



FUSION FOR ENERGY

The European Joint Undertaking for ITER and the Development of Fusion Energy

THE GOVERNING BOARD

DECISION OF THE OF THE GOVERNING BOARD OF THE EUROPEAN JOINT UNDERTAKING FOR ITER AND THE DEVELOPMENT OF FUSION ENERGY ADOPTING AN INDUSTRIAL POLICY

THE GOVERNING BOARD,

HAVING REGARD to the Statutes annexed to the Council Decision (Euratom) No 198/2007 of 27th March 2007 establishing the European Joint Undertaking for ITER and the Development of Fusion Energy (hereinafter "Fusion for Energy") and conferring advantages upon it¹ and in particular Article 6(3)(p);

HAS ADOPTED THIS DECISION:

Article 1

The Industrial Policy of Fusion for Energy is hereby adopted.

Article 2

This Decision shall enter into force on 1 January 2013 subject to the adoption by the Commission of a positive opinion on this Policy.

Done at Barcelona, 11th December 2012

For the Governing Board

Stuart Ward

Chair of the Governing Board

For the Secretariat

Raymond Monk

Secretary of the Governing Board

¹ O.J. L 90, 30.03.2007, p. 58.

FUSION FOR ENERGY INDUSTRIAL POLICY

PRINCIPLES AND OBJECTIVES

Fusion has the potential to supply a significant fraction of the world's energy by the end of this century. Indeed, on this timescale fusion power could become a major high tech industry in Europe. European engagement and leadership in the project are, therefore emphasised in the European strategy "Energy 2020" for competitive, sustainable and secure energy² and also in the longer term in the objectives of the European Strategic Energy Technology Plan³. The European Atomic Energy Community (Euratom) in collaboration with the national fusion laboratories, and with coordinated support from the Euratom research and training programmes, has created an integrated fusion research programme. This programme is taking a leading role in the international development of fusion as a future source of energy. A key focus of the programme is to exploit European leadership in fusion research and development to foster a competitive European fusion industry for the second half of this century.

The central elements of the European integrated fusion programme are: contributions to ITER international project⁴ to demonstrate the scientific feasibility of fusion; the Broader Approach Activities with Japan to develop key aspects of fusion science and technology; and the accompanying programme in the National Laboratories to prepare for ITER and future reactors. To discharge Euratom's obligations – namely the provision of the site and several billion euros worth of in-kind contributions to ITER, the Broader Approach and, the long term objectives of the EU fusion programme -- the Joint Undertaking *Fusion for Energy* (F4E) was established with a 35 year mandate. With the construction of ITER and the development and construction of a future demonstration power plant, substantial direct and indirect industrial and economic benefits will arise. These activities will help to sharpen key sectors of European industrial capability. They provide a significant opportunity to drive innovation, technology transfer and spin-offs, as well as the development of emerging technologies that will create jobs and enhance the competitiveness of industry. *Fusion for Energy* is already shaping capability both in the domain of fusion and also in other sectors. This is enabling industry to compete in a variety of international markets, thereby contributing to the objectives of the Innovation Union.

This document outlines the principles and the objectives on which *Fusion for Energy* constitutes its relationship with industry – its *industrial policy*. This industrial policy will be implemented considering priorities in two phases. The first being the construction of ITER and the second, using the knowledge from ITER to prepare for the construction of a demonstration fusion power plant. This industrial policy is closely linked to Fusion for Energy Policy on Intellectual Property Rights and the dissemination of information and they are both implemented for the successful accomplishment of Fusion for Energy tasks.

The three objectives of *Fusion for Energy's industrial policy* in the first phase are outlined below.

Objective 1. Deliver the European contributions to ITER and the Broader Approach within the agreed budget and schedule making best use of the industrial and research potential and capabilities of all F4E members, in line with competition rules;

The complexity and technical challenge of ITER construction will require the cutting edge of European industrial capability. To deliver Europe's contributions within the technical specifications, on schedule and within budget, F4E must have a procurement process that is flexible while remaining clear and transparent, encouraging a broad participation and collaboration from industry of all F4E Members. F4E accompanies industry in close relationship through all phases of the individual procurement processes up to the delivery of the components to the ITER Organization. F4E implements an anti-bid rigging policy in line with normal Commission procedures. F4E will also work to ensure non-discriminatory access to IP rights for undertakings. In particular where F4E analysis exposes a monopoly arising from publicly funded research in fusion or areas where considerable cost savings can be made with limited impact on EU market conditions, F4E will implement a policy of fostering open competition, to secure best value for money, in compliance with competition rules and in accordance with the conditions laid down in the F4E implementing rules.

² COM(2010)639, SEC(2010)1346

³ http://ec.europa.eu/energy/technology/set_plan/set_plan_en.htm

⁴ The ITER agreement to establish the ITER project was signed in November 2006. It is hosted in Europe at Cadarache, France with the participation of Euratom, People's Republic of China, India, Japan, Korea, Russia and the United States. Europe provides almost 50% of the project costs. In parallel to concluding the ITER agreement, Euratom also concluded a bilateral agreement with Japan for the Joint Implementation of the Broader Approach Activities -- complementary joint fusion research activities as part of a strategy for the rapid realisation of fusion energy.

Objective 2. Broaden the European industrial base for fusion technology for the long-term development of fusion as a future energy source and to ensure a strong and competitive European industrial participation in the future fusion market;

Europe must seize the opportunity offered by the procurement of ITER and the Broader Approach activities to develop and maintain world leading industrial capability in fusion technology. The extensive knowledge that industry has acquired during the Engineering Design Activities of ITER, and by the supply of in-kind contributions to ITER, provide a firm basis for a future competitive commercial fusion industry in Europe. F4E will foster, motivate and coordinate activities to maintain and develop further Europe's fusion skills, technology and competences. F4E will follow a policy of implementing the intent behind the ITER Agreement by harvesting all generated knowledge and making this available to EU industry for their activities in the European roadmap to the realisation of fusion energy. Future fusion power plants will require not only further enhancement of know how developed for ITER but also the development of new specific technologies. This aspect will gain increased importance for F4E when ITER construction will be nearing completion. F4E will monitor, as part of its three year review, all relevant indicators to allow the Governing Board to steer progress at the EU R&I level in line with this objective.

Objective 3. Foster European innovation and competitiveness in key emerging technologies to further the development of the *Innovation Union* and its impact at the international level.

Technologies and working methodology developed for ITER have many applications in emerging technology sectors outside fusion. As an example, the laser metrology is well suited for space and hostile environment applications. Furthermore, there is evidence that many industries are transferring to their production the methodology adopted for ITER procurement. F4E must remain aware of such opportunities and the value of the intellectual property developed. As small and medium sized companies (SMEs) are recognised as important in innovation, F4E will aim to increase their share of contracted value to be equal or exceed the EU norm⁵. The EU report on the evaluation of SMEs' access to public procurement markets in the EU⁶⁷, and the Small Business Act⁸ will be used as a reference document for F4E activities. Already, large primary contractors are encouraged to seek SME subcontractors where appropriate. F4E has, in addition, tailored its intellectual property ownership regime to encourage SMEs and industry in general to further develop and exploit the knowledge gained from working on ITER procurement in order to create jobs and growth in the EU economy.

Implementation

The Director of *Fusion for Energy* is responsible to its Governing Board (whose representatives come from: the Commission, European Member States of the European Union, and Switzerland) to implement clear and transparent rules, instruments and procedures that drive forward all these objectives. The Governing Board will review progress against the objectives every three years.

Where these objectives conflict, the first objective, (1), must assume precedence. The construction of ITER will generate significant intellectual property and know how. F4E will therefore implement a policy of knowledge management in order to prevent knowledge loss and leakage while promoting technology transfer in a win- win environment to the European technology sector.

During and after the successful construction of ITER, F4E industrial policy will become more focussed on the second phase -- delivering a demonstration electricity generating fusion power plant. Central to this activity must be discharging F4E's obligation by facilitating the formation of an effective consortium of public and private partners to deliver the design and the construction of this plant. Eventually the mission of F4E will end with this success. With such an industrial consortium Europe would be set to play a leading role in the future fusion economy.

⁵ Page 26 of Final report on "*Evaluation of SMEs' access to public procurement markets in the EU*"
http://ec.europa.eu/enterprise/policies/sme/business-environment/files/smes_access_to_public_procurement_final_report_2010_en.pdf

⁶ Final report on "*Evaluation of SMEs' access to public procurement markets in the EU*"
http://ec.europa.eu/enterprise/policies/sme/business-environment/files/smes_access_to_public_procurement_final_report_2010_en.pdf

⁷ Final report on "*Evaluation of SMEs' access to public procurement markets in the EU*"
http://ec.europa.eu/enterprise/policies/sme/business-environment/files/smes_access_to_public_procurement_final_report_2010_en.pdf

⁸ See the SBA on: http://ec.europa.eu/enterprise/entrepreneurship/sba_en.htm