II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DECISION

of 3 June 2002

concerning the sixth framework programme of the European Atomic Energy Community (Euratom) for nuclear research and training activities, also contributing to the creation of the European Research Area (2002 to 2006)

(2002/668/Euratom)

THE COUNCIL OF THE EUROPEAN UNION,

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

Having regard to the proposal from the Commission ([1]),

Having regard to the opinion of the European Parliament ([2]),

Having regard to the opinion of the Economic and Social Committee ([3]),

Whereas:

(1) A framework programme covering all research activities, including demonstration and training activities in the field of nuclear energy, to be implemented by means of research and training programmes, may be adopted pursuant to Article 7 of the Treaty.

(2) In 2000 the Commission submitted two communications, respectively on the prospects for and the objectives of creating a European Research Area, and on making a reality of the European Research Area and guidelines for European Union research activities in the period 2002 to 2006. In 2000 the Commission also submitted a communication on innovation in a knowledge-driven economy.

(3) The European Councils in Lisbon in March 2000, Santa Maria de Feira in June 2000 and Stockholm in March 2001 adopted conclusions aimed at the rapid establishment of a European research and innovation area with a view to sustainable economic growth, more employment and social cohesion. The Göteborg European Council in June 2001 agreed a strategy for sustainable development and added a third, environmental dimension to the Lisbon strategy.

(4) The European Parliament ([4]) ([5]), the Council ([6]) ([7]), the Economic and Social Committee ([8]) and the Committee of the Regions ([9]) have also supported the establishment of the European Research Area.

(5) On 19 October 2000 the Commission submitted the conclusions of an external assessment of the implementation and results of the Community activities carried out in the five years preceding that assessment, accompanied by its observations.

(6) It is therefore important to adopt a new framework programme for the period 2002 to 2006, also contributing to the establishment of the European Research Area and encouraging innovation.

(7) The sixth framework programme sets out the scientific and technological objectives and priorities of the activities envisaged and indicates the broad lines of those activities which will be implemented in compliance with the objective of protecting the Community's financial interest. It is important to ensure sound financial management of the sixth framework programme.

([1]) OJ C 180 E, 26.6.2001, p. 177.
([2]) OJ C 140 E, 13.6.2002, p. 371.
([3]) OJ C 260, 17.9.2001, p. 3.
([4]) Resolution of 18 May 2000 (OJ C 59, 23.2.2001, p. 250).
([5]) Resolution of 15 February 2001 (C 276, 1. 10. 2001, p. 271).
([6]) Resolution of 15 June 2000 (OJ C 205, 19.7.2000, p. 1).
([7]) Resolution of 16 November 2000 (OJ C 374, 28.12.2000, p. 1).
([8]) Opinion of 24 May 2000 (OJ C 204, 18.7.2000, p. 70).
([9]) Opinion of 12 April 2000 (OJ C 226, 8.8.2000, p. 18).

(8) A financial reference amount within the meaning of point 34 of the Interinstitutional Agreement of 6 May 1999 between the European Parliament, the Council and the Commission on budgetary discipline and improvement of the budgetary procedure [1] is included in this Decision for the entire duration of the framework programme, without thereby affecting the powers of the budgetary authority as they are defined in the Treaty.

(9) The Joint Research Centre should contribute to the implementation of the framework programme where it can provide independent, customer-driven support for the formulation and implementation of Community policies, including the monitoring of the implementation of such policies, in the areas of its specific competence.

(10) Research activities carried out within the sixth framework programme should respect fundamental ethical principles, including those reflected in Article 6 of the Treaty on European Union and in the Charter of Fundamental Rights of the European Union, as well as the need to take into account public acceptability of these activities.

(11) Following the Commission communication 'Women and science', and the Resolutions of the Council of 20 May 1999 [2] and 26 June 2001 [3] and the Resolution of the European Parliament of 3 February 2000 [4] on this theme, an action plan is being implemented in order to boost and increase the place and role of women in science and research in Europe, which should ensure the respect of equality of opportunity, irrespective of gender.

(12) The Commission Green Paper 'Towards a European strategy for energy supply security' constitutes an element in the debate on the means of combating climate change and reducing Europe's dependence on imported energy.

(13) It is appropriate that the Commission should submit regular progress reports to the European Parliament and the Council on the implementation of the sixth framework programme and that it should have an independent assessment carried out concerning the implementation of the activities in good time and before submitting its proposal for the next framework programme. Such assessment should be carried out in a spirit of openness with respect to all the relevant actors.

(14) The international and global dimension in European research activities is important in the interest of obtaining mutual benefits. The sixth framework programme is open to the participation of countries having concluded the necessary agreements to this effect, and is also open on the project level and on the basis of mutual benefit, to the participation of entities from third countries and of international organisations for scientific cooperation.

(15) The sixth framework programme should contribute to enlargement by bringing scientific and technological support to the candidate countries for the implementation of Community *acquis* and for their integration into te European Research Area. Information on the opportunities for participating in the programme should be provided to potential participants in a timely and thorough manner.

(16) The Scientific and Technical Committee has been consulted by the Commission and has delivered its opinion,

HAS DECIDED AS FOLLOWS:

Article 1

1. A multi-annual framework programme for nuclear research and training activities, hereinafter referred to as the 'sixth framework programme', is hereby adopted for the period 2002 to 2006.

2. The sixth framework programme shall comprise Community research, technological development, international cooperation, dissemination and exploitation activities as well as training under the following headings:

— controlled thermonuclear fusion,

— management of radioactive waste,

— radiation protection,

— other activities in the field of nuclear technologies and safety,

— nuclear activities of the Joint Research Centre.

3. Annex I sets out the scientific and technological objectives and the related priorities and indicates the broad lines of the activities envisaged.

Article 2

1. The financial reference amount for the implementation of the sixth framework programme for the period 2002 to 2006 shall be EUR 1 230 million. The proportion assigned to each of the activities is fixed in Annex II.

[1] OJ C 172, 18.6.1999, p. 1.
[2] OJ C 201, 16.7.1999, p. 1.
[3] OJ C 199, 14.7.2001, p. 1.
[4] OJ C 309, 27.10.2000, p. 57.

2. The detailed rules for financial participation by the Community shall be governed by the Financial Regulation applicable to the General Budget of the European Communities, supplemented by Annex III, and, where appropriate, by the research and training programme(s) which the Council will adopt in order to implement this Decision.

Article 3

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

Article 4

The sixth framework programme shall be implemented through research and training programmes. These programmes shall establish precise objectives and detailed rules for implementation.

Article 5

1. The Commission shall continually and systematically monitor, with the help of independent qualified experts, the implementation of the sixth framework programme and its research and training programmes.

2. Progress with implementing the sixth framework programme, and in particular progress towards achieving its objectives and meeting its priorities, including its financial aspects, shall be presented in detail in the report to be submitted by the Commission each year pursuant to Article 7 of the Treaty.

Article 6

Before submitting its proposal for the next framework programme, the Commission shall have an external assessment carried out by independent, highly qualified experts of the implementation and achievements of Community activities during the five years preceding that assessment.

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

Done at Luxembourg, 3 June 2002.

For the Council

J. C. APARICIO PÉREZ

The President

ANNEX I

SCIENTIFIC AND TECHNOLOGICAL OBJECTIVES, BROAD LINES OF ACTIVITIES AND PRIORITIES

In order to fulfil the objectives concerning nuclear research and training activities as set out in the Euratom Treaty, and in order to contribute to the establishment of the European Research Area, the sixth framework programme (Euratom), hereafter referred to as 'this programme', will be structured as outlined below.

Participation in this programme as a whole shall be open to all countries having concluded association agreements with the Community to this effect. Other third countries may participate in this programme via bilateral cooperation agreements. Researchers and organisations from third countries may also participate on a case by case basis in projects.

1. PRIORITY THEMATIC AREAS OF RESEARCH

1.1. **Controlled thermonuclear fusion**

Controlled thermonuclear fusion could contribute to long-term energy supply and, therefore, to the requirements of sustainable development for a reliable centralised supply of baseload electricity.

For reasons bound up with the complexity of fundamental knowledge in physics and the technological problems to be resolved, the developments needed for the possible application of fusion for energy production will necessarily take the form of a process in several steps, each of which has an impact on the next one. However, in a more immediate time frame, research into fusion technologies could give rise to useful technological spin-offs.

The efforts deployed in the context of the integrated European research programme on controlled thermonuclear fusion have enabled Europe to become a world leader in the field of research into fusion by magnetic confinement.

The progress made on the research and the results obtained, in particular with the European JET Tokamak, now make it possible to consider moving on to the 'Next Step', which would produce a machine capable of generating fusion reactions in conditions comparable to that of an energy production reactor.

The completion of the preparatory work on the detailed design of the 'Next Step' in the context of the ITER international cooperation project makes it possible to take a decision about the launching of this project and the construction of the machine.

The objective of this will be to demonstrate the scientific and technological feasibility of fusion energy production, bearing in mind the socio-economic aspects. The precise arrangements for implementing the project will depend on the outcome of the negotiations at present under way in the framework of international cooperation and subsequent developments, more particularly the decisions taken concerning Europe's contribution to the ITER project and the site where the machine is to be installed. An appropriate legal framework will need to be established.

Participation in the ITER initiative requires the implementation of an accompanying programme including the following elements:

— operation of the JET machine in such a way as to derive benefit from the improvements currently being made. Possible participation in the research activities needed for the decommissioning of fusion facilities,

— the continuation of research into fusion physics and technology, including: study and evaluation of magnetic confinement formulas, with, in particular, the continuation of the construction of the Wendelstein 7-X 'stellarator' and operation of the existing installations in the Euratom associations; coordinated activities regarding technological research, in particular research into materials for fusion.

1.2. **Management of radioactive waste**

Nuclear fission energy today supplies 35 % of electricity in the Community. It constitutes an element in the debate on the means of combating climate change and reducing Europe's dependence on imported energy. Some of the power plants of the current generation will continue to be operated for at least 20 years.

For these reasons, the exploitation of nuclear fission energy for energy production requires progress to be made in the problem of waste, and more particularly the industrial implementation of technical solutions for the management of long-lived waste.

European public and private sector research efforts with regard to nuclear waste treatment and storage technologies are significant. Through its coordination effects, Community action in this area makes it possible to assemble them into a critical mass and ensure the coherence of the guidelines adopted by the waste management organisations and industries concerned.

Actions will cover both the problem of waste management and the question of reducing its impact. In this connection, they will address the following aspects:

— research into processes for long-term storage in deep geological strata, with the networking of the activities carried out on various sites in the three main types of geological formations envisaged,

— research aimed at reducing the impact of waste, in particular through the development of new technologies to reduce the hazards associated with waste by means of partitioning and transmutation techniques, as well as exploring the potential of concepts to produce less waste in nuclear energy generation.

1.3. **Radiation protection**

Vigilance is still required to ensure a continuation of the Community's outstanding safety record. The enlargement of the Union also introduces new challenges. The improvement of radiation protection continues to be a priority area. In this programme these activities will be carried out mainly in the following areas:

— the quantification of the risks associated with low levels of exposure,

— medical exposure and exposure to natural sources,

— radio-ecology,

— risk and emergency management,

— protection of the workplace and the environment.

2. OTHER ACTIVITIES IN THE FIELD OF NUCLEAR TECHNOLOGIES AND SAFETY

The activities carried out under this heading are intended to:

— respond to the scientific and technical needs of the policies of the Community in the fields of health, energy and the environment,

— ensure that the European capability is maintained at a high level in relevant fields not covered by priority thematic areas,

— contribute towards the creation of the European Research Area.

These activities will be carried out mainly in the following areas:

— innovative concepts: evaluation of the potential of innovative concepts that offer advantages in terms of safety, environmental impact, resource utilisation, proliferation resistance; development of improved and safer processes in the field of nuclear energy,

— education and training concerning nuclear safety and radiation protection aimed at integration and consolidation of national efforts to achieve economy of scale, and covering in addition such areas as mobility and human resources, transnational access to infrastructure, and coordination activities,

— measures for the safety of existing nuclear installations.

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

The JRC's activities will aim to support related Community policies and specific Treaty obligations. Focussing its activities in areas where Community involvement is appropriate, the JRC operates where its European identity provides added value and where its action is justified by the cross-border aspects of nuclear safety and security or by public concern. The principal objective will be to further develop collaboration through networking, leading to broad consensus on a range of these issues at a European and world level. Special attention will be given to cooperation with candidate countries. Training activities will be an important component for the JRC to help equip the Community with a future generation of scientists with the necessary competencies and expertise. The main areas of research activity will therefore be as follows ([1]):

3.1. **Nuclear safety and security**

Research into waste treatment and storage (in particular separation and transmutation techniques for long-lived actinides) and radiation protection; safety of different types of reactors with priority for reactors in the candidate countries, and the development of control methods with regard to fissile materials, as well as technical support for nuclear non-proliferation. Staff for monitoring the decommissioning of obsolete nuclear installations will be provided.

3.2. **Measurements and reference materials**

Radionuclide metrology, in particular in the case of low activity and round robin tests in the framework of networks of laboratories of excellence; interaction between neutrons and matter for the generation of base data for studies concerning the transmutation of waste and the development of new systems. This activity will principally provide horizontal support for actions under title 3.1 above.

([1]) In addition, the JRC is entitled to participate in all research activities on the same basis as entities established in Member States.

ANNEX II

MAXIMUM OVERALL AMOUNT, RESPECTIVE SHARES AND INDICATIVE BREAKDOWN

(EUR million)

1. Priority thematic areas of research		890
1.1. Controlled thermonuclear fusion	750	
1.2. Management of radioactive waste	90	
1.3. Radiation protection	50	
2. Other activities in the field of nuclear technologies and safety		50
3. Nuclear activities of the Joint Research Centre (JRC)		290
Total		1 230

ANNEX III

INSTRUMENTS

Introduction

The Community's budgetary intervention in indirect actions (i.e. those not undertaken by the JRC) is aimed at research centres, universities, businesses and national or international bodies situated in the Member States and the European associated states which carry out research activities. The latter may also act as intermediaries for Community budgetary intervention. Where this proves necessary to achieve the objectives of the programme, bodies in the newly independent states (NIS) and international organisations may exceptionally receive Community funding.

1. INSTRUMENTS IN FUSION ENERGY

In the field of fusion energy research under Heading 1.1 of Annex I, the particular nature of the activities in this area necessitates the implementation of specific arrangements. The projects undertaken will be carried out on the basis of procedures set out in:

— contracts of association,

— the European Fusion Development Agreement (EFDA),

— any other multilateral agreement concluded between the Community and associated organisations and/or legal entities which may be set up, after the competent consultative committee has given its opinion,

— other contracts of limited duration, in particular with bodies in the Member States or the States associated with the Euratom framework programme,

— international agreements covering projects carried out in the framework of cooperation with third countries, such as the ITER.

The activities to coordinate and support fusion energy research may concern studies in support of these activities, support for information exchange, recourse to external expertise capacities, including for the independent evaluation of activities, fellowships and training schemes, publications and other actions to promote technology transfer.

2. INSTRUMENTS IN OTHER FIELDS

In the fields of management of radioactive waste and radiation protection of the priority thematic areas of research under Headings 1.2 and 1.3 of Annex I as well in other activities under Heading 2, the Community, subject to the specific programmes and rules for participation, will contribute:

— to networks of excellence, aimed at strengthening and developing Community scientific and technological excellence by means of the integration, at European level, of research capacities currently existing or emerging at both national and regional level,

— to integrated projects, designed to give increased impetus to the Community's competitiveness or to address major societal needs by mobilising a critical mass of research and technological development resources and competences,

— specific targeted projects, designed to gain new knowledge either to improve considerably or to develop new products, processes or services or to meet other needs of society and Community policies or to demonstrate the viability of new technologies offering potential economic advantage but which cannot be commercialised directly,

— actions to promote and develop human resources and mobility,

— coordination actions, intended to promote and support coordinated initiatives of a range of research and innovation operators aiming at improved integration,

— specific support actions, such as actions aimed at exploiting the results of research and transfer of knowledge and actions in support of research infrastructure relating to, for instance, transnational access or preparatory technical work (including feasibility studies),

— integrated infrastructure initiatives, combining in a single action several activities essential to reinforce and develop research infrastructures in order to provide services at the European level.

3. DIRECT ACTIONS — JOINT RESEARCH CENTRE

Direct actions will be implemented by the JRC.