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FUSION FOR ENERGY

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

RESOURCE ESTIMATES PLAN OF THE EUROPEAN JOINT UNDERTAKING FOR ITER AND THE DEVELOPMENT OF FUSION ENERGY

THE GOVERNING BOARD OF FUSION FOR ENERGY,

HAVING REGARD to the Statutes annexed to the Council Decision (Euratom) No 198/2007 of 27 March 2007 establishing the European Joint Undertaking for ITER and the Development of Fusion Energy (hereinafter "Fusion for Energy") and conferring advantages upon it¹ (hereinafter "the Statutes") and in particular Article 6(3)(d) and Article 11 thereof,

HAVING REGARD to the Financial Regulation of Fusion for Energy² adopted by the Governing Board on 22nd October 2007, last amended on 18th December 2007³ (hereinafter "the Financial Regulation"), and in particular Article 30 thereof;

HAVING REGARD to the Fusion for Energy Project Plan adopted by the Governing Board on 26th November 2009;

HAVING REGARD to the comments and recommendations of the Executive Committee on the proposal for the Resource Estimates Plan at its meetings of 4-5th November 2009⁴,

WHEREAS:

- (1) The Director should, in accordance with Article 8(4)(e) of the Statutes, draw up the resource estimates plan for a period of five years;
- (2) The Executive Committee should, in accordance with Article 7(3)(b) of the Statutes, comment on and make recommendations to the Governing Board on the proposal for the Resource Estimates Plan drawn up by the Director;
- (3) The Governing Board should adopt the Resource Estimates Plan.

¹ O.J. L 90, 30.03.2007, p. 58.

² F4E(07)-GB03-11 Adopted 22/10/2007

³ F4E(07)-GB04-06 Adopted 18/12/2007

⁴ F4E(09)-EC17-Summary Adopted 05/11/2009

HAS ADOPTED THIS DECISION:

Article 1

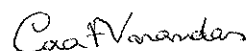
The third edition of the Resource Estimates Plan of Fusion for Energy annexed to this Decision is hereby adopted.

Article 2

This Decision shall have immediate effect.

Done at Barcelona, 27th November 2009

For the Governing Board



Carlos Varandas

Chair of the Governing Board

ANNEX

RESOURCE ESTIMATES PLAN OF THE EUROPEAN JOINT UNDERTAKING FOR ITER AND THE DEVELOPMENT OF FUSION ENERGY

1. INTRODUCTION

The European Joint Undertaking for ITER and the Development of Fusion Energy or Fusion for Energy (F4E) was created under the Euratom Treaty by a decision of the Council of the European Union.

Fusion for Energy was established for a period of 35 years from 19 April 2007 and is situated in Barcelona, Spain. The objectives of F4E are threefold:

- Providing the contribution of Euratom to the ITER International Fusion Energy Organisation as the designated Domestic Agency for Euratom;
- Providing the contribution of Euratom to the Broader Approach (BA) activities with Japan as the designated Implementing Agency for Euratom;
- Prepare in the longer term for the construction of demonstration fusion reactors (DEMO) and related activities.

In accordance with Article 30 of the F4E Financial Regulation, this Resource Estimates Plan sets out the indicative resources estimated to be needed for the implementation of the Project Plan. It includes:

- The overall cost estimates for the entire duration of the projects;
- The forecast of annual expenditure for the following five financial years;
- The estimates of income, expenditure and staffing for the following two financial years.

2. ASSUMPTIONS

The information presented in this 3rd version of the F4E Resource Estimates Plan is based upon the following assumptions:

- Regarding the contributions of F4E to the ITER construction phase, the estimated resources are those needed to implement the Project Plan according to the "Scenario 1 Modified" and are presented for information purposes only and without prejudice to future decisions on the F4E Budget and, in the case of Euratom, the Budgetary Authority;
- Regarding the BA activities, the Work Programmes for the projects IFMIF/EVEDA, IFERC and the Satellite Tokamak Programme will be approved by the BA Steering Committee;

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- Regarding the Administrative needs, the human resources planned for 2010 and 2011 are fully in line with the Report on the Staffing Needs endorsed by the Governing Board in July 2008, and the underlying assumptions described in the Report.

3. OVERALL COST ESTIMATE (2007-2041)

The cost estimate is based on the objectives of Fusion for Energy and determined as follows (2007-2041):

- as regards the tasks related to ITER, in accordance with the Agreement on the Establishment of the ITER International Fusion Energy Organisation for the Joint Implementation of the ITER Project;
- as regards the tasks related to the BA, in accordance with the bilateral Agreement for the Joint Implementation of the BA Activities;
- as regards the tasks related to DEMO and other related facilities, in accordance with research and training programmes adopted pursuant to Article 7 of the Euratom Treaty.

F4E's activities are divided into two time phases:

- The first one covering the whole period of the ITER construction phase and the BA activities;

The second phase covers the operation, decommissioning and de-activation of ITER, the construction and operation of IFMIF and a programme of activities for DEMO.

**Table 1: Detailed Cost estimates of Fusion for Energy Projects
(In commitment appropriations)**

	2007-2016			2017-2041		Modalities for delivery
	kIUA	kBAUA	MEUR (2005)	kIUA	MEUR (2005)	
ITER construction	1626.3					
Of which EU direct	995.0					In Kind by F4E
In cash Contributions to ITER Organisation and for the transfer of procurement to Japan	631.3					In Cash by F4E
ITER Construction Optional	162.6					In Kind and Cash by F4E
ITER operations				1278.4		In Kind and Cash by F4E
ITER Decommissioning					195.2	In Cash by F4E
ITER Deactivation					103.4	In Kind by F4E
ITER Total	1788.9		0	1278.4	298.6	
Technology for ITER			265.0			In kind by F4E
Other Technology (DEMO and Broader Approach)			60.0			In kind by F4E
Technology Broader Approach IFMIF-EVEDA		143.8				In kind by BA members
Technology Broader Approach IFERC -Rokkasho		119.8				In kind by BA members
Technology Broader Approach NCT JT60		236.4				In kind by BA members
IFMIF construction			158.0		246.0	In kind by F4E
IFMIF Operation and Decommissioning.					716.5	In kind by F4E
Technology Total		500.0	483.0	0.0	962.5	
F4E running cost (administration)			282.0	0.0	433.0	In Cash by F4E
Total F4E projects	1788.9	500.0	765.0	1278.4	1694.1	

In addition, the 5th ITER Council meeting (IC 5) meeting should adopt a proposal on Additional Direct Investment for a total amount of kIUA 248.97 of which kIUA 113.2 will be under Europe's responsibility.

4. FORECAST OF ANNUAL EXPENDITURE 2010 – 2014

4.1. Direct expenditure

The table 2 below details the provisional forecast of expenditure for Fusion for Energy for 2010 to 2014 according to the Scenario 1 Modified with 2% inflation per year and including contingencies from 2013 onwards. It should be noted that :

- The final estimate cost will be confirmed or adjusted with the approval of the final ITER baseline by the ITER Council;
- The contingencies will be mobilised from 2013 onward if and when necessary

Table 2 : Fusion for Energy Expenditure 2007- 2014

	<2007 Outturn	2007 Outturn	2008(*) Outturn	2009 Budget	2010 Budget	2011 Forecast	TOTAL FP VII period	2012 Indicative Forecast	2013 Indicative Forecast	2014 Indicative Forecast	Payment > 2014 (**)	TOTAL < 2007 to 2014	
Commitment Appropriations	F4E ITER	42.1	75.9	162.8	300.4	398.7	428.1	1365.9	926	1273	1228	-	4835.0
	Of which ITER construction	40.6	35.3	162.8	291.1	398.7	428.1	1316.0	926	1273	1228	-	4783.7
	Of which ITER Site Support Activities	1.5	40.6	0.0	9.3	0.0	0.0	49.9	0	0	0	-	51.3
	Technology	0.0	0.0	4.5	25.4	14.5	18.3	62.7	26	29	30	-	147.7
	Of which Tech. for ITER	-	-	4.4	15.3	13.9	16.0	49.6	17	20	21	-	107.6
	Of which Technology for BA and DEMO	-	-	0.1	10.1	0.6	2.3	13.1	9	9	9	-	40.1
	F4E Administration	0.0	1.9	17.7	29.3	34.2	39.0	122.1	40	41	41	-	244.1
F4E Total Commitment	42.1	77.8	185.0	355.1	447.4	485.4	1550.7	992	1343	1299	-	5226.8	
Payment Appropriations	F4E ITER	23.5	22.5	82.8	141.6	201.9	224.7	673.4	482	694	971	1991	4835.0
	Of which ITER construction	22.0	18.7	73.8	132.6	192.9	215.7	633.6	476	690	971	1991	4783.7
	Of which ITER Site Support Activities	1.5	3.8	9.0	9.0	9.0	9.0	39.8	6	4	0	0	51.3
	Technology	0.0	0.0	0.1	2.7	18.8	19.6	41.2	17	22	25	43	147.7
	Of which Tech. for ITER	-	-	0.0	2.6	15.6	13.3	31.4	14	16	17	29	107.6
	Of which Technology for BA and DEMO	-	-	0.1	0.1	3.3	6.3	9.8	3	6	8	13	40.1
	F4E Administration	0.0	1.9	17.7	29.3	34.2	39.0	122.1	40	41	41	-	244.1
F4E Total Payment	23.5	24.4	100.5	173.6	254.9	283.3	836.7	539	757	1037	2034	5226.8	

(*) Including the amount directly implemented by Euratom before F4E financial Autonomy

(**) Payment appropriation resulting from commitment <2007-2014

ITER construction

The estimated expenditure related to ITER construction is based on the Scenario 1. . Modified

The ITER site support activities will be covered under the ITER construction expenditure.

Technology for ITER

This corresponds to extra R&D activities in particular the completion of specification given by ITER.

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Technology for Broader Approach and DEMO

This corresponds to the European contribution directly managed by F4E for IFMIF-EVEDA, IFERC at Rokkasho and the JT60 tokamak in Naka, and to the preparation of DEMO.

Administrative Expenditure

The administrative expenditure relating to the functioning and operating costs of F4E is made up of the Euratom contribution. For Euratom, the relative share of the administrative contribution is set at 10.3% (FP VII) (noting the maximum of 15%). Part of the membership contributions may be added to the administrative expenditure.

Administrative appropriations not used will be transferred to, or budgeted in addition of, the operational budgets.

4.2. Indirect expenditure for Broader Approach

Outside F4E budget, the BA contributions from the participating countries are delivered in kind and managed directly by each contributor. The total Euratom contribution to BA is 500kBAUA (BA Units of Account), with 1 BAUA = 678 € value 2005. For information, the BA voluntary contributors are committed to contributions that will accrue the following credit:

Table 3: Credit to be accounted from the contribution by donors

1kBAUA= 0.678M€ 2005 value

Broader Approach Contributor	2007-2016 Contributions in kBAUA
Spain	61
France	235
Italy	124
Germany	19
Switzerland	10
Belgium	11
Total	460

5. THE BUDGET FOR 2010 AND 2011

5.1. Budget Definition and Content

The budget is the sole instrument which forecasts and authorises the annual revenue and expenditure considered necessary for F4E on the basis of the Financial Regulation and Implementing Rules adopted by the Governing Board on 22 October 2007⁵. In summary, it shall comprise:

Revenues made up of a Euratom (hereinafter "the Community") contribution, the contribution of the ITER Host State, the annual membership contributions from members other than Euratom, and miscellaneous revenues.

The Membership contributions (except from Euratom) of the 2010 and 2011 budget are calculated based on 10% of the administrative expenditure determined at the time of the preparation of the draft budget and the contribution of each member will be calculated in respect of the method described in annex II of the statutes of Fusion for Energy.

Expenditure made up of Operational expenditure, necessary for the pursuit of its tasks and activities and Administrative expenditure, necessary for the functioning of Fusion for Energy.

Establishment Plan by categories and grades.

5.2. Revenue, Expenditure and staffing for 2010 and 2011 budgets

The 2011 Preliminary Draft Budget of the European Union as well as that of the members (for the purpose of their contribution to F4E) will be based on the figures detailed in the tables 5 and 6 below.

(a) Revenue and Expenditure

Taken into consideration the implementation detailed above the revenue for the 2010 and 2011 budget will be as follows:

⁵ F4E(07)-GB03-11 of 22/09/2007

Table 4: Detailed Forecast of Revenue and Expenditure for the 2010 and 2011 budgets

(EUR)		2010 Budget		2011 Budget	
		Commitment appropriations	Payment Appropriations	Commitment appropriations	Payment Appropriations
Revenue	Operational revenue	413,240,000	220,700,000	446,360,000	244,300,000
	Of Which Euratom contribution	343,340,000	193,700,000	351,760,000	207,000,000
	Of Which ITER Host State contribution	66,500,000	23,600,000	90,700,000	33,400,000
	Of Which Membership contribution	3,400,000	3,400,000	3,900,000	3,900,000
	Administrative revenue	34,200,000	34,200,000	39,000,000	39,000,000
	Of Which Euratom contribution	34,200,000	34,200,000	39,000,000	39,000,000
	Total	447,440,000	254,900,000	485,360,000	283,300,000
Expenditure	Administrative Expenditure: Title 1, Staff	28,398,000	28,398,000	32,500,000	32,500,000
	Administrative Expenditure: Title 2, Other	5,802,000	5,802,000	6,500,000	6,500,000
	ITER Construction	398,730,000	201,870,000	428,100,000	224,700,000
	Technology For ITER	13,890,000	15,570,000	16,000,000	13,300,000
	Technology For BA and DEMO	620,000	3,260,000	2,260,000	6,300,000
		Total	447,440,000	254,900,000	485,360,000

The estimate of payment appropriations needs is extrapolated from planning of activities and contracts.

The estimates of expenditure for 2011 will be developed and updated if necessary in the corresponding budget and Work Programme.

(b) Establishment Plan

The annual Establishment Plan is based upon the considerations developed with the report on the staffing needs for F4E endorsed by the Governing Board in July 2008. This Report will be reviewed, in particular in the light of the conclusions of the F4E Management Assessment Group, and it may consequently affect the Establishment Plans for 2011 onwards.

Table 5: Staff Establishment Plan for 2009, 2010 and 2011

Category and grade	Posts foreseen to be occupied on 31/12/09		Posts Authorised 2010 (*)		Posts Requested 2011	
	Permanent Posts	Temporary Posts	Permanent Posts	Temporary Posts	Permanent Posts	Temporary Posts
AD16						
AD15						1
AD14		1		1		
AD13			2	1	2	1
AD12	15	3	15	8	17	8
AD11	7		7		5	2
AD10			4	20	4	18
AD9	4	27	10	28	10	28
AD8	1		4		4	0
AD7	1	1		20		25
AD6		53	2	67	2	67
AD5	3	3		4		4
Total grade AD	31	88	44	149	44	154
	119		193		198	
AST11			2		2	
AST10	1		2		2	
AST9	2		4		4	
AST8	1		1		1	
AST7	1					
AST6	2		1		3	
AST5			3	2	3	0
AST4	1		2	3	1	5
AST3		18	3	18	2	18
AST2						
AST1	1					
Total grade AST	9	18	18	23	18	23
Total grade AST	27		41		41	
Total général	40	106	62	172	62	177
	146		234		239	

(*) The decision of the EU budgetary authority is foreseen end of December of 2009