

European Investment Bank

Information

BEI·EIB



Den europæiske Investeringsbank
Europäische Investitionsbank
Banque Européenne d'Investissement
Banca Europea per gli Investimenti
Europese Investeringsbank

No 23 · November 1980

ISSN 0250-3891

Total lending over 5 billion u. a.

EIB support for energy investment

Since its creation in 1958, the European Investment Bank has made available a total of 5 250 million units of account (u. a.) — figure at end-September 1980 — for investment in energy production, transmission and storage to meet needs in the Member Countries of the European Community and also in a number of countries which have signed association or cooperation agreements with the EEC.

In the Community, energy has come to represent the single most important sector for Bank activities, with financing totalling 4 643·3 million u. a. at end-September. While it accounted for approximately 17 % (425·2 million u. a.) of operations between 1958 and 1972, this went up to 38 % (3 586·2 million u. a.) in the period 1973—1979. Taking last year alone, almost 45 % (1 146·5 million u. a.) of total lending in the Member Countries went to the energy sector.

Outside the Community, the EIB has been placing increased emphasis on energy financing as part of its work to help the development of many countries, most of them in the Third World. At end-September 1980, energy projects accounted for over 600 million u. a. of financing in Mediterranean countries, African, Caribbean and Pacific (ACP) countries and in overseas Countries and Territories which are linked to certain Member

States. This corresponds to close to 30 % of the total made available by the Bank since it began operations outside the Community in 1963.

EIB-Information No. 23 is given over to a review of the EIB's operations in the energy field. It takes a brief look at where the Bank is lending, for what kinds of projects, the impact of its operations to date and new trends.

In this issue

EIB support for energy investment

- cutting the Community's dependence upon oil imports
- loans from New Community Instrument and EURATOM resources
- breakdown of financing by country p. 1-9
- energy financing outside the Community p. 10-11
- latest loans p. 12

In the Community

Background

Although the oil embargo of 1973—1974 suddenly focussed attention on the Community's dependence on energy imports, oil in particular, the problems of energy supply had been slowly gathering shape over some 20 years.

At the beginning of the Fifties about 3/4 of Europe's energy consumption was met from its own coal production, which had fuelled economic development for over a century; oil represented only 10 % of needs.

The Community's energy consumption in 1979 totalled approx. 985 million tonnes of oil equivalent. Oil accounted for 53·3 % of consumption, coal 19·4 %, natural gas 17·5 %, primary electrical energy (hydro, geothermal) 3·5 %, nuclear 3·2 %, lignite and peat 2·8 %, others 0·3 %.

Imports represented 57 % (54·2 % if uranium is excluded) of total energy consumption, of which oil alone 46·9 %.

The degree of dependence on oil imports (net imports of oil and oil products as a percentage of total gross energy consumption) varies substantially between the different Member Countries: in 1979, United Kingdom 8·7 %, Luxembourg 28·9 %, the Netherlands 50·3 %, Germany 50·6 %, Belgium 57·3 %, France 61·7 %, Italy 68·0 %, Denmark 70·7 %, Ireland 74·1 %.

About 90 % of the Community's oil imports come from the OPEC countries, which control about 70 % of the world's known reserves and about 50 % of the production outside the Eastern bloc.

Oil prices in US\$ at end-September 1980 were twelvefold those at the beginning of 1973. Although imports fell from 573 million tonnes in 1973 to 475 million in 1979, the Community's bill for these supplies rose from about 10 000 million u. a. in 1973 to about 50 000 million u. a. in 1979. In real terms, i.e. taking into account the effects of inflation and the erosion of the US\$ against

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(Continued from page 1)

Community national currencies, the average price per barrel in units of account of crude oil imports in Community countries in 1979 was 2.5 times the price in 1973.

Even before the Iraq-Iran conflict, it was being estimated that the Community's oil imports would cost about 77 000 million u.a. in 1980, giving a price per barrel, in real terms, just under fourfold that of 1973.

Steady economic growth in the following years and the rise in living standards brought heavier energy consumption, increasing between 1950 and 1973 at a rate of growth equivalent roughly to 1% more energy for each 1% growth in Gross Domestic Product (GDP). The compound growth was such that energy consumption in the six original EEC countries (1) more than tripled from 210 million tonnes of oil equivalent (mtoe) in 1950 to 690 million in 1973; figures for the present nine Member Countries show consumption rising from 600 mtoe in 1963 to 940 mtoe in 1973, an increase of 55%.

Between 1955 and 1970 the price of oil was falling in real terms, making the coal mines, with their rising operating costs, less and less competitive and reducing the incentive to push ahead with development of other energy resources. By 1973 the Community's energy supply situation had been transformed with oil, virtually all imported, covering 61% of energy consumption and coal less than a quarter.

While it is true that abundant oil supplies gave a considerable boost to economic growth for two decades, Europe had lost its energy independence.

The oil embargo of 1973—1974 and the subsequent price increases have shown how vulnerable this position is: oil imports in 1973 totalled 573 m tonnes, cost 10 000 million u. a. and were equivalent to 1% of the Community's GDP and 6% of total imports; in 1979 oil imports, despite being reduced to 475 million tonnes, cost 50 000 million u. a., equivalent to 3% GDP and 11% of imports.

"We have built our industrial society on the consumption of fossil fuels, in particular oil, and it is now certain that if we do not change our ways while there is still time our society will risk dislocation and eventual collapse". (2)

The strategy which has been followed by the Community since the oil crisis aims at

- braking growth in consumption by more rational use of energy;
- seeking to diversify the sources and nature of energy imports so as to "spread" the dependence and achieve better supply security for that part of the Community's requirements which cannot be met from internal resources;
- developing existing European energy resources;
- encouraging research and development into new forms of energy production and techniques of energy saving.

It is difficult to estimate the degree of success to date but it is a fact that energy consumption remained more or less stable between 1973 and 1978 while the Community's real GDP increased by 12%, although consumption rose in 1979 by about 5%, largely due to the hard winter.

Dependence on imported oil fell from over 60% of energy consumption in 1973 to 47% in 1979.

Tentatively at least, it can be said that the economic growth/energy consumption relation seems to be changing in the right direction. From the pre-1973 ratio of 1% GDP growth = 1% increase in energy consumption, the figures had dropped to 1:0.8 for the period 1973—1979 as a result of high energy prices penalising waste and thanks to improvements in energy-saving techniques.

Aims for 1990

On 13 May 1980 the Council of the European Communities, meeting at the Energy ministers level, adopted a series of objectives to work towards for 1990.

Among the goals are the following:

- to lower the GDP/energy consumption growth ratio to 1:0.7 or less, in other words to further divorce energy consumption and economic growth;
- to reduce the share of oil in overall energy consumption to approximately 40%;
- to meet 70—75% of electricity production from solid fuels and nuclear energy (compared with about 51% in 1979)
- to stimulate greater use of renewable energy sources (hydro, solar, geothermal, wind, biomass, etc).

Investment

To deal with the Community's energy problems requires time and determination. It calls also for the mobilisation of considerable financial resources.

While public investment at a national level and private capital must play the major role in this, the European Investment Bank and other Community sources of finance are in a position to give a high level of support.

In the EIB's case this will be further development of activity which well predates the oil crisis.

When the Bank was set up in 1958 its main tasks were defined by the Treaty of Rome as helping to finance capital investment furthering regional development or meeting a common

Editor's note

Sources for figures on oil consumption and the cost of imports used in preparing this article were the Commission's Report to the Council of Ministers on the outlook for longterm coal supply and demand (COM(80)117 of 21 March 1980) and report to the Council on Energy Policy in the Community (COM(80)397 of 14 July 1980), and Energy Statistics published by the Statistical Office of the European Communities.

(1) The "Six" — Belgium, Germany, France, Italy, Luxembourg and the Netherlands — were joined in 1973 by Denmark, Ireland and the United Kingdom.

(2) Programme speech to the European Parliament by the President of the Commission of the European Communities, Mr. Roy Jenkins, February 12 1980.

interest of several Member Countries or of the Community as a whole.

Regional development has always had priority and under this heading the Bank has contributed to financing a number of projects where improved energy supplies were seen as essential infrastructure support to spur economic growth in less-favoured regions (e.g. gas and electricity supply schemes in Southern Italy, Ireland, Greenland, Northern Ireland, Scotland, Brittany).

But the Bank's most extensive activity in energy investment has been to help finance projects which meet a **common interest** ⁽¹⁾ by sup-

(1) Many energy projects have been eligible for EIB support under both common interest and regional development criteria, e.g. gaslines helping to develop the resources of North Sea and Dutch fields and transmitting the supplies to less-favoured areas where the availability of natural gas helps to attract new industrial development. Another example is the Algeria-Italy gasline which will help to reduce the Community's dependence upon oil and at the same time stimulate the development of Southern Italy. Several industrial projects — e.g. the manufacture of insulation materials — have been financed because they assist regional development and further Community energy objectives.

Energy loans from New Community Instrument — "Ortoli Facility"

Increased support for investment helping to attain priority Community objectives in the energy sector was one of the main aims set for the New Community Instrument for borrowing and lending — NCI or "Ortoli Facility" — under which the Commission of the European Communities has been authorised by the Council of the European Communities to borrow up to 1 billion units of account in the name of the EEC for the purpose of promoting investment.

The principle of the NCI is that by tapping the European Economic Community's own credit standing funds can be raised to give support, in the form of loans, additional to that available from the EIB's own resources and other Community sources of finance.

The Commission decides the eligibility of projects for a New Community Instrument loan within guidelines laid down by the Council of the European Communities. The EIB receives the loan applications, examines them in accordance with its customary criteria, decides on the loans to be granted and the terms, and then administers the loans in the name, for the account and at the risk of the Community.

In setting out the guidelines for the first 500 million u.a. tranche on 14 May 1979, the Council specified that the funds should go either towards infrastructure development or energy projects which would help the Community to attain greater independence, security or diversification of its energy supplies — specific reference was made to energy saving and development of alternative energy resources.

On 22 July 1980, the Council decided to reserve 80 % of the second tranche — i.e. 400 million u.a. out of 500 million — also exclusively for infrastructure and energy investment.

The EIB began lending from these resources in 1979 and by end-September this year loans totalled 391.9 million u.a., of which 54.8 % — 214.7 million u.a. — went to energy projects helping to reduce oil imports: 120.9 million u.a. in Italy, 79.4 million in the United Kingdom, 14.4 million in Ireland.

Finance for projects meeting Community energy objectives ⁽¹⁾

(1973 to 30 September 1980 — amounts in million u.a.)

	EIB resources	NCI ⁽²⁾ resources	Combined	%
Development of Community resources	2 675.8	155.9	2 831.7	75.5
Hydroelectric and geothermal	372.5	45.4	417.9	11.1
Nuclear	1 444.5	—	1 444.5	38.5
Oil and natural gas deposits	630.8	16.7	647.5	17.3
Solid fuels	225.4	93.8	319.2	8.5
Alternative sources	2.6	—	2.6	0.1
Energy saving	178.9	17.1	196.0	5.2
Import diversification ⁽³⁾	683.1	41.7	724.8	19.3
Natural gas	498.7	41.7	540.4	14.4
Electricity	184.4	—	184.4	4.9
Total	3 537.8	214.7	3 752.5	100.0

(1) Including 200.8 million u.a. for projects outside but of direct interest to the Community (in Austria, Norway and Tunisia); loans made following special authorisation from the EIB's Board of Governors under powers contained in Article 18 of the Bank's Statute.

(2) Lending from New Community Instrument resources commenced in 1979.

(3) For example, schemes helping to increase imports of gas or electricity, fitting out power stations to run on imported coal etc.

N.B. This table does not include energy projects which the Bank has helped to finance exclusively on the grounds of their contribution to regional development.

porting Community energy objectives, principally through developing Europe's own energy resources (finance totalling 3 752.5 million u.a. up to end-September 1980).

This notion of "common interest" has obviously become more important from end-1973 onwards, but the Bank had, for example, taken the view well before that the construction of nuclear power stations was of sufficient general interest to the Community to justify a contribution to financing. Its first loans in this sector were made in 1967.

Similarly because of a common European interest in improving the Community's energy supplies, a number of loans were made in the late 60s for the laying of gaslines for the transmission of natural gas from the Netherlands to consumers in Belgium, Germany and France. Support was also given to certain international hydroelectric schemes on the same grounds.

So when the 1973—1974 oil embargo emphasised the need for Community action, the European Investment Bank was well placed to intensify this activity — in the number and range of projects to be financed, in a Community newly enlarged by the accession of Denmark, Ireland and the United Kingdom — on the basis of experience already acquired.

Three developments have further widened EIB intervention:

- Since 1973 the Board of Governors has used powers contained in Article 18 of the Bank's Statute to authorise the EIB to help finance a number of projects situated outside the EEC but of direct interest to the Community's energy supplies: development of Norwegian offshore gas and oil fields, the production going mainly to consumers in the Community; hydroelectric plant in Austria, half the output of which is to be sold under long-term supply contracts to German electricity utilities; gas pipelines across Austria transporting gas from the Soviet Union to Italy and, by means of swap arrangements, also to France; part of the Algeria—Italy gasline across Tunisia.

EURATOM — EIB cooperation

EURATOM — the European Atomic Energy Community was created in 1958 at the same time as the European Economic Community, and with the same Member Countries, to promote the development of a European nuclear energy industry for peaceful purposes. The Commission of the European Communities, EURATOM's executive body, has supervisory responsibilities on matters such as supplies of fissile materials, health and environmental safeguards, and employs budgetary funds for research and training.

Since 1977, following a decision by the Council of the European Communities, the Commission has also raised funds on the capital markets in the name of EURATOM to make loans for construction of nuclear plant. These lending activities are carried out together with the European Investment Bank.

The EIB examines and prepares recommendations on all applications for financing submitted to EURATOM in accordance with its normal banking practice and using the same economic, financial and technical criteria which it applies to applications for EIB loans.

The Commission decides on each EURATOM loan on the basis of these recommendations; the Bank then acts as the Community's agent for the conclusion of the loan contract and administers the loan and monitors the project on behalf of EURATOM.

The figures for EURATOM loans are **given separately here and are not included in the overall statistics** for lending given elsewhere in this article.

Up to end-September 1980 loans totalling 405.6 million u.a. had been signed from EURATOM resources for nuclear plant construction as follows:

		m u.a.
France		
"Super Phénix" power station, Creys-Malville, Rhône-Alpes (1977, 1979, 1980: nine loans)	Ffrs 657.4 m	113.9
Dampierre-en-Burly power station, Centre (1980)	Ffrs 300.0 m	51.4
Germany		
Mülheim-Kärlich power station, Rhineland-Palatinate (1977, 1978: two loans)	DM 285.2 m	106.5
Italy		
Montalto di Castro power station (1978, 1979: two loans)	Lit 79.2 billion	71.3
Belgium		
Doel power station, Antwerp (1979: two loans)	Bfrs 2 000.0 m	50.2
Tihange power station, Liège (1980)	Bfrs 500.0 m	12.4

- The Community has given the European Investment Bank the task of handling the lending operations of the New Community Instrument for borrowing and lending — NCI or "Ortoli Facility", which became operational last year; so far a substantial share of the finance provided from this source has gone to energy investment (see box page 3 and loans lists for Ireland, Italy and the United Kingdom).

- Since 1977, the Bank has cooperated with the Commission in carrying out lending operations on behalf of EURATOM — European Atomic Energy Community to help finance the construction of nuclear plant (see above).

Thus the EIB is engaged — either through loans from its own resources, or operating under mandate with loans from New Community

Instrument or EURATOM resources — in most Community financing activity in the energy field. Other sources of finance with which the Bank works in cooperation are the European Coal and Steel Community (loans) and the European Regional Development Fund (grants). Provision is also made in the Community budget for grant aid to assist research and development and demonstration projects.

Countries

Public and private sector borrowers in all of the Community Member Countries have sought assistance from the EIB to help finance energy projects furthering Community objectives of reducing dependence upon oil imports; this article concentrates on 1973 — end-September 1980 during which period Italy was the country where the Bank was most active in this respect (1 159.3 million u. a. including 120.9 million from New Community Instrument resources), followed by the United Kingdom (1 051.1 million u. a., including 79.4 million from NCI resources), France (587.9 million u. a.), Germany (394.4 million u. a.); in the other Member Countries the amounts range from 138.8 million u. a. in Belgium to 31.9 million u. a. in the Netherlands.

The share which these loans represent as a proportion of overall lending in each country differs widely: 7.0% in Ireland, 27.1% in Italy, 33.5% in the United Kingdom, 36.9% in France, 44.7% in Denmark, 51.2% in the Netherlands, 74.0% in Germany, 80.9% in Belgium. (1)

Several factors explain the variations. In some countries (e.g. Ireland, Italy and the United Kingdom) there have been many calls on the EIB for industrial and infrastructure investment primarily to help regional development. In Germany and the Benelux countries, where traditionally there has been a relatively strong liquidity position on national capital markets with moderate interest rates, there

(1) The Bank has also contributed to financing hydroelectric plant in Luxembourg, but before the period considered here.

Energy projects financed in the Community (1973 — 30 September 1980)

This list includes projects financed on the grounds of their contribution to meeting Community energy objectives and also those projects in the energy sector which the Bank has helped to finance for regional development reasons. National currency/unit of account equivalents are at conversion rates applying at the time of contract signatures.

	million Bfrs	million u. a.
Belgium		
Nuclear	5 230	128.0
<i>Tihange power station, Liège (1974, 1979: two loans)</i>	2 730	65.8
<i>Doel power station, Antwerp (1978)</i>	2 500	62.2
Gasline	500	10.8
<i>Gasline across Belgium from Dutch to French border transporting natural gas from North Sea and Dutch fields to Southern Belgium and Northern France (1975)</i>		
TOTAL	5 730	138.8
Denmark	million Dkr	million u. a.
Thermal power stations	597.2	83.0
<i>Conversion from oil to coal-firing of Asnæs power station, West Zealand (1977, 1978: two loans)</i>	355.0	51.0
<i>New coal-fired unit at Asnæs power station (1980)</i>	140.0	18.0
<i>Anti-pollution equipment to permit coal-burning at Asnæs and Kyndby (West Zealand) power stations (1977)</i>	31.2	4.4
<i>Heat and power generating plant with feeders to district heating system at Holsteinborg, Greenland (1979)</i>	46.0	6.3
<i>Power generating plant at Godthaab, Greenland (1973)</i>	25.0	3.3
District heating	195.0	25.2
<i>Coal-fired district heating and power plant to replace oil-fired installations at Randers, East Jutland (1980)</i>	90.0	11.7
<i>Construction of a district heating system at Kalundborg, West Zealand, using heat recovered from the Asnæs power station (1980)</i>	60.0	7.7
<i>Coal-fired district heating and power plant to replace oil-fired installations at Herning and Ikast, West Jutland (1980)</i>	45.0	5.8
Oil and gasfield development	43.0	6.1
<i>Development of DAN oil field, off the west coast of Jutland (1975)</i>		
Power lines	25.0	3.2
<i>Submarine cable linking Bornholm with Sweden (1980)</i>		
Energy saving	9.0	1.3
<i>Expansion of a factory at Øster Doense, North Jutland, producing mineral wool for insulation (1978)</i>		
TOTAL	869.2	118.8
Germany	million DM	million u. a.
Nuclear	780.9	253.6
<i>Gundremmingen power station, Bavaria, (1976) (1)</i>	300.0	101.6
<i>Neckarwestheim/Gemrigheim power station, Baden-Württemberg (1973: three loans)</i>	153.0	45.8
<i>Biblis power station, Hessen, (1973: two loans)</i>	153.0	45.8
<i>Uentrop power station, North Rhine-Westphalia (1973)</i>	90.0	28.0
<i>Mülheim-Kärlich power station, Rhineland Palatinate (1977)</i>	74.9	28.4
<i>Construction of uranium enrichment centrifuge assembly plant at Gronau, North Rhine-Westphalia (1979)</i>	10.0	4.0
Thermal power station	30.0	9.9
<i>Gas turbines to meet peak demand — Charlottenburg power station, West Berlin (1974)</i>		
Hydroelectric plant	100.0	33.2
<i>Power station on the Rhine at Iffezheim, Baden-Württemberg (1974)</i>	50.0	16.6
<i>Pumped storage power station at Hornberg, Black Forest, Baden-Württemberg (1974)</i>	50.0	16.6
Oil and gasfield development	2.0	0.6
<i>Factory for the manufacture of drilling equipment at Uetze, Lower-Saxony (1973)</i>		
Power lines	40.0	12.5
<i>Improvement and extension of electricity grid in Eastern Bavaria (1974)</i>	20.0	6.6
<i>Extension of electricity and also natural gas distribution network in North-West Lower Saxony (1973)</i>	20.0	5.9
Gaslines	280.0	107.0
<i>Gaslines across Germany from Czechoslovakian and Austrian frontiers to French frontier, conveying natural gas from the USSR for both German and French consumers (1973, 1979: two loans)</i>	220.0	87.1
<i>Gasline to bring USSR natural gas from the German/Czechoslovakian frontier to the Bavarian distribution system and the main German interconnecting network (1974)</i>	60.0	19.9
TOTAL	1 232.9	416.8

(1) Two guarantees on loans from other sources.

has been low demand for EIB lending since 1973 other than to support large-scale energy projects requiring very substantial amounts of long-term finance (in some cases the Bank's support has taken the form of guarantees on loans provided from other sources).

Wide range of projects

Although the bulk of financing since 1973 (see table page 3) has gone to nuclear and hydro power stations, oil and gas field development and gaslines, the Bank has endeavoured to take an innovative approach and lend for many other kinds of viable energy schemes.

Recently it began to make "global loans" to financial institutions (in Ireland and Italy so far) which will use the funds to help finance investment in industry aimed at switching from oil to other fuels, reducing energy consumption or making more rational use of energy (e.g. cutting heat loss, installing automatic heat controls, providing heat recovery equipment). A loan has been granted to help FIAT undertake similar kinds of investment in several of its plants in Italy. Four cementworks in Italy are using an EIB loan to convert from oil to coal firing and also to burn waste products from refineries and chemical works.

The Bank has helped to finance district heating schemes in Denmark and Italy which will make possible substantial economies in oil consumption, construction of geothermal power stations in Italy, conversion of several power stations in Denmark and Italy from oil to coalfiring, development of large areas of peat bogs in Ireland to produce fuel for peat-fired power stations and for domestic consumption, extensions to some of these peat-fired power stations, and installation of a computer-controlled dispatching system in Italy to optimise operation of the country's electricity generating and transmission facilities.

In the nuclear sector, the Bank has lent for power station construction in Belgium, France, Germany, Italy and the United Kingdom and three international projects currently under way which involve the participation of a number of Community countries: the NERSA fast breeder reactor power

France	million Ffr	million u.a.
Nuclear	3 122.5	550.6
'Super Phénix' power station, Creys-Malville, Rhône-Alpes (1977, 1978, 1979: three loans)	836.4	146.6
EURODIF uranium enrichment plant, Tricastin, Rhône-Alpes (1977, 1978, 1979: three loans)	836.3	146.3
Bugey power station, Rhône-Alpes (1973, 1974, 1975, 1977: seven loans)	772.4	139.5
Dampierre-en-Burly power station, Centre (1977, 1980: two loans)	629.4	109.6
Equipment for improved operating procedures at Chooz power station, Champagne — Ardennes (1979)	23.0	4.0
Factory to manufacture pressure vessels and steam generators for nuclear power stations, Châlon-sur-Saône, Burgundy (1975)	25.0	4.6
Hydroelectric plant	200.0	35.6
Power station at Gamsheim, Alsace (1973)	90.0	16.2
Development of Rhône hydropower at 'Palier d'Arles' (part of more comprehensive water resources project — 1974)	75.0	13.4
Construction of Villerest dam, Rhône-Alpes (part of more comprehensive water resources project — 1979)	35.0	6.0
Oil and gasfield development	10.0	1.8
Equipment for laying underwater pipelines (1975)		
Power lines	89.4	15.3
Rural electrification schemes in Finistère, Morbihan, Côtes du Nord, Haute Loire, Corrèze, Cantal and Cher (1979, 1980) (1)		
TOTAL	3 421.9	603.3

(1) Credits from a global loan granted to Caisse d'Aide à l'Équipement des Collectivités Locales — CAECL to help finance small and medium-scale infrastructure works.

Ireland	million IR£	million u.a.
Thermal power stations	84.5	126.5
Gas-fired power station at Aghada, Co. Cork (1978—1979: three loans including one loan — IR£ 16.5 m/24.7 m u.a. — from New Community Instrument resources)	46.5	69.9
Combustion turbines at plant adjacent to above (1979)	15.0	22.4
Coal-fired power station at Moneypoint, Co. Clare (1980)	20.0	29.8
Extensions to peat-fired power stations in Co. Offaly and Co. Longford (1980)	3.0	4.4
Solid fuel	19.7	29.4
Development of peat bogs and associated packaging plants to produce fuel for peat-burning power stations, open fires and central heating installations (1976, 1979, 1980: five loans including two loans — IR£ 9.7 m/14.4 m u.a. — from New Community Instrument resources)		
Power lines	20.0	29.9
Extension and restructuring of national grid (1979)		
Energy saving	3.0	4.5
Global loan for financing investment in small and medium-scale industrial ventures helping them to reduce or make more efficient use of their energy consumption (1980)		
TOTAL	127.2 (1)	190.3

(1) 3% interest subsidies are being applied on loans totalling IR£ 82.5 m/123.3 m u.a. under arrangements made following Ireland's decision to join the European Monetary System.

Italy	billion Lit	million u.a.
Nuclear	95.2	101.6
Power station at Montalto di Castro, Latium (1978)	40.0	37.6
Power station at Caorso, Emilia Romagna (1975)	36.2	44.5
Uranium mining at Novazza, Lombardy (1976)	9.0	9.7
Expansion of factories in Florence and Massa, Tuscany and Talamona, Lombardy, producing equipment for the nuclear sector (1977)	8.0	7.9
Construction of plant for producing equipment for the nuclear sector in factories at Brescia and Roncadelle, Lombardy (1978)	2.0	1.9
Thermal power stations	30.0	26.9
Peak-load power station at Maddaloni, Campania (1978)	20.0	18.6
Conversion from oil to coal-firing of power station at Brindisi, Apulia (1980)	10.0	8.3

station and EURODIF uranium enrichment plant, both in France, and the URENCO uranium enrichment plant in the United Kingdom. A loan has also been made for the mining of uranium deposits in Italy.

Oil and gas field development has grown to become an important area of activity for the EIB with the rise in oil prices making viable a whole series of small fields in Italy, mainly off the Adriatic and Ionian coasts, and in the North Sea (see loans in United Kingdom, Denmark and Norway). A number of the European oil groups, e.g. AGIP, BP, ELF, SHELL and TOTAL, have raised funds from the EIB and also some American companies which are partners in North Sea consortia.

International gaslines continue to account for a proportion of lending but whereas many earlier projects involved building up an intra-European system to enable transmission of Dutch gas into other countries, more recent schemes have involved the import of gas from outside the Community, in line with the policy of trying to diversify supply sources. The major projects of this kind currently being built with EIB support are the 1 900 km Algeria-Italy gasline (part of which goes under the Mediterranean) and the 630 km MEGAL gasline system, for imports of USSR gas, running across Germany from the Austrian and Czechoslovakian borders to the French frontier.

On the hydroelectricity front, a number of conventional projects (i.e. exploiting natural watersheds) are still being presented to the Bank, but the possibilities for further development of this kind are somewhat limited as most of the better, high production sites have been tapped already. However, the EIB has contributed recently to financing a number of "pumped storage" power stations (Italy, United Kingdom). These plants use off-peak electricity produced mainly during the night by base-load power stations to pump water from a low level to a high level reservoir whence it can be released as and when needed. Pumped storage stations are, in effect, a means of storing electricity and obtaining maximum benefit from nuclear and coal-fired base load

	billion Lit	million u.a.
Hydroelectric plant	363.2	330.1
<i>Pumped storage power station at Alto Gesso, Piedmont (1979, 1980: three loans including one — Lit 40 billion/34.9 m u.a. — from New Community Instrument resources)</i>	200.0	174.0
<i>Pumped storage power station at Edolo, Lombardy (1980)</i>	120.0	103.1
<i>Pumped storage power station on Taloro river, Sardinia (1974)</i>	16.7	20.5
<i>Conventional hydro power plant on Neto and Tacina rivers, Calabria (1974)</i>	15.25	18.7
<i>Conventional hydro power plant on Alli and Simeri rivers, Calabria (1974)</i>	11.25	13.8
District heating	18.0	15.7
<i>Combined heat and power plant at Brescia, Lombardy (1979, 1980: two loans)</i>		
Geothermal power stations	43.5	39.6
<i>Construction of geothermal power stations in Tuscany (1978, 1979: two loans including one — Lit 12 billion/10.5 m u.a. — from New Community Instrument resources)</i>		
Solar energy	3.0	2.6
<i>Reorganisation of factories producing solar panels and other energy equipment near Pistoia, Tuscany (1979)</i>		
Oil and gasfield development	289.6	293.0
<i>Semi-submersible barges and other equipment for oil and gas production (1973, 1974, 1978, 1979: six loans)</i>	75.6	84.4
<i>'Malossa' gas and oilfield, Lombardy, (1975: two loans)</i>	36.2	44.5
<i>'Cavone' oilfield, Emilia Romagna, 'Settala' gasfield, Lombardy, and 'Amelia', 'Davide' and 'Barbara' offshore gasfields in the Adriatic — loan from New Community Instrument resources for development works at all five fields (1980)</i>	20.0	16.7
<i>'Squalo' offshore gasfield in the Adriatic (1978, 1979: two loans)</i>	19.8	18.0
<i>'Anemone', 'Azalea', 'Antonella-Antonio' offshore gasfields, Adriatic (1977)</i>	18.0	17.9
<i>'Settala' gasfield, Emilia Romagna, and 'Amelia' offshore gasfield, Adriatic (1979, 1980: two loans)</i>	18.0	15.6
<i>'Barbara' offshore gasfield, Adriatic (1977)</i>	15.0	14.9
<i>'Fratello' offshore gasfield, Adriatic (1978)</i>	14.0	13.2
<i>'Nilde' oilfield off Sicilian coast (1980: two loans)</i>	13.0	11.2
<i>'Cavone' oilfield, Emilia Romagna (1979)</i>	9.0	7.9
<i>'Campo di Luna' offshore gasfield, Ionian Sea (1974: two loans)</i>	8.0	9.8
<i>'Hera Lacinia' offshore gasfield, Ionian Sea (1978: two loans)</i>	8.0	7.4
<i>'Santa Maria' oilfield and 'San Giorgio' gasfield, Adriatic (1980)</i>	8.0	6.7
<i>'Davide' offshore gasfield, Adriatic (1977)</i>	6.5	6.4
<i>'Rospo Mare' offshore oilfield, Adriatic (1978, 1979: two loans)</i>	4.0	3.5
<i>Equipment to treat 'sour gas' from 'Cupello' field, Abruzzi (1980)</i>	4.0	3.4
<i>Development of 'Emilio' offshore gasfield, Adriatic (1978)</i>	2.5	2.3
<i>Extension and modernisation of three factories at Florence and Massa, Tuscany, and Talamona, Lombardy, producing equipment for the oil and gas industry and other energy equipment (1978)</i>	10.0	9.2
Power lines/transmission system	279.0	254.0
<i>Computer-based system for control of electricity generation and transmission throughout Italy (1979, 1980: two loans including one — Lit 20 billion/17.1 m u.a. — from New Community Instrument resources)</i>	70.0	61.0
<i>Reinforcing transmission and distribution systems in — Sicily (1978)</i>	50.0	46.6
<i>— Friuli-Venezia Giulia plus interconnection with Yugoslav network (1979)</i>	25.0	21.8
<i>— Abruzzi, Molise, Calabria and Basilicata (1979)</i>	50.0	43.7
<i>— Campania (1978)</i>	36.5	34.3
<i>— Apulia (1978)</i>	27.0	25.4
<i>— Sardinia (1980)</i>	10.0	8.3
<i>Lines linking new power station in Calabria with main high tension junction in Campania (1974)</i>	10.5	12.9

stations, and so help to cut back on oil imports for generating electricity.

A rough estimate can be made of the impact of projects which the EIB has supported on the grounds of their contribution to Community energy objectives in the period 1973—1979: when all are completed and fully operational, they should serve to reduce the Community's need for oil imports by some 100/110 million tonnes per annum — either through direct replacement due to development of resources within the Community, through diversification and switching to imports of less critical fuels (natural gas, uranium, coal) or through energy saving — which approximates to some 19 % of the oil which it can be estimated that the Community would have had to import in 1985 in the absence of such investment.

A more detailed assessment made for projects financed in the last three years (1977—1979) estimates the total impact on oil imports — again, once the projects are all in full operation — at about 38 million tonnes per year, equivalent to 8 % of Community imports in 1979.

In this three-year period the projects involved the construction of some 1 500 km of large diameter gas pipeline with a total transport capacity of around 14 million tonnes of oil equivalent annually, the construction of around 7 600 MW nuclear and over 1 500 MW hydroelectric power generating capacity, the development of hydrocarbon deposits in the Community with an annual production capacity of 3.3 million tonnes of oil equivalent. The breakdown is as follows:

	mtoe/year
a) Increase in Community production	13.8
— hydrocarbons	(3.3)
— nuclear	(10.3)
— solid fuels	(0.2)
b) Diversification of imports	24.1
— natural gas	(23.1)
— hydro	(0.1)
— coal	(0.9)

	billion Lit	million u.a.
Gaslines/storage	307.1	278.9
<i>Construction of the Algeria-Italy gasline in Sicily, Calabria, and across the Straits of Messina (1978, 1979, 1980: five loans including one — Lit 50 billion/41.7 m u.a. — from New Community Instrument resources)</i>	240.0	210.3
<i>Interconnecting gaslines, bringing gas from the Netherlands and the USSR, with main transmission network (1976, 1978: two loans)</i>	39.0	39.6
<i>Expansion of two gas storage reservoirs in Lombardy and Emilia Romagna (1976, 1978: two loans)</i>	16.0	15.7
<i>Laying of four gaslines in Calabria (1975)</i>	7.6	8.6
<i>Various works to improve gas transmission system in different areas of the Mezzogiorno (1976)</i>	4.5	4.7
Energy saving	57.5	48.7
<i>Global loans for financing investment in industry in the Central-Northern region helping to reduce energy consumption (1980: two loans)</i>	20.0	16.7
<i>Equipment to reduce energy consumption at a flat glass works in San Salvo, Abruzzi (1980)</i>	15.0	12.8
<i>Equipment to help reduce energy consumption at various FIAT group factories (1980)</i>	12.0	10.0
<i>Improvement of electricity installations in steelworks at Sesto S. Giovanni and Arcore, Lombardy (1978)</i>	4.5	4.2
<i>Equipment to help reduce energy consumption at cement works at Morano Po, Piedmont, Settimello, Tuscany, and Lugagnano and Santarcangelo, Emilia Romagna (1980)</i>	4.0	3.3
<i>Installation of back pressure turbine for heat and electricity production in a factory at Magenta, Lombardy (1979)</i>	2.0	1.7
TOTAL	1 483.1 (1)	1 391.1

(1) 3 % interest subsidies are being applied to loans totalling Lit 752.5 billion 650.6 m u.a. under arrangements made following Italy's decision to join the European Monetary System.

	million Fl	million u.a.
Netherlands	91.6	30.4
Thermal power stations		
<i>Maasbracht power station in Limbourg, supplying both Dutch and German consumers (1976) (1)</i>		
Gaslines	100.0	31.9
<i>Transmission system for conveying Dutch and Norwegian natural gas to Belgian and German frontiers (1974)</i>		
TOTAL	191.6	62.3

(1) One loan (Fl 41.8 m/13.9 m u.a.) and one guarantee (Fl 49.8 m/16.5 m u.a.).

	million £	million u.a.
United Kingdom	257.0	410.7
Nuclear		
<i>Power station at Heysham, NW England (1977, 1979: two loans)</i>	102.3	156.6
<i>Hartlepool power station, NE England (1974, 1975, 1978, 1979: four loans)</i>	96.3	156.0
<i>Torness power station, Scotland (1980)</i>	25.0	38.6
<i>Hunterston power station, Scotland (1975: two loans)</i>	23.4	43.7
<i>URENCO uranium enrichment plant, NW England (1978, 1980: two loans)</i>	10.0	15.8
Thermal power stations	93.7	146.0
<i>Peterhead power station, Scotland, to be fuelled by gas by-products from North Sea oil fields (1974, 1978, 1979, 1980: four loans)</i>	60.4	96.7
<i>Kilroot oil-fired power station, Northern Ireland (1979)</i>	33.3	49.3
Hydroelectric plant	168.9	260.8
<i>Dinorwic pumped storage power station, North Wales (1976, 1978, 1979: six loans including one loan — £ 50 m/79.4 m u.a. — from New Community Instrument resources)</i>		
Oil and gasfield development	85.8	141.5
<i>Thistle oil field in the British sector of the North Sea (1976)</i>	17.9	27.0
<i>Beryl oilfield, North Sea (1976)</i>	16.8	27.2
<i>Frigg gasfield, North Sea (1974)</i>	10.4	19.5
<i>Development of the Sullom Voe oil harbour in the Shetlands, Scotland (1975, 1979, 1980: three loans)</i>	34.2	56.6
<i>Development of a construction yard on the Isle of Lewis, Scotland for assembly of steel structures for offshore oil installations (1974)</i>	4.0	7.5

c) Energy saving 0.2
 = Total reduction of imports
 a) + b) + c) ± 38.0

But this is not the full picture. The above figures refer only to investment where in each case the direct contribution to fulfilling Community objectives can easily be assessed.

There are in addition many projects which are highly important, but where the direct impact on oil imports is difficult to quantify and these are therefore not included in the estimates. Examples of such projects are acquisition of advanced technology equipment (semi-submersible platforms and barges for exploration and pipelaying, submarine welding apparatus) and industrial schemes involving the manufacture of nuclear and other energy equipment, insulation materials etc.

It is also worth pointing out that some industrial projects which the Bank has supported exclusively on regional development grounds also contribute in their way to energy-saving or replacing oil imports, e.g. a Franco-Italian joint venture to produce more efficient diesel engines, which offer substantial economies against spark ignition engines, and an Italian factory manufacturing light-weight car windows which will help the automobile industry improve mileage figures.

In appraising projects submitted for possible financing the Bank has been giving increasing weight in its economic and technical evaluations to the question of energy consumption.

It sometimes transpires that oil requirements can be reduced in unusual ways. Recently the Bank helped to finance a Danish-German venture in West Jutland which consisted of a plant for recycling lactoserum, a by-product of cheesemaking. The EIB's support was given mainly on regional development grounds, and because disposal of effluent from dairies is an environmental problem, but one side benefit from the project is that substances will be extracted from the lactose for use in various chemical processes, replacing oil as feed-stock.

	million £	million u.a.
<i>Harbour installations in the Orkneys, Scotland (1979)</i>	1.5	2.2
<i>Construction of wharf and engineering facilities in Dundee, Scotland, for the manufacture of equipment for offshore oil and gas platforms (1979)</i>	1.0	1.5
Solid fuel	13.5	24.6
<i>Opening of coal mines (Northern England, South Wales) and modernisation of others (Midlands) (1975)</i>	7.2	13.4
<i>Acquisition of 2 050 special railway wagons for conveying coal from mines to power stations (1975)</i>	6.3	11.2
Power lines	59.4	94.1
<i>Modernisation and extension of distribution networks in Wales and NW England (1979)</i>	31.0	45.9
<i>Erection of high voltage transmission lines in NE Scotland (1975)</i>	10.0	17.7
<i>High voltage transmission lines in SE Scotland (1975)</i>	10.0	17.7
<i>Extension of distribution networks in Central and SW Scotland (1977)</i>	4.3	6.6
<i>Extension of distribution networks — Isle of Skye and several of the Orkney islands, Scotland (1977)</i>	4.1	6.2
Gas and oil pipelines	104.4	180.4
<i>Development of system bringing gas from the Frigg field in the North Sea to Scotland and Northern England with connections to national network (1975, 1976: six loans)</i>	67.8	120.1
<i>Pipeline bringing North Sea gas from East Anglian coast to SW England (1976: two loans)</i>	25.9	44.1
<i>Oil pipelines from Ninian oilfield in the North Sea to Sullom Voe petroleum harbour, Shetland, Scotland (1976)</i>	10.7	16.2
Energy saving	20.5	33.3
<i>Rebuilding of an aluminium smelter at Lochaber, Scotland, with reduction of electricity consumption (1979, 1980: two loans)</i>	17.0	27.9
<i>Construction of a mineral wool factory at Bridgend, South Wales</i>	3.5	5.4
TOTAL	803.2	1 291.4

Projects of direct interest to the Community but situated in non-member countries (1)

Austria		million u.a.
Hydroelectric power station	Sfrs 170.0 m	73.0
<i>Power station at Zillertal, Austrian Tyrol, half the output of which for German consumers (1979, 1980: two loans)</i>		
Gasline		48.0
<i>Trans Austria Gasline (TAG) conveying natural gas from the Soviet Union to Italy and, via Italian network, to France (1973, 1977: three loans)</i>	Ffrs 110.0 m Lit 17.35 billion Sfrs 13.0 m	
TOTAL	—	121.0

Norway	million US \$	million u.a.
Oil and gasfield development	73.1	62.5
<i>Development of Frigg gasfield in Norwegian sector of North Sea (1977: two loans)</i>	50.0	44.1
<i>Development of Ekofisk oil and gasfield in Norwegian sector of North Sea (1974)</i>	23.1	18.4
TOTAL	73.1	62.5

Tunisia	million US \$	million u.a.
Gaslines	25.0	17.3
<i>Construction of section of the Algeria-Italy gasline from the Algerian border to Cap Bon where the pipeline goes undersea to Sicily (1980)</i>		
TOTAL	25.0	17.3

(1) Financed under powers contained in Article 18 of the Bank's Statute which enables the Board of Governors, acting unanimously on a recommendation from the Board of Directors, to authorise lending for projects outside the Community.

Helping other countries with their energy problems

The EIB's development finance operations outside the Community extend to two groups of countries:

— the Mediterranean region: Greece (associated to the EEC since 1962 and due to become full member on 1 January 1981); Portugal, currently negotiating membership; Turkey, which has been associated since 1964, and eleven other countries which have signed cooperation agreements with the Community;

— the 60 African, Caribbean and Pacific (ACP) countries which are signatories to the Lomé Conventions, plus Overseas Countries and Territories which have close links with certain Community Member States.

Energy shortage is already, or threatens to be, a major impediment to economic progress in many of the above: most of the countries are highly dependent upon oil (e.g. 70 to 100 % of commercial energy consumption in the majority of the ACP, 55 % in Turkey) and their needs are met mainly, and in many cases entirely, through imports.

Increased energy consumption (1) is basic to their plans for economic development and higher living standards, but the effects of rising oil prices on their balance of payments place much of these improvements in jeopardy.

The need to invest in new energy production facilities, making use of local resources, becomes more pressing with every oil price rise, but there are less funds available for the investment precisely because foreign currency earnings are siphoned off to pay the oil bills.

(1) On average, Third World countries' commercial energy consumption is roughly 300 kg of oil equivalent per capita per annum (only 85 kg in the ACP countries) which corresponds to about one tenth of the Community average, itself about 40 % of the USA's per capita consumption (EEC Commission estimates 1980).

Energy financing outside the Community

(1973 — 30 September 1980)

Mediterranean region

	million u.a.
Greece	
<i>Construction of two hydroelectric power stations on the Aliakmon river, Southern Macedonia (1979)</i>	18.0
Portugal	
<i>Construction of a new thermal power station near Lisbon, transmission lines linking it to national grid and interconnection with the Spanish grid (1976, 1979: two loans)</i>	55.0
<i>Construction of a hydroelectric power station on the Douro river (1976)</i>	20.0
Turkey	
<i>Development of lignite deposits and construction of a power station at Elbistan (Eastern Anatolia) plus 600 km of high tension lines linking the power station to the national grid (1974, 1975, 1980: three loans)</i>	152.0*
<i>Construction of the Karakaya hydroelectric power station on the Euphrates (1980)</i>	60.0*
<i>Extension to the Keban hydroelectric power station on the Euphrates (1979)</i>	36.0*
Yugoslavia	
<i>Erection of high voltage transmission lines, plus interconnections with Greek and Italian networks enabling power sharing arrangements (1977)</i>	25.0
Egypt	
<i>Construction of thermal power station north of Cairo (1979)</i>	25.0
Jordan	
<i>Extension of electricity transmission and distribution network in the Zerqa region (1980)</i>	4.0
The Lebanon	
<i>Extension to the Jieh thermal power station near Beirut (1978, 1979: three loans)</i>	20.0
<i>Extension to the Zouk thermal power station near Beirut (1980)</i>	3.0
TOTAL	418.0

African, Caribbean and Pacific (ACP) Countries/OCT

Botswana	
<i>Feasibility study on development of national grid and construction of thermal power station using local coal (1980)</i>	0.25*
Cameroon	
<i>Construction of a hydroelectric power station on the Sanaga river (1976)</i>	13.5
Djibouti	
<i>Construction of the Tadjourah thermal power station and erection of transmission lines (1979)</i>	1.0 *
Fiji	
<i>Construction, then enlargement, of hydroelectric power station on Viti Levu island (1978, 1980: two loans)</i>	24.0
Ghana	
<i>Construction of a hydroelectric power station on the Volta river (1976) (apart from Ghana's own needs, the project also permits electricity to be sold to the neighbouring countries of Benin and Togo)</i>	10.0
<i>Interconnection of Ghana and Ivory Coast national grids — part of scheme involving interconnection with Benin, Liberia, Togo and Upper Volta networks (1979)</i>	6.0
Ivory Coast	
<i>Installation of an electricity dispatching and operations control centre at Abidjan plus high voltage lines to Abidjan, both to help exploit hydroelectricity potential (1977)</i>	11.0
<i>Interconnection of Ivory Coast and Ghana national grids (1979)</i>	6.0
Kenya	
<i>Construction of hydroelectric power station on the Tana River, plus erection of transmission lines (1978)</i>	12.0
Liberia	
<i>Extension to thermal power station near Monrovia (1978)</i>	4.9
Madagascar	
<i>Study on possible development of bituminous sandstone deposits, west of Tananarive (1979)</i>	1.1 *
Mauritius	
<i>Construction of a hydroelectric power station (1980)</i>	7.5
<i>Upgrading of a thermal power station (1975, 1976: two loans)</i>	3.75
<i>Study on possible production of methanol from sugar cane (1980)</i>	0.03*
Senegal	
<i>Construction of plant to produce solar reflectors and insulated tanks (1979)</i>	0.5 *
New Caledonia	
<i>Construction of a hydroelectric power station (1980)</i>	7.0
TOTAL	108.5

* Denotes finance on special conditions from budgetary funds managed by the EIB under mandate from, and on behalf of, the Community or Member States.

EIB energy financing outside the Community

(in million u.a.)

Mediterranean region 1963—30. 9. 1980					ACP-OCT-OD 1964—30. 9. 1980			
	EIB resources	Special Operations	Combined	%	EIB resources	Special Operations	Combined	%
Production	141.0	300.3	441.3	91.2	90.2	2.8	93.0	74.4
Thermal power stations	103.0	—	103.0	21.3	8.7	1.0	9.7	7.8
Hydroelectric plant	38.0	148.3	186.3	38.5	81.5	—	81.5	65.3
Solid fuel extraction	—	152.0	152.0	31.4	—	1.1	1.1	0.9
Other	—	—	—	—	—	0.5	0.5	0.4
Supply Systems	35.0	7.6	42.6	8.8	23.0	9.0	32.0	25.6
Power lines	35.0	7.6	42.6	8.8	23.0	9.0	32.0	25.6
Total	176.0	307.9	483.9	100.0	113.2	11.8	125.0	100.0

It is against this background that the EIB has stepped up energy financing outside the Community, in conjunction with other international lenders such as the World Bank, Member States' own aid organisations and, increasingly, with various bilateral and multilateral institutions in the Arab oil-producing countries.

The aims can be summarised as (1) helping to make sure that the countries concerned have the energy production and transmission capacity necessary for their future development and (2) wherever possible, to reduce their dependence upon oil imports.

Up to end-September 1980, the Bank had made available for energy projects a total of 608.7 million u. a. Close to 90 % of this had been provided since 1973 and the bulk of the funds — more than two thirds — went to projects helping to cut oil import dependence.

The major share of this lending for energy development has gone to projects in Greece, Portugal and Turkey, the countries with particularly close links with the Community, but finance had also been provided for energy investment in 16 other countries.

The operations have been carried out in two ways (see table above):

a) loans from the Bank's own resources (i.e. from funds which are borrowed on capital markets); most of these loans are granted with

interest subsidies (generally of 2 or 3 %, depending on the terms of the different agreements under which the lending has taken place) which are paid by the Community to reinforce the character of development aid; or

b) using budgetary funds made available by the Community or the Member States, which the Bank manages on their behalf to provide different forms of finance on softer conditions (very long-term loans with extended grace periods and minimal interest rates or contributions to risk capital which can include financing pre-investment studies). These are known as "Special Operations".

More than half the energy financing since 1973 has gone towards hydroelectric schemes and also, in the case of Turkey, development of lignite deposits.

In several countries, the EIB has also helped to finance extensions to main transmission systems, including connections between certain national grids (for example to enable Ghana's hydroelectricity potential to benefit also the development of neighbouring countries), and improvements to local distribution networks.

In total the electricity production facilities which the EIB has contributed to financing in these different countries in the period 1973 to end-September 1980 amount to 6 500 MW. For the hydro or lignite powered

plant, the annual output — once all the equipment is in full service — should be equivalent to about 5.7 million tonnes of oil.

In addition, using budgetary funds set aside for risk capital operations under the first Lomé Convention, the Bank has moved into new fields by providing finance for setting up a factory producing solar energy equipment in Senegal and for studies on possible development of bituminous deposits in Madagascar and production of methanol from sugar cane in Mauritius.

Many other energy projects are in the pipeline and it is clear that this sector will account for a major share of EIB operations outside the Community in the years to come.

One of the innovations in the second Lomé Convention, under which the EIB will be lending in the ACP countries through 1985, is the special emphasis which it places on development of the mining and energy sectors. Apart from the ceilings for general Bank operations laid down in the Convention itself (685 million u.a. in loans from the EIB's own resources plus 280 million u.a. of risk capital contributions from the resources of the European Development Fund) a Community declaration annexed to the Convention provides the possibility for the Bank to make available up to a further 200 million u.a. in loans from its own resources for mining and energy projects of mutual interest to the ACP States concerned and the Community.

Latest energy loans

The preceding pages cover operations up to and including 30 September 1980 but by the time of going to press (mid-November) several new loans had been signed by the EIB for energy projects both within and outside the Community. Some details are given below.

In **Belgium**, Bfrs 5 000 million (123 million units of account) was lent for construction of two generating units at the Doel (Antwerp) and Tihange (Liège) nuclear power stations.

These power stations are already partly operational with about 1 600 MW capacity between them. They should be in full service by 1984 with close to 5 500 MW and an annual output corresponding to about 8.5 million tonnes of oil. In earlier loans dating back to 1970 the EIB had provided Bfrs 6 800 million for development of the two stations.

In **France**, Ffrs 350 million (59.5 m u.a.) went towards modernisation of an oil refinery at Donges on the Loire estuary, in particular the construction of a catalytic cracker (capacity 1.6 million tpa) for converting part of the heavy petroleum into light petroleum products. This is in line with the shift away from the use of heavy oil for electricity generation.

Ffrs 150 million (25.5 m u.a.) was lent to extend working of a lignite mine at Gardanne, near Aix-en-Provence, and for installation of a new generating set at a nearby power station which burns the lignite. The investment will lead to mining of an extra 25 million tonnes of lignite (producing electricity equivalent to about 11 million tonnes of oil). The project was doubly eligible for EIB support as it will help regional development in safeguarding some 2 000 jobs into the mid-1990s and 1 000 for sometime thereafter in an area where unemployment is much higher than the average for France.

In the **United Kingdom**, a further £ 50 million (84.7 m u.a.) was lent for the URENCO uranium enrichment plant being built at Capenhurst, Cheshire, in cooperation with German and Dutch interests; £ 10 million had been provided for the same project in loans granted in 1978 and in June this year. Annual production from the plant should be sufficient to fuel four nuclear power stations of 1 000 MW each for one year.

£ 5 million (8.5 m u.a.) went towards increasing electricity generating capacity in the Shetlands, Scotland, primarily in response to demand which has built up with the rapid growth of activities related to development of North Sea oil and gas reserves.

In **Ireland**, IR£ 6 million (8.9 m u.a.) was lent for development of peat bogs; peat covers 20 % of the country's electricity needs and it is estimated that last year total peat production was equivalent to close on 1 million tonnes of oil. The works which the EIB is financing involve also the creation of about 1 300 full-time and 300 seasonal jobs. Earlier loans made for development of these resources, since 1976, totalled IR£ 19.7 million.

In **Tanzania**, the Bank provided 350 000 u.a. for a feasibility study on development of offshore oil and gas deposits. This was made available from resources earmarked under the first Lomé Convention for risk capital operations (including feasibility studies) which are managed by the EIB on the Community's behalf.

Personalia

The Board of Governors of the European Investment Bank has appointed to the Board of Directors Dr. Ernst-Günther BRÖDER, who is a Member of the Board of Management of the Kreditanstalt für Wiederaufbau (KfW), Germany.

Dr. Bröder succeeds Dr. Alfred BECKER who died suddenly on 29 August 1980. Dr. Becker had served as a Director of the European Investment Bank since June 1973 and had been on the Kreditanstalt für Wiederaufbau Board of Management since 1969.

The Board of Directors and the Management Committee of the European Investment Bank wish to express their sorrow at the passing away of a much-respected colleague who had made a valued contribution to the EIB's work.

Unit of Account

Below are the values in national currencies of the Unit of Account used by the Bank, as at 30 September 1980; these rates are applied the present quarter in preparing financial statements and operational statistics of the Bank:

DM	2.53515	Bfrs	40.6262
£	0.585871	Lfrs	40.6262
Ffrs	5.88115	Dkr	7.82146
Lit	1206.40	IR£	0.674995
Fl	2.75214	US-\$	1.39994

Statistics summarising Bank activities in terms of Units of Account have been based on several different conversion rates applied since 1958. This, coupled with the effects of price trends, would suggest prudence in interpreting the significance of figures which relate to operations extending over many years.

The composition and hence value of the unit of account used by the EIB is the same as that of the European Unit of Account (EUA) and the European Currency Unit (ECU).

EIB-INFORMATION is published periodically by the European Investment Bank in six different languages (Danish, Dutch, English, French, German and Italian.)

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