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2011/0046 (NLE)

Proposal for a

COUNCIL DECISION

concerning the Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2012 - 2013)

{COM(2011) 71 final}
{COM(2011) 73 final}
{COM(2011) 74 final}
{SEC(2011) 204 final}

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

1.1 Grounds for and objectives of the proposal

The Euratom Treaty limits research programmes in the nuclear field to 5 years. The legislation in force will expire at the end of 2011. The proposal accompanying this memorandum is for the adoption of a Council decision concerning Euratom's Framework Programme for 2012-2013.

The Euratom Framework Programme concerns research activities in nuclear energy (fusion and fission) and radiation protection. It determines the overall budget for direct and indirect actions, sets the objectives of R&D activities and specifies the instruments for supporting them. Detailed scientific objectives are established by the Specific Programmes.

The overall aim of the proposal is to ensure the continuation of EU-funded research and training activities in nuclear science and technology during the years 2012-13, thereby maintaining the effective and efficient programmes currently catalysing and coordinating activities in Member States in order to maximise EU added value.

For example, the Euratom Framework Programme is crucial if Europe is to maximise the return on investment in ITER which has now entered its construction phase and relies on the continued support of Europe's fusion energy research programme.

Also, research co-funded by Euratom plays an important role in enhancing the safety, resource efficiency and cost-effectiveness of nuclear fission and other uses of radiation in industry and medicine, and some of the research project are playing a key initiating role in the recently launched European Sustainable Nuclear Industrial Initiative (ESNII), one of the six European industrial initiatives launched under the European Strategic Energy Technology Plan (SET-plan) in 2010.

The proposals for the Euratom Framework Programme are clearly linked to the objectives of the Europe 2020 and Energy 2020 strategies. The programme will contribute to the "Innovation Union" flagship by supporting pre-commercial research and facilitating technology transfer process between academia and industry and to the "Resource efficient Europe" flagship by greatly increasing the overall sustainability of nuclear energy. By putting emphasis on training in all its activities, boosting competitiveness in the current nuclear industry and creating a new sector of high-tech industry for fusion energy in particular, the Euratom programme will lead to growth and new jobs in a wide range of disciplines.

Proposals for the Euratom Framework Programme follow up the conclusions of the European Council (4 February 2011) which agreed that the EU and its Member States will promote investment in renewables, safe and sustainable low carbon technologies and focus on implementing the technology priorities established in the SET-plan. Both nuclear fission and fusion are identified in the SET-Plan as energy technologies which Europe must maintain, develop and deploy in order to meet its short and longer term energy objectives.

Proposals for the Euratom Framework Programme (2012-2013) take account of the simplification process, launched by the Commission in 2010, which makes current and future research programme more attractive and more accessible to the best researchers and most

innovative companies. Simplification measures for the Euratom Framework Programme (2012-2013) will be implemented through the Commission decision C(2011)174 of 24 January 2011.

1.2 Budget for Euratom Framework Programme 2012-2013 (including ITER)

The proposals for the Euratom Framework Programme for 2012-13 provide a general framework for research activities in the nuclear field and an appropriate budget. However, the draft appropriations initially foreseen for nuclear research in the Multiannual Financial Framework for 2007-2013 (MFF) are insufficient owing to the substantial cost increase of the ITER project.

The cost increase of the ITER project was the subject of an in-depth assessment in the Commission Communication "ITER status and possible way forward"[1]. If no decision were taken on the increase of budget for ITER, Euratom's contribution to ITER would be limited to the appropriations foreseen for this purpose in the MFF, which would as a consequence prevent Euratom from fulfilling its legal obligations under the ITER agreement.

In its conclusions of 12 July 2010, the Council reaffirmed its commitment to ITER, acknowledged its increased financing needs and set out a number of guidelines on cost containment and management. The Council agreed on a 6.6 billion € (in 2008 value) limit of the European contribution to the construction phase of ITER until 2020. This includes EUR 1.4 billion during period of 2012-2013. The Council also mandated the Commission to support the adoption of the ITER Baseline, which prompted the Commission's proposal to amend the Multiannual Financial Framework, to address additional financing needs of ITER[2].

At the extraordinary ITER Council meeting of 28 July 2010 the Baseline was adopted. Euratom's support was given *ad referendum*.The European Parliament and the Council are still to approve the Commission's proposed amendments.

Following Commission's proposal to amend the MFF, the Council reached an agreement in November 2010 on the use of existing margins of the 2010 budget and redeployment within the MFF and 7th EU Research Framework Programme to cover the additional ITER needs at the level of EUR 1.3 billion, i.e. 100 Million € short of the needs of 1.4 Billion € acknowledged by the Council conclusions of 12 July 2010. The reduction of 100 Million € for the period 2012-2013 does not contradict, nor cancel, the Council's commitment to an overall European contribution to the ITER construction costs at the level of 6.6 Billion €.

In the frame of the conciliation procedure for the 2011 budget and the linked discussion on the flexibility instrument, the budgetary authority did not conclude an agreement on additional European funding for ITER. Therefore, a decision on that matter, based on the Commission's proposal[3] will have to be taken as soon as possible during 2011.

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1 Communication from the Commission "ITER status and possible way forward", COM(2010)226, SEC(2010)571

2 Proposal for a decision of the European Parliament and of the Council amending the Interinstitutional Agreement of 17 May 2006 on budgetary discipline and sound financial management as regards the multiannual financial framework, to address additional financing needs of the ITER project, COM(2010) 403

3 Proposal for a decision of the European Parliament and of the Council amending the Interinstitutional Agreement of 17 May 2006 on budgetary discipline and sound financial management as regards the

The Commission proposes that, in these circumstances, 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 and the 2012 budget. Agreement on additional funding will allow for swift adoption of the Euratom research programme in 2011, a decision that will be important in view of maintaining Euratom's support for exploitation of nuclear facilities such as JET as well as JRC direct actions.

1.3 Content of the Euratom Framework Programme for 2012-2013

This Framework Programme is part of a legislative package that contains proposals for decisions for the Framework Programme itself, two Specific Programmes (for direct and indirect actions), and the Rules for Participation. It presents the scientific and technological objectives of research activities and provides appropriate rules for the participation of research organisations, universities and industry. It will cover the construction of ITER, the accompanying fusion energy research programme, the fission and radiation protection research activities, and the JRC direct actions in nuclear security and safety.

The Euratom Framework Programme for 2012-13 contains broadly the same scientific, technical and strategic objectives and uses the same funding schemes as the current Euratom FP7 programme (2007-2011). Nonetheless, the programme has evolved over the last five years, and must take into account the results of recent research and the new policy context and research landscape in Europe. Regarding policy, the most significant development has been the adoption and endorsement of the SET-Plan as part of a broad portfolio approach to addressing future energy challenges.

The broad objectives for the Euratom Framework Programme for the years 2012-13 are:

– in the area of fusion energy research, to develop the technology for a safe, sustainable, environmentally responsible and economically viable energy source;

– in the area of nuclear fission and radiation protection, to enhance the safety, resource efficiency and cost-effectiveness of nuclear fission and other uses of radiation in industry and medicine, and to enhance nuclear security (nuclear safeguards, non-proliferation, combating illicit trafficking and nuclear forensics).

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

2.1 Consultations with interested parties

In accordance with the Euratom Treaty the Commission has consulted Euratom's Scientific and Technical Committee (STC). The proposal for the Euratom Framework Programme is also based on the outcome of the discussions with the Council on ITER.

2.2 Collection and use of expertise

The Commission has used various sources for preparing the Euratom Framework Programme proposal, including:

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multiannual financial framework, to address additional financing needs of the ITER project, COM(2010) 403

– 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 from the JRC Board of Governors;

– input on the extension of Euratom FP7 and the preparation of future research programmes from Euratom's Scientific and Technical Committee (STC)

– reports such as vision documents and strategic research agendas prepared by the Technology Platforms/technical forums in the nuclear field – the Sustainable Nuclear Energy Technology Platform (SNETP)[4], Implementing Geological Disposal Technology Platform (IGD-TP)[5] and Multidisciplinary European Low Dose Initiative (MELODI)[6].

2.3 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.

3. LEGAL ELEMENTS OF THE PROPOSAL

3.2 Legal basis

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

3.2 Subsidiarity and proportionality principle

The added value of Euratom involvement in nuclear research is intimately linked to cross-border effects, economies of scale, and contributing to the resolution of market failures. Euratom projects in fission, fusion and radiation protection can allow research to achieve the required 'critical mass', while lowering commercial risk and levering private investment. Euratom actions also play a key role in transferring nuclear skills and knowledge across frontiers, helping to foster excellence in research and innovation through enhancing capability, quality and European-wide competition, and improving human capacity through training, mobility and career development.

4. BUDGETARY IMPLICATION

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

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4 www.snetp.eu

5 www.igdtp.eu

6 www.melodi-online.eu

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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 Parliament[7],

Having regard to the opinion of the European Economic and Social Committee[8],

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) The Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2012 - 2013), hereinafter 'the Framework Programme (2012 - 2013)', should complement other Union actions in the area of research policy that are necessary for implementing the Europe 2020 strategy set out in the Communication from the Commission of 3 March 2010 entitled Europe 2020 - A strategy for smart, sustainable and inclusive growth[9], in particular those on education, training, competitiveness and innovation, industry, employment, and the environment.

(3) The Framework Programme (2012-2013) should build on the achievements of the Seventh Framework Programme of the Community adopted by Council Decision 2006/970/Euratom of 18 December 2006 concerning the Seventh Framework Programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)[10] towards the creation of the European Research Area and towards the development of a knowledge economy and society in Europe.

(4) The Framework Programme (2012-2013) should contribute to the implementation of the Innovation Union, one of the Europe 2020 flagship initiatives adopted by the

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7 Opinion delivered on XXX
8 OJ C XXX
9 COM(2010) 2020 final.
10 OJ L 460, 30.12.2006. p. 60.

Communication from the Commission of 6 October 2010 entitled Europe 2020 Flagship Initiative Innovation Union[11], by enhancing competition for scientific excellence and accelerating the deployment of key innovations in the nuclear energy field to tackle energy and climate change challenges.

(5) The Energy Policy for Europe recognises the potential contribution from nuclear power in the areas of competitiveness, CO2 emission reduction and security of supply. The European Strategic Energy Technology Plan (SET-Plan) set out in the Communication from the Commission of 22 November 2007 entitled European Strategic Energy Technology Plan (SET-Plan) – Towards a low carbon future[12] is accelerating the development of a portfolio of low carbon technologies. Nuclear energy technologies are included in this portfolio as they have the greatest potential to meet the energy and climate objectives in both the short and longer term.

(6) The SET-Plan acknowledges that, in the field of nuclear fission, the key technology challenges for meeting the Union's agreed 2020 energy targets are to maintain competitiveness in fission technologies and to ensure long-term waste management solutions. In order to achieve the 2050 vision of a low-carbon society, the SET-Plan mandates the Community to complete the preparations for the demonstration of a new generation (Generation-IV) of fission reactors for increased sustainability. In particular, the SET-Plan has established a European Industrial Initiative in Sustainable Nuclear Fission.

(7) The SET-Plan, in the field of fusion, recognises the importance of ITER and the need to involve industry early in preparing demonstration actions. DEMO, a 'demonstration' fusion power station, constitutes a long term strategic goal of fusion research.

(8) The European Council agreed, at the meeting on 4 February 2011, that the EU and its Member States will promote investment in renewables, safe and sustainable low carbon technologies and focus on implementing the technology priorities established in the European Strategic Energy Technology Plan (SET Plan).

(9) Euratom has created a single and fully integrated fusion research programme that has taken a leading international role in the development of fusion as a source of energy.

(10) Following the Council Decision of 20 December 2005 concerning the approval of the accession of the European Atomic Energy Community to a Framework Agreement for International Collaboration on Research and Development of Generation IV Nuclear Energy Systems, the Community acceded to the Framework Agreement of the Generation-IV International Forum (GIF) on 11 May 2006. The GIF coordinates multilateral cooperation in pre-conceptual design research on a number of advanced nuclear systems. The Community is therefore committed to international cooperation in this field, which is also closely linked with the SET-Plan.

(11) The Council Conclusions on the need for skills in the nuclear field, adopted at its meeting held on 1 and 2 December 2008, recognise that it is essential to maintain within the Community a high level of training in the nuclear field.

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11 COM (2010) 546 final

12 COM (2007) 723 final

(12) In 2010, the Commission received the final reports on an external assessment of implementation and results of the Community activities in nuclear research over the period 2007-2009, covering both direct and indirect actions.

(13) The realisation of ITER in Europe, in accordance with the Agreement of 21 November 2006 on the establishment of the ITER International Fusion Energy Organisation for the joint implementation of the ITER project[13], should be the central feature of fusion research activities under the Framework Programme (2012-2013).

(14) The Community activities to help realise ITER, in particular to construct ITER at Cadarache and carry out the ITER Technology R&D during the Framework Programme (2012-2013) are to be steered by the European Joint Undertaking for ITER and the Development of Fusion Energy (Fusion for Energy), following the Council Decision 2007/198/Euratom of 27 March 2007 establishing the European Joint Undertaking for ITER and the Development of Fusion Energy and conferring advantages upon it[14].

(15) Research activities supported by this Framework Programme should respect fundamental ethical principles, including those reflected in the Charter of Fundamental Rights of the European Union.

(16) This Decision should establish, for the entire duration of the Framework Programme (2012-2013), a financial envelope that constitutes the prime reference, within the meaning of point 37 of the Interinstitutional Agreement between the European Parliament, the Council and the Commission of 17 May 2006 on budgetary discipline and sound financial management[15], for the budgetary authority during the annual budgetary procedure.

(17) The Joint Research Centre (JRC) should contribute to providing customer-driven scientific and technological support for the formulation, development, implementation and monitoring of the Union's policies. In this regard, the JRC should continue to function as an independent reference centre of science and technology in the Union in the areas of its specific competence.

(18) The international and global dimension of European research activities is important with a view to obtain mutual benefits. The Framework Programme (2012-2013) should be open to the participation of countries that have concluded the necessary agreements to this effect, and should also be 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.

(19) The Framework Programme (2012-2013) should contribute to the enlargement of the Union by providing scientific and technological support to the candidate countries for their implementation of the Union acquis and for their integration within the European Research Area.

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13 OJ L 358,16.12.2006, p 62.

14 OJ L 90, 30.3.2007, p. 58.

15 OJ C 139, 14.6.2006, p. 1. [COMMENTS:] to be updated if and when the new framework agreement is adopted

(20) The Communication from the Commission of 26 March 2009 on nuclear non-proliferation[16], recognises the role of the JRC in the field of nuclear security research and training.

(21) Appropriate measures should also be taken to prevent irregularities and fraud and to recover funds lost, wrongly paid or incorrectly used, in accordance with Council Regulation (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests[17], 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 irregularities[18] and Council Regulation (Euratom) No. 1074/1999 of 25 May 1999 concerning investigations conducted by the European Anti-Fraud Office (OLAF)[19]

(22) The Commission has consulted the Euratom Scientific and Technical Committee.

HAS ADOPTED THIS DECISION:

Article 1

Adoption of the Framework Programme

A multiannual framework programme for nuclear research and training activities, hereinafter the 'Framework Programme (2012-2013)', is adopted for the period from 1 January 2012 to 31 December 2013.

Article 2

Objectives

1. The Framework Programme (2012-2013) shall pursue the general objectives set out in Article 1 and Article 2(a) of the Treaty, while contributing towards the creation of the Innovation Union and building on the European Research Area.

2. The Framework Programme (2012-2013) shall cover Community research, technological development, international cooperation, dissemination of technical information, exploitation activities and training, to be set out in two specific programmes.

3. The first specific programme shall cover the following indirect actions:

   a) fusion energy research, with the objective of developing the technology for a safe, sustainable, environmentally responsible and economically viable energy source;

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16 COM(2009)143
17 OJ L 312, 23.12.1995, p. 1.
18 OJ L 292, 15.11.1996, p. 2.
19 OJ L 136, 31.5.1999, p. 8.

b) nuclear fission and radiation protection, with the objective of enhancing resource efficiency, cost-effectiveness and in particular the safety of nuclear fission and other uses of radiation in industry and medicine.

4. The second specific programme shall cover the direct research activities of the Joint Research Centre (JRC) in the field of nuclear safety and security.

5. The objectives and broad lines of the specific programmes are set out in Annex I.

Article3

Maximum amount and shares assigned to each specific programme

The maximum amount for the implementation of the Framework Programme (2012-2013) shall be EUR 2 560 270 000. This amount shall be distributed as follows (in EUR):

a) for the specific programme, to be carried out by means of indirect actions:

– fusion energy research 2 208 809 000;

– nuclear fission and radiation protection 118 245 000;

b) for the specific programme, to be carried out by means of direct actions:

– nuclear activities of the JRC 233 216 000.

The detailed rules for Community financial participation in the Framework Programme (2012-2013) are set out in Annex II.

Article 4

Protection of the Union's financial interests

For Community actions financed under this Decision, Regulations (EC, Euratom) No 2988/95 and (Euratom, EC) No 2185/96 shall apply to any infringement of a provision of Union law, including the infringement of a contractual obligation under the Framework Programme (2012-2013), resulting from an act or omission by an economic operator, which has, or would have, the effect of prejudicing the general budget of the European Union or budgets managed by it as a result of an unjustified item of expenditure.

Article 5

Fundamental ethical principles

All the research activities carried out under the Framework Programme (2012-2013) shall be carried out in compliance with fundamental ethical principles.

Article 6

Monitoring, assessment and review

1. The Commission shall continually and systematically monitor the implementation of the Framework Programme (2012-2013) and its specific programmes and regularly report and disseminate the results of this monitoring.

2. Following the completion of the Framework Programme (2012-2013), the Commission shall, by 31 December 2015, have an external evaluation carried out by independent experts of its rationale, implementation and achievements. The Commission shall communicate the conclusions thereof, accompanied by its observations, to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.

Article 7

Entry into force

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 I

SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES, THEMES AND ACTIVITIES

INTRODUCTION

The Framework Programme (2012-2013) is organised in two parts corresponding to the 'indirect' actions on fusion energy research and nuclear fission and radiation protection, and the 'direct' research activities of the JRC.

I.A. FUSION ENERGY RESEARCH

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.

Rationale

Fusion has the potential to make a major contribution to the realisation of a sustainable and secure energy supply for the Union a few decades from now. Its successful development would provide energy which is safe, sustainable and environmentally friendly. The long-term goal of European fusion research, embracing all the fusion activities in the Member States and associated third countries, is the joint creation of prototype reactors for power stations which meet these requirements, and are economically viable.

The first priority of the strategy to achieve the long-term goal is the construction of ITER (a major experimental facility which will demonstrate the scientific and technical feasibility of fusion power), followed by the construction of a demonstration fusion power plant (DEMO). ITER construction will be accompanied by a focussed programme of supporting R&D for ITER and limited activities on the technologies and physics required for DEMO.

The global dimension of fusion R&D is embodied in the agreement establishing the International Fusion Energy Organisation for the ITER Project and the Agreement between the Government of Japan and the Community for the Broader Approach Activities in the Field of Fusion Energy Research.

International cooperation is also pursued within eight bilateral fusion Cooperation Agreements in force between the Community and third countries.

Activities

1. The realisation of ITER

This includes activities for the joint realisation of ITER, in particular governance of the ITER International Organisation and the European Joint Undertaking for ITER, management and staffing, general technical and administrative support, construction of equipment and installations and support for the project during construction.

2. R&D in preparation of ITER operation

A focused physics and technology programme will exploit the Joint European Torus (JET) and other ITER-relevant magnetic confinement devices. It will assess specific key ITER technologies, consolidate ITER project choices, and prepare for ITER operation.

3. Limited technology activities in preparation of DEMO

Fusion materials and key technologies for fusion will be further developed, and the work of the team preparing for the construction of the International Fusion Materials Irradiation Facility (IFMIF) will continue.

4. R&D activities for the longer term

There will be limited activities on improved concepts for magnetic confinement schemes (focussed on the preparation for operation of the W7-X stellarator device), and theory and modelling aimed at a comprehensive understanding of fusion plasmas.

5. Human resources, education and training

In view of the immediate and medium term needs of ITER, and for the further development of fusion, initiatives aimed at training the "ITER Generation", in terms of numbers, range of skills and high-level training and experience will be pursued.

6. Infrastructures

ITER will be a new research infrastructure with a strong European dimension.

7. Industry and technology transfer processes

New organisational structures are needed for swift transfer of innovations deriving from ITER to European industry. This will be a task 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

Objective

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.

Rationale

Nuclear power constitutes an important element in the debate on combating climate change and reducing Europe's dependence on imported energy. More advanced nuclear technology offers the prospect of significant improvements in efficiency and use of resources, while ensuring even higher safety levels and producing less waste than current designs. Current European initiatives in this area are within scope of the Strategic Energy Technology Plan (SET-Plan), which has been endorsed by the Council and the European Parliament, and also contribute to the collaborative activities being undertaken with major third countries within the Generation IV International Forum (GIF).

Three major European cooperative initiatives in nuclear science and technology have been launched since the start of the Seventh Euratom Framework Programme. They are the Sustainable Nuclear Energy Technology Platform (SNETP), the Implementing Geological Disposal Technology Platform (IGDTP) and the Multidisciplinary European Low-Dose Initiative (MELODI). The activities of both SNETP and IGDTP correspond very closely with SET-Plan priorities, and a core group of SNETP organisations are responsible for implementing ESNII, the European Sustainable Nuclear Industrial Initiative under the SET-Plan. All encompass activities within the scope of the Framework Programme (2012-2013), and can ensure that it remains as efficient and effective as possible.

There is increasing interaction between SNETP, IGDTP and MELODI and other stakeholder forums at the Union level, such as the European Nuclear Energy Forum (ENEF) and the European Nuclear Safety Regulators Group (ENSREG), and this process will also be promoted to the extent possible through Framework Programme activities.

The Euratom Framework Programme (2012-2013) is characterised by an overriding concern to promote high levels of safety. It will also continue to support initiatives to ensure that facilities, training and training opportunities in Europe remain appropriate in view of current orientations of national programmes and in the best interests of the Union as a whole. This, more than anything else, will ensure that an appropriate safety culture is maintained.

Activities

1. Geological disposal

Implementation-oriented research activities on all remaining key aspects of deep geological disposal of spent fuel and long-lived radioactive waste with, as appropriate, demonstration of the technologies and safety, and to underpin development of a common European view on the main issues related to the management and disposal of waste.

2. Reactor systems

Research 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, including waste-management aspects of the fuel cycle such as partitioning and transmutation.

3. Radiation protection

Research, in particular on the risks from low doses, medical uses and the management of accidents, to provide a scientific basis for a robust, equitable and socially acceptable system of protection that will not unduly limit the beneficial and widespread uses of radiation in medicine and industry.

4. Infrastructures

Support for the use and continued availability of, and cooperation between, key research infrastructures in the priority thematic areas above.

5. Human resources and training

Support for the retention and further development of scientific competence and human capacity in order to guarantee the availability of suitably qualified researchers, engineers and employees in the nuclear sector over the longer term.

II. NUCLEAR ACTIVITIES OF THE JOINT RESEARCH CENTRE (JRC)

Objective

The JRC Nuclear Specific Programme aims at satisfying the R&D obligations of the Treaty and supporting both Commission and Member States in the fields of safeguards and non-proliferation, waste management, safety of nuclear installations and fuel cycle, radioactivity in the environment and radiation protection. The JRC shall further strengthen its role of a European reference for the dissemination of information, training and education for professionals and young scientists.

Rationale

Nuclear power will play a strategic role in the Union's energy mix for at least the next half century, contributing to achieve the Union's target on emission of greenhouse gases, and improving the Union's independence, security and diversity of energy supply. This could be achieved within the strictest commitments towards responsible use of nuclear energy, covering safety and security.

To fulfil this goal, there is a clear need for developing knowledge, skills and competence to provide the required scientific state of the art independent and reliable expertise in support to the Union's policies in the domains of nuclear reactor and fuel cycles safety, nuclear safeguards and security. The customer driven support to the Union's policy underlined in the JRC's mission will be complemented with a proactive role within the European Research Area in undertaking high quality research activities in close contact with industry and other bodies and developing networks with public and private institutions in the Member States

Activities

1. **Nuclear waste management and environmental impact**, will focus on reducing uncertainties and solving open issues in waste disposal, in order to develop effective solutions for the management of high level nuclear waste following the two major options (direct disposal or partitioning and transmutation). Activities will also be developed to enhance the understanding and modelling of the physics, chemistry and fundamental properties of actinide materials, and the database of high accuracy nuclear reference data, for nuclear energy and non-nuclear applications (e.g. medical). To extend the radiological protection effort, further development of environmental models of radioisotope dispersion coupled with monitoring tests in environmental radioactivity in support to the harmonisation of the national monitoring process and systems will be carried out.

2. **Nuclear safety**, will contribute to implement research on existing and new fuel cycles, reactor safety of present reactors in the Union, and reactor safety on new innovative designs that can improve efficiency, safety and safeguard aspects of innovative fuel cycles, extended burn-up or of new types of fuels for the next generation. It will also pursue the development of safety requirements and advanced evaluation methods for existing and new reactor systems. In addition the JRC will strengthen the Union's position in the world by coordinating the European contribution to the Generation IV International Forum R&D initiative, by acting act as integrator and disseminating research in this area.

3. **Nuclear security**, will further support the accomplishment of Community commitments, in particular development of methods for the control of the fuel cycle facilities, the implementation of the additional protocol including environmental sampling and integrated safeguards, and the prevention of the diversion of nuclear and radioactive materials associated with illicit trafficking of such materials including the nuclear forensics.

ANNEX II

FUNDING SCHEMES

Subject to the rules for participation established for the implementation of the Framework Programme (2012-2013), the Community will support research and technological development activities, including demonstration activities in the specific programmes, through a range of funding schemes. These schemes will be used, either alone or in combination, to fund different categories of actions implemented throughout the Framework Programme (2012-2013).

1. FUNDING SCHEMES IN FUSION ENERGY

In the field of fusion energy research, the particular nature of such activities requires specific arrangements. Financial support will be given to activities carried out on the basis of procedures set out in:

1.1. Contracts of Association, between the Commission and Member States or fully associated third countries or between the Commission and entities within Member States or fully associated third countries for the execution of part of the Community fusion energy research programme in accordance to Article 10 of the Treaty;

1.2. the European Fusion Development Agreement, a multilateral agreement concluded between the Commission and organisations in, or acting for, Member States and associated third countries to provide, among other things, a framework for further research on fusion technology in associated organisations and in industry, the use of JET facilities and the European contribution to international cooperation;

1.3. the European Joint Undertaking for ITER, based on Articles 45 to 51 of the Treaty;

1.4. international agreements between the Community and third countries covering activities in the field of fusion energy research and development, in particular the ITER and the Broader Approach Agreements;

1.5. any other multilateral agreement concluded between the Community and associated organisations, in particular the Agreement on Staff Mobility;

1.6. cost-sharing actions to promote and contribute to fusion energy research with bodies in Member States or third countries associated with the Framework Programme (2012-2013) where there is no Contract of Association.

In addition to the above activities, actions to promote and develop human resources, fellowships, integrated infrastructure initiatives and specific support actions may be undertaken in particular to coordinate fusion energy research, to undertake studies in support of these activities and to support publications, information exchange, and training in order to promote technology transfer.

2. FUNDING SCHEMES IN OTHER FIELDS

The activities in fields other than fusion energy under the Framework Programme (2012-2013) will be funded through a range of funding schemes. These schemes will be used, either alone or in combination, to fund different categories of actions implemented throughout the Framework Programme (2012-2013).

The decisions on specific programmes, work programmes and calls for proposals will mention, as and when appropriate:

– the type(s) of scheme(s) used to fund different categories of actions;

– the categories of participants (such as research organisations, universities, industry, public authorities) that can benefit from them;

– the types of activities (research, development, demonstration, training, dissemination, transfer of knowledge and other related activities) that can be funded.

Where different funding schemes can be used, the work programmes may specify the funding scheme to be used for the topic on which proposals are invited.

The funding schemes are as follows:

a) To support actions that are primarily implemented on the basis of calls for proposals:

1. Collaborative projects

Support for research projects carried out by consortia with participants from different countries, aiming to develop new knowledge, new technology, products or common resources for research. The size, scope and internal organisation of projects can vary from field to field and from topic to topic. Projects can range from small or medium-scale focused research actions to larger integrating projects that mobilise a significant volume of resources for achieving a defined objective. Support for the training and career development of researchers will be included in project work plans.

2. Networks of excellence

Support for joint research programmes implemented by a number of research organisations integrating their activities in a given field and carried out by research teams under longer-term cooperation. The implementation of these joint research programmes will require the formal commitment of such organisations. Support for training and career development of researchers will be included in project work plans.

3. Coordination and support actions

Support for activities to coordinate coordinating or supporting research (networking, exchanges, trans-national access to research infrastructures, studies, conferences, contributions during construction of new infrastructure, etc.) or to promote the development of human resources (e.g. networking and setting up training schemes). These actions may also be implemented by means other than calls for proposals.

b) To support actions implemented on the basis of decisions by the Council, following a proposal from the Commission, the Community will provide financial support to multi-financed large-scale initiatives as follows:

– a financial contribution to the implementation of joint undertakings on the basis of the procedures and provisions set out in Articles 45 to 51 of the Treaty;

– a financial contribution to the development of new infrastructures of European interest.

The Community will implement the funding schemes in compliance with the provisions of the Regulation (Euratom) No XXXX/2011 for the rules for the participation of undertakings, research centres and universities, the relevant state aid instruments, in particular the framework for state aid to research and development, as well as international rules in this area. In compliance with this international framework, the scale and form of financial participation will need to be considered on

a case-by-case basis, in particular if funding from other public sector sources is available, including other sources of EU financing such as the European Investment Bank.

For participants in an indirect action pursued in a region lagging in development (convergence regions as defined in Article 5 of Council Regulation (EC) No 1083/2006[20], including regions eligible for funding from the Structural Funds under the Convergence objective and regions eligible for funding from the Cohesion Fund, and outermost regions), complementary funding from the Structural Funds will be mobilised wherever possible and appropriate.

3. DIRECT ACTIONS — JOINT RESEARCH CENTRE

The Community will have activities implemented by the JRC, which are referred to as direct actions, in accordance with Council Decision concerning the specific programme, to be carried out by means of direct actions by the Joint Research Centre, implementing the Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2012 to 2013)

[20] OJ L 210, 31.7.2006, p. 25...

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

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2. MANAGEMENT MEASURES

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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 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 structure[21]

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
10 03 - Directly financed Research operational appropriations – Euratom
10 03 01 - Nuclear action of the Joint Research Centre (JRC)
10 03 02 - Appropriations accruing from contributions from third parties
10 01 - Administrative expenditure of "Direct Research" policy area
10 01 05 - Support expenditure for operations of Direct research policy area
10 01 05 01 - Expenditure related to research staff
10 01 05 02 - External staff for research
10 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**[22]

X The proposal/initiative relates to **the extension of an existing action**

☐ The proposal/initiative relates to **an action redirected towards a new action**

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

1.4. Objectives

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

The Euratom Framework Programme is one of the building blocks of the European energy research policy and the EU 2020 strategy, especially the Innovation Union. The Euratom Framework 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).

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.

Specific objective No.3 The programme aims at satisfying the R&D obligations of the Treaty and supporting both Commission and Member States in the fields of safeguards and non-proliferation, waste management, safety of nuclear installations and fuel cycle, radioactivity in the environment and radiation protection. The JRC shall further strengthen its role of a European reference for the dissemination of information, training and education for professionals and young scientists.

1.4.3. Expected result(s) and impact

The proposed Euratom Framework Programme (2012-13) 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.

Direct actions carried out by JRC: JRC will satisfy the R&D obligations of the Treaty and supporting both Commission and Member States in the fields of safeguards and non-proliferation, waste management, safety of nuclear installations and fuel cycle, radioactivity in the environment and radiation protection. It will maintain the highest level of understanding in key phenomenon, and particular emphasis will be given to providing support for education and training of present and future scientists and engineers.

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 Euratom Framework 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 levering 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 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 Framework 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

X Proposal/initiative of **limited duration**

– **X** Proposal/initiative in effect from [01/01]2012 to [31/12]2013

– **X** Financial impact from 2012 to 2022 (estimated end of projects)

1.7. Management mode(s) envisaged[23]

X Centralised direct management by the Commission **X Centralised indirect management** with the delegation of implementation tasks to:

– ☐ executive agencies

– **X** bodies set up by the Communities[24]

– ☐ 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

[23] 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

[24] As referred to in Article 185 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, 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 it was the case throughout Euratom 7th Framework Programme (2009-2011), 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.

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 (25)	from EFTA[26] countries	from candidate countries[27]	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 **10 03** Directly financed Research – Euratom **10 03 01** Nuclear action of the Joint Research Centre (JRC) **10 03 02** Appropriations accruing from contributions from third parties	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 **10 01** Administrative expenditure Direct Research **10 01 05** Support expenditure for operations of Direct research policy area **10 01 05 01** Expenditure related to research staff **10 01 05 02** External staff for research **10 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

25 DA= Differentiated appropriations / DNA= Non-Differentiated Appropriations

26 EFTA: European Free Trade Association.

27 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			
Indirect Research			Year	Year	Year	**TOTAL**
• 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[28] **08 01 xx xx** total			74.054	76.817	0	**150.871**
08 01 04 40 European Joint undertaking (F4E) 08 01 05 01 Expenditure related to Research Staff 08 01 05 02 External staff for Research 08 01 05 03 Other management expenditure Research			39.000 23.456 1.637 9.961	39.780 25.230 1.555 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**

[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.

• 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 "

EUR million (to 3 decimal places)

		Year 2012	Year 2013	**TOTAL**
DG: Research / 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 commitments = Total payments)	0	0	**0**

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**

Summary of estimated impact on expenditure

EUR million (to 3 decimal places)

Heading of multiannual financial framework:	1 a	Competitiveness for Growth and Employment

Direct Research			Year	Year	Year	**TOTAL**
• Operational appropriations			2012	2013	≥ 2014	
Number of budget line: 10.03	**Commitments**	**(1a)**	**9.895**	**10.252**	**0**	**20.147**
	Payments	**(2a)**	**4.650**	**8.972**	**6.525**	**20.147**
Number of budget line: 10.03.01	Commitments	(1a)	9.895	10.252	0	**20.147**
	Payments	(2a)	4.650	8.972	6.525	**20.147**
Appropriations of an administrative nature financed from the envelop of specific programs[29]						
10 01 05			104.648	108.421	0	**213.069**
10 01 05 01			57.444	59.515	0	**116.959**
10 01 05 02			10.577	10.958	0	**21.536**
10 01 05 03			36.627	37.948	0	**74.574**
TOTAL appropriations for DG Research & Innovation **/ Direct Research**	Commitments	=1+1a +3	114.543	118.673	0	**233.216**
	Payments	=2+2a+3	109.298	117.393	6.525	**233.216**

• TOTAL operational appropriations	Commitments	(4)	9.895	10.252	0	**20.147**
	Payments	(5)	4.650	8.972	6.525	**20.147**
• TOTAL appropriations of an administrative nature financed from the envelop of specific programs		(6)	104.648	108.421	0	**213.069**
TOTAL appropriations under HEADING 1 a of the multiannual financial framework	Commitments	=4+ 6	114.543	118.673	0	**233.216**
	Payments	=5+ 6	109.298	117.393	6.525	**233.216**

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

[29] 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)				
	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 "

EUR million (to 3 decimal places)

		Year 2012	Year 2013	**TOTAL**
DG: Research / 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 commitments = Total payments)			

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	114.543	118.673	0	**233.216**
	Payments	109.298	117.393	6.525	**233.216**

Summary of estimated impact on expenditure

EUR million (to 3 decimal places)

Heading of multiannual financial framework:	1 a	Competitiveness for Growth and Employment

Summary **Indirect Research / Direct Research**			Year	Year	Year	**TOTAL**
• Operational appropriations			2012	2013	≥ 2014	
Number of budget line: 08 20/08 21	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: 10.03	Commitments	(1a)	9.895	10.252	0	**20.147**
	Payments	(2a)	4.650	8.972	6.525	**20.147**
Appropriations of an administrative nature financed from the envelop of specific programs[30] 08 01 xx 10 01 xx			 74.054 104.648	 76.817 108.421	 0 0	 **150.871** **213.069**
Number of budget line: 08 01 xx / 10 01 05		(3)	178.702	185.238	0	**363.940**
TOTAL appropriations for DG Research & Innovation **/ Direct Research**	Commitments	=1+1a +3	1,371.976	1,188.294	0	**2,560.270**
	Payments	=2+2a+3	619.774	1,092.374	848.122	**2,560.270**

• TOTAL operational appropriations	Commitments	(4)	1,193.274	1,003.056	0	**2,196.330**
	Payments	(5)	441.072	907.136	848.122	**2,196.330**
• TOTAL appropriations of an administrative nature financed from the envelop of specific programs		(6)	178.702	185.238	0	**363.940**
TOTAL appropriations under HEADING 1 a of the multiannual financial framework	Commitments	=4+ 6	1,371.976	1.188.294	0	**2,560.270**
	Payments	=5+ 6	619.774	1,092.374	848.122	**2,560.270**

[30] 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.

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 "

EUR million (to 3 decimal places)

		Year 2012	Year 2013	**TOTAL**
DG: Research / Direct Research				
• Human resources				
• Other administrative expenditure				
TOTAL DG <…….>	Appropriations			

TOTAL appropriations under HEADING 5 of the multiannual financial framework	(Total commitments = Total payments)			

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	1,371.976	1.188.294	0	**2,560.270**
	Payments	619.774	1,092.374	848.122	**2,560.270**

3.2.2. Estimated impact on operational appropriations

– ☐ The proposal/initiative does not require the use of operational appropriations
– X 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[31]	Average cost of the output	Number of outputs	Cost	Number of outputs	Cost	Total number of outputs	Total cost
SPECIFIC OBJECTIVE No 1[32]…								
- 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…								
- Output – EURATOM Direct research- JRC	***	64***	157*	9.895	160*	10.252	317*	20.147
Sub-total for specific objective N°2			157*	9.895	160*	10.252	317*	20.147
TOTAL COST				1,193.274		1,003.056		2,196.330

(*) 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).

[31] Outputs are products and services to be supplied (e.g.: number of student exchanges financed, number of km of roads built, etc.).
[32] As described in Section 1.4.2. "Specific objective(s)…"

(***) Type of output: Products and services for EU policy makers. Average cost of the output: The cost of each output is very variable. For instance, a routine deliverable (e.g. a periodical crop forecast bulletin) is not comparable to a final report of a large and possibly expensive study for which a considerable amount of credits may have led to a single study document. Both are relevant and useful but serve very different purposes. The average cost indicated is just a mathematical calculation dividing the budget by the estimated number of outputs.

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

– X The proposal/initiative requires the use of administrative appropriations, as explained below:

EUR million (to 3 decimal places)

	Year 2012 - **N** [33]	Year 2013 - **N+1**	**TOTAL**
HEADING 5 of the multiannual financial framework			
Human resources			
Other administrative expenditure			
Subtotal HEADING 5 of the multiannual financial framework			

Outside HEADING 5[34] **of the multiannual financial framework**	Indirect Research	Direct Research	Indirect Research	Direct Research	Indirect Research	Direct Research
Human resources	58.863	68.021	61.230	70.474	**120.093**	**138.495**
Other expenditure of an administrative nature	15.191	36.627	15.587	37.947	**30.778**	**74.574**
Subtotal outside HEADING 5 of the multiannual financial framework	74.054	104.648	76.817	108.421	**150.871**	**213.069**

TOTAL	**178.702**	**185.238**	**363.940**

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

[34] 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

– X 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)		566	566
• External personnel (in Full Time Equivalent unit: FTE)[35]			
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 40 [36]	- at Headquarters[37]		
	- in delegations (F4E Barcelona agency-ITER):		
	- officials and temporary agents	262	262
	- CA GFI-IV	150	150
	- SNE	10	10
08 01 05 02 (CA, INT, SNE - Indirect research)		40	40
10 01 05 02 (CA, INT, SNE - Direct research)		166	166
Other budget lines (specify)			
TOTAL		**1,384**	**1,384**

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:

Officials and temporary agents	Tasks derived from the nuclear research/direct and indirect research specific programme, in particular related to nuclear

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

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

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

External personnel	waste management, nuclear safety and nuclear safeguards and security.

3.2.4. Compatibility with the current multiannual financial framework

– ☐ Proposal/initiative is compatible the current multiannual financial framework.

– X 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 framework[38].

Not applicable

3.2.5. Third-party contributions

– The proposal/initiative does not provide for co-financing by third parties

– X The proposal/initiative provides for the co-financing estimated below:

Appropriations in EUR million (to 3 decimal places)

	Year **2012**	Year **2013**
Specify the co-financing body	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

[38] See points 19 and 24 of the Inter institutional Agreement.

3.3. Estimated impact on revenue

– ☐ Proposal/initiative has no financial impact on revenue.

– X Proposal/initiative has the following financial impact:

– ☐ on own resources

– X on miscellaneous revenue

EUR million (to 3 decimal places)

Budget revenue line:	Appropriations available for the ongoing budget exercise	Impact of the proposal/initiative[39]	
		Year **2012**	Year **2013**
Item 6011*		pm	pm
Item 6012*		pm	pm
Item 6013		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

10 03 02 Appropriations accruing from contributions from third parties

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.

[39] 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.