safely, securely and cost sustainably and to manage the resulting radioactive waste.

Duration
Four years

Beneficiary Countries
Member States from Africa, Asia and the Pacific, Europe, and Latin America and the Caribbean.

Expected Outcome
Existing and new nuclear programmes in participating Member States are enhanced in terms of safety, security and sustainability following the IAEA Milestones approach to developing a national infrastructure for nuclear power.

Total Estimated Budget
Budget (EUR) with 7% PSC NOT included

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Project total: 8 208 270

INT2022: Supporting Capacity Building in Member States for Uranium Production and Safety of Naturally Occurring Radioactive Material Residue Management

Objective
To incorporate good practices for the sustainable development of Uranium production cycle (UPC) projects and NORM residue management, providing the support to MSs in the application of relevant IAEA safety standards as well as good regulatory oversight.

Project activities
Capacity building for the participating countries in the following areas:

1. Milestones and regulatory framework for UPC and other NORM activities.
2. Stakeholders involvement in the life management of uranium production cycle.
3. Emerging technologies for uranium exploration and resource assessment.
4. Worker protection and environmental management in mineral exploration.
5. Decision making and execution of uranium production projects.
6. Technical feasibility, socio-environmental aspects and regulatory framework of the uranium production cycle.
7. Uranium production by in-site recovery (ISR) mining.
8. Uranium production focus on conventional mining – milling methods.
9. NORM residues management.
10. Authorization and facility decommissioning related to NORM activities.

Budget (EUR) with 7% PSC NOT included

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Project total: 1 215 375

INT2023: Supporting Member States’ Capacity Building on Small Modular Reactors and Micro-reactors and their Technology and Applications as a Contribution of Nuclear Power to the Mitigation of Climate Change

**Objective**
To raise awareness and to improve knowledge, capacity building and safety review capability in developing countries as far as all the fundamental aspects of SMRs and MRs deployment and their electric and non-electric applications are concerned, mitigating climate changes and integrating the basic principles of circular economy. Special emphasis is on siting, design, construction, commissioning, operation, maintenance, human resource management and management system considerations, technology and safety assessment, engineering, fuel cycle, waste management, decommissioning, economics and financing, safety and regulation.

**Project activities**
1. Building human capacity in Member States on developing and/or introducing SMR/MR technology and relevant applications
2. Developing capabilities to assess safety of designs, regulate and operate SMRs and MRs safely, securely and cost sustainably.

**DURATION**
Four years

**BENEFICIARY COUNTRIES**
Member States in Africa, Asia and the Pacific, Europe and Latin America and the Caribbean.

**EXPECTED OUTCOME**
Awareness raised on SMR/MR technologies and their applications to enhance nuclear energy contribution and socioeconomic development in Member States.

**TOTAL ESTIMATED BUDGET**
Budget (EUR) with 7% PSC NOT included

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Project total: 2 284 800
Objective
To support the development of energy planning capabilities and expand skills by supporting the development of sub-regional energy plans.

Project activities
1. Developing human and institutional capacities in Member States to identify strategic and promising activities, and ensure the safe operation of RRs and related installations;
2. Enhancing Member States capabilities in comparison programmes for each application, and ensuring quality assurance programmes are in place;
3. Supporting Member States to intensify exchanges of experiences in different advantages of research reactors.

TOTAL ESTIMATED BUDGET
Budget (EUR) with 7% PSC NOT included

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Project total: 2 180 640
RER2018: Analyzing Low Carbon Pathways towards an Ambitious Decarbonized Energy Sector by 2050

Objective
To assist Member States in achieving the Paris Agreement target and aid in the preparation of their National Energy and Climate Plans (NECP) and Nationally Determined Contributions (NDC).

Project activities
1. Strengthening the capacities of Member States to evaluate and assess energy technologies and their potential contribution to climate change mitigation to support countries in defining their commitments under the Paris Agreement
2. Enhancing Member States expertise on the role of nuclear power as part of low carbon energy pathways
3. Providing national support to pre-selected Member States on energy planning in support of developing NECPs/NDCs.

Duration
Four years

Beneficiary Countries
Member States from Europe.

Expected Outcome
Strengthened institutional capacities to develop national energy and climate plans and strategies.

Total Estimated Budget
Budget (EUR) with 7% PSC NOT included

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Project total: 2 025 975