

## **EIB AND FINANCING OF NUCLEAR ENERGY**

### **EU energy policy developments**

Energy has been prominent on the EU policy agenda in recent years. It has become a key item in the work of the Commission and the Council, with continuity ensured between successive Presidencies. The Commission's Green Paper "A European Strategy for Sustainable, Competitive and Secure Energy", endorsed by the Council in March 2006, gives the key objectives in energy. Following this, the Commission released in January 2007 the communication "An energy Policy for Europe". In this context, the Commission also published a new Nuclear Illustrative Programme.

Based on the Commission's communication the European Council of 8-9 March 2007 adopted a comprehensive energy action plan "Energy policy for Europe" for the period 2007-2009. Under this action plan the EU is committed to achieve at least a 20% reduction of greenhouse gas emission by 2020 compared to 1990. The European Council also endorsed a binding target of a 20% share of renewable energies in overall EU energy consumption by 2020, supplemented by a binding minimum target of 10% for the share of biofuels in the petrol and diesel consumption for transport. Furthermore, the European Council stresses the need to increase energy efficiency in the EU so as to achieve the objective of saving 20% of energy consumption compared to projections for 2020.

Recalling that the "Energy policy for Europe" will fully respect Member States' choice of energy mix, the European Council noted the Commission's assessment of the contribution of nuclear energy in meeting the growing concerns about safety of energy supply and CO<sub>2</sub> emissions reductions while ensuring that nuclear safety and security are paramount in the decision-making process. The European Council therefore confirmed that it is for each Member State to decide whether or not to rely on nuclear energy and stressed that this has to be done while further improving nuclear safety and the management of radioactive waste.

The Commission has just established a High Level Group on nuclear safety, management of radioactive waste and spent fuel, and on decommissioning nuclear installations. This group will report to the Council and the Parliament.

### **EIB involvement in the nuclear sector**

The EIB financed nuclear electricity generation for about two decades up to the mid-1980s. Projects related to the nuclear fuel cycle were financed up to the early 1990s and a rehabilitation of an old uranium mine in 2002. Financing of nuclear generation has followed the general trend in nuclear investments in the Member States, which reached a peak by around the second oil crisis and declined substantially by the mid-1980s. The development of nuclear energy was a specific priority

objective of the EU after the oil crisis with the aim to reduce energy dependence. The Bank's action has been in line with the above Community policy.

Most of the projects financed by the Bank were located in France, Germany, Belgium, the UK and Italy. In all, the Bank has lent EUR 6.6 billion for investments in the sector, including nuclear power stations, experimental nuclear power facilities, and facilities related to the nuclear fuel cycle (see annex 1). To date, practically all of these loans have been reimbursed.

Further to the above direct financing the EIB has also acted in a consultancy role for EURATOM, carrying out the economic and financial appraisal of a series of nuclear power projects, incl. in a number of (at that time) non-EU countries. (see annex 2).

The only operation that the Bank has considered recently is the part-financing of URENCO Ltd's investments for uranium enrichment. The EIB Board of Directors approved a loan of up to EUR 200 million to URENCO on 17 July 2007. Using a centrifuge technology that will cover additional enrichment demand and will replace in part energy inefficient gaseous diffusion capacity, the project will support the EU's technological lead in this field. The required Environmental Impact Assessments have been accomplished, and URENCO's investments are to be completed within the boundaries of existing sites. The nuclear fuel cycle from raw uranium to the nuclear power plant fuel is strictly controlled through the provisions of Euratom and International Atomic Energy Agency safeguards.

A number of nuclear power stations are currently under consideration by Member States. While one nuclear power station has been communicated to the Commission early this year on the basis of the provisions of the Article 41, there is not any request for EIB loan support as yet.

Over the longer term the development of nuclear electricity production is uncertain. The reasons for such uncertainty relate primarily to issues of public acceptance, as well as to issues related to plant commissioning and decommissioning criteria, and waste disposal solutions. Even though nuclear production is expected to increase at world level, it is nevertheless expected to decline significantly in the EU in coming years (over 40% lower in 2030 by comparison to 2004 in the IEA reference scenario). However, while some Member states have decided a gradual nuclear phase out, others have firm plans to develop new nuclear generation projects and/or are reviewing their nuclear policies. This may result in a revision of current forecasts. Continuing work at EU level on Energy in general and Nuclear in particular will play an important role for EIB.

### **EIB energy strategy and nuclear**

The EIB's policy on Energy has been recently reviewed and presented in its "Clean Energy for Europe" paper, endorsed by the Bank's Governors in June 2007. It is recalled that, as a public policy-driven bank, the EIB has been proactive in this field and, working closely with the Commission, has already progressively introduced elements of its reviewed policy since January 2006 (with a Board presentation of the "EIB Energy Review") and decided to integrate the energy objective into the Corporate Operational Plan 2007-2009.

The Bank's action in the energy sector are organised along the following five main priority areas:

- Renewable energy
- Energy efficiency
- Research, development and innovation in energy
- Security and diversification of internal supply (including trans-European energy networks)
- External energy security and economic development in neighbour and partner countries

The package endorsed by the EIB Governors in June 2007 includes a series of measures aiming at reinforcing the Bank's contribution to the EU objectives and clarifying the focus of its action. Such measures concerned renewable energy, energy efficiency and the approach to coal and lignite fuelled power stations. They also incorporated a facility that would help to enhance EIB's lending capacity for investments in energy sustainability and security of supply in Neighbourhood countries, ACP, South Africa and ALA (up to EUR 3 billion from own resources until end 2013).

As far as investments in the nuclear field are concerned, the Bank is following the debate on nuclear policies that has been re-launched in several EU countries and cooperates closely with the Commission. The Bank notes the right of individual Member States to determine their energy mix and to appreciate the potential contribution of nuclear energy to reduce CO2 emissions and to enhance energy security. It also recognises the importance of the sector for Europe's R&D. At the same time, the Bank is fully aware of the important "pending issues", such as those related to decommissioning and nuclear waste.

In view of the above and while EIB financing may be requested for investments in new generation capacity, in the nuclear fuel cycle and in research activities, it should be noted that:

Investment projects related to nuclear energy must be notified to the Commission under Article 41 of the Euratom Treaty. The Commission gives an opinion in particular with regard to the objectives of the energy and environmental policies of the EU. A favourable opinion of the Commission is a prerequisite for the Bank to finance nuclear projects.

The Bank ensures that all the projects that it finances are economically, technically, environmentally and financially viable, and that they comply with EU and national law as well as EU policies. Each project is thoroughly appraised and followed through to completion and possibly operation. Nuclear projects raise complex issues that need to be assessed with extreme care. Among other things, nuclear generation projects imply not only the mobilization of large amount of capital (due to their high initial construction cost) but also significant future costs related to cost of nuclear waste disposal and plant decommissioning. Such issues will constitute an integral part of the Bank's own assessment of the proposed investment. More generally, it is important for the Bank to ensure that its involvement in the financing of nuclear activities will also provide a quality check.

As normal, the Bank will follow closely the works of the recently established High Level Group on nuclear safety, management of radio-active waste and spent fuel, and on decommissioning nuclear installations, in order to be able to properly take into account the issues identified in its own project appraisal.

## Loan contracts signed by the EIB and EURATOM in the nuclear sector

Exposure at 24.06.07

Country	Project name	Description	EIB				EURATOM			
			Situation	Year of signature	Amount of contract signed EURm	Outstanding EURm	Situation	Year of signature	Amount of contract signed EURm	Outstanding EURm
<b>ELECTRICITY GENERATION</b>										
GERMANY	KKW BIBLIS	Biblis nuclear power plant (Hessen)		73	41.8	0.0				
GERMANY	KKW BRUNSBUTTEL	Nuclear power plant in Brunsbüttel (Schleswig-Holstein)	REPAID	1972	25.0	0.0				
GERMANY	KKW EMSLAND	Construction of nuclear power plant in Darme (Lingen, Lower Saxony)	REPAID	84-85-86	90.3	0.0	REPAID	85-86-87	70.7	0.0
GERMANY	KKW LINGEN	Construction of nuclear power plant in Darme (Lingen, Lower Saxony)	REPAID	1967	6.3	0.0				
GERMANY	KKW GUNDREMMINGEN	Gundremmingen nuclear power plant (Bavaria)	REPAID	76-80-83	192.6	0.0				
GERMANY	KKW MULHEIM-KARLICH	Nuclear power plant in Mülheim-Kärlich, near Koblenz (Rhineland-Palatinate)	REPAID (28.4 EURm) - CANCELL. POST-SIGN. (282.2 EURm)	77-81	310.6	0.0	REPAID	77-78-85	151.3	0.0
GERMANY	KKW NECKAR	Neckarwestheim/Gemrigheim nuclear power plant (Baden-Württemberg)	REPAID	73-84-85-86	155.4	0.0				
GERMANY	KKW OBRIGHEIM	Construction of 300 MW nuclear power plant in Obrigheim (Baden-Württemberg)	REPAID	1968	6.3	0.0				
GERMANY	KKW PHILIPPSBURG	Nuclear power plant in Philippsburg (Baden-Württemberg)	REPAID	72-82-83	75.6	0.0				
GERMANY	THTR 300	Uentrop high-temperature nuclear power plant (North Rhine - Westphalia)	REPAID	1973	24.6	0.0				
BELGIUM	BELGELECTRIC (SEMO INTERCOM TIHANGE et EBES DOEL)	Doel (Antwerp) and Tihange (Liège) nuclear power plants	REPAID	70-72-74-78-79-80-81-82-84-85	615.1	0.0	REPAID	79-80-81-82-83-84	559.1	0.0
FRANCE	BUGEY	Bugey nuclear power plant in Saint-Vulbas (Rhône-Alpes)	REPAID	73-74-75-77	139.9	0.0				
FRANCE	DAMPIERRE	Dampierre-en-Burly (Centre) nuclear power plant	REPAID	77-80	109.6		REPAID	1980	51.4	0.0
FRANCE	EDF BELLEVILLE	Construction of first two units of nuclear power plant in Belleville (Cher)	REPAID	81-82	239.3	0.0	REPAID	82-83	153.9	0.0
FRANCE	EDF FESSENHEIM	Nuclear power plant in Fessenheim (Alsace)	REPAID	1972	30.0	0.0				
FRANCE	EDF FLAMANVILLE	Flamanville nuclear power plant on Cotentin peninsula (Lower Normandy)	REPAID	83-84-85-87	219.0	0.0	REPAID	83-84-85-86	215.7	0.0
FRANCE	NERSA	Superphenix nuclear power plant in Creys-Malville (Rhône-Alpes)	REPAID	77-78-79-80-81-82-83-84	385.6	0.0	REPAID	77-79-80-81-82-83-84-86	560.4	0.0
FRANCE	SENA	Improvement of operating conditions of the Ardennes plant near Chooz (Champagne-Ardenne)	REPAID	1979	4.0	0.0				
ITALY	ENEL ALTO LAZIO	Alto Lazio nuclear power plant in Montalto di Castro (Lazio)	REPAID	78-81-83-84-85	475.4	0.0	REPAID	78-79-81-82-83-85-86-87	530.3	0.0
ITALY	ENEL CAORSO	Nuclear power plant in Caorso, near Piacenza (Emilia-Romagna)	REPAID	75	44.6	0.0				
UNITED KINGDOM	CEGB HEYSHAM	Heysham nuclear power plant near Lancaster (north-west England)	REPAID	77-79-85	500.4	0.0				
UNITED KINGDOM	HARTLEPOOL NUCL POWER	Hartlepool nuclear power plant (north-east England)	REPAID	74-75-78-79	164.3	0.0				
UNITED KINGDOM	HUNTERSTON B NUCL POWER	Nuclear power plant in Hunterston (Scotland)	REPAID	75	43.7	0.0				
UNITED KINGDOM	SSEB TORNESS	Nuclear power plant at Torness Point (Scotland)	REPAID	80-82-83-84-85-86-87	885.9	0.0	REPAID	83-86	146.4	0.0
<b>sub-total</b>					<b>4785.3</b>	<b>0.0</b>			<b>2439.2</b>	<b>0.0</b>



Projects for which the EIB gave a recommendation to the Commission in accordance with the agreement signed between the Bank and the Commission on 19 July 1994 and renewed on 18 January 2000 under the EURATOM facility in certain non-member countries.

Country	Project name	Board date	Description
BULGARIA	EURATOM - KOZLODUY 5 & 6	07/12/1999	Modernisation and improvement of safety of two reactors at Kozloduy nuclear power plant, northern Bulgaria
SLOVAK REPUBLIC	EURATOM - MOCHOVCE	04/04/1995	Completion of two reactor blocks at Mochovce nuclear power plant
ROMANIA	EURATOM: CERNAVODA 2	28/01/2003	Completion of construction and increase in safety of unit of Cernavoda nuclear power plant
UKRAINE	EURATOM - ROVNO 4 & KHMELNITZKY 2	26/01/1999	Completion of two units, ROVNO 4 and KHMELNITSKY 2, to acceptable international safety standard to allow closure of Chernobyl NPP (Ukraine)