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Proposal for a

COUNCIL REGULATION

**on the Research and Training Programme of the European Atomic Energy Community
(2014-2018) complementing the Horizon 2020 – The Framework Programme for
Research and Innovation**

{SEC(2011) 1427}

{SEC(2011) 1428}

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

The proposed Euratom Research and Training Programme (2014-2018), hereinafter the 'Euratom Programme', concerns research activities in nuclear energy (fusion and fission) and radiation protection. The proposal is an integral part of Horizon 2020, the Framework Programme for Research and Innovation. It determines the overall budget for direct and indirect actions, sets the objectives of R&D activities and specifies the instruments for supporting them.

The proposal takes the form of a single Regulation covering all relevant aspects for the implementation of research activities in the above fields, setting the scientific and technological objectives and laying down appropriate rules for the participation of research organisations, universities and industry. It will cover the fusion energy research and development programme, the fission and radiation protection research activities, and the JRC direct actions in nuclear security and safety.

The proposal will therefore ensure that Union-funded research and training activities in nuclear science and technology are continued over the years 2014-18, thereby maintaining the effective and efficient programmes that currently catalyse and coordinate activities in Member States, in order to maximise Union added value.

By supporting the above priorities, the Euratom Programme (2014-2018) will contribute to the three strategic objectives outlined in the Horizon 2020 Framework Programme for Research and Innovation, namely: *excellent science, industrial leadership and societal challenges*. Accordingly, appropriate links and interfaces between the Euratom Programme and the Horizon 2020 Framework Programme will be maintained.

The proposed Euratom Programme is clearly linked to the objectives of the Europe 2020 and Energy 2020 strategies. The programme will contribute to the 'Innovation Union' flagship initiative by supporting pre-commercial and policy-relevant research and facilitating technology transfer between academia and industry. By putting emphasis on training in all its activities, boosting competitiveness in the existing 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.

The Euratom Treaty limits the duration of research programmes in the nuclear field to 5 years.¹ The proposed legislation will therefore expire at the end of 2018.

ITER is addressed in a separate Decision, as the funding for this project will be outside the Multiannual Financial Framework, in line with the Communication 'A Budget for Europe 2020' (COM(2011)500 of 29.6.2011).

The Euratom Programme (2014-2018) is implemented through a single Regulation, laying down all the necessary provisions for the implementation of nuclear research activities. This new approach is in contrast with the previous programming periods, where the content of the present Regulation used to be covered by four different legislative acts (three Decisions

¹ Euratom Treaty, Article 7

respectively on the Framework Programme, the Specific Programme for indirect actions and the Specific Programme for the JRC direct actions, as well as a Regulation laying down the Rules for the Participation of undertakings, research centres and universities and for the dissemination of research results).

The Regulation equally addresses the objective of simplification by referring to the same participant guarantee fund as in the Horizon 2020 Framework Programme.

Furthermore, the Euratom Programme (2014-2018) puts forward a major simplification of funding rules as well as a revised control strategy, thereby supporting the overall simplification objective.

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

The preparation of the Euratom Programme proposal took full account of the responses to an extensive public consultation based on the Green Paper 'From Challenges to Opportunities: Towards a Common Strategic Framework for Union research and innovation funding'². Additional consultations were organised with the objective of discussing the energy challenge in the future research programme with representatives of governments and a wide range of stakeholders from industry, academia and civil society, covering both nuclear and non-nuclear issues. The Commission has also taken into account the results of the discussions that took place in the Council, the European Parliament and the European Economic and Social Committee on the proposal for the Euratom Framework Programme for 2012-2013.

The proposal also relies on an in-depth impact assessment, drawing on stakeholder consultations and internal and external evaluations. The assessment found that the challenges of nuclear safety and diminishing nuclear skills in Europe can be tackled effectively by exploiting synergies between the research efforts of Member States and the private sector, and between scientific disciplines and technological sectors. Action at Union-level can strengthen the research and innovation framework in the nuclear field and coordinate Member States' research efforts thereby avoiding duplication, retaining critical mass in key areas and ensuring that public funding is used to best effect. An Union-level programme can also undertake the high risk and long-term R&D programme in fusion energy, thereby sharing the risk and generating a breadth of scope and economies of scale that could not otherwise be achieved.

3. LEGAL ELEMENTS OF THE PROPOSAL

The legal basis for this Framework Programme is provided for by Article 7 of the Euratom Treaty.

4. BUDGETARY IMPLICATION

The budget of the proposal is presented in current prices. The 'legislative financial statement' attached to this proposal sets out the budgetary , human and administrative resource implications.

² COM(2011)48

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on the Research and Training Programme of the European Atomic Energy Community (2014-2018) complementing the Horizon 2020 – The Framework Programme for Research and Innovation

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Atomic Energy Community, (hereinafter the ‘Euratom Treaty’), and in particular the first paragraph of Article 7 thereof,

Having regard to the proposal from the European Commission,

Having regard to the opinion of the European Parliament³,

Having regard to the opinion of the European Economic and Social Committee⁴,

Whereas:

- (1) One of the aims of the European Atomic Energy Community (hereinafter the ‘Community’) is to contribute to the raising of the standard of living in the Member States by, inter alia, promoting and facilitating nuclear research in the Member States and complementing it by carrying out a Community research and training programme.
- (2) Nuclear research can contribute to social and economic prosperity and environmental sustainability by improving nuclear safety, security and radiation protection. Equally important is the contribution of nuclear research to the long-term decarbonisation of the energy system in a safe, efficient and secure way.
- (3) By supporting nuclear research the Research and Training Programme of the Community (hereinafter the ‘Euratom Programme’) will contribute to achieving objectives of the ‘Horizon 2020’ Framework Programme for Research and Innovation established by Regulation (EU XX/XXXX of [...])⁵ (hereinafter ‘Horizon 2020 Framework Programme’) and facilitate implementation of the Europe 2020 strategy and the creation and operation of the European Research Area.
- (4) Notwithstanding the potential impact of nuclear energy on energy supply and economic development, severe nuclear accidents may have the potential to endanger human health. Therefore, nuclear safety and, where appropriate, security aspects

³ OJ C , , p. .

⁴ OJ C , , p. .

⁵ OJ L [...]

should be given the greatest possible attention in the Euratom Research and Training Programme.

- (5) As all Member States have nuclear installations or make use of radioactive materials particularly for medical purposes, the Council has recognised in its conclusions of 2 December 2008⁶ the continuing need for skills in the nuclear field, in particular through appropriate education and training linked with research and coordinated at Community level.
- (6) By signing the Agreement on the Establishment of the ITER International Fusion Energy Organisation for the Joint Implementation of the ITER Project⁷, the Community has undertaken to participate in ITER construction and its future exploitation. The Community contribution is managed through the 'European Joint Undertaking for ITER and the Development of Fusion Energy' (hereinafter 'Fusion for Energy'), established by Council Decision of 27 March 2007⁸. The activities of Fusion for Energy, including ITER, are to be regulated by a separate legislative act.
- (7) For fusion to become a credible option for commercial energy production, it is, firstly, necessary to successfully and timely complete the construction of ITER and start its operation. Secondly it is necessary to establish an ambitious, yet realistic roadmap towards the production of electricity by 2050. Reaching those goals requires the European fusion programme to be redirected. A stronger focus should be placed on the activities in support to ITER. Such rationalisation should be achieved without jeopardising the European leadership of the fusion scientific community.
- (8) The Joint Research Centre (JRC) should continue to provide independent customer-driven scientific and technological support for the formulation, development, implementation and monitoring of Community policies, in particular in the field of nuclear safety and security research and training.
- (9) The Joint Research Centre should continue to generate additional resources through competitive activities, including participation to the indirect actions of the Euratom Programme, third party work and, to a lesser extent, the exploitation of intellectual property
- (10) While it is for each Member State to choose whether or not to make use of nuclear power, the role of the Union is to develop, in the interest of all its Member States, a framework to support joint cutting-edge research, knowledge creation and knowledge preservation on nuclear fission technologies, with special emphasis on safety, security, radiation protection and non-proliferation. That requires independent scientific evidence, to which the JRC can make a key contribution. That has been recognised in the Commission Communication 'Europe 2020 Flagship Initiative Innovation Union'⁹, in which the Commission stated its intention to strengthen scientific evidence for policy making through the JRC. The JRC proposes to respond to that challenge by focusing its nuclear safety and security research on the Union's policy priorities.

⁶ Council Conclusions of 2 December 2008 on the need for skills in the nuclear field (15406/08).

⁷ OJ L358, 16.12.2006, p.62

⁸ OJ L 90, 30.03.2007

⁹ COM(2010) 546 final, 6.10.2010.

- (11) With the aim of deepening the relationship between science and society and reinforcing public confidence in science, the Euratom Programme should favour an informed engagement of citizens and civil society on research and innovation matters by promoting science education, by making scientific knowledge more accessible, by developing responsible research and innovation agendas that meet citizens' and civil society's concerns and expectations and by facilitating their participation in the Euratom programme activities.
- (12) The implementation of the Euratom Programme should respond to the evolving opportunities and needs from science and technology, industry, policies and society. As such, the agendas should be set in close liaison with stakeholders from all sectors concerned, and sufficient flexibility should be allowed for new developments. External advice should be sought on a continuous basis during the Euratom Programme, also making use of relevant structures such as European Technology Platforms.
- (13) The Euratom Programme should contribute to the attractiveness of the research profession in the Union. Adequate attention should be paid to the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers¹⁰, together with other relevant reference frameworks defined in the context of the European Research Area, while respecting their voluntary nature.
- (14) The activities developed under the Euratom Programme should aim at promoting equality between men and women in research and innovation, by addressing in particular the underlying causes of gender imbalance, by exploiting the full potential of both female and male researchers, and by integrating the gender dimension into the content of projects in order to improve the quality of research and stimulate innovation. Activities should also aim at the implementation of the principles relating to the equality between women and men as laid down in Articles 2 and 3 of the Treaty on European Union and Article 8 of the Treaty on the Functioning of the European Union (TFEU).
- (15) Research and innovation activities supported by the Euratom Programme should respect fundamental ethical principles. The opinions of the European Group on Ethics in Science and New Technologies should be taken into account. Research activities should also take into account Article 13 of the TFEU and reduce the use of animals in research and testing, with a view to ultimately replacing animal use. All activities should be carried out ensuring a high level of human health protection.
- (16) A greater impact should also be achieved by combining the Euratom Programme and private sector funds within public-private partnerships in key areas where research and innovation could contribute to Union's wider competitiveness goals. Particular attention should be given to the involvement of small and medium-sized enterprises.
- (17) The Euratom Programme should promote cooperation, in particular in the field of safety, with third countries based on common interest and mutual benefit.
- (18) In order to maintain a level playing field for all undertakings active in the internal market, funding provided by the Euratom Programme should be designed in

¹⁰ C(2005) 576 final, 11.3.2005

accordance with state aid rules so as to ensure the effectiveness of public spending and prevent market distortions such as crowding-out of private funding, creating ineffective market structures or preserving inefficient firms.

- (19) The need for a new approach to control and risk management in Union research funding was recognised by the European Council of 4 February 2011, asking for a new balance between trust and control and between risk-taking and risk avoidance. The European Parliament, in its Resolution of 11 November 2010 on simplifying the implementation of the Research Framework Programmes¹¹, called for a pragmatic shift towards administrative and financial simplification and stated that the management of Union research funding should be more trust-based and risk-tolerant towards participants.
- (20) The financial interests of the Union should be protected through proportionate measures throughout the expenditure cycle, including the prevention, detection and investigation of irregularities, the recovery of funds lost, wrongly paid or incorrectly used and, where appropriate, penalties. A revised control strategy, shifting focus from minimisation of error rates towards risk-based control and fraud detection, should reduce the control burden for participants.
- (21) It is important to ensure sound financial management of the Euratom Programme and its implementation in the most effective and user-friendly manner possible, while also ensuring legal certainty and accessibility of the programme to all participants. It is necessary to ensure compliance with Council Regulation (EU) No XXXX/2012 [New Financial Regulation]¹² and with the requirements of simplification and better regulation.
- (22) To ensure the most efficient implementation possible, and easy access for all participants through simplified procedures, and to achieve a coherent, comprehensive and transparent framework for participants, the participation in the Euratom Programme and the dissemination of research results should be subject to the rules applicable to the 'Horizon 2020' Framework Programme, as set out in Regulation (EU) No XX/XXXX [Rules for participation] with certain adaptations.
- (23) It is important to continue to facilitate the exploitation of intellectual property developed by participants while protecting the legitimate interests of other participants and the Community in accordance with Chapter 2 of the Euratom Treaty.
- (24) The Participant guarantee funds, managed by the Commission and established pursuant to Council Regulation (Euratom) No 1908/2006 of 19 December 2006 laying down the rules for the participation of undertakings, research centres and universities in action under the Seventh Framework Programme of the European Atomic Energy Community and for the dissemination of research results (2007 to 2011)¹³ and Regulation (Euratom) No XX/XX of [...] laying down the rules for participation of undertakings, research centres and universities in indirect actions under the Framework Programme of the European Atomic Energy Community and for the

¹¹ INI/2010/2079

¹² OJ [...]

¹³ OJ L 400, 30.12.2006, p. 1.

dissemination of research results (2012-2013)¹⁴ have proved to be an important safeguard mechanism which mitigates the risks associated to the amounts due and not reimbursed by defaulting participants. The Participant guarantee fund established pursuant to Regulation (EU) No XX/2012 [Rules for participation and dissemination] should also cover actions under Regulation (Euratom) No 1908/2006, Regulation (Euratom) No XX/XX [Euratom Rules for participation (2012-2013)] and this Regulation.

- (25) Article 7 of the Euratom Treaty entrusts the Commission with the responsibility of carrying out the Euratom Programme. For the purposes of implementing the Euratom Programme, except its direct actions, the Commission should be assisted by a consultative committee of Member States to ensure appropriate coordination with national policies in the areas covered by this research and training programme.
- (26) Achievement of the Euratom Programme's objectives in relevant areas requires support for cross-cutting activities, both within the Euratom Programme and jointly with the activities of the 'Horizon 2020' Framework Programme.
- (27) Effective performance management, including evaluation and monitoring, requires development of specific performance indicators which can be measured over time; are both realistic and reflect the logic of the intervention; and relevant to the appropriate hierarchy of objectives and activities. Appropriate coordination mechanisms should be put in place between the implementation and monitoring of the Euratom Programme, and the monitoring of progress, achievements and functioning of the European Research Area.
- (28) The Board of Governors of the Joint Research Centre, set up by Commission Decision 96/282/Euratom of 10 April 1996 on the reorganisation of the Joint Research Centre¹⁵, has been consulted on the scientific and technological content of on the direct actions of the JRC.
- (29) For reasons of legal certainty, 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)¹⁶, Regulation (Euratom) No 1908/2006, Council Decision 2006/976/Euratom of 19 December 2006 concerning the Specific Programme implementing the Seventh Framework Programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)¹⁷, Council Decision 2006/977/Euratom of 19 December 2006 concerning the Specific Programme to be carried out by means of direct actions by the Joint Research Centre implementing the Seventh Framework Programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)¹⁸, Council Decision XXXX/XXXX of [...] concerning the Framework Programme of the European Atomic Energy Community for nuclear research and training activities

¹⁴ OJ L [...]

¹⁵ OJ L 107, 30.4.1996, p. 12.

¹⁶ OJ L 400, 30.12.2006, p. 60.

¹⁷ OJ L 400, 30.12.2006, p. 404.

¹⁸ OJ L 400, 30.12.2006, p. 434.

(2012-2013)¹⁹, Regulation (Euratom) No XXX/XXXX [Euratom Rules for participation (2012-2013)], Council Decision XXXX/XXXX/Euratom of [...] 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)²⁰ and Council Decision XXXX/XXXX/Euratom of [...] 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)²¹ should be repealed.

(30) The Commission has consulted the Euratom Scientific and Technical Committee,

HAS ADOPTED THIS REGULATION:

TITLE I

ESTABLISHMENT

Article 1

Establishment

This Regulation establishes the Research and Training Programme for the period from 1 January 2014 to 31 December 2018, hereinafter the ‘Euratom Programme’, and lays down the rules for participation in that programme, including the participation in programmes of funding bodies managing the funds granted in accordance with this Regulation and in activities conducted jointly under this Regulation and under the ‘Horizon 2020’ Framework Programme established in Regulation (EU) XX/XXX (hereinafter ‘Horizon 2020’).

Article 2

Definitions

For the purposes of this Regulation the following definitions apply:

- (a) ‘*research and innovation activities*’ means the whole spectrum of activities of research, technological development, demonstration and innovation, including the promotion of cooperation with third countries and international organisations, dissemination and optimisation of results and stimulation of the training and mobility of researchers in the European Atomic Energy Community (hereinafter ‘the Community’);
- (b) ‘*direct actions*’ means research and innovation activities undertaken by the Commission through its Joint Research Centre;

¹⁹ OJ L [...].

²⁰ OJ L [...].

²¹ OJ L [...].

- (c) *‘indirect actions’* means research and innovation activities to which the Union or the Community (hereinafter the ‘Union’) provides financial support and which are undertaken by participants;
- (d) *‘public-private partnership’* means a partnership where private sector partners, the Community and, where appropriate, other partners, commit to jointly support the development and implementation of a research and innovation programme or activities which are of strategic importance;
- (e) *‘public-public partnership’* means a partnership where public sector bodies or bodies with a public service mission at regional, national or international commit with the Community to jointly support the development and implementation of a research and innovation programme or activities.

Article 3

Objectives

1. The general objective of the Euratom Programme is to improve nuclear safety, security and radiation protection, and to contribute to the long-term decarbonisation of the energy system in a safe, efficient and secure way. The general objective shall be implemented through the activities specified in Annex I in the form of direct and indirect actions which pursue the specific objectives set out in paragraphs 2 and 3 of this Article.
2. The Euratom Programme indirect actions shall have the following specific objectives:
 - (a) support safe operation of nuclear systems;
 - (b) contribute to the development of solutions for the management of ultimate nuclear waste;
 - (c) support the development and sustainability of nuclear competences at Union level
 - (d) foster radiation protection;
 - (e) move toward demonstration of feasibility of fusion as a power source by exploiting existing and future fusion facilities;
 - (f) lay the foundations for future fusion power plants by developing materials, technologies and conceptual design;
 - (g) promote innovation and industrial competitiveness;
 - (h) ensure availability and use of research infrastructures of pan-European relevance;
3. The Euratom Programme direct actions shall have the following specific objectives:

- (a) improve nuclear safety including: fuel and reactor safety, waste management and decommissioning, and emergency preparedness;
 - (b) improve nuclear security including: nuclear safeguards, non-proliferation, combating illicit trafficking and nuclear forensics;
 - (c) raising excellence in the nuclear science base for standardisation;
 - (d) foster knowledge management, education and training;
 - (e) support the policy of the Union on nuclear safety and security and the related evolving Union legislation.
4. The Euratom Programme shall be implemented in such a way as to ensure that the priorities and activities supported are relevant to changing needs and take account of the evolving nature of science, technology, innovation, policy making, markets and society.
5. Within the specific objectives referred to in paragraphs 2 and 3, account may be taken of new and unforeseen needs that arise during the period of implementation of the Euratom Programme, including responses to emerging opportunities, crises and threats, to needs relating to the development of new Union policies, and to the steering of actions envisaged for support under future programmes.

Article 4

Budget

1. The financial envelope for the implementation of the Euratom Programme shall be EUR 1 788.889 million. That amount shall be distributed as follows:
- (a) indirect actions for the fusion research and development programme, EUR 709.713 million;
 - (b) indirect actions for nuclear fission, safety and radiation protection, EUR 354.857 million;
 - (c) direct actions, EUR 724.319 million.

For the implementation of indirect actions of the Euratom Programme, no more than 13.5 % shall be for the Commission's administrative expenditure.

2. The financial envelope of the Euratom Programme may cover expenses pertaining to preparatory, monitoring, control, audit and evaluation activities which are required for the management of the Programme and the achievement of its objectives, in particular studies and meetings of experts, as far as they are related to the general objectives of this Regulation, expenses linked to information technology networks focusing on information processing and exchange, together with all other technical and administrative assistance expenses incurred by the Commission for the management of the Euratom Programme.

3. Where necessary, appropriations may be entered in the budget beyond 2018 to cover technical and administrative assistance expenses, in order to enable the management of actions not yet completed by 31 December 2018.
4. Where the direct actions contribute to initiatives established by entities entrusted with implementation of tasks by the Commission in accordance with Article 6(2) and Article 15, such contribution shall not be considered as part of the financial contribution allocated to these initiatives.

Article 5

Association of third countries

1. The Euratom Programme shall be open to the association of:
 - (a) acceding countries, candidate countries and potential candidates, in accordance with the general principles and general terms and conditions for the participation of those countries in Union programmes established in the respective framework agreements and decisions of association councils or similar agreements;
 - (b) selected third countries that fulfil all of the following criteria :
 - (i) have a good capacity in science, technology and innovation;
 - (ii) have a good track record of participation in Union research and innovation programmes;
 - (iii) have close economic and geographical links to the Union;
 - (iv) are European Free Trade Association (EFTA) members or countries or territories listed in Annex to Regulation XX/2012 of the European Parliament and the Council ²².
2. Specific terms and conditions regarding the participation of associated countries in the Euratom Programme, including the financial contribution, based on the gross domestic product of the associated country shall be determined by international agreements between the Union and the associated countries.

TITLE II

IMPLEMENTATION

CHAPTER I

²² OJ L [...]

IMPLEMENTATION, MANAGEMENT AND FORMS OF SUPPORT

Article 6

Management and forms of Community support

1. The Euratom Programme shall be implemented through indirect actions using one or several of the forms of financial support provided for by Regulation (EU) No XXX/2012 [New Financial Regulation], including grants, prizes, procurement, financial instruments and financial contributions. The Community support shall also consist of direct actions in the form of research and innovation activities undertaken by the Joint Research Centre (JRC).
2. Without prejudice to Article 10 of the Euratom Treaty, the Commission may entrust part of the implementation of the Euratom Programme to the funding bodies referred to in Article [55(1)(b)] of Regulation (EU) No XXX/2012 [New Financial Regulation].

The Commission may also entrust the implementation of indirect action under the Euratom Programme to bodies created under or referred to in the 'Horizon 2020' Framework Programme.

Article 7

Rules for participation and dissemination of research results

1. The participation of any legal entity in indirect actions undertaken under the Euratom Programme shall be governed by the rules laid down in Regulation (EU) No XX/2012 [the Rules for participation and dissemination], subject to paragraphs 2 and 3 of this Article.
2. For the purposes of the Euratom Programme, 'the security rules' referred to in the first subparagraph of Article 40(2) of Regulation (XX) [the Rules for participation and dissemination] shall include the defence interests of the Member States within the meaning of Article 24 of the Euratom Treaty.

By way of derogation from the first subparagraph of Article 41(3) of that Regulation, the Commission or the funding body may, with regard to results which are generated by participants having received Community financial contribution, object to transfers of ownership or to grants of both an exclusive and a non-exclusive licence, to third parties established in a third country not associated to the Euratom Programme where it considers that the grant or transfer is not in accordance with the interest of developing the competitiveness of the Union economy or is inconsistent with ethical principles or security considerations. 'Security considerations' shall include the defence interests of the Member States within the meaning of Article 24 of Euratom Treaty.

By way of derogation from the first subparagraph of Article 46(1) of that Regulation the Community and its joint undertakings shall, for the purpose of developing, implementing and monitoring Community policies and programmes or obligations

assumed through international cooperation with third countries and international organisations, enjoy access rights to the results of a participant having received a Community financial contribution. Such access rights shall include the right to authorise third parties to use the results in public procurement and the right to sub-license and shall be limited to non-commercial and non-competitive use and shall be granted on a royalty-free basis.

3. The ‘Participant guarantee fund’ established pursuant to Regulation (EU) No XX/2012 [Rules for participation and dissemination] shall replace and succeed the Participant guarantee funds established pursuant to Regulation (Euratom) No 1908/2006 and Regulation (Euratom) No XX/XX [Euratom Rules for participation 2012-2013].

Any sums from the Participant guarantee funds established pursuant to Regulations (Euratom) No 1908/2006 and (Euratom) No XX/XX [Euratom Rules for participation (2012-2013)] shall be transferred to the Participant guarantee fund as of 31 December 2013. The participants in actions under Decision XX/XX [Euratom Programme 2012-2013] signing grant agreements after 31 December 2013 shall make their contribution to the Participant guarantee fund.

Article 8

Cross-cutting activities

1. In order to achieve the objectives of the Euratom Programme and to address challenges common to the Euratom Programme and Horizon 2020, activities cutting across the indirect actions set out in Annex I and/or those implementing the Specific Programme of the Horizon 2020 Framework Programme, as established by Council Decision XX/XXXX/EU²³, may benefit from the Union financial contribution.
2. The financial contribution referred to in paragraph 1 of this Article may be combined from the financial contributions for indirect actions set out in Article 4 of this Regulation and in Article 6 of Regulation (EU) No XX/XXXX [establishing Horizon 2020], and implemented through a single funding scheme.

Article 9

Gender equality

The Euratom Programme shall ensure the effective promotion of gender equality and the gender dimension in research and innovation content.

²³ OJ L [...]

Article 10

Ethical principles

1. All the research and innovation activities carried out under the Euratom Programme shall comply with ethical principles and relevant national, Union and international legislation, including the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights and its Supplementary Protocols.

Particular attention shall be paid to the principle of proportionality, the right to privacy, the right to the protection of personal data, the right to the physical and mental integrity of a person, the right to non-discrimination and the need to ensure high levels of human health protection.

2. Research and innovation activities carried out under the Euratom Programme shall have an exclusive focus on civil applications.

Article 11

Work programmes

1. The Commission shall adopt work programmes for the implementation of the indirect actions. The work programmes shall allow for bottom up approaches that address the objectives in innovative ways.

The work programmes shall set out the essential elements for implementing the actions in accordance with Regulation XX/2012 [the Financial Regulation], including their detailed objectives, the associated funding and the timetable, as well as a multi-annual approach and strategic orientations for the following years of implementation.

2. For direct actions, the Commission shall, in accordance with Decision 96/282/Euratom, draw up a multi-annual work programme, setting out in greater detail the objectives and scientific and technological priorities presented in Annex I, and the timetable for implementation.

That multi-annual work programme shall also take account of relevant research activities carried out by the Member States, associated countries and European and international organisations. It shall be updated as and where appropriate.

3. The work programmes shall take account of the state of science, technology and innovation at national, Union and international level and of relevant policy, market and societal developments. They shall be updated as and where appropriate.
4. The work programmes shall contain a section which identifies the cross-cutting activities as referred to in Article 8.

Article 12

Governance of the programme

1. For the purpose of implementing the indirect actions of the Euratom Programme, the Commission shall be assisted by the following consultative committees:
 - (a) for fission-related aspects, the consultative committee referred to in points 5 and 6 of the Annex to Council Decision 84/338/Euratom, ECSC, EEC²⁴;
 - (b) for the fusion-related aspects, by the consultative committee for the fusion programme established in accordance with Council Decision of 16 December 1980²⁵.

By way of derogation from Article 3(3) of Decision 84/338/Euratom, ECSC, EEC and from point 9 of Council Decision of 16 December 1980 respectively, the consultative committees shall be chaired by the Commission.

2. The Commission shall regularly inform the respective committee referred to in paragraph 1 of overall progress in implementing the Euratom Programme, and shall provide it with timely information on all indirect actions proposed or funded under the Euratom Programme.

Article 13

External advice and societal engagement

1. For the implementation of the Euratom Programme, account shall be taken of advice and inputs provided by, where appropriate: the Euratom Scientific and Technical Committee pursuant to Article 134 of the Euratom Treaty; advisory groups of independent, high level experts set up by the Commission; the dialogue structures created under international science and technology agreements; forward-looking activities; targeted public consultations; and transparent and interactive processes that ensure responsible research and innovation is supported
2. Full account shall also be taken of relevant aspects of the research and innovation agendas established by European Technology Platforms, Joint Programming Initiatives and European Innovation Partnerships.

CHAPTER II

SPECIFIC FIELDS OF ACTION

Article 14

Small and medium-sized enterprises

Particular attention shall be paid to ensuring the adequate participation of, and innovation impact on, small and medium-sized enterprises (SME) in the Euratom Programme.

²⁴ OJ L 177, 4.7.1984, p. 25.

²⁵ Not published in the Official Journal.

Quantitative and qualitative assessments of SME participation shall be undertaken as part of the evaluation and monitoring arrangements.

Article 15

Public-private and public-public partnerships

To attain the objectives set out in Article 3, specific activities of the Euratom Programme may be implemented through:

- (a) Joint Undertakings established on the basis of Chapter 5 of the Euratom Treaty;
- (b) Public-public partnerships based on the funding scheme 'Programme co-fund actions';
- (c) Contractual public-private partnerships, as referred in Article 19 of Regulation (EU) No xxx/201x.

Article 16

International cooperation with third countries and international organisations

1. Entities established in third countries and international organisations shall be eligible to participate in indirect actions of the Euratom Programme under the conditions set out in Regulation (EU) XX/XXX [Rules for Participation]. Exceptions to the general principle are set out in Article 7. International cooperation with third countries and international organisations shall be promoted by the Euratom Programme with a view to:
 - (a) strengthen the Union's excellence and attractiveness in research and innovation as well as its economic and industrial competitiveness;
 - (b) tackle effectively global societal challenges;
 - (c) support the Union's external policy objectives, complementing external programmes.
2. Targeted actions with the objective of promoting cooperation with specific third countries or groups of third countries shall be implemented on the basis of common interest and mutual benefit, taking into account their scientific and technological capabilities and market opportunities, and the expected impact.

Reciprocal access to third country programmes should be encouraged. In order to maximise impact, coordination and synergies with initiatives of Member States and associated countries shall be promoted.

Cooperation priorities shall take into account developments in Union policy and opportunities for cooperation with third countries, as well as possible deficiencies in third country intellectual property systems.

Article 17

Communication and dissemination

1. When implementing the Euratom Programme, dissemination and communication activities shall be considered an integral part of the actions supported by the Euratom Programme.
2. Communication activities may include:
 - (a) initiatives aimed at widening awareness and facilitating access to funding under the Euratom Programme, in particular for those regions or types of participant that are underrepresented;
 - (b) targeted assistance to projects and consortia to provide them with access to the necessary skills to optimise the communication and dissemination of results;
 - (c) initiatives to foster dialogue and debate on scientific, technological and innovation-related issues with the public, and take advantage of social media and other innovative technologies and methodologies;
 - (d) communication of the Union's political priorities provided that they are related to the aims of this Regulation.
3. Subject to the applicable provisions of the Euratom Treaty and relevant Union legislation, dissemination activities may include:
 - (a) activities which bring together results from a range of projects, including those that may be funded from other sources, to provide user-friendly databases and reports that summarise key findings;
 - (b) dissemination of results to policy makers, including standardisation bodies, to promote the use of policy-relevant results by the appropriate bodies at international, Union, national and regional level.

CHAPTER III

CONTROL

Article 18

Control and audit

1. The control system set up for the implementation of this Regulation shall be designed so as to provide reasonable assurance of achieving adequate management of the risks relating to the effectiveness and efficiency of the operations as well as the legality and regularity of the underlying transactions, taking into account the multi-annual character of programmes as well as the nature of the payments concerned.
2. The control system shall ensure an appropriate balance between trust and control, taking into account administrative and other costs of controls at all levels, so that the

Euratom Programme objectives can be achieved and the most excellent researchers and most innovative enterprises can be attracted to it.

3. As part of the control system, the audit strategy for expenditure in the indirect actions under the Euratom Programme shall be based on the financial audit of a representative sample of expenditure across the whole programme. Such representative sample shall be complemented by a selection based on an assessment of the risks related to expenditure.

Audits of expenditure in the indirect actions under the Euratom Programme shall be carried out in a coherent manner in accordance with the principles of economy, efficiency and effectiveness in order to minimize the audit burden of the participants.

Article 19

Protection of the financial interests of the Union

1. The Commission shall take appropriate measures ensuring that, when actions financed under this Regulation are implemented, the financial interests of the Union are protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, where irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.
2. The Commission or its representatives and the Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks and inspections, over all grant beneficiaries, contractors, subcontractors and other third parties who have received Union funds under this Regulation.

Without prejudice to paragraph 3, audits by the Commission may be carried out up to four years after the final payment.

3. The European Anti-Fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Council Regulation (Euratom, EC) No 2185/96²⁶ with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding.
4. Without prejudice to the paragraphs 1, 2 and 3, cooperation agreements with third countries and international organisations, grant agreements, grant decisions and contracts resulting from the implementation of this Regulation shall expressly empower the Commission, the Court of Auditors and the OLAF to conduct audits, on-the-spot checks and inspections.

²⁶ OJ L 292, 15.11.1996, p. 2.

CHAPTER IV
MONITORING AND EVALUATION

Article 20

Monitoring

1. The Commission shall annually monitor the implementation, including progress and achievements, of the Euratom Programme.
2. The Commission shall report and disseminate the results of that monitoring.

Article 21

Evaluation

1. Evaluations shall be carried out in a sufficiently timely manner to feed into the decision-making process.

By 31 May 2017, and taking into account the ex-post evaluation of the Euratom 7th Framework Programme established by Decision 2006/970/Euratom and of the Euratom Programme (2012-2013) established by Decision 20XX/XX/Euratom to be completed by the end of 2015, the Commission shall carry out, with the assistance of independent experts, an interim evaluation of the Euratom Programme on the achievements, at the level of results and progress towards impacts, of the objectives and continued relevance of all the measures, the efficiency and use of resources, the scope for further simplification, and European added value. The evaluation shall additionally take into account the contribution of the measures to the Union priorities of smart, sustainable and inclusive growth and results on the long-term impact of the predecessor measures.

By 31 December 2022, the Commission shall carry out, with the assistance of independent experts, an ex-post evaluation of the Euratom Programme. That shall cover the rationale, implementation and achievements, as well as the longer-term impacts and sustainability of the measures, to feed into a decision on a possible renewal, modification or suspension of a subsequent measure.

2. Without prejudice to paragraph 1 direct and indirect actions of the Euratom Programme shall be subject to separate evaluations.
3. The evaluations referred to in paragraphs 1 and 2 shall assess the progress towards the objectives established in Article 3, taking into account, the relevant performance indicators defined in Annex II.
4. Member States shall provide the Commission with data and information necessary for the monitoring and evaluation of the measures concerned.

5. The Commission shall communicate the conclusions of the evaluations referred to in paragraphs 1 and 2, accompanied by its observations, to the European Parliament, the Council, the European Economic and Social Committee.

TITLE III

FINAL AND TRANSITIONAL PROVISIONS

Article 22

Repeal and transitional provisions

1. Decision 2006/970/Euratom, Regulation (Euratom) No 1908/2006, Decision 2006/976/Euratom, Decision 2006/977/Euratom, Decision XXXX/XXXX [Euratom Framework Programme (2012-2013)], Regulation (Euratom) No XXX/XXXX [Euratom Rules for participation (2012-2013)], Decision XXXX/XXXX/Euratom [Specific programme (2012-2013)] and Decision XXXX/XXXX/Euratom [Specific programme – direct actions (2012-2013)] are repealed with effect from 1 January 2014
2. Activities benefiting from the Community financial contribution under programmes established by the Decisions referred to in paragraph 1 and the related financial obligations shall continue to be governed by the rules applicable to those programmes until their completion.
3. The financial allocation referred to in Article 4 may also cover the technical and administrative assistance expenses necessary to ensure the transition between that programme and the measures adopted under Decision XX/XX/Euratom [Euratom Framework Programme (2012-2013)], Decision XXXX/XXXX/Euratom [Specific programme (2012-2013)] and Decision XXXX/XXXX/Euratom [Specific programme – direct actions (2012-2013)].

Article 23

Entry into force

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

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Council
The President

ANNEX I — ACTIVITIES

1. RATIONALE FOR THE EURATOM PROGRAMME —PAVING THE WAY TO 2020

By achieving the objectives set out in Article 3, the Euratom Programme shall reinforce outcomes under the three priorities of the 'Horizon 2020' Framework Programme: *excellent science, industrial leadership, and societal challenges*. The Euratom Programme shall in particular support the transition to a reliable, sustainable and competitive energy system in the future, in the face of increasing resource scarcity, growing energy needs and climate change.

The Euratom Programme shall strengthen the research and innovation framework in the nuclear field and coordinate Member States' research efforts, thereby avoiding duplication, retaining critical mass in key areas and ensuring that public funding is used in an optimal way.

The strategy to develop fusion as a credible option for commercial carbon-free energy production shall follow a roadmap with milestones towards the goal of electricity production by 2050. To implement that strategy, a radical restructuring of fusion-related work in the Union, including governance, funding and management, shall be carried out to ensure a shift of emphasis from pure research to designing, building and operating future facilities such as ITER, DEMO and beyond. That shall require a close cooperation between the entire Union fusion community, the Commission and the national funding agencies.

In order to maintain the Union expertise necessary for achieving those goals, the programme shall further enhance its role in training through the establishment of training facilities of pan-European interest that shall deliver dedicated programmes. That shall continue to promote the European Research Area and the further integration of new Member States and associated countries.

2. ACTIVITIES NECESSARY TO ACHIEVE THE PROGRAMME OBJECTIVES

2.1. *Indirect actions*

(a) Support safe operation of nuclear systems (*Societal challenges*)

In line with the general objective, support to joint research activities concerning the safe operation of reactor systems (including fuel cycle facilities) in use in the Union or, to the extent necessary in order to maintain broad nuclear safety expertise in the Union, those reactor types which may be used in the future, focusing exclusively on safety aspects, including all aspects of the fuel cycle such as partitioning and transmutation.

(b) Contribute to the development of solutions for the management of ultimate nuclear waste (*Excellent science; Societal challenges*)

Joint and/or coordinated research activities on remaining key aspects of geological disposal of spent fuel and long-lived radioactive waste with, as appropriate, demonstration of technologies and safety. Those activities shall promote the development of a common Union view on the main issues related to waste management from discharge of fuel to disposal. Research activities related to management of other radioactive waste streams for which industrially mature processes currently do not exist.

(c) Support the development and sustainability of nuclear competences at Union level (*Excellent science*)

Promotion of joint training and mobility activities between research centres and industry, and between different Member and Associated States, as well as support for maintaining multi-disciplinary nuclear competences in order to guarantee the availability of suitably qualified researchers, engineers and employees in the nuclear sector in the Union in the long term.

(d) Foster radiation protection (*Excellent science; Societal challenges*)

Joint and/or coordinated research activities, in particular on the risks from low doses from industrial, medical or environmental exposure and on emergency management in relation to accidents involving radiation, to provide a pan-European scientific and technological basis for a robust, equitable and socially acceptable system of protection.

(e) Move toward demonstration of feasibility of fusion as a power source by exploiting existing and future fusion facilities (*Industrial leadership; Societal challenges*)

Support common research activities undertaken by members of the European Fusion Development Agreement to ensure the swift start of high performance operation of ITER including the use of relevant facilities (including JET, the Joint European Torus), of integrated modelling using high performance computers, and training activities to prepare the next generation of researchers and engineers.

(f) Lay the foundations for future fusion power plants by developing materials, technologies and conceptual design (*Industrial leadership; Societal challenges*)

Support to joint activities undertaken by members of the European Fusion Development Agreement to develop and qualify materials for a demonstration power plant requiring, inter alia, preparatory work for an appropriate material test facility and negotiations for the Union's participation in a suitable international framework for that facility.

Support to joint research activities undertaken by members of the European Fusion Development Agreement that shall address reactor operation issues and shall develop and demonstrate all relevant technologies for a fusion demonstration power plant. Those activities include the preparation of a complete demonstration power plant conceptual design(s) and exploration of the potential of stellarators as a power plant technology.

(g) Promote innovation and industry competitiveness (*Industrial leadership*)

Implementing or supporting knowledge management and technology transfer from the research co-funded by this programme to industry exploiting all innovative aspects of the research.

Promoting innovation through, inter alia, open access to scientific publications, a database for knowledge management and dissemination and promoting technology topics in educational programmes.

In the long term, the Euratom Programme shall support the preparation and development of a competitive nuclear fusion industrial sector, in particular through the implementation of a

technology road map to a fusion power plant with active industrial involvement in the design and development projects.

(h) Ensure availability and use of research infrastructures of pan-European relevance (*Excellent science*)

Activities supporting the construction, refurbishment, use and continued availability of key research infrastructures under the Euratom Programme, as well as appropriate access to those infrastructures and cooperation between them.

(i) European Fusion Development Agreement

A grant (Programme co-fund action) shall be awarded to the legal entity that shall be established or designated by members of the European Fusion Development Agreement in order to implement and coordinate their activities. That grant may include resources in kind from the Community, such as scientific and technical exploitation of the JET facility in accordance with Article 10 of the Euratom Treaty, or the secondment of Commission staff.

2.2. JRC direct actions

The nuclear activities of the JRC shall aim to support the implementation of Council Directives 2009/71/Euratom²⁷ and 2011/70/Euratom²⁸, as well as Council Conclusions giving priority to the highest standards for nuclear safety and security in the Union and internationally. The JRC shall notably mobilise the necessary capacity and expertise in order to contribute to assess and improve the safety of nuclear installations and the peaceful use of nuclear energy and other non fission applications, to provide a scientific basis to relevant Union legislation and, where necessary, to react within the limits of its mission and competence to nuclear incidents and accidents. To that effect, the JRC shall carry out research and assessments, provide references and standards and deliver dedicated training and education. Synergies with the Sustainable Nuclear Energy Technology Platform (SNETP) and other cross-cutting initiatives will be sought as appropriate.

(a) Improve nuclear safety including: fuel and reactor safety, waste management and decommissioning, and emergency preparedness

The JRC shall contribute to the development of tools and methods to achieve high safety standards for nuclear power reactors and fuel cycles relevant to Europe. Those tools and methods shall include:

- (1) severe accident analyses modelling and methodologies for assessment of nuclear installations operational safety margins; support to the establishment of a common European approach to the evaluation of advanced fuel cycles and designs; and investigation and dissemination of the lessons learnt from the operational experience. The JRC shall further reinforce its 'European Clearinghouse on NPP Operational Experience Feedback' to respond to the emerging post-Fukushima nuclear safety challenges.

²⁷ OJ L 172, 2.7.2009, p.18.

²⁸ OJ L 199, 19.7.2011, p.1.

- (2) minimisation of the scientific uncertainties in the prediction of long-term behaviour of nuclear waste and of the dispersion of radionuclides in the environment; and key aspects of research on decommissioning of nuclear installations.
 - (3) strengthening Union capacity to respond to nuclear accidents and incidents by further development of alert systems and models for radiological dispersion in the air, and by mobilising resources and expertise for analysing and modelling nuclear accidents and providing relevant technical support.
- (b) Improve nuclear security including: nuclear safeguards, non-proliferation, combating illicit trafficking, and nuclear forensics**

The area of non proliferation shall receive the greatest possible attention. The JRC will:

- (1) develop enhanced methodologies and detection/verification methods and technologies to support the Community safeguards and strengthen international safeguards.
 - (2) develop and apply enhanced methods and technology to prevent, detect and respond to nuclear and radioactive incidents, including qualification of detection technology and development of nuclear forensics methods and techniques for fight against illicit trafficking in synergies with the global CBRN (Chemical, Biological, Radiological, Nuclear) framework.
 - (3) support the implementation of the Treaty on the Non-Proliferation of Nuclear Weapons and Union-related strategies through analysis studies and follow-up of the technical evolution of export control regimes to support relevant Commission and Union services.
- (c) Raising Excellence in the nuclear science base for standardisation**

The JRC shall further develop the scientific basis for nuclear safety and security. Emphasis shall be given to research on fundamental properties and behaviour of actinides, structural and nuclear materials. In support to Union standardisation, the JRC shall provide state-of-the-art nuclear standards, reference data and measurements, including the development and implementation of relevant databases and assessment tools. The JRC shall support the further development of medical applications, namely new cancer therapies based on alpha irradiation.

(d) Foster knowledge management, education and training

The JRC shall stay abreast of new developments in research and instrumentation, safety and environmental regulations. To that effect, a rolling investment plan for the scientific infrastructures shall be implemented.

In order to maintain the Union at the forefront of nuclear safety and security, the JRC shall develop knowledge management tools, monitor Union trends in human resources through its Nuclear Human Resources Observatory and deliver dedicated training and education programmes, covering also decommissioning aspects.

(e) Support the policy of the Union on nuclear safety and security and the related evolving Union legislation

JRC shall foster its competence in order to provide the independent scientific and technical evidence necessary to support the evolving Union legislation on nuclear safety and security.

As the Euratom Implementing Agent for the Generation IV International Forum (GIF), the JRC shall continue to coordinate the Community contribution to GIF. The JRC shall pursue and further develop international research cooperation with key partner countries and international organizations (IAEA, OECD/NEA) in order to promote Union's nuclear safety and security policies.

3. CROSS-CUTTING ACTIVITIES WITHIN THE EURATOM PROGRAMME

In order to achieve its general objectives, the Euratom Programme shall support complementary activities (direct and indirect, coordination and stimulating joint programming) that ensure synergy of research efforts in solving common challenges (such as materials, coolant technology, reference nuclear data, modelling and simulation, remote handling, waste management, radiation protection).

4. CROSS-CUTTING ACTIVITIES AND INTERFACES WITH THE 'HORIZON 2020' FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

In order to achieve the objectives of the Euratom Programme, appropriate links and interfaces, such as joint calls, shall be ensured with the Specific Programme of the 'Horizon 2020' Framework Programme.

The Euratom Programme may contribute to the Debt facility and Equity facility developed under the 'Horizon 2020' Framework Programme that shall be widened to cover the objectives referred to in Article 3.

5. PRIORITY SETTING

In order to ensure that the indirect actions of the Euratom Programme mutually reinforce research efforts of the Member States and the private sector, the priorities of the work programmes shall be established on the basis of inputs from national public authorities and nuclear research stakeholders grouped in bodies or frameworks such as technology platforms and technical forums for nuclear systems and safety (SNETP), management of ultimate waste (IGDTP) and radiation protection/low-dose risk (MELODI), the European Fusion Development Agreement, or any relevant organisation or forum of nuclear stakeholders.

The priorities for direct actions shall be established through consultation of the policy Directorates-General of the European Commission and of the JRC Board of Governors.

6. INTERNATIONAL COOPERATION WITH THIRD COUNTRIES AND INTERNATIONAL ORGANISATIONS

International cooperation in nuclear research and innovation, based on shared goals and mutual trust, shall continue, with the aim of providing clear and significant benefits for the Union. As a contribution to the achievement of the specific objectives set out in Article 3, the Community shall seek to reinforce the Union's scientific and technical expertise through

international cooperation agreements and to promote the access of the Union nuclear industry to new emerging markets.

International cooperation activities shall be promoted through multilateral frameworks (such as IAEA, OECD, ITER, GIF), and by the existing or new bilateral cooperation with countries having strong R&D and industrial bases and research installations under operation, design or construction.

ANNEX II — PERFORMANCE INDICATORS

This Annex presents for each specific objectives of the Euratom Programme a limited number of performance indicators for assessing results and impacts.

1. Indicators for indirect actions

- (a) Support safe operation of nuclear systems
 - Percentage of funded projects (joint research and/or coordinated actions) likely to lead to a demonstrable improvement in nuclear safety practice in Europe.
- (b) Contribute to the development of solutions for the management of ultimate nuclear waste
 - Number of geological repositories for spent nuclear fuel and/or high-level waste that are planned in Europe and for which the Community supported the preparation of a safety case and the possible pre-construction phase.
- (c) Support the development and sustainability of nuclear competences at Union level
 - Training through research - number of PhD students and Post-Doc researchers supported through the Euratom fission projects
 - Number of fellows and trainees in the Euratom fusion programme.
- (d) Foster radiation protection
 - Percentage of funded projects likely to have a demonstrable impact on regulatory practice regarding radiation protection.
- (e) Move toward demonstration of feasibility of fusion as a power source by exploiting existing and future fusion facilities
 - Number of publications in high impact journals.
- (f) Lay the foundations for future fusion power plants by developing materials, technologies and conceptual design
 - Percentage of the Fusion Roadmap's milestones established for a period 2014-2018 reached by the Euratom Programme
- (g) Promote innovation and industrial competitiveness
 - Number of spin-offs from the fusion research under Euratom Programme
 - Patents applications generated by European fusion laboratories
- (h) Ensure availability and use of research infrastructures of pan-European relevance

- Number of research infrastructures supported at Community level and of researchers using research infrastructures through mobility and access support.

2. Indicators for direct actions

(a) Impact indicator for JRC policy support

- Number of occurrences of tangible specific impacts on Union policies resulting from technical and scientific policy support provided by the JRC.

(b) JRC scientific productivity indicator

- Number of peer reviewed publications

The indicators referred to in points (a) and (b) may be represented according to the following Community objectives of direct actions:

- Improve nuclear safety including: fuel and reactor safety, waste management and decommissioning; and emergency preparedness;
- Improve nuclear security including: nuclear safeguards, non-proliferation, combating illicit trafficking and nuclear forensics;
- Raising excellence in the nuclear science base for standardisation;
- Foster knowledge management, education and training;
- Support the policy of the Union on nuclear safety and security and the related evolving Union legislation.

LEGISLATIVE FINANCIAL STATEMENT

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

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Council Regulation on the Research and Training Programme of the European Atomic Energy Community (2014-2018) complementing the 'Horizon 2020' – the Framework Programme for Research and Innovation

1.2. Policy area(s) concerned in the ABM/ABB structure²⁹

- 08 Research and Innovation
- 10 Joint Research Centre

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**³⁰
- 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 Euratom Programme shall strengthen the research and innovation framework in the nuclear field and coordinate Member States' research efforts, thereby avoiding duplication, retaining critical mass in key areas and ensuring public funding is used in an optimal way. The technical objectives of the Euratom Programme shall be to improve nuclear safety, security and radiation protection, and to contribute to the long-term decarbonisation of the energy system in a safe, efficient and secure way. These objectives are linked to that of the Europe 2020 and Energy 2020 strategies. The programme will contribute to the 'Innovation Union' flagship by supporting policy-relevant, pre-commercial and cross-cutting nuclear research and facilitating knowledge and technology transfer process between academia, industry and public authorities. 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. For the Energy 2020 Strategy, the Euratom Programme will address issues in nuclear safety and security and maintain the long term Union technological competitiveness.

²⁹ ABM: Activity-Based Management – ABB: Activity-Based Budgeting.
³⁰ 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 for indirect actions*

Specific objective No.1 - Support safe operation of nuclear systems;
Specific objective No.2 - Contribute to the development of solutions for the management of ultimate nuclear waste;
Specific objective No.3 – Support the development and sustainability of nuclear competences at Union level;
Specific objective No. 4 – Foster radiation protection
Specific objective No. 5 – Move toward demonstration of feasibility of fusion as a power source by exploiting existing and future fusion facilities;
Specific objective No. 6 - Lay the foundations for future fusion power plants by developing materials, technologies and conceptual design;
Specific objective No. 7 - Promote innovation and industrial competitiveness;
Specific objective No. 8 – Ensure availability and use of research infrastructures of pan-European relevance;
ABM/ABB activity(ies) concerned: 08 Research and Innovation.

1.4.3. *Specific objective(s) and ABM/ABB activity(ies) concerned for JRC Direct Actions*

Specific objective No.1 – Improve nuclear safety including, fuel and reactor safety, waste management and decommissioning, and emergency preparedness
Specific objective No.2 – Improve nuclear security including: nuclear safeguards, non-proliferation, combating illicit trafficking and nuclear forensics
Specific objective No.3 – Raising excellence in the science base for standardisation
Specific objective No. 4 – Foster knowledge management, education and training
Specific objective No. 5 – Support the policy of the Union on nuclear safety and security and the related evolving Union legislation.
ABM/ABB activity(ies) concerned: 10 Joint Research Centre.

1.4.4. *Expected result(s) and impact*

Specify the effects which the proposal/initiative should have on the beneficiaries/groups targeted.

1) The Euratom Programme's impacts can be expected in its Community added value for improving the safe exploitation of existing and future nuclear power plants, in taking 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.
2) The Euratom Programme will lead to the strengthened nuclear security through research on nuclear safeguards and implementation of enhanced verification and detection technologies, as concerns both nuclear materials and nuclear fuel cycle.
3) The Euratom Programme will contribute to the development of nuclear skills and expertise in the Union through research, training and mobility actions, and better access to and use of research facilities.

4) Through supporting fusion research the Euratom Programme will ensure a rapid start-up of operation of ITER, develop and qualify materials for a demonstration power plant, and will develop and demonstrate relevant technologies for a fusion demonstration power plant. Activities of the programme will include preparation of complete demonstration power plant conceptual design(s) and exploration of the potential of stellarators as a power plant technology.

1.4.5. Indicators of results and impact

Specify the indicators for monitoring implementation of the proposal/initiative.

The following section specifies for the specific objectives of the Euratom Programme a number of key indicators for assessing results and impacts.

Indicators for indirect actions

1) Support safe operation of nuclear systems

Indicator: Percentage of funded projects (joint research and/or coordinated actions) likely to lead to a demonstrable improvement in nuclear safety practice in Europe.

Current: 90% (2011); Target: 100% (2018)

2) Contribute to the development of solutions for the management of ultimate nuclear waste;

Indicator: Number of geological repositories for spent nuclear fuel and/or high-level waste that are planned in Europe and for which the Union supported the preparation of a safety case and the possible pre-construction phase.

Current: 0 (2011); Target: 3 (2018),

3) Support the development and sustainability of nuclear competences at Union level;

Indicator: Training through research - number of PhD students and Post-Doc researchers involved in Euratom fission projects

Current: ca. 200 (total for 2007-2011); Target: 300 (total for 2014-2018)

Indicator: Number of fellows and trainees in the Euratom fusion programme

Current: on average 27 per year (2011); Target: 40 per year (2018)

4) Foster radiation protection

Indicator: Percentage of funded projects likely to have a demonstrable impact on regulatory practice regarding radiation protection.

Current: 90% (2011); Target: 100% (2018)

5) Move toward demonstration of feasibility of fusion as a power source by exploiting existing and future fusion facilities

Indicator: Number of publications in high impact journals

Current: ca. 800 (2010); Target: Maintain current levels (2018).

Description of the indicator: Source of data – Scopus database. Please note that with the Euratom fusion programme's emphasis shifting from research to technology development this indicator may be lower in the future. Indicator concerns articles where at least one contributing author is from the European fusion laboratory participating in the Euratom

Programme. It is calculated on the basis of 5 international peer reviewed journals: Nuclear Fusion, Plasma Physics and Controlled Fusion, Fusion Engineering and Design, Fusion Science and Technology, Journal of Fusion Energy.

6) Lay the foundations for future fusion power plants by developing materials, technologies and conceptual design;

Indicator: Percentage of the Fusion Roadmap's milestones established for a period 2014-2018 reached by the Euratom Programme;

Current: new indicator, 0%

Target: 90%, including Report on Fusion Power Plant Conceptual design activities (2018);

Description of the indicator: new indicator which will be based on the roadmap for the fusion programme to be developed before 2014.

7) Promote innovation and industrial competitiveness

Indicator: Number of spin-offs from the fusion research under Euratom Programme

Current: 33% of contracts resulted in spinoffs (2011); Target: 50% (2018)

Description of the indicator: new products or services developed by companies involved in the fusion research.

Indicator: Patents applications generated by European fusion laboratories

Current: 2-3 new patents per year (2011); Target: on average 4-5 new patents per year (2018);

8) Ensure availability and use of research infrastructures of pan-European relevance;

Indicator: Number of research infrastructures supported at Community level and of researchers using research infrastructures through mobility and access support

Current: ca. 800 (2008), Target: 1200 (2018);

Description of the indicator: mobility scheme under fusion programme supports short term visits of European scientists to the fusion facilities such as JET.

Indicators for direct actions

1) Impact indicator for JRC policy support

Number of occurrences of tangible specific impacts on Union policies resulting from technical and scientific policy support provided by the JRC.

Current: 39 (2010), Target: 45 (2018)

2) JRC scientific productivity indicator

Number of peer reviewed publications

Current: 190 (2010), Target: 210 (2018)

The indicators referred to in points (1) and (2) above may be represented according to the following Community objectives of direct actions:

- Improve nuclear safety including: fuel and reactor safety, waste management and decommissioning; and emergency preparedness;

- Improve nuclear security including: nuclear safeguards, non-proliferation, combating illicit trafficking and nuclear forensics;

- Raising excellence in the nuclear science base for standardisation;
- Foster knowledge management, education and training;
- Support the policy of the Union on nuclear safety and security and the related evolving Union legislation.

1.5. Grounds for the proposal/initiative

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

The March 2011 earthquake in Japan and following events at the Fukushima Daiichi nuclear power plant are a stern reminder that nuclear fission, although a reliable source of low carbon base-load electricity, requires continuing efforts in the area of safety and emergency preparedness. The main challenges as regards current nuclear technology in order for it to further contribute to competitiveness, security of supply and the decarbonisation of European energy systems are to ensure continuing high levels of safety, to develop solutions for management of ultimate waste and maintain nuclear skills. Equally important is the need to ensure a robust system of radiation protection at Union level, taking into consideration the benefits of the uses of radiation in medicine and industry. In view of the increasing concerns about the risk of non-proliferation and the threat of nuclear terrorism it is also necessary to develop appropriate safeguards in order to assure nuclear security in Europe and worldwide.

1.5.2. Added value of Union involvement

There is a clear case for Community intervention to tackle the challenge of nuclear safety and diminishing nuclear skills in Europe. Markets will also not take on the high risk and long-term R&D programme in fusion energy. There is compelling evidence that Member States acting alone will not be able to make the required public intervention. Their investment in research and innovation is comparatively low, and suffers from fragmentation. It is unlikely that Member States on their own will be able to tackle the problems of lack of transnational coordination. The Euratom is well positioned to provide added value through exploiting synergies between research efforts of Member States and the private sector, and between scientific disciplines and technological sectors. Community intervention can strengthen the research and innovation framework in nuclear technologies and coordinate Member States' research efforts thereby avoiding duplication, retaining critical mass in key areas and ensuring public financing is used in an optimal way. The Euratom programme also take on the high risk and long-term R&D programme in fusion energy, thereby sharing the risk and generating a breadth of scope and economies of scale that could not otherwise be achieved. The direct actions of the Joint Research Centre ('JRC') provide added value because of their unique European dimension. These benefits range from responding to Commission's need to have in-house access to scientific evidence independent of national and private interests to direct benefits to the Union citizens through contributions to policies which lead to improved economic, environmental and social conditions.

1.5.3. Lessons learned from similar experiences in the past

The Euratom programme builds on the experience accumulated from past Euratom Framework Programmes. Over a period spanning several decades, Euratom programmes have:

- succeeded in involving Europe’s best researchers and institutes in nuclear field;
- made a major contribution to Europe’s knowledge base in nuclear field and had an important impact on networking and cooperation, with a significant restructuring effect on European nuclear research.

Together with the successes, there are important lessons to be learned from the past:

- Research, innovation and education should be addressed in a more coordinated manner;
- Research results better disseminated and valorised into new products, processes and services;
- The intervention logic should be more focused, concrete, detailed and transparent;
- Monitoring and evaluation need to be strengthened.

The recommendations for direct actions in recent evaluation reports note that the JRC can

- promote stronger integration in the production of knowledge in the Union;
- introduce impact analyses and cost-benefit studies of specific work as part of the new JRC programme;
- enhance cooperation with industry in order to strengthen effects for the benefit of the competitiveness of the European economy.

1.5.4. *Coherence and possible synergy with other relevant instruments*

The Euratom Programme (2014-2018) shall contribute to the objectives outlined in the 'Horizon 2020' Framework Programme for Research and Innovation (2014-2020). Accordingly, appropriate links and interfaces between the Euratom Programme and the 'Horizon 2020' Framework Programme will be established by means of the cross-cutting actions

1.6. **Duration and financial impact**

Proposal/initiative of **limited duration**

- Proposal/initiative in effect from 01/01/2014 to 31/12/2018
- Financial impact from 2014 to 2026

Proposal/initiative of **unlimited duration**

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.7. Management mode(s) envisaged³¹

- Centralised direct management** by the Commission
- Centralised indirect management** with the delegation of implementation tasks to:
 - executive agencies
 - bodies set up by the Communities³²
 - 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
- Shared management** with the Member States (whenever appropriate)
- Decentralised management** with third countries
- Joint management** with international organisations (*to be specified*)

If more than one management mode is indicated, please provide details in the 'Comments' section.

Comments

The Commission intends to use a variety of management modes to implement this activity building on the management modes used under the current financial perspectives. Management will be through the services of the Commission and through the existing Executive Agencies of the Commission renewing and extending their mandates in a balanced manner.

Externalisation of further activities of the Euratom Programme, in particular through recourse to existing agencies, is foreseen as long as it is compatible with keeping core policy competences within Commission services. The externalisation means retained to implement these activities will be selected on the basis of their proven effectiveness and efficiency. At the same time, the staff assigned to the Executive Agencies of the Commission will have to increase in proportion to the part of the budget corresponding to the externalised activities and taking into account the commitment on staffing made by the Commission (A Budget for Europe 2020 COM (2011) 500).

³¹ 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

³² As referred to in Article 185 of the Financial Regulation.

2. MANAGEMENT MEASURES

Simplification

The Euratom Programme must attract the most excellent researchers and the most innovative European enterprises. This can only be reached by a programme with the least possible administrative burden for participants and by appropriate funding conditions. Simplification of the Euratom Programme is part of the broader simplification process proposed for 'Horizon 2020'. Like for 'Horizon 2020', simplification in the Euratom Programme will therefore target three overarching goals: to reduce the administrative costs of the participants; to accelerate all processes of proposal and grant management and to decrease the financial error rate.

Simplification in the Euratom Programme will be achieved along several dimensions.

1) Structural simplification: 'Horizon 2020' rules will be used also for the Euratom Programme.

2) Major simplification of funding rules will make the preparation of proposals and the management of projects easier. At the same time, they will reduce the number of financial errors. The following approach is proposed:

Main funding model for grants:

- Simplified reimbursement of real direct costs, with a broader acceptance of beneficiaries' usual accounting, including the eligibility of certain taxes and charges;
- The possibility of using unit personnel costs (average personnel costs) for beneficiaries for which this is their usual accounting method, and for SME owners without a salary;
- Simplification of time-recording by providing a clear and simple set of minimum conditions, in particular abolition of time-recording obligations for staff working exclusively on Union project;
- One single reimbursement rate for all participants instead of 3 different rates by type of participant;
- One single flat rate covering indirect costs, instead of 4 methods to calculate indirect costs, as a general rule;
- Output-based funding with lump sums for whole projects in specific areas.

3) A revised control strategy, as described in section 2.2.2, achieving a new balance between trust and control will further reduce the administrative burden for participants.

Beyond the simpler rules and controls, **all procedures and processes for project implementation will be rationalised**. This includes the detailed provisions on the content and shape of proposals, the processes for turning proposals into projects, the requirements for reporting and monitoring, as well as the related guidance documents and support services. A major contribution to reduced administrative costs for participation will come

from a single user-friendly IT platform, based on the Union's Seventh Framework Programme for R&D (2007-2013) ('FP7') Participant Portal.

2.1. Monitoring and reporting rules

A new system will be developed for the evaluation and monitoring of the indirect actions of the Euratom Programme. It will be based on a comprehensive, well-timed and harmonised strategy, with a strong focus on throughput, output, results and impacts. It will be supported by an appropriate data archive, experts, a dedicated research activity, and increased cooperation with Member States and Associated States, and it will be valorised through appropriate dissemination and reporting. For direct actions, the JRC will continue to improve its monitoring by further adjusting its indicators measuring output and impact.

2.2. Management and control system

A 2 % error limit was adopted as chief indicator in the area of legality and regularity concerning the area of research. However, this has caused a number of unexpected or undesirable side-effects. There has been a strong feeling, amongst the beneficiaries as well as amongst the legislative authority, that the control burden has become too great. This runs the risk of lowering the attractiveness of the Union research programmes including the Euratom Programme, and so negatively affecting Union research and innovation.

The European Council of February 4th 2011 concluded that *'it is crucial that EU instruments aimed at fostering R&D&I be simplified in order to facilitate their take-up by the best scientists and the most innovative companies, in particular by agreeing between the relevant institutions a new balance between trust and control and between risk taking and risk avoidance'* (see EUCO 2/1/11 REV1, Brussels 8 March 2011).

The European Parliament, in its Resolution of 11 November 2010 (P7_TA(2010)0401) on simplifying the implementation of the Research Framework Programmes explicitly supports a higher risk of errors for research funding and *"expresses its concern that the current system and the practice of FP7 management are excessively control-oriented, thus leading to waste of resources, lower participation and less attractive research landscapes; notes with concern that the current management system of 'zero risk tolerance' seems to avoid, rather than to manage, risks"*.

The sharp increase in the number of audits and the subsequent extrapolation of results has also provoked a wave of complaints from the world of research (e.g. the Trust Researchers initiative³³, with over 13,800 signatures so far).

There is therefore an acceptance among stakeholders and Institutions that the current approach needs to be reviewed. There are other objectives and interests, especially the success of the Research policy, international competitiveness and scientific excellence, which should also be considered. At the same time, there is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. These are common challenges for the 'Horizon 2020' and the Euratom Programme.

It remains the ultimate objective of the Commission to achieve a residual error rate of less than 2% of total expenditure over the lifetime of the programme, and to that end, it has

³³ <http://www.trust-researchers.eu/>

introduced a number of simplification measures. However, other objectives such as the attractiveness and the success of the Union research policy, international competitiveness, scientific excellence and in particular the costs of controls (see point 2.2.2) need to be considered.

Taking these elements in balance, it is proposed that the Directorates General charged with the implementation of the research and innovation budget will establish a cost-effective internal control system that will give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5%; with the ultimate aim to achieve a residual level of error as close as possible to 2% at the closure of the multiannual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

2.2.1. *Internal control framework*

The internal control framework for grants is built on:

- The implementation of the Commission's Internal Control Standards;
- Procedures for selecting the best projects and translating them into legal instruments;
- Project and contract management throughout the lifetime of every project;
- Ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- Ex post audits on a sample of claims; and
- Scientific evaluation of project results.

For direct actions, financial circuits include ex-ante checks for procurement and ex-post controls. Risks are assessed annually and progress in the execution of work and the consumption of resources is monitored regularly, based on defined objectives and indicators.

2.2.2. *Costs and benefits of the controls*

The cost of the internal control system for the Commission's Directorates General charged with the implementation of the research and innovation budget (including Euratom) is estimated at €267m per year (based on the 2009 Tolerable Risk of Error exercise). It has also led to a considerable burden on beneficiaries and Commission services. There has been a strong feeling, amongst the beneficiaries as well as amongst the legislative authority, that the control burden has become too great. This runs the risk of lowering the attractiveness of the Union Research programme, and so negatively affecting Union research and innovation.

43 % of the total costs of control of the Commission services (not including the costs of the beneficiary) are borne at the stage of project management, 18 % on selection of proposals, and 16 % on negotiation of contracts (16 %). Ex post audits and their resulting implementation amounted to 23 % (€61m) of the total.

However, this considerable control effort has not managed to fully achieve its objective. The estimated "residual" error rate for FP6, after taking account of all recoveries and corrections that have been or will be implemented, remains over 2 %. The current rate of error from audits of FP7 carried out by the Directorate General Research and Innovation is around 5 %, and although this will be reduced due to the effects of the audits, and is somewhat biased because it is concentrated on beneficiaries not previously audited, it is unlikely whether the 2 % residual error will be attained. The rate of error identified by the European Court of Auditors is in a similar range.

2.2.3. *Expected level of risk of non-compliance*

The starting point is the status quo, based on audits carried out in FP7 so far. This preliminary representative error rate is close to 5 % (for the Directorate General Research and Innovation). The majority of errors detected arise because the present system of research funding is based on the reimbursement of the actual costs of the research project declared by the participant. This leads to considerable complexity regarding the assessment of eligible costs.

An analysis of error rates has been carried out for the FP7 audits so far performed in the Directorate General Research and Innovation shows that:

- Around 27% by number, and 35% by amount, relate to errors in the charging of personnel costs. Regular problems identified are charging average or budgeted costs (rather than actual costs), failure to keep adequate records of time spent on the programme, charging of ineligible items.

- Around 40% by number, and 37% by value, relate to other direct costs (not personnel). Regular errors identified are the inclusion of VAT, lack of a clear link to the project, failure to provide invoices or proof of payment and incorrect calculation of depreciation charging the full cost of equipment rather than the depreciated amount, subcontracting without prior authorization, or without respecting the rules of value for money, etc.

- Around 33% by number, and 28% by amount, relate to errors in indirect costs. The same risks apply as for personnel costs, with the additional risk of an inaccurate or unfair allocation of overheads to projects.

In a number of cases the indirect costs are a flat rate percentage of direct costs, and so the error in indirect costs is proportional to the error in direct costs.

'Horizon 2020' and the Euratom Programme introduces a significant number of important simplification measures (see point 2 above) that will lower the error rate in all the categories of error. However, the consultation of stakeholders and the institutions on further simplification, and the Horizon 2020 impact assessment, clearly indicate that the continuation of a funding model based on the reimbursement of actual costs is the favoured option. A systematic resort to output based funding, flat rates or lump sums appears premature at this stage as such a system has not been tested in previous programmes. Retaining a system based on the reimbursement of actual costs does however mean that errors will continue to occur.

An analysis of errors identified during audits of FP7 suggests that around 25-35% of them would be avoided by the simplification measures proposed. The error rate can then be expected to fall by 1.5%, i.e. from close to 5% to around 3.5%, a figure that is referred to

in the Commission Communication striking the right balance between the administrative costs of control and the risk of error.

The Commission considers therefore that, for research spending under the Euratom Programme, a risk of error, on an annual basis, within a range between 2-5% is a realistic objective taking into account the costs of controls, the simplification measures proposed to reduce the complexity of rules and the related inherent risk associated to the reimbursement of costs of the research project. The ultimate aim for the residual level of error at the closure of the programmes after the financial impact of all audits, correction and recovery measures will have been taken into account is to achieve a level as close as possible to 2%

The ex-post audit strategy for expenditure under Horizon 2020 and the Euratom Programme takes account of this target. It will be based on the financial audit of a single representative sample of expenditure across the whole programme, complemented by a sample compiled on the basis of risk considerations.

The overall number of ex-post audits will be limited to that strictly necessary to the achievement of this target and the strategy. As a guide, the Commission considers that a maximum of 7% of participants in Horizon 2020 and in the Euratom Programme would be subject to audit over the whole programming period. Past experience shows that the expenditure subject to audit would be considerably higher, a minimum of 40% coverage can be expected.

The ex-post audit strategy regarding legality and regularity will be complemented by reinforced scientific evaluation and the anti-fraud strategy (see point 2.3 below).

This scenario is based on the assumption that the measures of simplification are not subject to substantial modifications in the decision making process.

Note: this section only concerns the process of grant management, for administrative and operational expenditure implemented through public procurement processes the 2% ceiling will apply as tolerable risk of error.

2.3. Measures to prevent fraud and irregularities

The Directorates General charged with the implementation of the research and innovation budget are determined to fight against fraud at all stages of the grant management process. They have developed, and are implementing, anti-fraud strategies, including an enhanced use of intelligence, especially using advanced IT tools, and training and information for staff. Sanctions have been developed to provide deterrents to fraud, as well as appropriate penalties if they are identified. These efforts will continue. The proposals for Horizon 2020 and the Euratom Programme have been subject to fraud proofing and an assessment of their impact. Overall the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

It should be underlined that detected fraud has been very low in proportion to total expenditure, nevertheless the Directorates General charged with the implementation of the research budget remain committed to combat it.

The Commission shall take appropriate measures ensuring that, when actions financed under this Regulation are implemented, the financial interests of the Union are protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The Commission or its representatives and the Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding.

Without prejudice to the paragraphs above, cooperation agreements with third countries and international organisations and grant agreements and grant decisions and contracts resulting from the implementation of this Regulation shall expressly empower the Commission, the Court of Auditors and OLAF to conduct such audits, on-the-spot checks and inspections.

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 ⁽³⁴⁾	from EFTA ³⁵ countries	from candidate countries ³⁶	from third countries	within the meaning of Article 18(1)(aa) of the Financial Regulation
1		DA	NO	YES/NO *	YES	YES

³⁴ DA= Differentiated appropriations / DNA= Non-Differentiated Appropriations

³⁵ EFTA: European Free Trade Association.

³⁶ Candidate countries and, where applicable, potential candidate countries from the Western Balkans.

• New budget lines requested

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
	Number Heading	Diff./non-diff.	from EFTA countries	from candidate countries	from third countries	within the meaning of Article 18(1)(aa) of the Financial Regulation
1	<p>08 01 Administrative expenditure Research 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</p> <p>10 01 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 10 01 05 04 - Research infrastructures</p> <p>08 03 02 01 Euratom Fusion Energy 08 03 02 02 Euratom Nuclear Fission and Radiation Protection 08 04 01 Appropriations accruing from contributions from third parties to research and technological development</p> <p>10 03 Directly financed Research operational appropriations– Euratom 10 03 01 Nuclear action of the Joint</p>	Non-Diff.	NO	YES/NO*	YES	NO

	Research Centre (JRC) 10 03 02 Appropriations accruing from contributions from third parties					
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* Discussions with Turkey related to Association Agreements in the field of Nuclear Research are ongoing

The **JRC** requests a **new budget line for infrastructure investments**. Most of the JRC facilities date from the 60's and 70's and are not state of the art anymore. As a consequence, new facilities and the upgrading of the existing infrastructure are necessary to carry out the JRC multi-annual work-programme in compliance with EU safety and security standards as well as with the EU/20/20/20 environmental objectives. The JRC has established its "Infrastructure Development plan 2014 – 2020"; identifying the investment needs till 2020 for all JRC sites that are reflected in the new budget line proposed.

The JRC is a Commission DG spread over five different countries with 7 scientific Institutes located in five EU Member States: Ispra (Italy), Geel (Belgium), Petten (the Netherlands), Karlsruhe (Germany) and Seville (Spain). The research facilities of the JRC include nuclear installations and a wide range of unique highly specialised laboratories that need to comply with the nuclear, environmental and safety regulations of each host country. The required specialised technical services to maintain and operate these facilities are provided by JRC staff (including safety and security, fire brigade, etc.) and have no equivalent in other Commission services.

Budget line 10.01.05.01 is used to finance officials occupying a post in the JRC staff table, whilst line 10.01.05.02 covers external personnel under temporary contract (Contract Agents, Detached National Experts, Grantholders, Trainees, etc.) to allow the JRC to remain at the forefront of research and cope with the specific needs related to its mission as direct scientific support service to the Commission.

These staff credits are mainly devoted to finance scientists and technicians working in scientific actions implementing the JRC work programme. The mere "administrative" component of these lines is relatively low (below 20%), as confirmed by DG HR during its annual "screening" exercise.

Budget line 10.01.05.03 refers to the support of the nuclear and non nuclear scientific and technical infrastructure. A major part of the credits under this line is devoted to (1) ensure the normal operation of the JRC institutes (i.e. maintenance, technical equipment, water/gas/electricity supply, safety/security, radioprotection, IT, telecommunication, data processing, etc.), and (2) non-recurrent operations (renovation works, modernisation of the existing facilities, compliance to new standards, etc.).

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure – **Indirect Research** in current prices -EUR million (to 3 decimal places)

Heading of multiannual financial framework:	1		Smart and Inclusive Growth						
			Year	Year	Year	Year	Year	Year	TOTAL
Indirect Research			2014	2015	2016	2017	2018	> 2018	
• Operational appropriations			2014	2015	2016	2017	2018	> 2018	
Number of budget line: 08 03 02 total	Commitments	(1)	159.641	171.785	184.350	197.350	210.794		923.920
	Payments	(2)	100.131	125.934	152.733	162.535	196.821	185.766	923.920
Number of budget line: 08 03 02 01	Commitments	(1)	108.073	116.201	124.612	133.312	142.309		624.507
	Payments	(2)	80.065	94.967	104.867	107.771	128.659	108.178	624.507
Number of budget line: 08 03 02 02	Commitments	(1)	51.568	55.584	59.739	64.038	68.485		299.414
	Payments	(2)	20.066	30.967	47.867	54.764	68.162	77.589	299.415
Appropriations of an administrative nature financed from the envelope of the Euratom Programme ³⁷									
08 01 05 01 Expenditure related to Research Staff			17.780	18.136	18.498	18.868	19.246		92.529
08 01 05 02 External staff for Research			2.240	2.285	2.330	2.377	2.425		11.657
08 01 05 03 Other management expenditure Research			7.007	7.147	7.290	7.436	7.585		36.465
Number of budget line: 08 01 05		(3)	27.027	27.568	28.119	28.681	29.255		140.650
TOTAL appropriations for DG Research & Innovation	Commitments	=1+1a+3	186.668	199.353	212.469	226.031	240.049		1064.570
	Payments	=2+2a+3	127.158	153.502	180.852	191.216	226.076	185.766	1064.570
• TOTAL operational appropriations	Commitments	(4)	159.641	171.785	184.350	197.350	210.794		923.920

³⁷ 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.

	Payments	(5)	100.131	125.934	152.733	162.350	196.821	185.766	923.920
• TOTAL appropriations of an administrative nature financed from the envelope of the Euratom Programme		(6)	27.027	27.568	28.119	28.681	29.255	0	140.650
TOTAL appropriations under HEADING 1 of the multiannual financial framework	Commitments	=4+ 6	186.668	199.353	212.469	226.031	240.049		1064.570
	Payments	=5+ 6	127.158	153.502	180.852	191.216	226.076	185.766	1064.570

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

NA

Heading of multiannual financial framework:	5	Administrative expenditure
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in current prices - EUR million (to 3 decimal places)

	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	TOTAL
DG: Research / Direct Research						
• Human resources						0
• Other administrative expenditure						0
TOTAL DG <.....>						0
	Appropriations					0

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

		2014	2015	2016	2017	2018	> 2018	TOTAL
TOTAL appropriations under HEADINGS 1 to 5 of the multiannual financial framework	Commitments	186.668	199.353	212.469	226.031	240.049		1064.570
	Payments	127.158	153.502	180.852	191.216	226.076	185.766	1064.570

3.2.1. Summary of estimated impact on expenditure – *Direct Research*

in current prices - EUR million (to 3 decimal places)

Heading of multiannual financial framework:		1	Smart and Inclusive Growth							
DG JRC			Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year ≥ 2019	TOTAL	
Direct Research										
• Operational appropriations										
Number of budget line: 10.03	Commitments	(1a)	10.457	10.666	10.879	11.097	11.319	0	54.417	
	Payments	(2a)	4.706	8.982	10.208	10.935	11.153	8.434	54.417	
Number of budget line: 10.03.01	Commitments	(1a)	10.457	10.666	10.879	11.097	11.319	0	54.417	
	Payments	(2a)	4.706	8.982	10.208	10.935	11.153	8.434	54.417	
Appropriations of an administrative nature financed from the envelope of the Euratom Programme ³⁸										
10 01 05			126.796	130.284	133.874	137.571	141.377		669.901	
10 01 05 01			61.598	63.754	65.986	68.295	70.686		330.319	
10 01 05 02			11.205	11.457	11.715	11.979	12.248		58.604	
10 01 05 03			38.706	39.481	40.270	41.076	41.897		201.430	
10 01 05 04			15.286	15.592	15.903	16.222	16.546		79.549	
TOTAL appropriations for DG JRC / Direct Research		Commitments	=1+1a +3	137.253	140.950	144.753	148.668	152.695		724.319
		Payments	=2+2a+3	131.501	139.266	144.082	148.506	152.530	8.434	724.319

• TOTAL operational appropriations	Commitments	(4)	10.457	10.666	10.879	11.097	11.319	0	54.417
	Payments	(5)	4.706	8.982	10.208	10.935	11.153	8.434	54.417
• TOTAL appropriations of an administrative nature financed from the envelope for the Euratom Programme		(6)	126.796	130.284	133.874	137.571	141.377	0	669.901

³⁸ 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 appropriations under HEADING 1 of the multiannual financial framework	Commitments	=4+6	137.253	140.950	144.753	148.668	152.695	0	724.319
	Payments	=5+6	131.501	139.266	144.082	148.506	152.530	8.434	724.319

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

NA

Heading of multiannual financial framework:	5	Administrative expenditure
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in current prices - EUR million (to 3 decimal places)

		Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	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)						
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in current prices - EUR million (to 3 decimal places)

		Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	> 2018	TOTAL
TOTAL appropriations under HEADINGS 1 to 5	Commitments	137.253	140.950	144.753	148.668	152.695	0	724.319
	Payments	131.501	139.266	144.082	148.506	152.530	8.434	724.319

of the multiannual financial framework								
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Summary of estimated impact on expenditure **Indirect Research + Direct Research**

in current prices - EUR million (to 3 decimal places)

Heading of multiannual financial framework:		1	Smart and Inclusive Growth							
Summary			Year	Year	Year	Year	Year	Year	TOTAL	
Indirect Research / Direct Research										
• Operational appropriations			2014	2015	2016	2017	2018	> 2018		
Number of budget line: 08 03 02	Commitments	(1)	159.641	171.785	184.350	197.350	210.794		923.920	
	Payments	(2)	100.131	125.934	152.733	162.535	196.821	185.766	923.920	
Number of budget line: 10.03	Commitments	(1a)	10.457	10.666	10.879	11.097	11.319	0	54.417	
	Payments	(2a)	4.706	8.982	10.208	10.935	11.153	8.434	54.417	
Appropriations of an administrative nature financed from the envelope of Euratom Programme ³⁹			27.027	27.568	28.119	28.681	29.255	0	140.650	
08 01 05										
10 01 05			137.252	140.950	144.753	148.669	152.696	0	724.320	
Number of budget line: 08 01 05 / 10 01 05		(3)	153.822	157.852	161.992	166.253	170.632		810.551	
TOTAL appropriations for DG Research & Innovation / Direct Research		Commitments	=1+1a +3	323.920	340.303	357.221	374.700	392.745		1788.889
		Payments	=2+2a+3	258.659	292.768	324.933	339.723	378.606	194.200	1788.889
• TOTAL operational appropriations		Commitments	(4)	170.098	182.451	195.229	208.447	222.113	978.338	

³⁹ 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.

	Payments	(5)	104.837	134.916	162.941	173.470	207.974	194.200	978.338
• TOTAL appropriations of an administrative nature financed from the envelope of Euratom Programme programs		(6)	153.822	157.852	161.992	166.253	170.632		810.551
TOTAL appropriations under HEADING 1 a of the multiannual financial framework	Commitments	=4+ 6	323.920	340.303	357.221	374.700	392.745		1788.889
	Payments	=5+ 6	258.659	292.768	324.933	339.723	378.606	194.200	1788.889

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 envelope of the Euratom Programme		(6)							
TOTAL appropriations under HEADINGS 1 to 4 of the multiannual financial framework (Reference amount)	Commitments	=4+ 6							
	Payments	=5+ 6							

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 2014	Year 2015	Year 2016	Year 2017	Year 2018	TOTAL						
	OUTPUTS													
	Type of output ⁴⁰	Average cost of the output	Nr of outputs	Cost	Nr of outputs	Cost	Nr of outputs	Cost	Nr of outputs	Cost	Nr of outputs	Cost	Total number of outputs	Total cost
SPECIFIC OBJECTIVES N° 1-8 for indirect actions ⁴¹														
- Output – EURATOM Fusion	**	**	100	108.073	100	116.201	100	124.612	100	133.312	100	142.309	500	624.507
- Output – EURATOM Fission			25	51.568	25	55.584	25	59.739	25	64.038	25	68.485	125	299.414
Sub-total for specific objective N°1-8 for indirect actions														
SPECIFIC OBJECTIVES N° 1-5 for direct actions ⁴²														
- Output – EURATOM Direct research- JRC	***	***	150	10.457	150	10.666	150	10.879	150	11.097	150	11.319	750	54.417
Sub-total for specific objective N°1-5 for direct actions			150	10.457	150	10.666	150	10.879	150	11.097	150	11.319	750	54.417
TOTAL COST			275	170.098	275	182.451	275	195.229	275	208.447	275	222.113	1,375	978.338

(*) estimated number of outputs

(**) usual output of a research grant is a report describing facts, findings and results.

(***) Type of output: Products and services for EU policy makers.

⁴⁰ Outputs are products and services to be supplied (e.g.: number of student exchanges financed, number of km of roads built, etc.).

⁴¹ As described in Section 1.4.2. "Specific objectives for indirect actions"

⁴² As described in Section 1.4.2. "Specific objectives for direct actions"

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

EUR million (to 3 decimal places)

	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	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						

	Year 2014		Year 2015		Year 2016		Year 2017		Year 2018	
	Indire ct Resea rch	Direct Resea rch	Indire ct Resea rch	Direct Resea rch	Indire ct Resea rch	Direct Resea rch	Indire ct Resea rch	Direct Resea rch	Indire ct Resea rch	Direct Resea rch
Outside HEADING 5⁴³ of the multiannual financial framework										
Human resources	20.020	72.803	20.421	75.211	20.828	77.701	21.245	80.274	21.671	82.934
Other expenditure of an administrative nature	7.007	53.992	7.147	55.072	7.290	56.174	7.436	57.297	7.585	58.443
Subtotal outside HEADING 5 of the multiannual financial framework	27.027	126.796	27.568	130.284	28.118	133.874	28.681	137.571	29.256	141.377
TOTAL*	27.027	126.796	27.568	130.284	28.118	133.874	28.681	137.571	29.256	141.377

***These figures might be adjusted as a result of the envisaged externalisation procedure.**

⁴³ 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 2014	Year 2015	Year 2016	Year 2017	Year 2018
• 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)*	140	140	140	140	140
10 01 05 01 (Direct research)	566	566	566	566	566
• External personnel (in Full Time Equivalent unit: FTE)⁴⁴					
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 40⁴⁵					
- at Headquarters ⁴⁶					
- in delegations					
- officials and temporary agents					
- CA GFI-IV					
- SNE					
08 01 05 02 (CA, INT, SNE - Indirect research)*	35	35	35	35	35
10 01 05 02 (CA, INT, SNE - Direct research)	194	194	194	194	194
Other budget lines (specify)					
TOTAL	935	935	935	935	935

XX is the policy area or budget title concerned.

* from these totals the officials, the temporary agents as well as the external staff managing the ITER project in the Headquarters (Brussels) have been taken out. These staff members have been mentioned in the Supplementary Research Programme for the ITER project LFS.

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.

⁴⁴ CA= Contract Agent; INT= agency staff ("Intérimaire"); JED= "Jeune Expert en Délégation" (Young Experts in Delegations); LA= Local Agent; SNE= Seconded National Expert;

⁴⁵ Under the ceiling for external personnel from operational appropriations (former "BA" lines).

⁴⁶ Essentially for Structural Funds, European Agricultural Fund for Rural Development (EAFRD) and European Fisheries Fund (EFF).

Description of tasks to be carried out:

Officials and temporary agents	Tasks derived from the implementation of the Euratom Research and Training Programme (direct and indirect actions), in particular related to nuclear waste management, nuclear safety and nuclear safeguards and security. They will also carry out activities needed to decommission JRC Euratom Nuclear facilities
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.
- Proposal/initiative requires application of the flexibility instrument or revision of the multiannual financial framework⁴⁷.

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 2014 - 2018
<i>Specify the co-financing body</i>	Third countries associated to the programme
TOTAL appropriations co-financed *	Pm the third party contribution will be added at a later stage

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

⁴⁷ 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 ⁴⁸
		2014 until 2018
Item 6011*		pm
Item 6012*		pm
Item 6013		pm
Item 6031**		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 04 01 Appropriations accruing from contributions from (non-European Economic Area) third parties to research, technological development and innovation.

10 03 02 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 will be agreed in these Association Agreements and is not necessarily the same method in all agreements. Mostly the calculations are based on the GDP of the Associated State compared to the total GDP of the Members States whilst applying this percentage to the overall budget.

⁴⁸ 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.