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REPORT

on the proposal for a Council decision concerning the seventh framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)
(COM(2005)0119 – C6-0112/2005 – 2005/0044(CNS))

Committee on Industry, Research and Energy

Rapporteur: Jerzy Buzek

Symbols for procedures

*	Consultation procedure *majority of the votes cast*
**I	Cooperation procedure (first reading) *majority of the votes cast*
**II	Cooperation procedure (second reading) *majority of the votes cast, to approve the common position* *majority of Parliament's component Members, to reject or amend the common position*
***	Assent procedure *majority of Parliament's component Members except in cases covered by Articles 105, 107, 161 and 300 of the EC Treaty and Article 7 of the EU Treaty*
***I	Codecision procedure (first reading) *majority of the votes cast*
***II	Codecision procedure (second reading) *majority of the votes cast, to approve the common position* *majority of Parliament's component Members, to reject or amend the common position*
***III	Codecision procedure (third reading) *majority of the votes cast, to approve the joint text*

(The type of procedure depends on the legal basis proposed by the Commission)

Amendments to a legislative text

In amendments by Parliament, amended text is highlighted in ***bold italics***. Highlighting in *normal italics* is an indication for the relevant departments showing parts of the legislative text for which a correction is proposed, to assist preparation of the final text (for instance, obvious errors or omissions in a given language version). These suggested corrections are subject to the agreement of the departments concerned.

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on the proposal for a Council decision concerning the seventh framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)
(COM(2005)0119 – C6-0112/2005 – 2005/0044(CNS))

(Consultation procedure)

The European Parliament,

– having regard to the Commission proposal to the Council (COM(2005)0119)[1],

– having regard to Article 7 of the Euratom Treaty, pursuant to which the Council consulted Parliament (C6-0112/2005),

– having regard to Rule 51 of its Rules of Procedure,

– having regard to the report of the Committee on Industry, Research and Energy and the opinions of the Committee on Budgets and the Committee on the Environment, Public Health and Food Safety (A6-0203/2006),

1. Approves the Commission proposal as amended;

2. Specifies that the appropriations indicated in the proposal for a decision are purely for guidance until agreement is reached on the financial perspective for the period 2007 and the following years;

3. Calls on the Commission to alter its proposal accordingly, pursuant to Article 119, second paragraph, of the Euratom Treaty;

4. Calls on the Council to notify Parliament if it intends to depart from the text approved by Parliament;

5. Calls for initiation of the conciliation procedure under the Joint Declaration of 4 March 1975 if the Council intends to depart from the text approved by Parliament;

6. Asks the Council to consult Parliament again if it intends to amend the Commission proposal substantially;

7. Instructs its President to forward its position to the Council and Commission.

Text proposed by the Commission	Amendments by Parliament
	Amendment 1 Recital 13

[1] Not yet published in OJ.

(13) The Joint Research Center ***should contribute to the attainment of the objectives set out above by carrying out direct activities and by providing customer-driven support for the implementation of EU policies.***	(13) The Joint Research Center ***has the crucial role of providing customer-driven scientific and technological support for the conception, development, implementation and monitoring of EU policies. Continuous support should be given to the Joint Research Center to allow it to function as a reference center of science and technology for the EU, independent of private and national interests.***

Justification

This wording is exactly the same as the description of JRC's role as decided by the Council in FP5, and confirms that it will continue in FP7 as it has in FP6.

Amendment 2
Recital 16

(16) Appropriate measures should also be taken to prevent irregularities and fraud and the necessary steps should be taken to recover funds lost, wrongly paid or incorrectly used in accordance with Council Regulations (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests, (EC, Euratom) No 2185/96 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities and Regulation (EC) No 1073/1999 of the European Parliament and of the Council concerning investigations conducted by the European Anti-Fraud Office (OLAF).	(16) Appropriate measures should also be taken to prevent irregularities and fraud and the necessary steps should be taken to recover funds lost, wrongly paid or incorrectly used in accordance with Council Regulations (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests, (EC, Euratom) No 2185/96 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities and Regulation (EC) No 1073/1999 of the European Parliament and of the Council concerning investigations conducted by the European Anti-Fraud Office (OLAF). ***In any case, steps should be taken to ensure that any funds recovered from frauds and irregularities committed in breach of the abovementioned regulations are returned to the Framework Programme and earmarked essentially for the training of research staff and scientific advisory activities.***

Justification

This should be made clear, given the budget restrictions affecting the seventh framework

programme.

Amendment 3
Article 3, paragraph 1, introductory part

The overall amount for the implementation of the seventh framework programme ***for the period 2007 to 2011*** shall be EUR ***3092 million***. That amount shall be distributed as follows (in EUR million):	The ***indicative*** overall amount for implementation of the seventh framework programme shall be EUR ***2751 million for the period of 5 years starting on 1 January 2007.*** That amount shall be distributed as follows (in EUR million):

Justification

Standard amendment in order to emphasize that the amounts proposed are subject to confirmation by a possible multiannual financial framework.

Amendment 4
Article 3, paragraph 1, table

a) Fusion energy research ***2159***	a) Fusion energy research ***1947***
b) Nuclear Fission and radiation protection ***394***	b) Nuclear Fission and radiation protection ***287***
c) Nuclear Activities of the Joint Research Centre ***539***	c) Nuclear Activities of the Joint Research Centre ***517***

Amendment 5
Article 3, paragraph 1 a (new)

	1a. Within the amount foreseen for fusion energy research, not less than EUR 900 million will be reserved to activities, other than the realisation of the research infrastructure ITER, listed in Annex I.

Justification

A full and effective exploitation of the ITER device, once it is built, will require a strong commitment by an adequate number of skilled European scientists and engineers as well as an high level knowledge of the Physics behind; thus the accompanying programme must be adequately supported, with an earmarked appropriation, out of the overall budget on Fusion.

Continuity with the research activities in FP6 requires the accompanying programme, carried out by the Associations, be financed with not less than EUR million 900.

Amendment 6
Article 3, paragraph 2 a (new)

2a. The Commission shall provide prior information to the budgetary authority whenever it intends to depart from the breakdown of expenditure set out in the remarks and Annex to the annual general budget of the European Union.

Justification

To improve the financial monitoring of Community financed research activities, the rapporteur considers that the Commission should inform the budgetary authority on the implementation of specific programmes on a regular basis and provide prior information whenever it intends to depart from the breakdown of expenditure stated in the general budget.

Amendment 7
Article 5

All the research activities carried out under the seventh Framework Programme shall be carried out in compliance with fundamental ethical principles.	All the research activities carried out under the seventh Framework Programme shall be carried out in compliance with fundamental ethical principles***, giving priority consideration to safety aspects.***

Justification

Ethical principles and safety aspects are substantially complementary in this context.

Amendment 8
Article 6, paragraph 2, subparagraph 2

The Commission shall communicate the conclusions thereof, accompanied by its observations, to the European Parliament, the Council, the European Economic and Social Committee ***and*** the Committee of the Regions.	The Commission shall communicate the conclusions thereof, accompanied by its observations, to the European Parliament, the Council, the European Economic and Social Committee**,** the Committee of the Regions ***and the European Ombudsman.***

Justification

As the guarantor of the proper functioning of the Community institutions and the application

of its policies, the Ombudsman seems the appropriate figure to ensure the correct application of Article 5 of the framework programme concerning compliance with fundamental ethical principles as regards all research activities carried out under the programme.

Amendment 9
Annex I, subtitle"Fusion Energy Research" , subtitle "Objective"

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

Justification

The original text is ambiguous and might lead to believe that after ITER there will soon be electricity from fusion in the power grid. The decisive and final step before a commercial fusion power station is the construction of a "demonstration" fusion power station that comes after ITER.

Amendment 10
Annex I, subtitle 'Fusion Energy Research', subtitle 'Rationale', paragraph 2

Fusion has the potential to make a major contribution to the realisation of a sustainable and secure supply for the EU ***in a few decades*** from now. Its successful development would provide energy which is safe, sustainable and environmentally friendly. The long-term goal of European fusion research, embracing all the fusion activities in the Member States and associated third countries, is the joint creation of prototype reactors for power stations which meet these requirements, and are economically viable.	***Notwithstanding the efforts which the EU is making and should continue to make in the field of research into renewable energies,*** fusion has the potential to make a major contribution to the realisation of a sustainable and secure ***energy*** supply for the EU ***approximately fifty or sixty years*** from now, ***after the market penetration of commercial fusion reactors***. ***A "fast track" to fusion energy will therefore be pursued in order to reduce as much as possible the time taken to develop an actual fusion power plant.*** Its successful development would provide energy which is safe, sustainable and environmentally friendly. The long-term goal of European fusion research, embracing all the fusion activities in the Member States and associated third countries, is the joint creation, ***in approximately thirty to thirty-five years***, of prototype reactors for power stations which meet these requirements, and are

economically viable.

Justification

This amendment stresses the forceful efforts the EU is making in the field of research into renewable energy sources, which can and must be combined with efforts to generate energy from nuclear fusion under the ITER system.

ITER is supposed to be constructed in 10 years and operated for 15 years, i.e. a total of 25 years from start. In parallel with the exploitation of ITER, an International Fusion Materials Irradiation Facility (IFMIF) will be built to test and qualify materials for the design of DEMO, a "demonstration" fusion power station, whose construction will start as soon as ITER will provide the necessary scientific and technological knowledge.

If this strategy of a "fast track" to Fusion Energy will be successful, the "demonstration" fusion power station will be available within thirty to thirty-five years from now. After that a line of commercial Fusion reactors will be developed and market penetration will start, so that Fusion Energy can make a major contribution to the realisation of a sustainable and secure energy supply for the EU, in approximately fifty or sixty years.

Amendment 11
Annex I, subtitle "Fusion Energy Research", subtitle "Activities", bullet 1

This includes activities for the joint realisation of ITER (as an international research infrastructure), in particular for site preparation, establishing the ITER Organisation and the European Joint Undertaking for ITER, management and staffing, general technical and administrative support, construction of equipment and installations and support to the project during construction.	This includes activities for the joint realisation of ITER (as an international research infrastructure), in particular for site preparation, establishing the ITER Organisation and the European Joint Undertaking for ITER, management and staffing, general technical and administrative support, construction of equipment and installations and support to the project during construction. ***The European Joint Undertaking for ITER will be responsible for managing and administering the European contribution to ITER, discharging the obligations deriving from the international agreements on ITER. The rest of the fusion programme, aiming at improving scientific and technological knowledge for the fast realisation of fusion energy, will be implemented under the direct responsibility of the Commission, assisted by a Consultative Committee as specified in the Rules for Participations.***

Justification

A specific European agency is expected to fulfil and coordinate the legal European obligations and the scientific and technological contributions to construct and operate ITER. However the European fusion research is a broader scientific endeavour than the ITER project and therefore a specific management organization, including contracts of Associations and the European Fusion Development Agreement, that have proven to be successful in establishing, so far, a truly European Research Area in the field of fusion, should be kept, in continuity with the previous framework programme.

Amendment 12
Annex I, subtitle 'Fusion Energy Research', subtitle 'Activities', bullet 2,

A focused physics and technology programme will exploit the facilities and resources in the fusion programme, ***including*** JET. It will assess specific key ITER technologies, consolidate ITER project choices, and prepare for ITER operation through experimental and theoretical activities.	A focused physics and technology programme will exploit the facilities and resources in the fusion programme, ***i.e.*** JET ***and the magnetic confinement devices already existing or under construction in all Member States (tokamaks, stellarators, RFPs).*** It will assess specific key ITER technologies, consolidate ITER project choices, and prepare for ITER operation through experimental and theoretical activities.

Justification

This amendment follows the rapporteur's proposed amendment 4. However, the specific reference to tokomak and stellarator as magnetic confinement devices accurately defines the activities of the European fusion programme.

The full and effective exploitation of the ITER device, once it is built, cannot be achieved without a bold accompanying programme, during the ITER construction. R&D activities in preparation of ITER, based on a focused physics and technology programme, must be carried out on all the magnetic confinement toroidal devices, already existing or under construction in all Member States. The exploitation of such devices, during the construction of ITER (which will last one decade), will increase the knowledge in a number of ITER-relevant topics and will prepare a new generation of European fusion scientists and engineers that will effectively work on ITER.

Amendment 13
Annex I, subtitle "Fusion Energy research", subtitle "Activities", bullet 4

The activities will include further development of improved concepts for magnetic confinement schemes with potential advantages for Fusion power	The activities will include further development of improved concepts for magnetic confinement schemes with potential advantages for Fusion power

stations (focussed on the completion of the construction of the W7-X stellarator device), theory and modelling aimed at a comprehensive understanding of the behaviour of fusion plasmas ***and co-ordination, in the context of a keep-in-touch activity, of Member States' civil research activities on inertial confinement***.	stations (focussed on the completion of the construction of the W7-X stellarator device), theory and modelling aimed at a comprehensive understanding of the behaviour of fusion plasmas.

Justification

This last sentence is meaningless and should be deleted.

Amendment 14
Annex 1, subtitle "Fusion Energy research", subtitle "Activities", bullet 5

In view of the immediate and medium term needs of ITER, and for the further development of fusion, initiatives aimed at ensuring that adequate human resources will be available, in terms of numbers, range of skills and high level training and experience will be pursued.	In view of the immediate and medium term needs of ITER, and for the further development of fusion, initiatives aimed at ensuring that adequate human resources will be available, in terms of numbers, range of skills and high level training and experience will be pursued, ***including by means of a European PHD in Physics and Engineering of Fusion***.

Amendment 15
Annex I, subtitle 'Fusion Energy Research', subtitle 'Activities', bullet 6 a (new)

	Technology transfer processes
	ITER will require new and more flexible organisational structures to enable the process of innovation and technological progress which it creates to be swiftly transferred to industry, so that challenges can be met enabling European industry to become highly competitive.

Justification

Having the ITER operation in Europe will mean enhanced technological leadership in future in the new technologies to be developed under the operation which will favour European industry and make it more competitive vis-à-vis the United States and Japan. If adequate

progress is made with the above elements, the future development of power plants will be in the hands of European firms.

Amendment 16
Annex I, subtitle 'Nuclear Fission and Radiation Protection', subtitle 'Rationale', paragraph 2

There are, however, important concerns that affect the continued use of this energy source in the EU. The key issues are operational reactor safety and management of long-lived waste, both of which are being addressed through continued work at the technical level, though allied political and societal inputs are also required. In all uses of radiation, throughout industry and medicine alike, the overriding principle is the protection of man and the environment. All thematic domains to be addressed here are characterised by an overriding concern to ensure high levels of safety. Similarly there are clearly identifiable needs throughout nuclear science and engineering relating to availability of research infrastructures and expertise. In addition, the individual technical areas are linked by key cross-cutting topics such as the nuclear fuel cycle, actinide chemistry, risk analysis and safety assessment and even societal and governance issues.	There are, however, important concerns that affect the continued use of this energy source in the EU. ***Efforts are nevertheless required to consolidate and improve existing safety levels and ensure that improving protection against radiation continues to be one of the priorities for Community action.*** The key issues are operational reactor safety and management of long-lived waste, both of which are being addressed through continued work at the technical level, though allied political and societal inputs are also required. In all uses of radiation, throughout industry and medicine alike, the overriding principle is the protection of man and the environment. All thematic domains to be addressed here are characterised by an overriding concern to ensure high levels of safety. Similarly there are clearly identifiable needs throughout nuclear science and engineering relating to availability of research infrastructures and expertise. In addition, the individual technical areas are linked by key cross-cutting topics such as the nuclear fuel cycle, actinide chemistry, risk analysis and safety assessment and even societal and governance issues.

Amendment 17
Annex I, subtitle 'Nuclear Fission and Radiation Protection', subtitle 'Activities', bullet 1

Implementation oriented research and development activities on deep geological disposal of spent fuel and long-lived radioactive waste and, as appropriate, demonstration on the technologies and safety, and to underpin the development of a common European view on the main issues related to the management and disposal of waste. Research on partitioning and transmutation and/or other concepts aimed at	Implementation oriented research and development activities on deep geological disposal of spent fuel and long-lived radioactive waste and, as appropriate, demonstration on the technologies and safety, and to underpin the development of a common European view on the main issues related to the management and disposal of waste. ***Specific activities connected with the characterisation and behaviour of this type***

reducing the amount and/or hazard of the waste for disposal.	***of waste under conditions of extended temporary storage.*** Research on partitioning and transmutation and/or other concepts aimed at reducing the amount and/or hazard of the waste for disposal.

Justification

Account must be taken of the fact that most Member States have to resort to extended temporary storage of spent fuel, waste which is highly active and long-lived. This must therefore be taken into account in research activities on the management of nuclear waste and its environmental impact, with particular reference to partitioning and/or transmutation. This is the most appropriate option, since the fuel is not simply stored in the form in which it emerges from the plant, but efforts are made to reduce its volume and the length of time it remains active.

Amendment 18
Annex1, subtitle "Nuclear Fission and radiation protection", subtitle "Activities", bullet 2

Research to underpin the continued safe operation of existing reactor systems (including fuel cycle facilities), taking into account new challenges such as life-time extension and development of new advanced safety assessment methodologies (both the technical and human element), and to assess the potential and safety aspects of future reactor systems in the short and medium term, thereby ***maintaining*** the high safety standards already achieved within the EU.	Research ***that continues*** to underpin the continued safe operation of existing reactor systems (including fuel cycle facilities) ***and new-generation reactors and to minimize the risk of human and organisational error***, taking into account new challenges such as life-time extension and development of new advanced safety assessment methodologies (both the technical and human element), and to assess the potential and safety aspects of future reactor systems in the short and medium term, thereby ***further improving*** the high safety standards already achieved within the EU. ***With this in mind, emphasis will be placed in particular on the researching and implementation of methodologies capable of preventing human or organisational error (individual or collective). An appropriate 'safety culture' will also be encouraged in all undertakings, thereby ensuring that both the body owning the plant and its workers have safety as a fundamental priority objective.*** ***Research in the areas of reactor safety and severe accidents in respect of both***

Western and Russian types of reactor.

Justification

Self explanatory. Enhancing the safety of nuclear power stations is in the interest of European citizens.

The rapporteur is quite right to expressly include the risk of human error in his amendment 7. However, reference should also be made to 'organisational error', since it has been shown that, even in highly reliable facilities, an error in the organisational chain of the production process can be fatal and result in accidents. This was the case at Chernobyl, where a breach of one of the safety procedures by an operator was at the origin of the events which led to the accident. Improved organisation and the establishment of a 'safety culture', including improved monitoring of production processes, could even help prevent human error.

The concern to ensure high levels of reactor safety and to prevent severe nuclear accidents is an overriding one for the Euratom. These RTD activities respond also to an acute need of the European public opinion and are therefore highly visible. Furthermore, after the latest enlargement, the EU includes in its territory several Russian-type reactors that are due to close in the near future but must be continuously monitored for their safety alongside with the existing Western-type reactors.

Amendment 19
Annex 1, subtitle 'Nuclear Fission and Radiation Protection', subtitle 'Activities', bullet 4

To support the availability of research infrastructures such as material test reactors, ***underground*** research laboratories and radiobiology facilities and tissue banks, necessary to maintain high standards of technical achievement, innovation and safety in the European nuclear sector.	To support the availability of research infrastructures such as material test reactors ***and training reactors***, research laboratories and radiobiology facilities and tissue banks, necessary to maintain high standards of technical achievement, innovation and safety in the European nuclear sector.

Amendment 20
Annex I, subtitle 'Nuclear Fission and Radiation Protection', subtitle 'Activities', bullet 5

Human resources and training To support the retention and further development of scientific competence and human capacity in order to guarantee the availability of suitably qualified researchers and employees in the nuclear sector ***over the longer term***.	Human resources***, mobility, education*** and training To support the retention and further development of scientific competence and human capacity in order to guarantee the availability of suitably qualified researchers***, engineers, physicists, psychologists specialising in organisational systems,*** and employees in the nuclear sector ***as quickly as possible, in particular by maintaining educational efforts in universities with an emphasis on organising joint post-graduate***

	studies in the fields of nuclear engineering and radiation protection; ***and to promote safety as a priority.***

Justification

This amendment is related to the amendment by the same author to bullet 2 of the 'Activities' section. A socio-technical approach to production management will undoubtedly help to promote safety at nuclear installations. Adequate professional staff will be required for this purpose.

The second part of the amendment refers to the current situation where the best students opt for work areas other than fission which enjoy higher social status. It is important to remedy this trend as the lack of good staff may result in reduced reliability and serious safety problems.

A special training effort has to be made in the fields of nuclear engineering and radiation protection. Since this effort necessitates a concentration of expertise, research infrastructures and financial resources, joint post-graduate studies at European level can be supported by the Euratom.

In order to guarantee at the highest level the safety of nuclear power plants, continuing the EU excellent safety record, and the proper management of long-lived waste, support should be given to training activities for researchers, engineers and employees and measures should be taken to encourage young scientists to start their career in the field of nuclear energy. In the training, particular emphasis should be given to promoting safety as a priority.

Amendment 21
Annex 1, subtitle "Nuclear activities of the Joint Research Centre", subtitle "Rationale", paragraph 1

The Joint Research Centre ***supports the objectives of the European strategy for energy supply, particularly to help matching the Kyoto objectives.*** ***The EU has recognised competence in many aspects of nuclear technology, and this is built on a solid basis of past successes in the domain. The usefulness of the JRC in its support to EU policies and in its contribution to the new trends in nuclear research are based on its scientific expertise and its integration in the international scientific community. On the one hand, the JRC*** has competent staff and ***state-of-the-art*** facilities to carry out recognized scientific/technical work***; and on the other hand it*** supports the policy of the	***In supporting the objectives of the European Union,*** the Joint Research Centre ***shall have specific tasks related to:*** ***- Global Security, particularly through its participation in developing techniques and methods for efficient safeguards, to combat illegal trafficking and for nuclear forensic matters;*** ***- Enlargement of the EU, because this has involved (and will involve) new types of reactors and other nuclear installations ;*** ***- Energy supply, by contributing to new techniques for a nuclear fuel cycle in line with the principles of sustainable development. .***

EU to maintain basic competencies and expertise for the future by training young scientists and fostering their mobility. New demand has emerged in particular in the external relations and security related policies. In these cases, in-house and secure information/analyses/systems are needed which cannot always be obtained on the market.	***The Joint Research Centre*** has competent staff and facilities to carry out recognized scientific/technical work***. It shall ensure the quality and the appropriate renewal of its infrastructures to keep European research at the forefront of its field.*** ***The Joint Research Centre*** supports the policy of the EU to maintain basic competencies and expertise for the future ***by giving access to its infrastructures to other researchers and*** by training young scientists and fostering their mobility ***and thus sustaining nuclear know-how in Europe.*** New demand has emerged in particular in the external relations and security related policies. In these cases, in-house and secure information/analyses/systems are needed which cannot always be obtained on the market.

Justification

The need for the JRC expertise in an enlarged Europe goes far beyond the sole energy supply and the matching of the Kyoto protocol. Global security and a harmonised approach in nuclear safety are as important.

Some of the JRC infrastructures are becoming rather old and the JRC will only be able to maintain its essential role in Europe if it has the means to modernize its infrastructures.

The JRC should increase its participation to training in nuclear matters in welcoming researchers and young scientists from all over Europe in its laboratories.

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Amendment 22
Annex I, subtitle 'Nuclear activities of the Joint Research Centre', subtitle 'Activities', paragraph 1

Nuclear Waste Management and Environmental Impact aiming to understand the nuclear fuel processes from production of energy to waste storage and to develop effective solutions for the management of high level nuclear waste following the two major options (direct storage or partitioning and transmutation);	Nuclear Waste Management and Environmental Impact aiming to understand the nuclear fuel processes from production of energy to waste storage and to develop effective solutions for the management of high level nuclear waste following the two major options (direct storage or partitioning and transmutation). ***In particular, activities will be developed to enhance knowledge***

	and improve the processing or conditioning of long-lived waste and basic research into actinides;

Justification

Account must be taken of the fact that most Member States have to resort to temporary extended storage of spent fuel, which is highly active long-lived waste.

Amendment 23
Annex I, subtitle 'Nuclear activities of the Joint Research Centre', subtitle 'Activities', paragraph 2

Nuclear Safety, in ***implementing*** research on existing ***as well as on new*** fuel cycles ***and*** on reactor safety of both Western and Russian reactor types as well as on new reactor design. In addition the JRC will contribute and co-ordinate the European contribution to the Generation IV International Forum R&D initiative, in which the best research organisations in the world are involved;	Nuclear Safety, in research on existing fuel cycles***,*** on reactor safety of both Western and Russian reactor types ***and to a greater extent, research on new fuel cycles*** as well as on new reactor design. In addition the JRC will contribute and co-ordinate the European contribution to the Generation IV International Forum R&D initiative, in which the best research organisations in the world are involved; ***the JRC shall be the integrator of the European research in this area and ensure both in quality and size the significance of the European contribution to GIF.***

Justification

Although it is necessary to continue research into existing Western or Russian reactors, attention must be drawn to the many commendable projects to improve facilities which have been developed in the EU under cooperation programmes such as PHARE and TACIS. Accordingly, while continuity of existing research should be encouraged, special attention should be paid to new reactor systems so as to move ahead with their development and application...GIF is a huge technological initiative to which all major world-wide actors are contributing. It is thus necessary that the participation of European Countries is ensured at the Community level and the JRC appears as the appropriate body to implement such an integration.

Amendment 24
Annex I, subtitle "Nuclear Activities of the Joint Research Centre", subtitle "Activities", paragraphs 3 a and 3 b (new)

	Campaigning to make politicians and the public understand nuclear energy now that most scientists, politicians and citizens are convinced that global

warming is real and caused by fossil-fuel carbon emissions, and that nuclear power is an essential component of the energy mix available to meet the world's energy needs with zero carbon dioxide emissions. Disseminating information about nuclear power to citizens and their representatives through the launching of multi-annual information campaigns on nuclear power to encourage debate and facilitate decision-making, thereby enabling them to have an objective debate based on facts and take informed decisions. To ensure that they are as effective as possible, these campaigns should be drawn up using methodology derived from the social sciences. Furthermore, and bearing in mind that comparisons with other energy sources are essential in order to grasp the implications of the use of nuclear power, any information campaigns which are promoted or encouraged will also mention and explain the efforts being made by the EU at other levels to promote other energy sources, with particular regard to renewable sources of energy..

Justification

It is essential that the general public understands the benefits from a safe use of nuclear power. This campaign should build upon the fact that many environmentalists now embrace nuclear power. Greenpeace co-founder, Patrick Moore, declared: "Nuclear energy is the only non-greenhouse-gas-emitting power source that can effectively replace fossil fuels and satisfy global demand".
This amendment seeks to simplify the ideas contained in the rapporteur's amendment 9.

The second paragraph seeks to highlight the major efforts being made by the European Union to promote and develop renewable energy sources (action plan on biomass, promotion of biofuels, aid for photovoltaic and solar thermic energy production, co-generation, etc.), as compared to present use of nuclear power which, although it does not generate CO_2, entails other types of problems not encountered with renewable energy sources.

EXPLANATORY STATEMENT

Introduction

This explanatory statement analyzes the Commission proposal on the 7th Euratom Framework Programme (Euratom FP7), taking into account the positions supported, by majority, by Members of the ITRE Committee.

Basically the rapporteur believes that the European Parliament can agree with the Commission proposal for the structure of Euratom FP7, consisting of two specific programmes:

- 'Indirect' actions, including Fusion Energy Research and Nuclear Fission and Radiation Protection;
- Nuclear activities of the Joint Research Centre, focusing on safe use of nuclear fission and, more widely, of nuclear technologies in industry and medicine.

Moreover, the rapporteur appreciates the general effort to make all rules and procedures (from funding schemes to administrative and financial rules) simpler. However, more details should be given about the use of executive agencies to be set up under the 7th Framework Programme, within both the European Community (EC) and the Euratom part. Besides the general comments already expressed on the agencies with reference to EC FP7, the rapporteur is aware of the fact that so far the management of important Euratom activities (i.e. fusion research) proved as efficient and was appreciated by the research community; the actual need for an agency appears therefore hard to justify.

Budget

The financial envelope proposed by the Commission seems adequate for all the fields of research. In particular for Fusion Energy Research, the rapporteur recognizes that the budget increase with respect to the 6th Euratom Framework Programme (Euratom FP6) is justified by and coherent with the strong commitment of all the European Institutions, during the last three years, to support the European site (Cadarache, in France) in the international negotiations for the choice of the site for the construction of ITER (International Thermonuclear Experimental Reactor). On a number of occasions in the recent past, the ITRE Committee has stated that the EU should firmly continue its reactor-oriented strategy and maintain its world-leading position in fusion energy research. To this purpose, ITRE has repeatedly encouraged the Commission and the Council to take any necessary decision (including, of course, appropriate funding of all relevant activities and programmes) to ensure that the ITER facility would be actually built in Europe.

The full and effective exploitation of the ITER device, once it is built, will require a strong commitment by an adequate number of skilled European scientists and engineers as well as an high level knowledge of the Physics behind; thus the accompanying programme must be adequately supported, with an earmarked appropriation, out of the overall budget on Fusion. Continuity with the research activities in FP6 requires the accompanying programme, carried out by the Associations, be financed with not less than 900 m€.

Scientific and Technological Objectives

Fusion Energy Research. The rapporteur believes that the EU should exploit to the highest degree the potential of fusion to make a major contribution to the realization of a sustainable and secure energy supply and that a "fast track" to fusion energy should be followed in order to shorten as much as possible the distance to an actual Fusion Power Plant. The activities foreseen in the Commission proposal appear adequate for this purpose.
Referring to the need for a full and effective exploitation of the ITER device, already mentioned above, and -as a consequence- for a bold accompanying programme, the rapporteur welcomes the proposal for R&D activities on all the magnetic confinement toroidal devices, already existing or under construction in all Member States (which all together make the accompanying programme). The exploitation of such devices, during the construction of ITER (which will last one decade), will increase the knowledge in a number of ITER-relevant topics and will prepare a new generation of European fusion scientists that will effectively work on ITER.

Now that ITER will actually be built in France, we have also to take into account how important engineering activities linked with this project are for many industrial sectors in Europe. Numerous technological spin-offs will reinforce the technological development and reaffirm the leadership of European Industry in a number of key sectors.

Nuclear Fission and Radiation Protection. Due to the substantial contribution of nuclear power to electricity generation in the EU and the increasingly important property of nuclear power not to emit CO_2, the rapporteur believes that a renewed momentum should be given to R&D activities in this sector, to develop new technologies aiming at intrinsic safety and higher efficiency, i.e. less waste production.
He also welcomes the proposal for R&D activities in the field of Management of Radioactive Waste and of safety of Reactor Systems. These two fields cover the content of the two Commission proposals for directives on Safety of Nuclear Installations and Nuclear Waste Management, about which the ITRE Committee has expressed in the recent past its position, asking for an adequate funding for research in both areas.
Concerning the proposal for R&D activities on Radiation Protection, the rapporteur agrees that it can provide the scientific knowledge for a reliable and socially acceptable system of protection. However he believes that more details should be given concerning the objective "to minimize the threat posed by nuclear and radiological terrorism and mitigate its impact".

Nuclear Activities of the JRC. All the activities foreseen for the JRC are of extreme importance for supporting the EU policy-making process in the nuclear field. The rapporteur is convinced that the excellence of the JRC's Institutes and Laboratories working in these areas must be kept at the highest level. In addition to the activities listed in the Commission proposal, JRC should launch a multi-annual campaign to make general public and politician understand the benefits of a safe use of nuclear power as an essential component of the mix of carbon-free power sources available to meet growing world energy needs.

23.2.2006

OPINION OF THE COMMITTEE ON BUDGETS

for the Committee on Industry, Research and Energy

on the proposal for a Council decision concerning the seventh framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)
(COM(2005)0119 – C6-0112/2005 – 2005/0044(CNS))

Draftswoman: Marilisa Xenogiannakopoulou

SHORT JUSTIFICATION

I. General Overview of FP 7

As the European Parliament stated lately on 8 June 2005[1], scientific research, technological development and innovation are at the heart of the knowledge-based economy and are key factors for growth and sustainable development, the competitiveness of companies, employment, and attainment of the objectives of the Lisbon Strategy[2]. Already in 2003, it had considered that research efforts should be boosted and consolidated towards the target established at the 2002 Barcelona European Council for an increase in R&D expenditure to 3% of EU GDP by 2010[3]. Although the commitment made in Lisbon was reiterated at the occasion of the Barcelona summit in 2002, the Council has constantly tried to cut expenditure for research in all annual budgetary procedures since.

1. Context

The new Framework Programme for Research & Development Euratom part is foreseen for the period 2007-2011 and proposes an amount of EUR 3,092 billion (period over the programming period of five years. Objective of this Decision is the contribution to research activities in the field of Fusion energy research (EUR 2.159 Million), Nuclear Fission and radiation protection (EUR 394 Million) and Nuclear Activities of the JCR (EUR 539 Million).

[1] European Parliament resolution on Policy Challenges and Budgetary Means of the enlarged Union 2007-2013 (2004/2209(INI)), P6_TA(2005)0224, point 16.
[2] European Parliament resolution P6_TA(2005)0069 of 9 March 2005.
[3] European Parliament resolution preparing FP 7 of 18 November 2003 on "Investing in research: an action plan for Europe" (COM(2003)0226 – 2003/2148(INI)), P5_TA(2003)0495.

Fortunately, in the Budget 2006, European Parliament was able to defend European Commission's proposals in the Preliminary Draft Budget (PDB) in this last year of implementation of FP 6. The overall cuts intended by Council in its Draft Budget concerned especially the Payments, which amounted to 40 to 45 per cent of all the relevant lines. These cuts were not justified as implementation rates for FP 6 had reached constantly 98 per cent in the past years.[1]

2. Legal Constraints

Based on Article 7 of the Euratom Treaty, the multi-annual Framework Programmes have to serve the objective of fostering research and dissemination of technical information. Contrary to the European Community FP, it may not be drawn up for more than five years.

3. The amendments

The appropriations indicated in the proposal for a decision are purely for guidance until an agreement is reached on the financial perspective for the period of 2007-2013. Regarding this particular point, three amendments are proposed to the draft legislative resolution and to article 3.

AMENDMENTS

The Committee on Budgets calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following amendments in its report:

Draft legislative resolution

Amendment 1
Paragraph 1 a (new)

1a. Specifies that the appropriations indicated in the proposal for a decision are purely for guidance until agreement is reached on the financial perspective for the period 2007 and the following years;

Justification

Standard amendment in order to emphasize that the amounts proposed are subject to confirmation by a possible multiannual financial framework.

Amendment 2
Paragraph 1 b (new)

[1] out of the proposals received, only 1 out of 5 has been able to be supported. In particular, just under 50% of projects considered to be of a very high standard were able to be financed -resolution on Policy Challenges and Budgetary Means of the enlarged Union 2007-2013 (2004/2209(INI)), P6_TA(2005)0224, paragraph 35.

1b. Calls on the Commission to confirm, once the next financial perspective has been adopted, the amounts indicated in the proposal for a regulation or, should the case arise, to submit the adjusted amounts for approval by the Parliament and the Council, thereby ensuring their compatibility with the ceilings;

Justification

Standard amendment in order to emphasize that the amounts proposed are subject to confirmation by a possible multiannual financial framework

Proposal for a decision

Text proposed by the Commission[1]	Amendments by Parliament
	Amendment 3 Article 3, paragraph 1 introductory part
The overall amount for the implementation of the seventh framework programme ***for the period 2007 to 2011*** shall be EUR 3092 million. That amount shall be distributed as follows (in EUR million):	The ***indicative*** overall amount for implementation of the seventh framework programme shall be EUR 3092 million ***for the period of 5 years as from 1 January 2007.*** That amount shall be distributed as follows (in EUR million):
	Justification
	Standard amendment in order to emphasize that the amounts proposed are subject to confirmation by a possible multiannual financial framework.
	Amendment 4 Article 3, paragraph 2 a (new)
	2a. The Commission shall provide prior information to the budgetary authority whenever it intends to depart from the breakdown of expenditure stated in the remarks and annex of the annual budget
	Justification
	To improve the financial monitoring of Community financed research activities, the rapporteur considers that the Commission should inform the budgetary authority on the implementation of specific programmes on a regular basis and provide prior information whenever it intends to depart from the breakdown of expenditure stated in the general budget.
	Amendment 5 Article 3, paragraph 2 a (new)

[1] Not yet published in OJ.

2a. Access to funding shall be facilitated by the application of the principle of proportionality as regards the documents to be supplied and by the creation of a database for the submission of applications.

Or. en

Justification

The methods and the procedures need to be simplified in order to speeding up the transparency of the selection procedure and facilitate access to the programme. The appropriations allocated to the Executive Agency should comply with the provisions of the Code of conduct on the setting up of an Executive agency and Council Regulation N°58/2003 laying down the statute for executive agencies to be entrusted with certain tasks in the management of Community programs. This will ensure appropriate financing of the actions of the programme.

Amendment 6
Article 3, paragraph 2 b (new)

2b. The overall administrative expenditure of the programme including internal and management expenditure for the Executive Agency should be proportional to the tasks provided for in the programme concerned and is subject to the decision of the budgetary and legislative authorities.

Or. en

Justification

The methods and the procedures need to be simplified in order to speeding up the transparency of the selection procedure and facilitate access to the programme. The appropriations allocated to the Executive Agency should comply with the provisions of the Code of conduct on the setting up of an Executive agency and Council Regulation N°58/2003 laying down the statute for executive agencies to be entrusted with certain tasks in the management of Community programs. This will ensure appropriate financing of the actions of the programme.

PROCEDURE

Title	Proposal for a Council decision concerning the seventh framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)
References	COM(2005)0119 – C6-0112/2005 – 2005/0044(CNS)
Committee responsible	ITRE
Opinion by Date announced in plenary	BUDG 10.5.2006
Enhanced cooperation – date announced in plenary	
Draftswoman Date appointed	Marilisa Xenogiannakopoulou 9.6.2005
Previous draftswoman	
Discussed in committee	22.2.2006
Date adopted	22.2.2006
Result of final vote	+: 32 –: 4 0: 1
Members present for the final vote	Laima Liucija Andrikienė, Richard James Ashworth, Reimer Böge, Simon Busuttil, Paulo Casaca, Gérard Deprez, Valdis Dombrovskis, Brigitte Douay, Bárbara Dührkop Dührkop, James Elles, Szabolcs Fazakas, Louis Grech, Nathalie Griesbeck, Catherine Guy-Quint, Jutta D. Haug, Ville Itälä, Anne E. Jensen, Alain Lamassoure, Janusz Lewandowski, Vladimír Maňka, Jan Mulder, Gérard Onesta, Giovanni Pittella, Antonis Samaras, Esko Seppänen, Nina Škottová, László Surján, Helga Trüpel, Kyösti Tapio Virrankoski, Ralf Walter, Thomas Wise, Marilisa Xenogiannakopoulou
Substitute(s) present for the final vote	Albert Jan Maat, Hans-Peter Martin, Paul Rübig, José Albino Silva Peneda, Margarita Starkevičiūtė
Substitute(s) under Rule 178(2) present for the final vote	
Comments (available in one language only)	...

24.2.2006

OPINION OF THE COMMITTEE ON THE ENVIRONMENT, PUBLIC HEALTH AND FOOD SAFETY

for the Committee on Industry, Research and Energy

on the proposal for a Council decision concerning the seventh framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)
(COM(2005)0119 – C6-0112/2005 – 2005/0044(CNS))

Draftsman: Satu Hassi

SHORT JUSTIFICATION

The proposal for a seventh Euratom framework programme is disproportionate both to the general Seventh Framework Programme of Research and to the general objectives adopted for energy policy.

The premise of the EU's energy policy should be our climate commitments, i.e. the fact that global warming must not be allowed to exceed 2° above pre-industrial levels. In the light of this objective, the most important technologies are those concerned with improving energy efficiency and renewable energy.

Historically, through Euratom, nuclear energy research has received the lion's share of all European Community funding for energy research, some € 55 billion. Now it is time to concentrate on the development of new, clean and safe energy technologies. However, in the proposal for a seventh Euratom framework programme for the five-year period 2007-2011 it is proposed that more funding should be allocated to research into nuclear power than to all other forms of energy research put together according to the proposal for a Seventh Framework Programme of Research for the seven years from 2007 to 2013. At the same time, the funding available for nuclear power would increase by a factor of 2.3 in comparison with the previous Euratom research programme. This is not acceptable.

Fusion will not provide usable energy for many decades yet. In order to control climate change, the industrialised countries must reduce their emissions quickly, by at least 30% by 2020 and by 60-80% by 2050. No one can maintain that fusion will have anything to offer by 2020 and it is quite uncertain that it will even provide any energy by 2050. Europe simply

cannot afford to allocate the vast majority of its energy research funding to a form of energy whose foreseeable benefits are so uncertain. Serious risks are also associated with fusion, the most significant being that raw materials for fusion reactions might fall into the wrong hands, giving rise to a danger of proliferation of nuclear weapons.

Allocating funding to research into fission power is contrary to public opinion, which is against nuclear power. There are major risks involved in all stages of the nuclear fuel cycle. Spent nuclear fuel will remain hazardous for hundreds of thousands of years. It is impossible to guarantee its safe storage for periods which are unimaginably long in relation to the human life-span.

Advocates have started to market nuclear power as a solution to climate change. Even known uranium reserves are not sufficient for that. If the present use of fossil fuels were to be replaced with fission power, there would be enough uranium for 3 or 4 years. Used at its present rate, the uranium would last for 50 years. Combating climate change by making greater use of fission power is not, therefore, a realistic option. In Finland, permission was sought for five nuclear power plants on the basis that nuclear power was needed in order to achieve the emission reductions required by the Kyoto Protocol. After the Finnish Parliament had granted permission for them, however, the same people began to bitterly criticise the Kyoto Protocol, claiming that it was unduly harsh and economically damaging to Finland.

The proposed emphasis of the funding of energy research also contradicts all the decisions that have been taken which stress the vital role of new energy technology relating to energy efficiency and renewable energy, not only in the interests of climate protection but also from the point of view of developing energy technology which is competitive on world markets.

The draftsman proposes that only those elements in the Seventh Euratom Framework Programme of Research should receive funding which are clearly unavoidable. These elements are radiation protection, research into radioactive waste and safety techniques. At the same time the draftsman proposes that the total research funding should be reduced from € 3092 m to € 310 m.

AMENDMENTS

The Committee on the Environment, Public Health and Food Safety calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following amendments in its report:

Text proposed by the Commission[1]	Amendments by Parliament

[1] Not yet published in the Official Journal.

Amendment 1
Recital 5

(5) The Commission Green Paper 'Towards a European strategy for energy supply' highlights the contribution of nuclear power in reducing emissions of greenhouse gases and in reducing Europe's dependence on imported energy.	(5) The Commission Green Paper 'Towards a European strategy for energy supply' highlights the ***limited*** contribution of nuclear power in reducing emissions of greenhouse gases and in reducing Europe's dependence on imported energy.

Justification

In 2003, nuclear power provided only less than 15% of the commercial primary energy in the EU25 and has therefore a limited contribution to climate change.

Amendment 2
Recital 6

(6) With reference to the Council Decision of 26 November 2004 amending the directives of negotiations on ITER***, the realisation of ITER in Europe, in a broader approach to fusion energy, will be the central feature of the activities on fusion research carried out under the seventh framework programme***.	(6) With reference to the Council Decision of 26 November 2004 amending the directives of negotiations on ITER

Justification

Fusion, at best, may be technically viable in 30-50 years and cannot therefore contribute to meeting the climate change targets. The huge budgetary allocation to ITER and fusion research cannot be justified and must be cut and be invested in sustainable energy, health and transport R&D.

Amendment 3
Article 2, paragraph 1

1. The seventh Framework programme shall pursue the general objectives set out in ***Article 1 and*** Article 2(a) of the Treaty, while contributing towards the creation of a	1. The seventh Framework programme shall pursue the general objectives set out in Article 2(a) of the Treaty, while contributing towards the creation of a knowledge-based

knowledge-based society, building on a European Research Area.	society, building on a European Research Area.

Justification

There have been many changes in the world since the Treaties of Rome in 1957 but the Treaty on the Atomic Energy Community – Euratom - remains effectively unaltered. Rather than maintaining an obsolete "task" to promote the "speedy establishment and growth of nuclear industries" (Article 1), the FP7-Euratom should focus only on radiation protection, radioactive waste management and decommissioning, safeguards techniques and technologies and scientific and technical support to the policy making process.

Amendment 4
Article 2, paragraph 2

2. The seventh framework programme shall comprise Community research, technological development, international cooperation, dissemination of technical information and exploitation activities as well as training, to be set out in ***two*** specific programme***s***:	2. The seventh framework programme shall comprise ***the Joint Research Centre and*** Community research, technological development, international cooperation, dissemination of technical information and exploitation activities as well as training, to be set out in ***a*** specific programme:
The ***first*** programme shall cover the following:	The ***specific*** programme shall cover the following:
(a)Fusion energy research, with the objective of developing the technology for a safe, sustainable, environmentally responsible and economically viable energy source;	***A) Radiation protection: to increase the understanding and safety of uses of radiation in industry and medicine and minimise exposure to workers and the public from natural and artificial radiation***.
(b) Nuclear fission and radiation protection with the objective of promoting the safe use and exploitation of nuclear fission and other uses of radiation in industry and medicine.	***B) Radioactive waste management and decommissioning: development of radioactive waste conditioning and storage technologies and long-term legal and financing schemes on the basis of polluter-pays and precautionary principles.***
	C) <u>Safeguards techniques and technologies</u>
	D) Scientific and technical support to the policy making process in the nuclear field, while adapting to changing policy demands.
The ***second*** programme shall cover the activities of the Joint Research Centre in the	The programme shall cover the activities of the Joint Research Centre in the field of

field of nuclear energy.	nuclear energy.

Justification

The FP7-Euratom should focus only on radiation protection, radioactive waste management and decommissioning, safeguards techniques and technologies and scientific and technical support to the policy making process. The development of the new reactor systems, if any, should be funded by the nuclear utilities themselves. Since there is overlapping between Community and JRC research it this field of competence, the amendment suggests to establish one specific programme to be shared with the JRC instead of two programmes.

Amendment 5
Article 2, paragraph 2, point (b a) (new)

	(ba) Radiation protection with the objective of promoting a safety culture and corresponding research to ensure the proper assessment of risk accompanying the use of radiation in industry and medicine.

Justification

Research should not generally be promotional in nature, and promoting nuclear fission technology as such is therefore rejected. The utmost importance must be attached to a suitable focus in the field of radiation protection, and consequently a specific approach should be introduced with its own budget .

Amendment 6
Article 3, paragraph 1

1. The overall amount for the implementation of the seventh framework programme for the period 2007 to 2011 shall	1. The overall amount for the implementation of the seventh framework programme for the period 2007 to 2011 shall

be EUR ***3092*** million. That amount shall be distributed as follows (in EUR million):	be EUR ***310*** million. That amount shall be distributed as follows (in EUR million):
(a) ***Fusion energy research - 2159***	(a) ***Radiation protection - 155***
(b) ***Nuclear Fission and radiation protection - 394***	(b) ***Radioactive waste 65***
(c) ***Nuclear Activities of the Joint Research Centre 539***	(c) ***Safeguards techniques and technologies 45***
	(d)Scientific and technical support 45

Justification

Public money should be invested where R &D is the most appropriate. Radiation protection should therefore receive the bulk of the FP-7 Euratom. The changes of categories to be covered by the FP7 are explained in Amendment 4 above.

Amendment 7
Annex 1, Title

SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES, THEMES AND ACTIVITIES	SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES, THEMES AND ACTIVITIES ***TO BE SHARED WITH THE JOINT RESEARCH CENTRE***

Justification

Same justification as Amendment 4.

Amendment 8
Annex 1

INTRODUCTION	***deleted***
The 7th EURATOM Research Framework Programme is organised in two parts corresponding to the "'indirect" actions on fusion energy research and nuclear fission and radiation protection, and the "direct"	

research activities of the Joint Research Centre.

FUSION ENERGY RESEARCH

Objective

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

Rationale

There are serious shortcomings in Europe's energy supply with respect to near, medium, and long-term considerations. In particular, measures are needed to address the issues of security of supply, climate change, and sustainable development, while ensuring that future economic growth is not threatened.

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

The strategy to achieve the long-term goal entails, as its first priority, the construction of ITER (a major experimental facility which will demonstrate the scientific and technical feasibility of fusion power), followed by the construction of DEMO, a "demonstration" fusion power station. This will be accompanied by a dynamic programme of supporting R&D for ITER and for the developments in fusion materials, technologies and physics required for DEMO. This would involve European industry, the fusion Associations

and third countries, in particular Parties to the ITER Agreement.

<u>Activities</u>
The realisation of ITER

This includes activities for the joint realisation of ITER (as an international research infrastructure), in particular for site preparation, establishing the ITER Organisation and the European Joint Undertaking for ITER, management and staffing, general technical and administrative support, construction of equipment and installations and support to the project during construction.

R&D in preparation of ITER operation

A focused physics and technology programme will exploit the facilities and resources in the fusion programme, including JET. It will assess specific key ITER technologies, consolidate ITER project choices, and prepare for ITER operation through experimental and theoretical activities.

Technology activities in preparation of DEMO

This entails the vigorous development of fusion materials and key technologies for fusion, and the establishment of a dedicated project team to prepare for the construction of the International Fusion Materials Irradiation Facility (IFMIF) to qualify materials for DEMO. It will include irradiation testing and modelling of materials, studies of the DEMO conceptual design, and studies of the safety, environmental and socio-economic aspects of fusion energy.

R&D activities for the longer term

The activities will include further development of improved concepts for magnetic confinement schemes with potential advantages for Fusion power stations (focussed on the completion of the construction of the W7-X stellarator

device), theory and modelling aimed at a comprehensive understanding of the behaviour of fusion plasmas and co-ordination, in the context of a keep-in-touch activity, of Member States' civil research activities on inertial confinement.

- ***Human resources, education and training***

In view of the immediate and medium term needs of ITER, and for the further development of fusion, initiatives aimed at ensuring that adequate human resources will be available, in terms of numbers, range of skills and high level training and experience will be pursued.

- ***Infrastructures***

The construction of the international fusion energy research project ITER will be an element of the new research infrastructures with a strong European dimension.

Justification

Same justification as Amendment 2.

Amendment 9
Annex 1, Nuclear Fission and Radiation Protection, Title

NUCLEAR ***FISSION AND*** RADIATION PROTECTION	NUCLEAR RADIATION PROTECTION

Justification

The nuclear sector has been in commercial operation of over fifty years and thus it cannot be described as an infant technology. Furthermore, the nuclear utilities in Europe generate tens of billions of Euro in revenue each year. The development of the new reactor systems, if any, should therefore be funded only by the nuclear utilities themselves.

In all uses of radiation, throughout industry and medicine alike, the overriding principle must

be the protection of man and the environment that is why the focus of the FP7 should concentrate mainly on radiation protection.

Amendment 10
Annex 1, Nuclear Fission and Radiation Protection, Objective

Establishing a sound scientific and technical basis in order to accelerate practical developments for the safer management of ***long-lived*** radioactive waste, ***promoting safer, more resource-efficient and competitive exploitation of nuclear energy*** and ensuring a robust and socially acceptable system of protection of man and the environment against the effects of ionising radiation.	Establishing a sound scientific and technical basis in order to accelerate practical developments for the safer management of radioactive waste, ***and spent fuel on the basis of polluter and precautionary principles,*** and ensuring a robust and socially acceptable system of protection of man and the environment against the effects of ***past, present and future*** ionising radiation.

Justification

Same justification as Amendment 9.

Amendment 11
Annex 1, Nuclear Fission and Radiation Protection, Rationale

Nuclear power currently generates one third of all electricity consumed in the EU and is the most significant source of carbon-free base-load electricity presently available. ***The European nuclear sector as a whole is typified by cutting-edge technology and provides highly skilled employment for several hundred thousand people. As an indigenous and dependable source of energy, nuclear power contributes to the EU's independence and security of supply, with more advanced nuclear technology offering the prospect of significant improvements in efficiency and use of resources, at the same time ensuring even higher safety standards and producing less waste than current designs.***	***Thanks mainly to the worldwide exception of France, n***uclear power currently generates ***less than*** one third of all electricity consumed in the EU and is the most significant source of carbon-free base-load electricity presently available ***in few Member States. However, nuclear power does only cover 15% of the EU primary consumption.***
There are***, however,*** important concerns that affect the continued use of this energy	There are important concerns that affect the continued use of this energy source in the

source in the EU. The key issues are operational reactor safety and management of ***long-lived*** waste, both of which are being addressed through continued work at the technical level, though allied political and societal inputs are also required. In all uses of radiation, throughout industry and medicine alike, the overriding principle ***is*** the protection of man and the environment. All thematic domains to be addressed here are characterised by an overriding concern to ensure high levels of safety. Similarly there are clearly identifiable needs throughout nuclear science and engineering relating to availability of research infrastructures and expertise. In addition, the individual technical areas are linked by key cross-cutting topics such as the nuclear fuel cycle, actinide chemistry, risk analysis and safety assessment and even societal and governance issues.	EU. The key issues are ***an increased risk of terrorism and proliferation threats,*** operational reactor safety and management of ***radioactive*** waste, ***in particular the long lived*** both of which are being addressed through continued work at the technical level, though allied political and societal inputs are also required. In all uses of radiation, throughout industry and medicine alike, the overriding principle ***must be*** the protection of man and the environment. All thematic domains to be addressed here are characterised by an overriding concern to ensure high levels of safety. Similarly there are clearly identifiable needs throughout nuclear science and engineering relating to availability of research infrastructures and expertise. In addition, the individual technical areas are linked by key cross-cutting topics such as the nuclear fuel cycle, actinide chemistry, risk analysis and safety assessment and even societal and governance issues.
Research will also be needed to explore new scientific and technological opportunities and to respond in a flexible way to new policy needs that arise during the course of the Framework Programme	Research will also be needed to explore new scientific and technological opportunities and to respond in a flexible way to new policy needs that arise during the course of the Framework Programme

Justification

Same justification as Amendment 9.

Amendment 12
Annex 1, Nuclear Fission and Radiation Protection, Activities, Management of radioactive waste

Management of radioactive waste	Management of radioactive waste ***and social and environmental impacts***
Implementation oriented research ***and development activities on deep geological disposal of spent fuel and long-lived radioactive waste and, as appropriate,***	***R***esearch ***on the various existing waste management practices towards the development of social, economical, legal and environmental criteria leading to***

demonstration on the technologies and safety, and to underpin the development of a common European view on the main issues related to the management and disposal of waste. Research on partitioning and transmutation and/or other concepts aimed at reducing the amount and/or hazard of the waste for disposal.	***unambiguously prove permanence over the lifetime of the storage.***

Justification

Under the laws within each Member State a percentage of which is supposed to be put aside for the disposal of radioactive waste. These funds should eventually contain hundreds of billions of Euro and the contribution that the EU funds make to this process can only be minimal. Therefore, the FP7 must devote its limited amount of public money into the research of common specific criteria of existing nuclear waste management practices leading to unambiguously prove permanence over the lifetime of the storage.

Amendment 13
Annex 1, Nuclear Fission and Radiation Protection, Activities, Reactor systems

• Reactor systems	***deleted***
Research to underpin the continued safe operation of existing reactor systems (including fuel cycle facilities), taking into account new challenges such as life-time extension and development of new advanced safety assessment methodologies (both the technical and human element), and to assess the potential and safety aspects of future reactor systems in the short and medium term, thereby maintaining the high safety standards already achieved within the EU.	

Justification

Same justification as Amendment 9.

Amendment 14
Annex I, Nuclear Fission and Radiation Protection, Activities, Radiation Protection

	Objective
Research, in particular on the risks from low doses, on medical uses and on the management of accidents, to provide the scientific basis for a robust, equitable and socially acceptable system of protection that will not unduly limit the beneficial and widespread uses of radiation in medicine and industry (including the generation of nuclear energy). Research to minimise the threat posed by nuclear and radiological terrorism and mitigate its impact.	***Ensuring a robust and socially acceptable system of protection of man and the environment against the effects of ionising radiation. The improvement of radiation protection continues to be a priority area, in order to keep the advantages gained through past research activities. The Networking of existing resources and the generation of European added value by bringing together research actors.***
	Rationale
	Vigilance is still required to ensure a continuation of the Community's outstanding safety record. Europe has responded to threats of nuclear incidents by investing into radiation protection research to understand basic properties such as dose and risk, to form a sound basis for standards and regulations, and to have sufficient scientific background to mitigate the consequences of a serious accident. New medical technology using ionising radiation is being introduced very fast in medicine. Patient doses and quality criteria need to be further evaluated to allow the risk-benefit balance to be maintained. Assessment of doses is the basis of nearly all procedures and regulations in radiological protection and in medical applications of ionising radiation. Research in the area of dosimetry remains important in terms of maintaining European competence, both in the area of internal and external dosimetry and to ensure adequate sustainability of expertise. The current system of radiological protection is being challenged by the observation of non-targeted effects of radiation and by questions about the adequacy of the concept of dose to estimate risk.

Activities

- *Quantification of risks for low and protracted exposures*
  In radiobiology and regarding the health effects of low doses a major challenge is the observation of individual sensitivity to radiation. Specific topics identified in this research area are early and delayed cell and tissue responses to ionising radiation and understanding the development of cancer and non cancer effects. Additional topics are focused on questions directly related to radiation protection recommendations. They require input from other research areas such as epidemiology, radiobiology, dosimetry or radioecology.

- *Medical Uses of Radiation*

Patient doses and image quality for some of these new techniques are still not known and evaluation in large cohorts of patients should be made. The dose values and their relation to image quality are necessary to allow medical doctors to perform appropriate individual risk-benefit analyses. This information is also required for further epidemiology studies.

- *Dosimetry*

Scientific challenges are identified in five areas:
(1) High energy dosimetry for medical therapy applications,
(2) Dosimetry for targeted radiation therapy,
(3) Workplace dosimetry and natural exposures (including cosmic radiation and radon),
(4) Dosimetry in emergency situations (triage) and
(5) Dosimetry and instrumentation. In most dosimetric procedures, there exists a strong correlation between the different application areas. In all fields of radiation dosimetry there is a joint interest in questions of dosimetric quantities and

modern dosimetric methods.

- ***Emergency Management, Rehabilitation and Radioecology***

The challenges identified are:
(1) to protect man and the environment from adverse effects of radioactive contamination of ecosystems,
(2) to assess the long-term consequences of radioactive contamination of ecosystems by long-lived radionuclides from repositories for nuclear waste and for NORM situations, and
(3) to improve fundamental knowledge of key processes.“

Justification

See Amendment 5.

Amendment 15
Annex 1, Nuclear Fission and Radiation Protection, Activities, Infrastructures

• Infrastructures	***deleted***
To support the availability of research infrastructures such as material test reactors, underground research laboratories and radiobiology facilities and tissue banks, necessary to maintain high standards of technical achievement, innovation and safety in the European nuclear sector.	

Justification

Same justification as Amendment 9.

Amendment 16
Annex 1, Nuclear Fission and Radiation Protection, Activities, Human resources and training

To support the retention and further development of scientific competence and human capacity in order to guarantee the availability of suitably qualified researchers and employees in the ***nuclear sector over the longer term.***	To support the retention and further development of scientific competence and human capacity in order to guarantee the availability of suitably qualified researchers and employees in the ***field of decommissioning nuclear installations***..

Justification

At the end of 2004, 22 plants have been shut-down over the last 15 years in the EU25 and, in the absence of significant new built, the average age of operating nuclear power plants has been increasing steadily. Research reactors have to be decommissioned as well. It is therefore important to have sufficient researchers and employees in the field of decommissioning nuclear installations, which will become more and more important with time.

Amendment 17
Annex 1, Nuclear Activities of the Joint Research Centre, title

NUCLEAR ACTIVITIES OF THE JOINT RESEARCH CENTRE	***KNOWLEDGE FOR EU POLICY MAKING***

Justification

Same justification as Amendment 4.

Amendment 18
Annex 1, Nuclear Activities of the Joint Research Centre, Objective

Objective	
To provide customer driven scientific and technical support to the EU policy making process in the nuclear field, ***ensuring support to the implementation and monitoring of existing policies while flexibly responding to new*** policy demands.	To provide customer driven scientific and technical support to the EU policy making process in the nuclear field, ***while adapting to changing*** policy demands

Justification

The whole concept of this amendment is to provide the knowledge for the EU policy makers towards the future, i.e. towards an intelligent energy economy based on energy conservation measures, energy efficiency and renewables.

Amendment 19
Annex 1, Nuclear Activities of the Joint Research Centre, Rationale

Rationale	***deleted***
The Joint Research Centre supports the objectives of the European strategy for energy supply, particularly to help matching the Kyoto objectives. The EU has a recognised competence in many aspects of nuclear technology, and this is built on a solid basis of past successes in the domain. The usefulness of the JRC in its support to EU policies and in its contribution to the new trends in nuclear research are based on its scientific expertise and its integration in the international scientific community. On the one hand the JRC has competent staff and state-of-the-art facilities to carry out recognized scientific/technical work; and on the other hand it supports the policy of the EU to maintain basic competencies and expertise for the future by training young scientists and fostering their mobility. New demand has emerged in particular in the external relations and security related policies. In these cases, in-house and secure information/analyses/systems are needed which cannot always be obtained on the market. ***The nuclear activities of the JRC aim to satisfy the R&D requirements to support both Commission and Member States. The objective of this programme is to develop and assemble knowledge, to provide input to the debate on nuclear energy production, its safety and reliability, its sustainability and control, its threats and challenges,***	

including innovative/future reactor systems.

Justification

Same justification as Amendment 4.

Amendment 20
Annex 1, Nuclear Activities of the Joint Research Centre, Activities

Activities	***deleted***
The JRC activities will focus on:	
Nuclear Waste Management and Environmental Impact aiming to understand the nuclear fuel processes from production of energy to waste storage and to develop effective solutions for the management of high level nuclear waste following the two major options (direct storage or partitioning and transmutation);	
Nuclear Safety, in implementing research on existing as well as on new fuel cycles and on reactor safety of both Western and Russian reactor types as well as on new reactor design. In addition the JRC will contribute and co-ordinate the European contribution to the Generation IV International Forum R&D initiative, in which the best research organisations in the world are involved;	

Justification

Same justification as Amendment 4.

Amendment 21
Annex II, Funding Schemes, 1. Funding Schemes in Fusion Energy

1. FUNDING SCHEMES IN FUSION ENERGY	***deleted***

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

1.1 The Contracts of Association, between the Commission and Member States or fully Associated Third States or entities within Member States or fully Associated Third States which provide for the execution of part of the EU fusion energy research programme according to Article 10 of the Treaty;

1.2 The European Fusion Development Agreement (EFDA), a multilateral agreement concluded between the Commission and organisations in, or acting for, Member States and Associated States providing inter alia the framework for further research on fusion technology in associated organisations and in industry, use of the JET facilities and the European contribution to international cooperation;

1.3 The European Joint Undertaking for ITER, based on the provisions of Article 45-51, Chapter 5, Title II of the Treaty;

1.4 International agreements between Euratom and third countries covering activities in the field of fusion energy research and development, in particular the ITER Agreement;

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

1.6 Cost-sharing actions to promote and contribute to fusion energy research with bodies in the Member States or the States associated with the Euratom framework programme in which there is no Contract of Association.

In addition to the above activities, actions to promote and develop human resources,

fellowships, integrated infrastructures initiatives as well as specific support actions may be undertaken in particular to coordinate fusion energy research, to undertake studies in support of these activities, to support publications, information exchange; and training in order to promote technology transfer.

Justification

Same justification as Amendment 2.

Amendment 22
Annex II, Funding Schemes, 2. Funding Schemes in Other Fields

2. FUNDING SCHEMES ***IN OTHER FIELDS***	***1***. FUNDING SCHEMES
The activities ***in other fields than fusion energy*** by the Euratom Framework Programme will be funded through a range of funding schemes. These schemes will be used, either alone or in combination, to fund different categories of actions implemented throughout this Framework Programme.	The activities by the Euratom Framework Programme will be funded through a range of funding schemes. These schemes will be used, either alone or in combination, to fund different categories of actions implemented throughout this Framework Programme.

Justification

Since fusion will not be funded by EU public money.

PROCEDURE

Title	Proposal for a Council decision concerning the seventh framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)
References	COM(2005)0119 – C6-0112/2005 – 2005/0044(CNS))
Committee responsible	ITRE
Opinion by Date announced in plenary	ENVI 10.5.2005
Enhanced cooperation – date announced in plenary	
Draftswoman Date appointed	Satu Hassi 24.5.2005
Previous drafts(wo)man	
Discussed in committee	21.11.2005 22.2.2006 23.2.2006
Date adopted	23.2.2006
Result of final vote	+: 33 –: 20 0: 0
Members present for the final vote	Georgs Andrejevs, Liam Aylward, Irena Belohorská, Johannes Blokland, John Bowis, Frederika Brepoels, Hiltrud Breyer, Dorette Corbey, Avril Doyle, Anne Ferreira, Karl-Heinz Florenz, Matthias Groote, Françoise Grossetête, Cristina Gutiérrez-Cortines, Satu Hassi, Mary Honeyball, Caroline Jackson, Christa Klaß, Holger Krahmer, Urszula Krupa, Peter Liese, Riitta Myller, Dimitrios Papadimoulis, Vittorio Prodi, Frédérique Ries, Dagmar Roth-Behrendt, Karin Scheele, Richard Seeber, Kathy Sinnott, Jonas Sjöstedt, María Sornosa Martínez, Antonios Trakatellis, Evangelia Tzampazi and Anja Weisgerber.
Substitute(s) present for the final vote	Alfonso Andria, Giovanni Berlinguer, Milan Gaľa, Ambroise Guellec, Kartika Tamara Liotard, Miroslav Mikolášik and Andres Tarand.
Substitute(s) under Rule 178(2) present for the final vote	Simon Busuttil, Giusto Catania, Jorgo Chatzimarkakis, Joel Hasse Ferreira, Anna Hedh, Luis Herrero-Tejedor, Elisabeth Jeggle, Ljudmila Novak, José Ribeiro e Castro, Willem Schuth, Konrad Szymański, Henri Weber and Anna Záborská.
Comments (available in one language only)	...

PROCEDURE

Title	Proposal for a Council decision concerning the seventh framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities (2007 to 2011)				
References	COM(2005)0119 – C6 0112/2005 – 2005/0044(CNS)				
Date of consulting Parliament	25.4.2005				
Committee responsible Date announced in plenary	ITRE 10.5.2005				
Committee(s) asked for opinion(s) Date announced in plenary	BUDG 10.5.2005	ENVI 10.5.2005			
Not delivering opinion(s) Date of decision					
Enhanced cooperation Date announced in plenary					
Rapporteur(s) Date appointed	Jerzy Buzek 25.5.2005				
Previous rapporteur(s)					
Simplified procedure – date of decision					
Legal basis disputed Date of JURI opinion					
Financial endowment amended Date of BUDG opinion					
Parliament to consult European Economic and Social Committee – date decided in plenary					
Parliament to consult Committee of the Regions – date decided in plenary					
Discussed in committee	13.7.2005	12.9.2005	4.10.2005	11.10.2005	29.11.2005
	16.1.2006	25.1.2006	19.4.2006	29.4.2006	4.5.2006
Date adopted	30.5.2006				
Result of final vote	+: 33 –: 4 0: 1				
Members present for the final vote	John Attard-Montalto, Jan Březina, Philippe Busquin, Jerzy Buzek, Joan Calabuig Rull, Jorgo Chatzimarkakis, Giles Chichester, Den Dover, Adam Gierek, Norbert Glante, Umberto Guidoni, Fiona Hall, David Hammerstein Mintz, Rebecca Harms, Erna Hennicot-Schoepges, Ján Hudacký, Romana Jordan Cizelj, Vincenzo Lavarra, Reino Paasilinna, Umberto Pirilli, Miloslav Ransdorf, Vladimír Remek, Herbert Reul, Teresa Riera Madurell, Mechtild Rothe, Paul Rübig, Britta Thomsen, Patrizia Toia, Catherine Trautmann				
Substitute(s) present for the final vote	María del Pilar Ayuso González, Avril Doyle, Edit Herczog, Peter Liese, Lambert van Nistelrooij, Francisca Pleguezuelos Aguilar, Vittorio Prodi, John Purvis				
Substitute(s) under Rule 178(2) present for the final vote	Hiltrud Breyer (Claude Turmes)				
Date tabled	1.6.2006				

Comments (available in one language only)	...