



IAEA

60 Years

Atoms for Peace and Development

IAEA Peaceful Uses Initiative

Informal Technical Briefing

20 June 2016



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Briefing Objective and Structure

Objective:

Provide an overview of activities related to the PUI as well as information on the projects

Structure:

Overview by DGOC

Presentation by Departments

Question and Answer

PUI Overview and Status

- Instrumental in mobilizing additional extra-budgetary contributions for IAEA activities in peaceful applications of nuclear technology
- Used to support a wide variety of IAEA activities and to respond to shifting priorities of Member States, in a flexible and rapid manner
- GC resolutions on TC and “nuclear science, technology and applications” welcomed the PUI and encouraged contributions
- Not parallel mechanism to TCF, but supplements it

Progress since the last Briefing in March 2015 (1)

- **5** additional Member States contributed to PUI, increasing the total to **19** Member States & EU:
 - Australia, Czech Republic, France, **Germany**, Hungary, Indonesia, Ireland, **Israel**, Japan, Kazakhstan, **Kuwait**, Korea, Monaco, New Zealand, **Norway**, Sweden, **Switzerland**, United Kingdom and United States of America.
 - European Commission
- An additional amount of **€ 29M** was received, totaling the PUI contributions to **€ 90M**

Progress since the last Briefing in March 2015 (2)

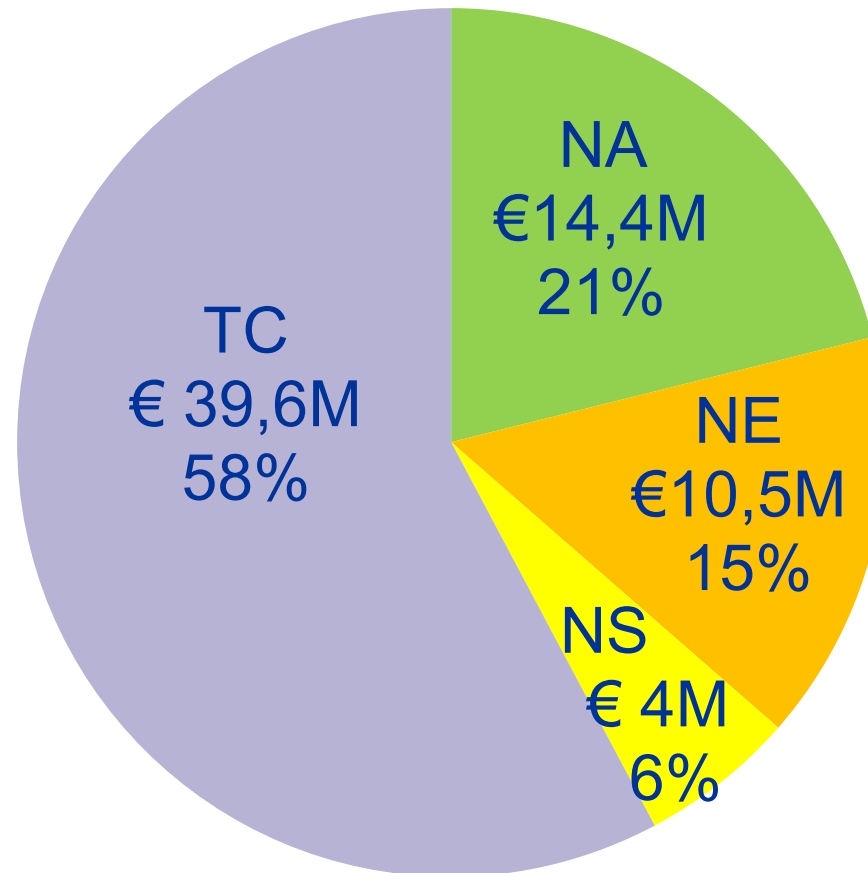
- Additional **23** projects have benefitted from PUI funding, bringing the total to approximately **190** projects
- The PUI contributions benefit more than 150 Member States
- US\$ **75M** was pledged to the PUI in 2015
- PUI will continue

Progress since the last Briefing in March 2015 (3)

- Increased visibility through the distribution of promotional material, and highlighting of the PUI in various side-events in particular during the GC and NPT Review Conference
- Enhanced accessibility to PUI activities through the launch of the new PUI web portal
- Enhanced in-house coordination on PUI activities including through the recruitment of a PUI coordinator

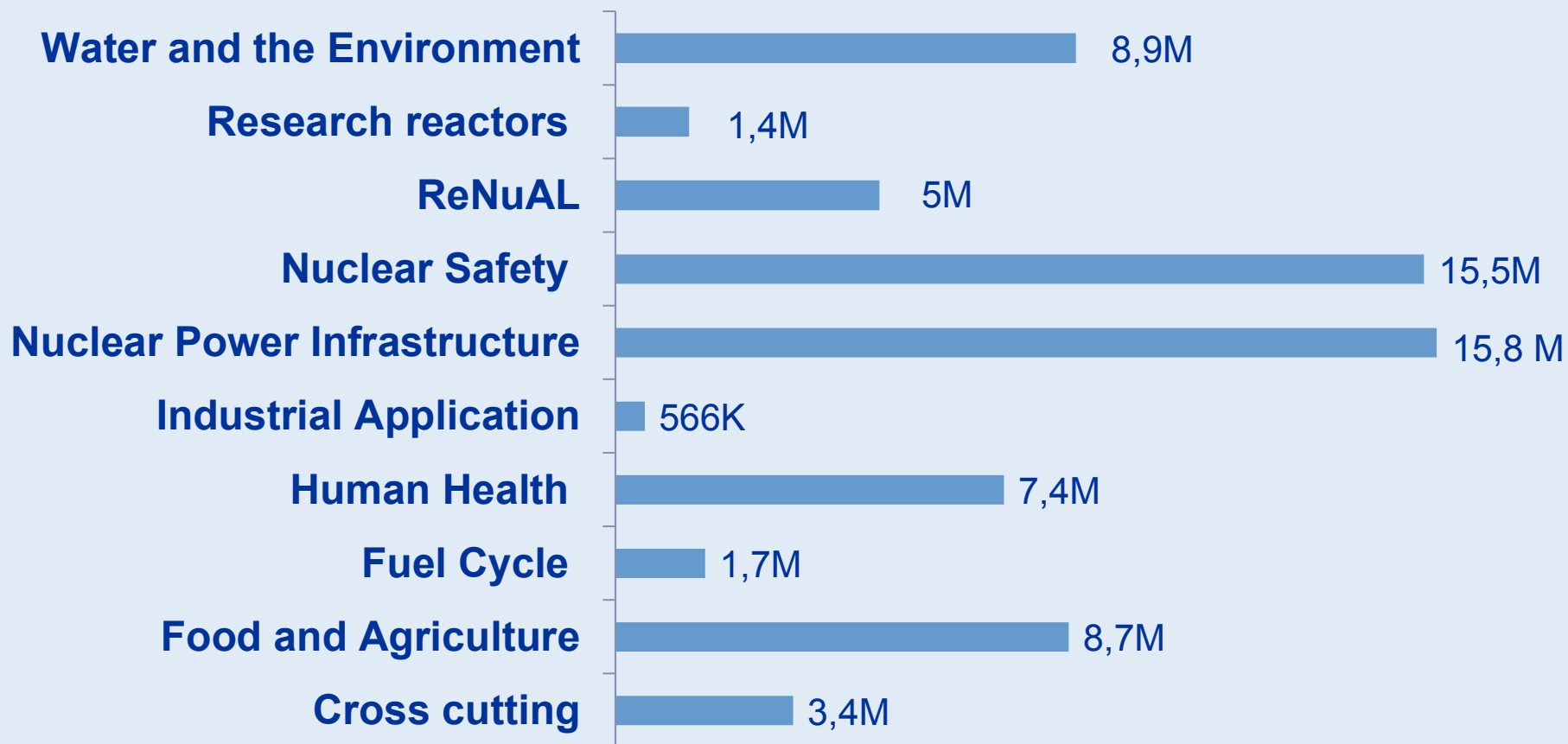
Allocation Breakdown: Departments

Total: €68,5M (as of 31 December 2015)

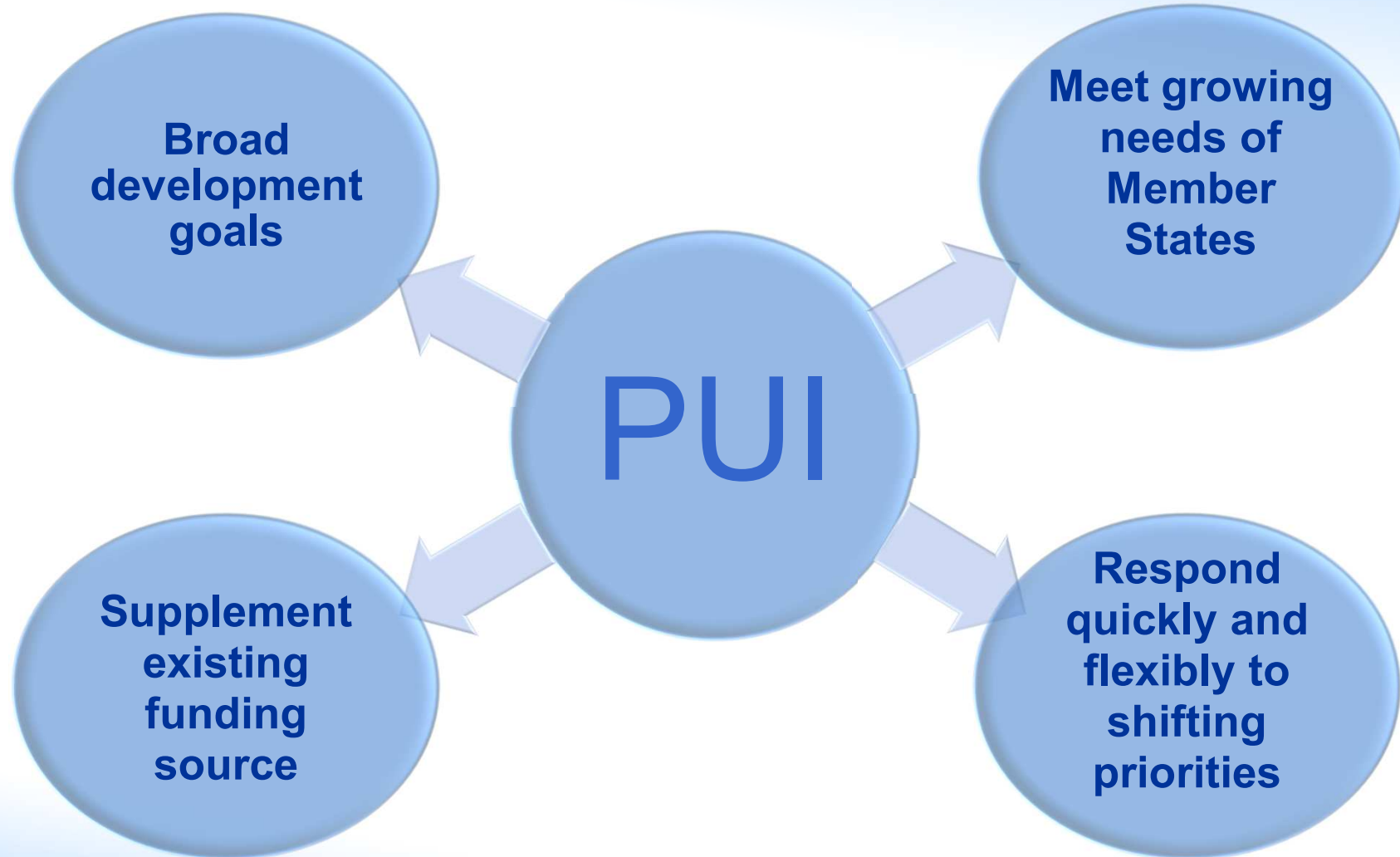


Allocation Breakdown: Theme

Total: €68,5 M (as of 31 December 2015)



Benefits of PUI



PUI Response to Emergencies

- Outbreak of Ebola Virus in West African countries in 2014
 - IAEA response: provision of detection kits and training courses
 - € 2.4M through the PUI
- Outbreak of Zika Virus in Latin America and the Caribbean in 2016
 - IAEA response: provision of detection kits, capacity building for the application of SIT approaches
 - € 1.8M through the PUI for SIT

Looking into the future

DG Statement at the June 2016 Board

- “As the Zika example illustrates, the Peaceful Uses Initiative has again proven to be a very effective mechanism for providing rapid assistance in response to urgent Member State needs.”

PUI website: <https://www.iaea.org/about/pui>

PUI email: pui@iaea.org



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20 June 2016

Department of Technical Cooperation

TC Programme Resources

TC Programme funding sources

- **Core financed**
 - Technical Cooperation Fund (TCF)
 - Assessed voluntary contributions
 - Main funding source
- **Footnote-a/projects (unfunded activities)**
 - Extrabudgetary resources (Government Cost Sharing, PUI etc)
 - In-Kind contributions
 - PUI Funding Since inception (2010)
 - EUR 39,6M
 - 157 TC projects

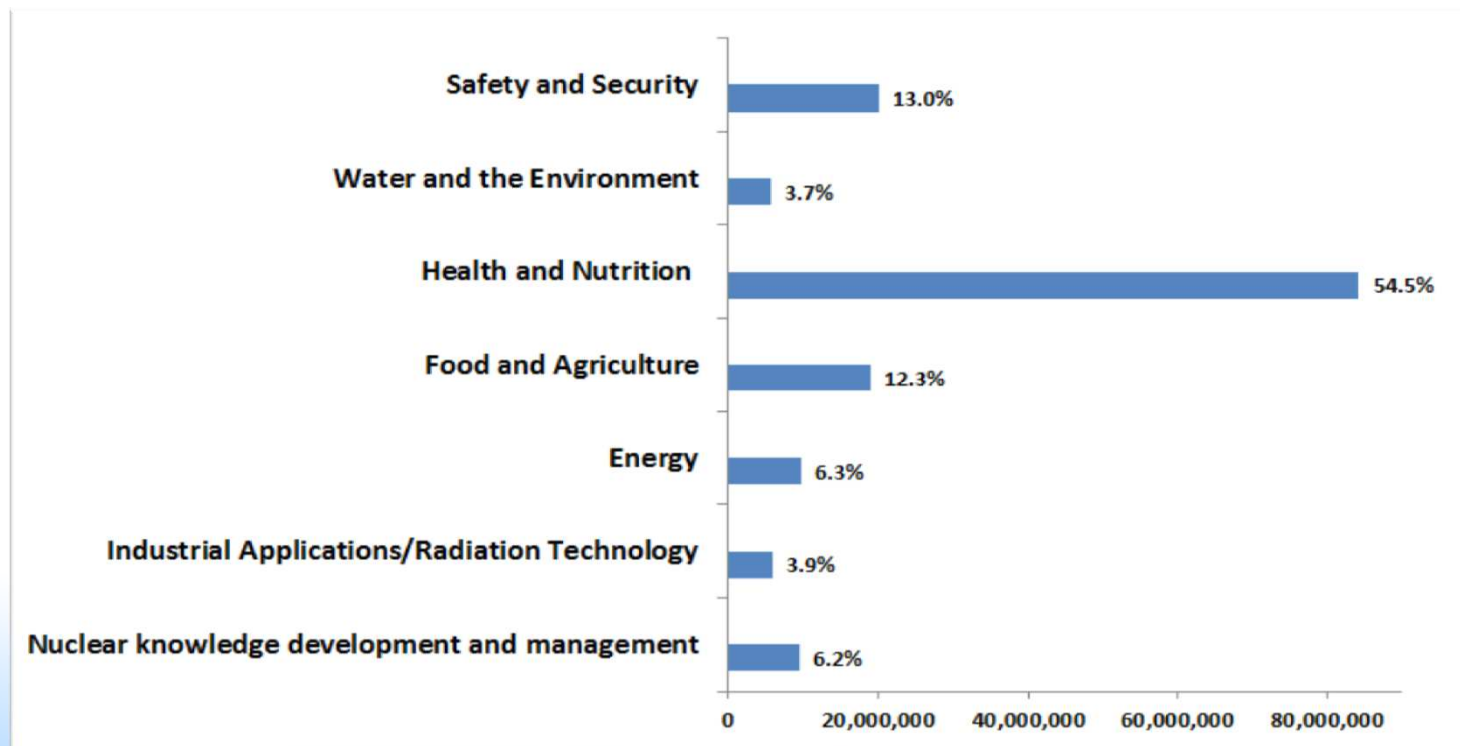
Footnote-a/ component in the TCP

TC Programme cycle 2016-2017 (national, regional, interregional)

New projects EUR 88,4M

Ongoing projects EUR 19,6M

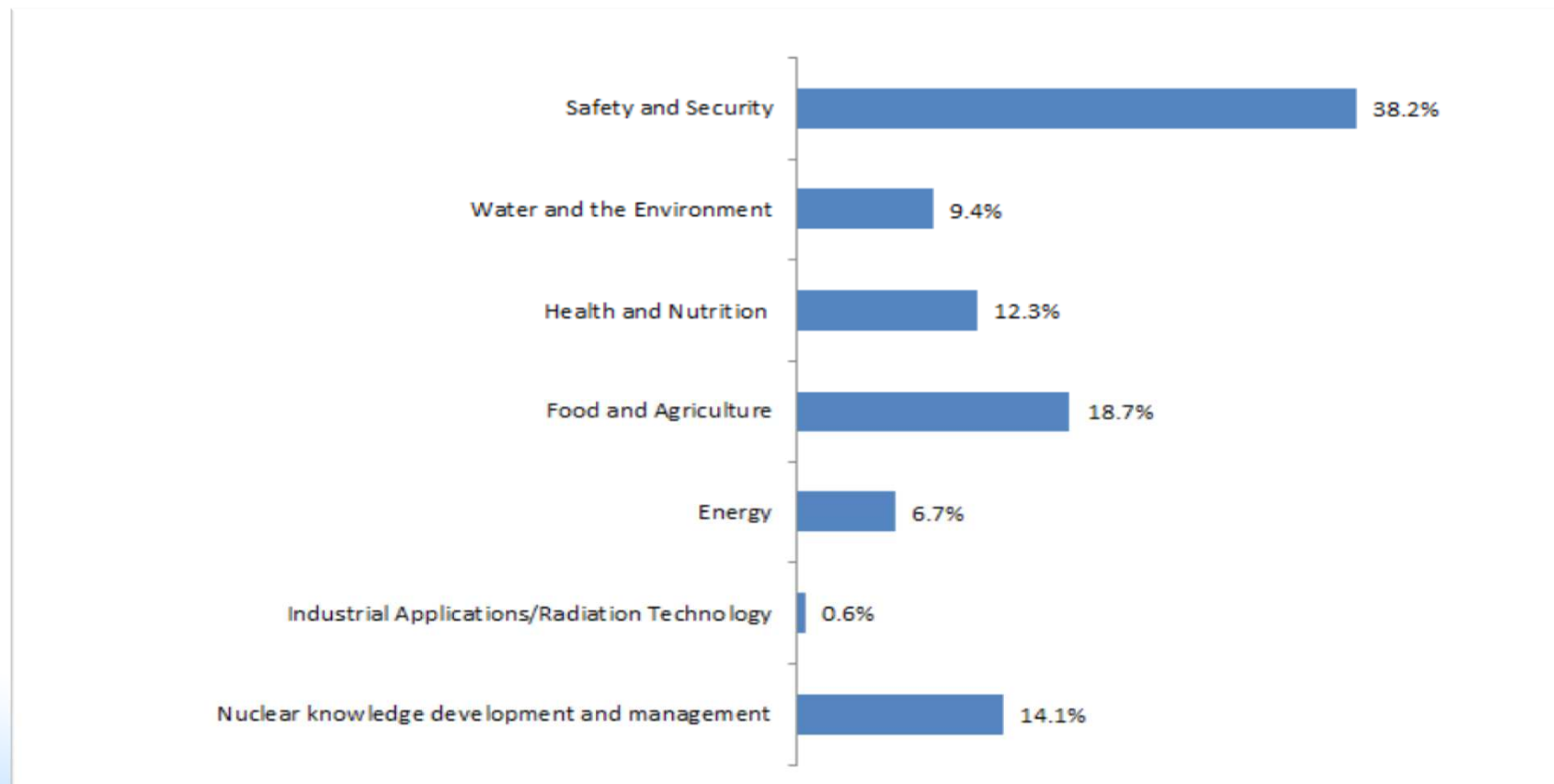
Distribution of the footnote-a/ component of TCP for 2016 onwards (new and ongoing projects)



Regional Footnote-a/ component in the TCP

Regional projects (new): EUR 16,9M

Distribution of regional footnote-a/ projects:



On-Going Footnote-a TC projects – Examples

On-Going Projects:

- **RAF5073** “Strengthening Africa’s Regional Capacity for Diagnosis of Emerging or Re-emerging Zoonotic Diseases, including EVD, and Establishing Early Warning Systems”.
- **imPACT Review Missions**

Example – Ongoing: Strengthening Africa’s Regional Capacity for Diagnosis of Emerging or Re-emerging Zoonotic Diseases, including EVD, and Establishing Early Warning Systems (RAF5073)



Objective: To enhance control of emerging zoonotic diseases in Africa, through safe and accurate early detection of pathogens in wildlife and livestock.

Activities:

- Early diagnosis of zoonotic diseases
- Performing diagnostic assays under safe conditions
- Disease prevention and control

Example – Ongoing: Strengthening Africa’s Regional Capacity for Diagnosis of Emerging or Re-emerging Zoonotic Diseases, including EVD, and Establishing Early Warning Systems (RAF5073)



Outcomes: Enhanced control of emerging zoonotic diseases to prevent or contain future outbreaks

Timeline: 2015 – 2019

Estimated Budget EUR: 6M

Funding Status EUR: 2,4M

Funding Needs EUR: 3,6M

Examples – Ongoing: imPACT Review Missions

Objective: To help Member States develop strategies for a comprehensive national cancer control approach

Activities:

- Conduct imPACT review missions.
- Follow up missions.

Outcomes: Contribute to the development and implementation of comprehensive national cancer control plans.

imPACT Review Missions

Timeline 2016-2017: up to 12 imPACT Reviews and up to 6 follow-up missions/year

Estimated Budget EUR: 690k/year

Funding Status EUR: 100k

Funding Needs EUR: 590k/year

Examples of New Projects Footnote-a TC projects



New Projects:

- **RAS5078** “Enhancing Food Safety Laboratory Capabilities and Establishing a Network in Asia to Control Veterinary Drug Residues and Related Chemical Contaminants”
- **RER6034** “Applying Nuclear Techniques to Design and Evaluate Interventions to Prevent and Control Obesity in Adolescents in South-Eastern Europe”
- **RLA5074** "Strengthening Regional Capacity in Latin America and the Caribbean for Integrated Vector Management Approaches with a Sterile Insect Technique Component, to Control Aedes Mosquitoes as Vectors of Human Pathogens, particularly Zika Virus”

Example- New: Enhancing Food Safety Laboratory Capabilities and Establishing a Network in Asia to Control Veterinary Drug Residues and Related Chemical Contaminants (RAS5078)



Objective: To improve public health and trade in foodstuffs in Asia through enhancement of food safety laboratory capabilities and establishment of networking and collaboration among stakeholders.

Planned Activities:

- Support lab quality management system
- Screening of chemical/natural contaminants
- Effective national residue monitoring program

Example- New: Enhancing Food Safety Laboratory Capabilities and Establishing a Network in Asia to Control Veterinary Drug Residues and Related Chemical Contaminants (RAS5078)



Outcomes: Improved public health and enhanced international trade

Timeline: 2016 - 2019

Estimated Budget EUR: 873,5k

Funding Status EUR: TCF: 713k; EXB: 77,7k

Funding Needs EUR: 82,8k

Example-New: Applying Nuclear Techniques to Design and Evaluate Interventions to Prevent and Control Obesity in Adolescents in South-Eastern Europe (RER6034)



Objective: To contribute towards prevention and control of non-communicable diseases through improvements in techniques for measuring body composition and physical activity to address adolescent obesity

Planned Activities:

- Assessment of body composition using stable isotope
- Harmonization of laboratory procedures
- Data generation management, analysis and evaluation

Example-New: Applying Nuclear Techniques to Design and Evaluate Interventions to Prevent and Control Obesity in Adolescents in South-Eastern Europe (RER6034)



Outcomes: contribution towards prevention and control of non-communicable diseases

Timeline: 2016 - 2019

Estimated Budget EUR: 639,8k

Funding Status EUR: partially funded from TCF: 221,2k

Funding Needs EUR: 418,6k

Example-New: Strengthening Regional Capacity in Latin America and the Caribbean for Integrated Vector Management Approaches with a Sterile Insect Technique Component, to Control Aedes Mosquitoes as Vectors of Human Pathogens, particularly Zika Virus (RLA5074)



60 Years

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Objective: To enhance population control of mosquito species transmitting diseases such as dengue, chikungunya and particularly Zika using area-wide integrated vector management approaches with a SIT component

Planned Activities:

- Mosquito population monitoring and mass rearing
- Development and application of the sterile insect technique for the control of Aedes mosquito populations
- Pilot trials to control Aedes mosquito populations

Example-New: Strengthening Regional Capacity in Latin America and the Caribbean for Integrated Vector Management Approaches with a Sterile Insect Technique Component, to Control Aedes Mosquitoes as Vectors of Human Pathogens, particularly Zika Virus (RLA5074) Cont'd



Outcomes: Contribute to suppression and control of Aedes mosquito populations.

Timeline: 2016 - 2020

Estimated Budget EUR: 2,4M

Funding Status EUR: 1,6M

Funding Needs EUR: 837,5k



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60 Years

Atoms for Peace and Development

IAEA Peaceful Uses Initiative

Informal Technical Briefing

20 June 2016

Department of Nuclear Sciences and Applications

Department of Nuclear Sciences and Applications



ON-GOING: **14 PUI Projects in NA**

- Timeline: 2011-2017
- PUI Allocation: **€14,4M**

NEW: **13 PUI Projects**

- Timeline: 2016-2020
- Total Budget: approx. **€13.6M**

Example-Ongoing: Contributing to Agricultural Development in West Africa Through the Control of Tsetse flies and Trypanosomosis (1/2)



Objective: Establish a sustainable tsetse free zone in the Niayes region of Senegal to increase food security for farmers

Activities:

- Feasibility studies
- Development of an eradication strategy
- Operational phase
 - ✓ Suppression of the fly population
 - ✓ Aerial release of sterile males until final eradication



Example-Ongoing: Contributing to Agricultural Development in West Africa Through the Control of Tsetse flies and Trypanosomosis (2/2)

Outcomes:

- Tsetse fly eradicated in Block 1 of target area
- Tsetse fly suppressed up to 98% in Block 2 of target area
- Disease prevalence reduced
- Expected annual benefits: €3M for farmers

Timeline:2010-2017

Estimated Budget EUR: 3M

Funding Status EUR : 2,3M

Funding Needs EUR : 750k



Example-New: Helping Control Vectors of the Zika Virus (1/2)

Objective: To develop and transfer to Member States strains required for sterile insect technique-based integrated vector management approach for *Aedes*

Planned Activities:

- Develop and evaluate several mosquito strains
- Develop genetic sexing lines
- Transfer effective strains of *Aedes* mosquitoes to Member States



Example-New: Helping Control Vectors of the Zika Virus (2/2)

Outcomes: Use of SIT could reduce spread of diseases (Dengue, Chikungunya and Zika)

Timeline: 2016-2020

Estimated Budget EUR: 2,7M

Funding Status EUR: 243k

Funding Needs EUR: 2,5M



Example-New: Plastics in the Oceans: Tackling the Challenge Using Nuclear Applications (1/2)



Objective: To better understand how microplastics become contaminated by persistent organic pollutants and how they transfer these contaminants to marine organisms

Planned Activities:

- Study the sorption of organic pollutants on microplastics
- Assess the role of microplastics as vector of organic pollutants to marine organisms
- Technical Meeting on current status of bioplastics production worldwide

Example-New: Plastics in the Oceans: Tackling the challenge using nuclear applications (2/2)

Outcomes: Improved monitoring programmes and reduced amount of non-degradable plastics in the oceans

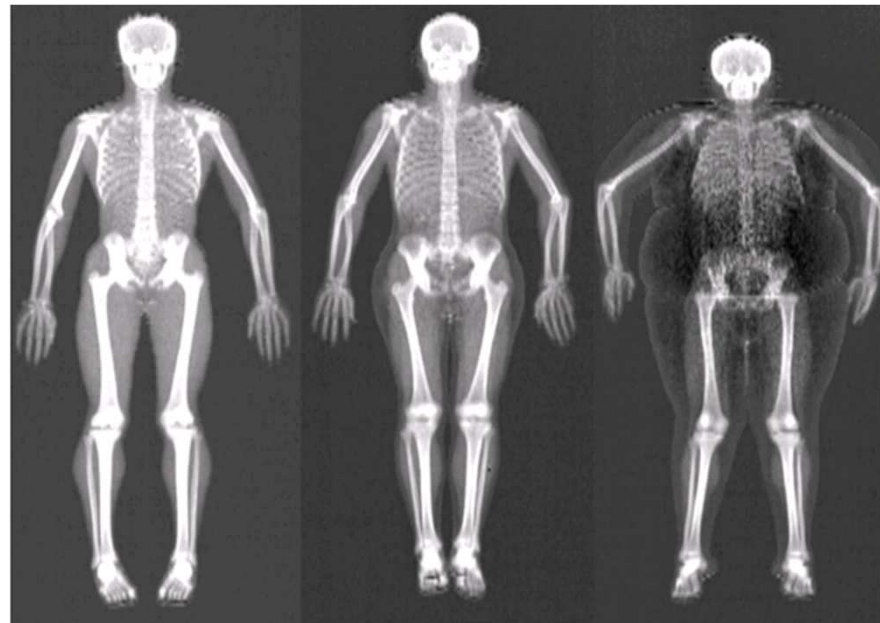
Timeline: 2016-2019

Estimated Budget EUR: 310k (All unfunded)



Example-New: Generating High Quality Data to Improve Clinical Practice and Public Health Policies (1/3)

Objective: To improve the quality of data collected in clinical trials in dosimetry, radiotherapy, nuclear medicine and diagnostic imaging; and to obtain quality information on underlying factors of malnutrition and the effect of nutrition interventions



Example-New: Generating High Quality Data to Improve Clinical Practice and Public Health Policies (2/3)



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Planned Activities:

- Training events on specific isotope techniques in nutrition and standardization of the assessment of nutritional status
- Training event on contouring for target volumes and organs in radiotherapy treatment planning
- Support proficiency tests among participating centres
- Support quality assurance of trials in nuclear medicine, radiology imaging and radiotherapy
- Development of training material and training courses

Example-New: Generating High Quality Data to Improve Clinical Practice and Public Health Policies (3/3)



Outcomes: Improved quality of trial data and conclusions which will provide clinically vital information regarding appropriate diagnostic and treatment practices; and better results of interventional studies and conclusions to inform public health nutrition policymakers and programme planners about effective nutritional interventions

Timeline: 2016-2020

Estimated Budget EUR: 540k (All unfunded)



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Informal Technical Briefing

20 June 2016

Department of Nuclear Energy

Department of Nuclear Energy

ON-GOING: **20 PUI Projects in NE**

- Timeline: 2011-2017
- PUI Allocation: **€10,5M**

NEW: **15 PUI Projects**

- Timeline: 2016-2020
- Total Budget: approx. **€16,6M**

Example-Ongoing: Increasing the Global Supply of Nuclear Education and Training Programmes through Research Reactor Facilities (1)



Objective:

- Boost nuclear education through research reactors
- Increased utilization of operating research reactors
- Set up Internet Reactor Laboratory (IRL) in at least one region

Activities:

- Design customized, hands-on training programmes
- Link professionals from developing MS without a RR
- Enable access to RR experiments through the internet

Example-Ongoing: Increasing the Global Supply of Nuclear Education and Training Programmes through Research Reactor Facilities (2)

Outcomes:

- Well-educated, trained staff for research, building, operating nuclear facilities
(IRL in Latin America, Europe and Africa, 11 EERRI courses, 86 students from 29 MS)



Example-Ongoing: Increasing the Global Supply of Nuclear Education and Training Programmes through Research Reactor Facilities (3)

Timeline: 2011-2017

Estimated Budget EUR: 1.3M

Funding Status EUR: 828,4k

Funding Needs EUR: 516,7k

Example-New: Strengthening Nuclear Power Infrastructure Development in Member States (1)



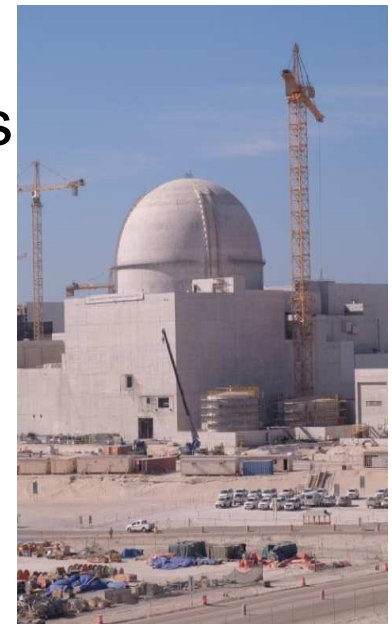
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Objective: Strengthen IAEA guidance to MS introducing nuclear power

Planned Activities:

- Update, develop IAEA guidance documents
- Integrated Nuclear Infrastructure Review Missions
- Workshops, conferences and other events
- Customized guidance to newcomer countries



Example-New: Strengthening Nuclear Power Infrastructure Development in Member States (2)

Outcomes:

- Continuous improvement of IAEA guidance
- Standardized Integrated Nuclear Infrastructure Review Programme
- Better-informed decision making and planning by governments and other stakeholders

Timeline: 2016-2020

Estimated Budget EUR: 2,3M
(All unfunded)



Example-New: Capacity Building through Introduction and Application of Knowledge Management Methodologies and Nuclear Education Initiatives in Member States (1)

Objective: Strengthen knowledge management methodology tools and practices; and strengthen nuclear education

Planned Activities:

- Develop guidance documents, resources, training material
- Facilitate, coordinate international collaboration
- Improve e-learning



Example-New: Capacity Building through Introduction and Application of Knowledge Management Methodologies and Nuclear Education Initiatives in Member States (2)

Outcomes:

- Higher levels of safety
- More efficient, reliable operation of nuclear facilities

Timeline: 2016-2018

Estimated Budget EUR: 2,5M
(All unfunded)



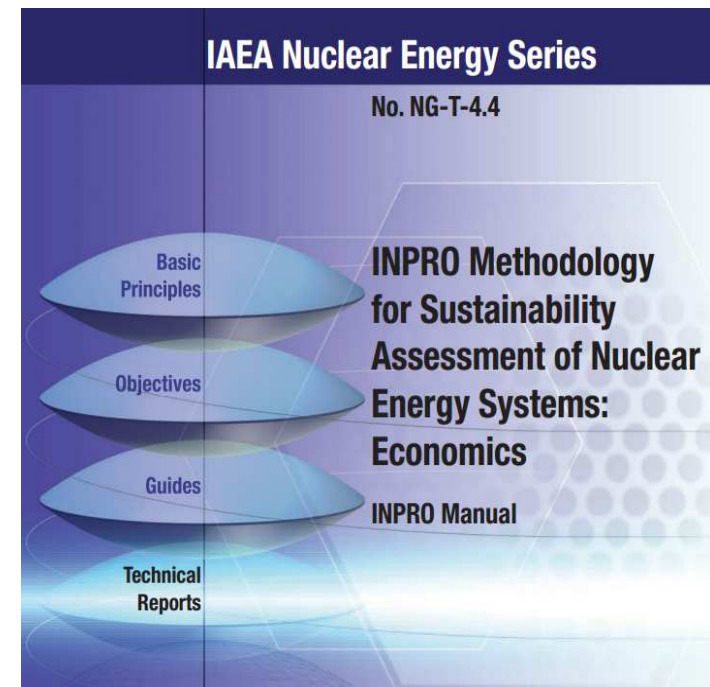
Example-New: Capacity Building Supporting Long-Range Sustainable Nuclear Energy System Planning for Embarking and Developing Countries (1)



Objective: Continue assisting embarking and developing MS to build capacity in long-range NES planning for increased nuclear sustainability

Planned Activities:

- INPRO Dialogue Forums
- Workshops, training, distance learning
- Long term planning assistance
- Publication



Example-New: Capacity Building Supporting Long-Range Sustainable Nuclear Energy System Planning for Embarking and Developing Countries (2)

Outcomes:

- Improved communication
- Improved resources & capacity in energy system planning

Timeline: 2016-2020

Estimated Budget EUR: 2,2M

(All unfunded)





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Atoms for Peace and Development

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Department of Nuclear Safety and Security

Department of Nuclear Safety and Security



ON-GOING: **11 PUI Projects in NS**

- Timeline: 2013-2017
- PUI Allocation: approx. **€4M**

NEW: **13 PUI Projects**

- Timeline: 2016-2020
- Total Budget: approx. **€8M**

EXAMPLE- ONGOING: Enhancing Operational Safety Review services for nuclear power plants (1/2)



Objective:

To review the Reference Document for the Operational Safety Review Teams (OSART) missions, IAEA services Series No 12, edition 2005 and take into consideration the lessons learned from Fukushima and the revision of the IAEA safety standards

Activities:

- Revision of the new version of the OSART guidelines (published this year), including
- Revision of all existing modules
- Development of new modules
- Development of training materials

EXAMPLE- ONGOING: Enhancing Operational Safety Review services for nuclear power plants (2/2)

Outcomes:

- Publication of OSART guidelines revision 2015
- Updated OSART collaborative web site to facilitate training for OSART experts and exchange of information amongst OSART review team members
- Updated database to share results of OSART missions
- Enhanced working notes for use by review team and by NPPs for self assessments
- Improved NPP operational safety
- Enhanced OSART mission effectiveness

Timeline: 2013-2017

Estimated Budget EUR: 510k

Funding Status EUR: 450k

Funding Needs EUR: 60k

EXAMPLE-NEW: GNSSN - Enhancing Nuclear Safety Infrastructure through the Establishment of Nuclear Safety Knowledge Management Programmes (1/2)

Objective:

To provide a framework and platform to connect all corporate knowledge management efforts and tailor the GNSSN platform to Member States' needs (project only covers SAFETY aspects of GNSSN)

Planned Activities:



Integrated Nuclear Safety Capacity Building Plan



National Nuclear Safety Knowledge Programme



Learning Management System



Global Nuclear Safety platform

**EXAMPLE-NEW: GNSSN - Enhancing Nuclear Safety
Infrastructure through the Establishment of Nuclear Safety
Knowledge Management Programmes (2/2)**



Outcomes

- Sustainable and efficient capacity building programmes in Member States
- Improved IAEA delivery of training programmes
- Improved nuclear safety infrastructure in MS through a holistic approach to nuclear safety capacity building and an efficient coordination between all stakeholders

Timeline: 2016-2019

Estimated Budget EUR: 600k (All unfunded)

EXAMPLE-NEW : Building a safety framework for uranium production – remediation of existing sites and prevention of future legacy sites (1/2)



Objective:

- To promote safe and sustainable uranium production.
- To strengthen the regulatory framework for safety in countries that have uranium legacy sites (ULS), and operating or planned uranium production
- To disseminate lessons learned from past uranium production
- To strengthen regulatory and operator capacity to assess site-specific impacts from uranium production

Planned Activities:

- Develop model regulations
- Develop safety assessment methodology and training materials
- Provide training at uranium sites in the Member States

EXAMPLE-NEW : Building a safety framework for uranium production – remediation of existing sites and prevention of future legacy sites (2/2)



Outcomes:

- Reducing the potential for recurrence of ULS
- Safety framework and infrastructure to regulate ULS
- Assessment of site-specific impacts on people and the environment

Timeline: 2016-2019

Estimated Budget in EUR: 900k(All unfunded)

EXAMPLE -NEW : Regional preparedness and response for port and maritime radiological emergencies in non-EU Mediterranean Member States (1/2)



Objectives:

- Strengthen EPR capabilities in non-EU Mediterranean MS
- Improve consistency with revised international safety standards
- Enhance regional capabilities
- Enhance the provision of international assistance through RANET

Planned Activities:

- National self-assessments reflected in EPRIMS
- Updates to RANET
- Workshops and training for review of national capabilities
- Developing a regional response plan
- One regional exercise to test the regional response plan

EXAMPLE- NEW :Regional preparedness and response for port and maritime radiological emergencies in non-EU Mediterranean Member States (2/2)



Outcomes:

- EPR arrangements consistent with international safety standards

Timeline: 2016-2020

Estimated Budget in EUR: 700k (All unfunded)



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Thank you!