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EUROPEAN COMMISSION

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COM(2011) 73 final

2011/0043 (NLE)

Proposal for a

COUNCIL DECISION

**concerning the specific programme, to be carried out by means of indirect actions,
implementing the Framework Programme of the European Atomic Energy Community
for nuclear research and training activities (2012 - 2013)**

{COM(2011) 71 final}

{COM(2011) 72 final}

{COM(2011) 74 final}

{SEC(2011) 204 final}

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

The proposal accompanying this memorandum is for the adoption of a Council Decision concerning the specific programme, to be carried out by means of indirect actions, implementing the Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2012 – 2013). It concerns research in fusion, fission and radiation protection. The principal aim is to ensure the continuation of EU-funded research in these fields for a further two years in line with the activities carried out successfully during 2007-2011. To this end, the proposal explains in more details the scope of the R&D activities.

2. CONTENT OF THE EURATOM SPECIFIC PROGRAMME

This Specific Programme for indirect actions covers the following two thematic priorities:

2.1. FUSION ENERGY RESEARCH

The objective of this thematic priority is to develop the knowledge base for, and to realise ITER as the major step towards, the creation of prototype reactors for power stations that are safe, sustainable, environmentally responsible and economically viable. This thematic priority includes the following areas of activity:

- Realisation of ITER
- R&D to prepare for ITER operation
- Activities to prepare for DEMO
- R&D activities for the longer term
- Human resources, education and training
- Infrastructures
- Technology transfer, industry involvement and innovation.

2.2. NUCLEAR FISSION AND RADIATION PROTECTION

The objectives of this thematic priority are to establish a sound scientific and technical basis in order to accelerate practical developments for the safer management of long-lived radioactive waste, to enhance in particular the safety, resource efficiency and cost-effectiveness of nuclear energy and to ensure a robust and socially acceptable system of protection of man and the environment against the effects of ionising radiation. This thematic priority includes the following areas of activity:

- Geological disposal

- Reactor systems and safety
- Radiation protection
- Support for and access to research infrastructures
- Human resources and training.

2.3. THE MAIN AIMS OF THIS SPECIFIC PROGRAMME ARE TO:

- provide continuing support for activities under the SET-Plan,
- support and complement national research programmes in nuclear fission and radiation protection through collaborative research and networking activities, thereby maximising EU added value in line with overall Union's policy on energy and health protection,
- improve the implementation of the fusion research activities carried under the European Fusion Development Agreement (EFDA),
- foster international cooperation through specific actions on both fusion and fission, complementing the strategic approach of the programme,
- ensure adequate ITER and F4E governance and management, including cost containment and risk management (technical, industrial, financial, legal).

ITER and F4E will require a more flexible organisational structure to enable the resulting innovation and technological progress to be swiftly transferred to industry, thus enabling European industry to become more competitive. This will be addressed by:

- promotion of innovation and exchange of know-how with related universities, research institutes and industry,
- encouragement for the generation of patents,
- promotion of the Fusion Industry Innovation Forum, which will develop a fusion technology roadmap and human resource development initiatives, with an emphasis on innovation and potential for providing new products and services.

2.4. EXISTING PROVISIONS IN THE AREA OF PROPOSAL

Under Article 7 of the Euratom Treaty, the Euratom Framework Programme is the Community's main instrument for supporting and complementing Member States' activities in nuclear R&D. The existing provisions (Council decisions establishing 7th Euratom Framework for 2007-2011¹) will expire at the end of 2011.

¹ Council Decision on the Euratom Framework Programme (2006/970/EURATOM) OJ L54, 22.2.2007, p.21; Council Decision on the Specific Programme for indirect actions (2006/976/Euratom) OJ L54, 22.2.2007, p.139; Council Regulation on the rules for participation (1908/2006) OJ L54, 22.2.2007, p.4;

2.5. CONSISTENCY WITH OTHER POLICIES AND OBJECTIVES OF THE UNION

R&D activities supported by this Specific Programme are entirely consistent with the objectives of the Strategic Energy Technology Plan (SET-Plan). It also supports the objectives outlined in major EU policy initiatives such as the European 2020 Strategy, the related Innovation Union and the Energy 2020 Communication.

3. RESULTS OF THE CONSULTATIONS WITH INTERESTED PARTIES AND THE IMPACT ASSESSMENTS

3.1. CONSULTATIONS WITH INTERESTED PARTIES

In accordance with the Euratom Treaty, the Commission has consulted the Euratom Scientific and Technical Committee (STC).

3.2. COLLECTION AND USE OF EXPERTISE

The Commission has used various sources for preparing the specific programme proposal, including:

- Euratom FP7 Interim Evaluations carried out by independent panels of experts;
- a report for the European Fusion Development Agreement (EFDA) following an ad-hoc study group on the future of the fusion R&D programme;
- input on the extension of Euratom FP7 and the preparation of FP8 from Euratom's Scientific and Technical Committee (STC)
- reports such as vision documents and strategic research agendas prepared by the Technology Platforms in the nuclear field – Sustainable Nuclear Energy Technology Platform (SNETP), Implementing Geological Disposal Technology Platform (IGD-TP) and Multidisciplinary European Low Dose Initiative (MELODI).

3.3. IMPACT ASSESSMENT

In accordance with Article 21 of the Implementing Rules for the Financial Regulation (Commission Regulation N°. 2342/2002), the Commission has prepared an ex ante evaluation. Since this proposal aims to continue the activities of the Euratom Framework Programme for 2012-13 under the same financial perspectives, the requirement for an Impact Assessment has been waived.

Council Decision on the specific programme for direct actions carried out by JRC (2006/977/Euratom), OJ L54 , 22.2.2007, p.149;

4. LEGAL ELEMENTS OF THE PROPOSAL

The legal basis for this Specific Programme is provided for by Articles 1, 2, 4 and 7 of the Euratom Treaty.

5. BUDGETARY IMPLICATIONS

The “legislative financial statement” attached to this proposal for a Council Decision sets out the budgetary implications and the human and administrative resources needed.

Proposal for a

COUNCIL DECISION

concerning the specific programme, to be carried out by means of indirect actions, implementing the Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2012 - 2013)

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Atomic Energy Community, and in particular Article 7 thereof,

Having regard to the proposal from the European Commission,

Having regard to the opinion of the European Parliament²,

Having regard to the opinion of the European Economic and Social Committee³,

Whereas:

- (1) Joint national and European efforts in the area of research and training are essential to promote and ensure economic growth and the well-being of citizens in Europe.
- (2) In accordance with Council Decision (XXX/XXX/EURATOM) concerning the Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2012 -2013)⁴, hereinafter 'the Framework Programme (2012 - 2013)', the Framework Programme (2012 - 2013) is to be implemented through specific programmes that define detailed rules for their implementation, fix their duration and provide for the means deemed necessary.
- (3) The Framework Programme (2012 - 2013) comprises two types of activities: indirect actions in fusion energy research and research on nuclear fission and radiation protection, and direct actions for activities of the Joint Research Centre in the field of nuclear energy. The indirect actions should be implemented by this specific programme.
- (4) The rules for the participation of undertakings, research centres and universities and for the dissemination of research results under the Framework Programme (2012 - 2013) should apply to this specific programme.

² Opinion delivered on xxx

³ OJ C xxx

⁴ OJ L xxxx

- (5) In accordance with Article 101 of the Treaty, the Community has concluded a number of international agreements in the field of nuclear research, and efforts should be made to strengthen international research cooperation with a view to further integrating the Community within the world-wide research community. Bilateral international cooperation is based on a solid legal framework of Cooperation Agreements between the Community and third countries. The Framework Programme (2012 - 2013) is fundamental to the implementation of those Agreements. Therefore, this specific programme should be open to the participation of countries that have concluded agreements to this effect and should be also open at project level, and on the basis of mutual benefit, to the participation of entities from third countries and of international organisations for scientific cooperation.
- (6) This specific programme should contribute towards promoting sustainable development.
- (7) Sound financial management of this specific programme and its implementation should be ensured in an effective and user-friendly manner, while ensuring legal certainty and the accessibility of that programme to all participants, in accordance with Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 on the Financial Regulation applicable to the general budget of the European Communities⁵ and Commission Regulation (EC, Euratom) 2342/2002 of 23 December 2002 laying down detailed rules for the implementation of Council Regulation (EC, Euratom) No 1605/2002 on the Financial Regulation applicable to the general budget of the European Communities⁶.
- (8) Appropriate measures – proportionate to the Union's financial interests – should be taken to monitor both the effectiveness of the financial support granted and the effectiveness of the utilisation of these funds in order to prevent irregularities and fraud. The necessary steps should also be taken to recover funds lost, wrongly paid or incorrectly used, in accordance with Regulation (EC, Euratom) No 1605/2002, Regulation (EC, Euratom) No 2342/2002, Council Regulation (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities' financial interests⁷, Council Regulation (Euratom, EC) No 2185/96 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities⁸ and Regulation (EC) No 1073/1999 of the European Parliament and of the Council of 25 May 1999 concerning investigations conducted by the European Anti-Fraud Office (OLAF)⁹.
- (9) Each thematic area should have its own budget line in the general budget of the European Union.
- (10) Research activities carried out within this specific programme should respect fundamental ethical principles and observe the principles recognised in particular by the Charter of Fundamental Rights of the European Union.

⁵ OJ L 248, 16.9.2002, p. 1.

⁶ OJ L 357, 31.12.2002, p. 1.

⁷ OJ L 312, 23.12.1995, p. 1.

⁸ OJ L 292, 15.11.1996, p. 2.

⁹ OJ L 136, 31.5.1999, p. 1.

(11) The Commission has consulted the Euratom Scientific and Technical Committee,
HAS ADOPTED THIS DECISION:

Article 1

The specific programme, to be carried out by means of indirect actions, implementing the Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2012 - 2013), hereinafter the 'specific programme', is adopted for the period from 1 January 2012 to 31 December 2013.

Article 2

The specific programme shall support activities for research and training on nuclear energy, covering the whole range of indirect research actions carried out in the following thematic areas:

- a) fusion energy research (including ITER);
- b) research on nuclear fission and radiation protection.

The objectives and broad lines of the activities referred to in the first paragraph are set out in the Annex.

Article 3

In accordance with Article 3 of Decision [*Reference of Euratom FP Council Decision to be added when adopted*], the amount deemed necessary for the execution of the specific programme is EUR 2 327 054 000, of which up to 15 % shall be for the Commission's administrative expenditure. This amount is allocated as follows (in EUR):

- a) fusion energy research 2 208 809 000;
- b) nuclear fission and radiation protection 118 245 000.

Article 4

All research activities carried out under the specific programme shall be carried out in compliance with fundamental ethical principles.

Article 5

1. The specific programme shall be implemented by means of the funding schemes established in Annex II to Decision [*Reference of Euratom FP Council Decision to be added when adopted*]
2. The rules for participation of undertakings, research centres and universities and for the dissemination of research results relating to indirect actions set out in Council

Regulation (Euratom) No [*Reference of Council Regulation to be added when adopted*]¹⁰ shall apply to this specific programme.

Article 6

1. The Commission shall draw up an annual work programme for the implementation of the specific programme, setting out in greater detail the objectives and scientific and technological priorities set out in the Annex, the funding schemes to be used for the topics on which proposals are invited, and the timetable for implementation.
2. The work programme shall take account of relevant research activities carried out by the Member States, associated states and European and international organisations. It shall be updated where appropriate.
3. The work programme shall specify the criteria on which proposals for indirect actions under the funding schemes are to be evaluated and projects selected. The criteria shall be those of excellence, impact and implementation. Additional requirements, weightings and thresholds may be further specified or complemented in the work programme.
4. The work programme may identify the following:
 - a) organisations that receive subscriptions in the form of a membership fee;
 - b) actions to support the activities of specific legal entities.

Article 7

1. The Commission shall be responsible for the implementation of the specific programme.
2. For the purposes of implementing the specific programme the Commission shall be assisted by a consultative committee. The members of this committee can vary according to the different subjects on the committee's agenda. For fission-related aspects, the composition of this committee and the detailed operational rules and procedures applicable to it shall be as laid down in Council Decision 84/338/Euratom, ECSC, EEC¹¹. For the fusion-related aspects they shall be as laid down in Council Decision of 16 December 1980 setting up a Consultative Committee for the fusion programme¹².
3. The Commission shall regularly inform the committee of the overall progress of the implementation of the specific programme, and shall provide it with timely information on all actions proposed or funded under this specific programme.

¹⁰ OJ L ...

¹¹ OJ L 177, 4.7.1984, p. 25.

¹² Not published.

Article 8

The Commission shall arrange for the independent monitoring, assessment and review provided for in Article 6 of Decision [*Reference of Euratom FP Council Decision to be added when adopted*] be conducted concerning the activities carried out in the fields covered by the specific programme.

Article 9

This Decision shall enter into force on the third day following its publication in the *Official Journal of the European Union*.

Done at Brussels,

*For the Council
The President*

ANNEX

SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES, BROAD LINES OF THE THEMES AND ACTIVITIES

I. Thematic areas of research

I.A Fusion energy research

Overall objective

Developing the knowledge base for, and realising ITER as a major step towards, the creation of prototype reactors for power stations that are safe, sustainable, environmentally responsible, and economically viable.

Activities

1. Realisation of ITER

The Community has a special responsibility within the ITER Organisation as the host of the project and has a leading role, particularly regarding the governance of the ITER International Organisation, management and staffing, plus general technical and administrative support.

Community participation in ITER as a Party will include further contributions to the construction of equipment and installations needed at the ITER site, and to support the project during construction.

The R&D activities in support of ITER construction will be carried out in the Fusion Associations and European industries. They will include the development and testing of components and systems.

2. R&D in preparation of ITER operation

A focused physics and technology programme will aim to consolidate ITER project choices and prepare for the rapid start-up of ITER operation. It will be carried out through coordinated experimental, theoretical and modelling activities using the JET facilities and other magnetic confinement devices. It will ensure that Europe has the necessary impact on the ITER project, and will prepare for a strong European role in its exploitation. It will include:

- assessment of specific key technologies for ITER operation through exploitation of the JET Enhancements (ITER-like first wall, heating systems, diagnostics),
- exploration of ITER operating scenarios by means of targeted experiments on JET and other facilities, and coordinated modelling activities.

3. Limited technology activities to prepare for DEMO

Key technologies and materials required for the licensing, construction and operation of the DEMO power plant will be further developed in the Fusion Associations and industry in order to test them in ITER and to position European industry to be able to construct DEMO and develop future fusion power plants. The following activities will be implemented:

- further work by the dedicated project team on the Engineering Validation and Engineering Design Activities to prepare for the construction of the International Fusion Materials Irradiation Facility, which will be used to test materials for a fusion power station,

- development, irradiation testing and modelling of low activation and radiation-resistant materials; development of the key technologies required for fusion power plant operation, including blankets; conceptual design activities for DEMO, including safety and environmental aspects.

4. R&D activities for the longer term

Building on the activities specifically concerning ITER and DEMO, the specific programme will develop competences and enlarge the knowledge base in fields strategically relevant to future fusion power stations. These research activities will enhance the technical feasibility and economic viability of fusion power. Specific actions under the Framework Programme (2012-2013) will include limited activities as follows:

- study of improved concepts for magnetic confinement schemes, including stellarators. Work will concentrate on preparation for the operation of the W7-X stellarator, utilisation of existing devices for expansion of the experimental databases, and appraisal of the future prospects for these configurations,
- experiment, theory and further modelling with the ultimate aim of a comprehensive understanding of reactor-grade fusion plasmas,
- studies of the sociological aspects and economics of fusion power generation, and actions to promote public awareness and understanding of fusion.

5. Human resources, education and training - building the “ITER Generation”

Ensuring adequate human resources and a high level of cooperation within the fusion thematic area, both for the immediate and medium term needs of ITER, and for the further development of fusion, will be addressed by:

- support for the mobility of researchers between organisations participating in the specific programme, in order to promote enhanced collaboration and integration of the research activities, and to foster international cooperation,
- high-level training for engineers and researchers at post-graduate and post-doctoral level, including the use of facilities as training platforms, dedicated seminars and workshops, and fostering cooperation between participants in higher education.

6. Infrastructures

The realisation of ITER in Europe, within the international framework provided by the ITER Organisation, will add to the new research infrastructures with a strong European dimension.

7. Technology transfer, industry involvement and innovation

ITER will require a new and more flexible organisational structure to enable the resulting innovation and technological progress to be swiftly transferred to industry, thus enabling European industry to become more competitive. This will be addressed by:

- promotion of innovation and exchange of know-how with related universities, research institutes and industry,
- encouragement for the generation of patents,

- promotion of the Fusion Industry Innovation Forum, which will develop a fusion technology roadmap and human resource development initiatives, with an emphasis on innovation and potential for providing new products and services.

I.B Nuclear fission and radiation protection

The overall objective is to enhance in particular the safety, performance, resource efficiency and cost-effectiveness of nuclear fission and uses of radiation in industry and medicine. Indirect actions in nuclear fission and radiation protection will be undertaken in five principal areas of activity detailed below. There are important links with research in the Seventh Framework Programme of the Union adopted by Decision No 1982/2006/EC of the European Parliament and of the Council¹³, in particular in the areas of energy, European standards, education and training, environmental protection, health, material science, governance, common infrastructures, security and safety culture. International collaboration will be a key feature of the activities in many of the activity areas, in particular advanced nuclear systems that are being investigated in the Generation IV International Forum.

1. Geological disposal

Objectives

Through implementation-oriented research, to establish a sound scientific and technical basis for demonstrating the technologies and safety of disposal of spent fuel and long-lived radioactive wastes in geological formations, and to underpin the development of a common European view on the main issues related to the management and disposal of waste.

Activities

Geological disposal: Engineering studies and demonstration of repository designs, in situ characterisation of repository host rocks (in both generic and site-specific underground research laboratories), understanding of the repository environment, studies on relevant processes in the near field (waste form and engineered barriers) and far-field (bedrock and pathways to the biosphere), development of robust methodologies for performance and safety assessment and investigation of governance and societal issues related to public acceptance.

2. Reactor systems

Objectives

To underpin the safe, efficient and more sustainable operation of all relevant reactor systems (including fuel cycle facilities) in use or under development in Europe, and to investigate ways of reducing the amount and/or hazard of the waste.

Activities

Nuclear installation safety: Operational safety of current and future nuclear installations, especially plant life assessment and management, safety culture (minimising the risk of human and organisational error), advanced safety assessment methodologies, numerical simulation tools, instrumentation and control, and prevention and mitigation of severe accidents, with associated activities to optimise knowledge management and maintain competences.

¹³ OJ L 412, 30.12.2006, p. 1.

Advanced nuclear systems: Improved efficiency of present systems and fuels and the study of advanced reactor systems in order to assess their potential, proliferation resistance and impacts on long-term sustainability, including basic and key cross-cutting research activities (such as material science)¹⁴ and the study of the fuel cycle, innovative fuels and waste management aspects, including partitioning and transmutation the more efficient use of fissile material in existing reactors.

3. Radiation protection

Objectives

Through research, maintaining and improving the standards of radiation protection, in the Union and resolving the controversy over the risk from exposure to ionising radiation at low and protracted doses.

Activities

- Risks for low and protracted exposures: Better quantification of the risks to health for low and protracted exposures, including individual variability, through epidemiological studies and an improved understanding of the mechanisms through cellular and molecular biology research.
- Medical uses of radiation: Enhance the safety and efficacy of medical uses of radiation through new technological developments and achieving a proper balance between the benefits and risks of such uses.
- Emergency management and rehabilitation: Improve the coherence and integration of emergency management in Europe through the development of common tools and strategies and demonstrate their efficacy in operational environments.
- Other topics: National research activities in other areas will be more effectively integrated as considered necessary in order to fulfil the overall objective.

4. Infrastructures

Objectives

To provide support for key infrastructures where there is clear European added value especially in order to establish critical mass and to ensure appropriate access.

Activities

Support for the design, refurbishment, construction and/or operation of key research infrastructures required in any of the above thematic areas, including facilitating the access to existing and future infrastructures by individual research workers and research teams.

¹⁴ It is understood that the ERC is responsible for supporting frontier research in all areas of science and technology.

5. Human resources and training¹⁵

Objectives

To support the creation and spreading of scientific competences and know-how throughout the sector, thereby guaranteeing the earliest possible availability of suitably qualified researchers, engineers and technicians, and to improve coordination between Union educational institutions in order to ensure qualifications are equivalent across all Member States.

Activities

Human resources and training: Coordination of national programmes and provision for general training needs in nuclear science and technology through a range of instruments, including competitive ones, as part of general support to human resources in all thematic domains. Includes support for training courses and training networks, and measures to make the sector more attractive to young scientists and engineers.

II. Ethical aspects

During the implementation of this specific programme and in the research activities arising from it, fundamental ethical principles are to be respected. These include, inter alia, the principles reflected in the Charter of Fundamental Rights of the European Union, including the following: protection of human dignity and human life, protection of personal data and privacy, as well as animals and the environment in accordance with Community law and the latest versions of relevant international conventions, guidelines and codes of conduct, e.g. the [Helsinki Declaration?], the Convention of the Council of Europe on Human Rights and Bio-medicine signed in Oviedo on 4 April 1997 and its Additional Protocols, the UN Convention on the Rights of the Child, the Universal Declaration on the human genome and human rights adopted by UNESCO, UN Biological and Toxin Weapons Convention, International Treaty on Plant Genetic Resources for Food and Agriculture, and the relevant World Health Organisation resolutions.

Account will also be taken to the opinions of the European Group of Advisers on the Ethical Implications of Biotechnology (1991 to 1997) and the opinions of the European Group on Ethics in Science and New technologies (as from 1998).

In compliance with the principle of subsidiarity and the diversity of approaches existing in Europe, participants in research projects must conform to current legislation, regulations and ethical rules in the countries where the research will be carried out. In any case, national provisions apply and no research forbidden in any given Member State or other country will be supported by Community funding to be carried out in that Member State or country.

Where appropriate, those carrying out research projects must seek the approval of the relevant national or local ethics committees prior to the start of the RTD activities. An ethical review will also be implemented systematically by the Commission for proposals dealing with ethically sensitive issues or where ethical aspects have not been adequately addressed. In specific cases an ethical review may take place during the implementation of a project.

The Protocol on protection and welfare of animals annexed to the Treaty requires the Community to pay full regard to the welfare requirements of animals in formulating and implementing Community

¹⁵ It is understood that responsibility for mobility of researchers between all areas of science and technology rests with the People Programme under the EU Framework Programme.

policies including research. Council Directive 86/609/EEC¹⁶ on the protection of animals used for experimental and other scientific purposes requires that all experiments be designed to avoid distress and unnecessary pain and suffering to the experimental animals; use the minimum number of animals; involve animals with the lowest degree of neurophysiological sensitivity; and cause the least pain, suffering, distress or lasting harm. Altering the genetic heritage of animals and cloning of animals may be considered only if the aims are ethically justified and the conditions are such that the animals' welfare is guaranteed and the principles of biodiversity are respected. During the implementation of this specific programme, scientific advances and national and international provisions will be regularly monitored by the Commission so as to take account of any developments.

¹⁶ OJ L 358, 18.12.1986, p. 1.

LEGISLATIVE FINANCIAL STATEMENT FOR PROPOSALS

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

- 1.1. Title of the proposal/initiative
- 1.2. Policy area(s) concerned in the ABM/ABB structure
- 1.3. Nature of the proposal/initiative
- 1.4. Objective(s)
- 1.5. Grounds for the proposal/initiative
- 1.6. Duration and financial impact
- 1.7. Management method(s) envisaged

2. MANAGEMENT MEASURES

- 2.1. Monitoring and reporting rules
- 2.2. Management and control system
- 2.3. Measures to prevent fraud and irregularities

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

- 3.1. Heading(s) of the multiannual financial framework and expenditure budget line(s) affected
- 3.2. Estimated impact on expenditure
 - 3.2.1. *Summary of estimated impact on expenditure*
 - 3.2.2. *Estimated impact on operational appropriations*
 - 3.2.3. *Estimated impact on appropriations of an administrative nature*
 - 3.2.4. *Compatibility with the current multiannual financial framework*
 - 3.2.5. *Third-party participation in financing*
- 3.3. Estimated impact on revenue

LEGISLATIVE FINANCIAL STATEMENT FOR PROPOSALS

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Proposal for a Council decision concerning the specific programme, to be carried out by means of indirect actions, implementing the Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2012 - 2013)

1.2. Policy area(s) concerned in the ABM/ABB structure¹⁷

Research (indirect actions) and Direct Research (to be carried out by the Joint Research Centre)
08 20 Euratom Fusion
08 21 Euratom Nuclear Fission and Radiation Protection
08 22 04 Appropriations accruing from contributions from third parties to research and technological development
08 01 Administrative expenditure Research policy areas
08 01 04 40 European Joint undertaking (F4E) Expenditure on Administrative management
08 01 05 01 Expenditure related to Research Staff
08 01 05 02 External staff for Research
08 01 05 03 Other management expenditure for Research

1.3. Nature of the proposal/initiative

- The proposal/initiative relates to **a new action**
- The proposal/initiative relates to **a new action following a pilot project/preparatory action**¹⁸
- The proposal/initiative relates to **the extension of an existing action**
- The proposal/initiative relates to **an action redirected towards a new action**

1.4. Objectives

1.4.1. *The Commission's multiannual strategic objective(s) targeted by the proposal/initiative*

The Specific Programme is one of the building blocks of the European energy research policy and the EU 2020 strategy, especially the Innovation Union. The Specific Programme enhances competition for scientific excellence and supports innovation in the nuclear energy field to tackle the challenges presented by energy and climate change. The current proposal addresses in detail the period 2012-13, but the activities remain fully consistent with the key milestones for technological development in the nuclear field over the next decade as laid out in the European Strategic Energy Technology Plan (SET-Plan).

¹⁷ ABM: Activity-Based Management – ABB: Activity-Based Budgeting.
¹⁸ As referred to in Article 49(6)(a) or (b) of the Financial Regulation.

1.4.2. *Specific objective(s) and ABM/ABB activity(ies) concerned*

Specific objective No.1 Developing the knowledge base for, and realising ITER as a major step towards, the creation of prototype reactors for power stations that are safe, sustainable, environmentally responsible, and economically viable.

Specific objective No.2 Establishing a sound scientific and technical basis in order to accelerate practical developments for the safer management of long-lived radioactive waste, enhancing in particular the safety, resource efficiency and cost-effectiveness of nuclear energy and ensuring a robust and socially acceptable system of protection of man and the environment against the effects of ionising radiation.

1.4.3. *Expected result(s) and impact*

The proposed Specific Programme will have the following impacts:

Euratom nuclear fission and radiation protection: Impacts can be expected in many fields, including furthering the safe and more sustainable exploitation of nuclear energy, further significant steps towards safe implementation of geological disposal of high-level and long-lived nuclear waste, and ensuring more robust regulation of industrial and medical practices involving the use of ionising radiation.

Euratom Fusion: The construction and operation of ITER is a long term project and will deliver results over the forthcoming decades. Successful construction and exploitation of ITER accompanied by appropriate R&D programme will lead to the possibility of constructing a demonstration fusion reactor.

1.4.4. *Indicators of results and impact*

Euratom Fusion:

ITER construction: number of milestones met by the Joint Undertaking Fusion for Energy (F4E).

JET facility: number of scientific publications on JET

EFDA coordinated activities: completion of deliverables under EFDA Task Agreements, number of fusion researchers and engineers trained for the needs of ITER and the Fusion R&D programme

Mobility Agreement: Level of researcher mobility in fusion R&D

Euratom Nuclear Fission and Radiation protection:

Percentage of projects' proposals which: (i) successfully addressed the criteria of scientific and/or technological excellence (ii) achieved their objectives and technical goals and have even exceeded expectations (iii) addressed the criterion of dissemination and use of project results (iv) showed evidence that they will produce significant scientific, technical, commercial, social or environmental impacts.

1.5. Grounds for the proposal/initiative

1.5.1. Requirement(s) to be met in the short or long term

The proposed Specific Programme will address different scientific and technological challenges in order to meet short and long term goals of the SET-Plan. For more details please refer to the ex ante evaluation.

1.5.2. Added value of EU involvement

The added value of Euratom involvement in nuclear research is linked to cross border effects and economies of scale. Some nuclear research activities are of such a scale that few Member State could provide the necessary resources and expertise. Euratom projects in fission, fusion and radiation protection provide ‘critical mass’, lowering commercial risk and leveraging private investment. Euratom actions help to transfer skills and knowledge across frontiers, by enhancing R&D capabilities, quality and competition, and improving human capacity through training, mobility and career development. For more details please refer to the ex ante evaluation.

1.5.3. Lessons learned from similar experiences in the past

The current 7th Euratom Framework Programme (2007-2011) was subject to the interim evaluation carried out by panel of independent experts. For more details please refer to the ex ante evaluation.

1.5.4. Coherence and possible synergy with other relevant instruments

Proposed Specific Programme is coherent with the objectives of the SET-Plan and EU 2020 Strategy. For more details please refer to the ex ante evaluation and explanatory memorandum.

1.6. Duration and financial impact

Proposal/initiative of **limited duration**

- Proposal/initiative in effect from [01/01]2012 to [31/12]2013
- Financial impact from 2012 to 2022 (estimated end of projects)

1.7. Management mode(s) envisaged¹⁹

Centralised direct management by the Commission

Centralised indirect management with the delegation of implementation tasks to:

- executive agencies
- bodies set up by the Communities²⁰
- national public-sector bodies/bodies with public-service mission
- persons entrusted with the implementation of specific actions pursuant to Title V of the Treaty on European Union and identified in the relevant basic act within the meaning of Article 49 of the Financial Regulation

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

The Commission will continually and systematically monitor the implementation of the Euratom Framework Programme and its specific programmes and regularly report and disseminate the results of this monitoring. Following the completion of the Framework Programme and its specific programmes, the Commission will launch, not later than two years after its completion (2015) an external evaluation by independent experts of its rationale, implementation and achievements.

2.2. Management and control system

2.2.1. Risk(s) identified

In line with the Commission requirements, a risk assessment exercise is performed annually for identifying the risks and indicating the corrective actions proposed. The identified risks, the corrective measures and the indicative timetable are taken up as part of the Commission's Management Plan.

2.2.2. Control method(s) envisaged

Several control methods are applied, as was the case throughout Euratom 7th Framework Programme (2007-2011), including ex-ante control measures and randomly selected biannual ex-post verifications in the framework of the internal control scheme. Moreover, the requirement for audit certificates and the performance of regular independent external audits help to ensure sound financial management, including regularity and legality of the transactions performed.

¹⁹ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site: http://www.cc.cec/budg/man/budgmanag/budgmanag_en.html

²⁰ As referred to in Article 185 of the Financial Regulation.

2.3. Measures to prevent fraud and irregularities

Appropriate measures will be taken to prevent irregularities and fraud and the necessary steps shall be taken to recover funds lost, wrongly paid or incorrectly used in accordance with Council Regulation (EC, EURATOM) No 1605/2002 of 25 June 2002 on the Financial Regulation applicable to the general budget of the European Communities, Commission Regulation (EC, EURATOM) No 2342/2002 of 23 December 2002 laying down detailed rules for implementation of the Financial Regulation, Council Regulations (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests, (EC, Euratom) No 2185/96 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities and Regulation (EC) No 1073/1999 of the European Parliament and of the Council concerning investigations conducted by the European Anti-Fraud Office (OLAF).

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading(s) of the multiannual financial framework and expenditure budget line(s) affected

- Existing expenditure budget lines

In order of multiannual financial framework headings and budget lines.

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
	Number [Description.....]]	DA/NDA (21)	from EFTA ²² countries	from candidate countries ²³	from third countries	within the meaning of Article 18(1)(aa) of the Financial Regulation
1 a	08 20 Euratom Fusion Energy 08 21 Euratom Nuclear Fission and Radiation Protection 08 22 04 Appropriations accruing from contributions from third parties to research and technological development	DA	NO	YES/NO *	YES	YES
	08 01 Administrative expenditure Research 08 01 04 40 European Joint Undertaking for ITER (F4E) administrative management 08 01 05 01 Expenditure related to Research Staff 08 01 05 02 External staff for Research 08 01 05 03 Other management expenditure for Research	NDA	NO	YES/NO *	YES	NO

* discussions with Turkey related to Nuclear Research are ongoing.

- New budget lines requested

Not applicable

²¹

DA= Differentiated appropriations / DNA= Non-Differentiated Appropriations

²²

EFTA: European Free Trade Association.

²³

Candidate countries and, where applicable, potential candidate countries from the Western Balkans.

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure EUR million (to 3 decimal places)

Heading of multiannual financial framework:	1 a		Competitiveness for Growth and Employment			
			Year	Year	Year	TOTAL
Indirect Research			2012	2013	≥ 2014	
• Operational appropriations			2012	2013	≥ 2014	
Number of budget line: 08 2x total	Commitments	(1)	1,183.379	992.804	0	2,176.183
	Payments	(2)	436.422	898.164	841.597	2,176.183
Number of budget line: 08 20	Commitments	(1)	1,129.274	936.965	0	2,066.239
	Payments	(2)	401.822	863.164	801.253	2,066.239
Number of budget line: 08 21	Commitments	(1)	54.105	55.839	0	109.944
	Payments	(2)	34.600	35.000	40.344	109.944
Appropriations of an administrative nature financed from the envelop of specific programs ²⁴						
08 01 xx xx total			74.054	76.817	0	150.871
08 01 04 40 European Joint undertaking (F4E)			39.000	39.780		
08 01 05 01 Expenditure related to Research Staff			23.456	25.230		
08 01 05 02 External staff for Research			1.637	1.555		
08 01 05 03 Other management expenditure Research			9.961	10.252		
Number of budget line: 08 01	(3)		74.054	76.817		150.871
TOTAL appropriations for DG Research & Innovation	Commitments	=1+1a+3	1,257.433	1,069.621	0	2,327.054
	Payments	=2+2a+3	510.476	974.981	841.597	2,372.054

²⁴ Technical and/or administrative assistance and expenditure in support of the implementation of EU programmes and/or actions (former "BA" lines), indirect research, direct research.

• TOTAL operational appropriations	Commitments	(4)	1,183.379	992.804		2,176.183
	Payments	(5)	436.422	898.164	841,597	2,176.183
• TOTAL appropriations of an administrative nature financed from the envelop of specific programs		(6)	74.054	76.817	0	150.871
TOTAL appropriations under HEADING 1 a of the multiannual financial framework	Commitments	=4+ 6	1,257.433	1,069.621	0	2,327.054
	Payments	=5+ 6	510.476	974.981	841.597	2,327.054

If more than one heading is affected by the proposal / initiative:

• TOTAL operational appropriations	Commitments	(4)				
	Payments	(5)				
• TOTAL appropriations of an administrative nature financed from the envelop of specific programs		(6)				
TOTAL appropriations under HEADINGS 1 to 4 of the multiannual financial framework (Reference amount)	Commitments	=4+ 6				
	Payments	=5+ 6				

Heading of multiannual financial framework:	5	" Administrative expenditure "		
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EUR million (to 3 decimal places)

		Year 2012	Year 2013	TOTAL
DG: Research & Innovation / Direct Research				
• Human resources		0	0	0
• Other administrative expenditure		0	0	0
TOTAL DG <.....>	Appropriations	0	0	0

TOTAL appropriations under HEADING 5 of the multiannual financial framework	(Total = Total payments)	commitments	0	0	0
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EUR million (to 3 decimal places)

		Year 2012	Year 2013	Year ≥ 2014	TOTAL
TOTAL appropriations under HEADINGS 1 to 5 of the multiannual financial framework	Commitments	0	0	0	0
	Payments	0	0	0	0

3.2.2. Estimated impact on operational appropriations

- The proposal/initiative does not require the use of operational appropriations
- The proposal/initiative requires the use of operational appropriations, as explained below:

Commitment appropriations in EUR million (to 3 decimal places)

Indicate objectives and outputs ↓			Year 2012	Year 2013		TOTAL		
	OUTPUTS							
	Type of output ²⁵	Average cost of the output	Number of outputs	Cost	Number of outputs	Cost	Total number of outputs	Total cost
SPECIFIC OBJECTIVE No 1 ²⁶ ...								
- Output – EURATOM Fusion	**	**	50*	1,129.274	50*	936.965	100*	2,066.239
- Output – EURATOM Fission			20*	54.105	20*	55.839	40*	109.944
Sub-total for specific objective N°1			70*	1,183.379	70*	992.804	140*	2,176.183
SPECIFIC OBJECTIVE No 2...								
Sub-total for specific objective N°2								
TOTAL COST				1,183.379		992.804		2,176.183

(*) estimated number of outputs

(**) usual output of a research grant is a report describing facts, findings and results. The output of the ITER project will be annual activity reports provided by F4E (Barcelona agency).

The average costs are not shown. Such information would be not useful given the amounts at stake in our running projects (ITER).

²⁵ Outputs are products and services to be supplied (e.g.: number of student exchanges financed, number of km of roads built, etc.).

²⁶ As described in Section 1.4.2. "Specific objective(s)..."

3.2.3. Estimated impact on appropriations of an administrative nature

3.2.3.1. Summary

- The proposal/initiative does not require the use of administrative appropriations
- The proposal/initiative requires the use of administrative appropriations, as explained below:

EUR million (to 3 decimal places)

	Year 2012 - N ²⁷	Year 2013 - N+1	TOTAL
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HEADING 5 of the multiannual financial framework			
Human resources			
Other administrative expenditure			
Subtotal HEADING 5 of the multiannual financial framework			

Outside HEADING 5²⁸ of the multiannual financial framework	Indirect Research	Indirect Research	Indirect Research
Human resources	58.863	61.230	120.093
Other expenditure of an administrative nature	15.191	15.587	30.778
Subtotal outside HEADING 5 of the multiannual financial framework	74.054	76.817	150.871

TOTAL	74.054	76.817	150.871
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²⁷

Year N is the year in which implementation of the proposal/initiative starts.

²⁸

Technical and/or administrative assistance and expenditure in support of the implementation of EU programmes and/or actions (former "BA" lines), indirect research, direct research.

3.2.3.2. Estimated requirements of human resources

- The proposal/initiative does not require the use of human resources
- The proposal/initiative requires the use of human resources, as explained below:

Estimate to be expressed in full amounts (or at most to one decimal place)

	Year 2012 - N	Year 2013 - N+1
• Establishment plan posts (officials and temporary agents)		
X 01 01 01 (Headquarters and Commission's Representation Offices)		
xx 01 01 02 (Delegations)		
08 01 05 01 (Indirect research)	190	190
10 01 05 01 (Direct research)		
• External personnel (in Full Time Equivalent unit: FTE)²⁹		
XX 01 02 01 (CA, INT, SNE from the "global envelope")		
XX 01 02 02 (CA, INT, JED, LA and SNE in the delegations)		
08 01 04 40³⁰	- at Headquarters ³¹	
	- in delegations (F4E Barcelona agency-ITER):	
	- officials and temporary agents	262
	- CA GFI-IV	150
	- SNE	10
08 01 05 02 (CA, INT, SNE - Indirect research)	40	40
01 05 02 (CA, INT, SNE - Direct research)		
Other budget lines (specify)		
TOTAL	652	652

XX is the policy area or budget title concerned.

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

²⁹ CA= Contract Agent; INT= agency staff ("*Intérimaire*"); JED= "*Jeune Expert en Délégation*" (Young Experts in Delegations); LA= Local Agent; SNE= Seconded National Expert;

³⁰ Under the ceiling for external personnel from operational appropriations (former "BA" lines).

³¹ Essentially for Structural Funds, European Agricultural Fund for Rural Development (EAFRD) and European Fisheries Fund (EFF).

Officials and temporary agents	Tasks derived from the nuclear research/direct and indirect research specific programme, in particular related to nuclear waste management, nuclear safety and nuclear safeguards and security.
External personnel	

3.2.4. *Compatibility with the current multiannual financial framework*

- Proposal/initiative is compatible the current multiannual financial framework.
- Proposal/initiative will entail reprogramming of the relevant heading in the multiannual financial framework.

The proposals for the Euratom Framework Programme 2012-2013 provides a general framework for research activities in the nuclear field and an appropriate budget. However, the draft appropriations initially foreseen for the nuclear research in the Multiannual Financial Framework for 2007-2013 (Mff) are insufficient due to the substantial cost increase of the ITER project. The Commission proposes that the legislative process concerning proposals for Euratom FP for 2012-13 will be carried out in parallel to the on-going discussion on the budget for ITER as well as the new 2012 budgetary procedure. Agreement on additional funding through redeployment between Headings and within the Heading (in accordance with the table that follows) will allow for swift adoption of the Euratom research programme in 2011.

	Transfer between Headings € Million	Redeployment within heading 1A € Million	Total
2012	650	100	750
2013	190	360	550
Total	840	460	1300

- Proposal/initiative requires application of the flexibility instrument or revision of the multiannual financial framework³².

Not applicable

3.2.5. *Third-party contributions*

- The proposal/initiative does not provide for co-financing by third parties
- The proposal/initiative provides for the co-financing estimated below:

Appropriations in EUR million (to 3 decimal places)

	Year 2012	Year 2013
<i>Specify the co-financing body</i>	Third countries associated to the programme	
TOTAL appropriations co-financed *	pm	

* Third party contributions are not fixed yet; they will be added at a later stage

³² See points 19 and 24 of the Inter institutional Agreement.

3.3. Estimated impact on revenue

- Proposal/initiative has no financial impact on revenue.
- Proposal/initiative has the following financial impact:
 - on own resources
 - on miscellaneous revenue

EUR million (to 3 decimal places)

Budget revenue line:	Appropriations available for the ongoing budget exercise	Impact of the proposal/initiative ³³	
		Year 2012	Year 2013
Item 6011*		pm	pm
Item 6012*		pm	pm
Item 6031*		pm	pm

* The agreements on the Swiss contribution as well as on the JET Joint Fund contribution are not yet finalised. Discussions with Turkey related to cooperation in Nuclear Research are ongoing.

For miscellaneous assigned revenue, specify the budget expenditure line(s) affected.

08 22 04 Appropriations accruing from contributions from (non-European Economic Area) third parties to research and technological development

Specify the method for calculating the impact on revenue.

Certain associated states may contribute to a supplementary funding of the framework programme through association agreements. The method of calculation has been agreed in these Association Agreements and is not necessarily the same in all agreements. Mostly the calculations are based on the GDP of the Associates State compared to the GDP of the Member States whilst applying this percentage to the overall operational budget.

³³ As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 25% for collection costs.