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The EIB and the Edinburgh Summit Initiatives

The European Council meeting in Edinburgh, on 11-12 December 1992, decided on a number of initiatives to promote economic recovery in Europe. These measures include two new financing mechanisms that present the European Investment Bank with additional challenges and an expanded role in implementing the European Community's economic policies.

The Heads of State and Government have asked the EIB to establish a new temporary ECU 5 billion lending facility, and to set up as quickly as possible the European Investment Fund to support infrastructure projects of European significance and investment by small and medium-sized enterprises. The temporary lending facility is being implemented immediately, while the setting up of the European Investment Fund will take longer to establish as it requires a change in the Treaty of Rome to allow the participation of the EIB and European Commission. The Summit's Declaration sees the new mechanisms as complementing and strengthening the effectiveness of action being taken by the Member States.

The Edinburgh temporary lending facility

The new ECU 5 billion Edinburgh lending facility is 'to accelerate the financing of capital infrastructure projects notably connected with Trans-European Networks' (1). It is to be spread over two years (1993/1994) and is to be in addition to the EIB's normal financing. In 1992, the EIB provided ECU 17 billion for investment projects furthering EC policies, of which 16.1 billion was for projects located in the European

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EUROPÄISCHE INVESTITIONSBANK
ΕΥΡΩΠΑΪΚΗ ΤΡΑΠΕΖΑ ΕΠΕΝΔΥΣΕΩΝ
EUROPEAN INVESTMENT BANK
BANCO EUROPEO DE INVERSIONES
BANQUE EUROPÉENNE D'INVESTISSEMENT
BANCA EUROPEA PER GLI INVESTIMENTI
EUROPESE INVESTERINGSBANK
BANCO EUROPEU DE INVESTIMENTO



Community (2). The EIB's additional support for capital infrastructure projects is intended to have a rapid impact on economic recovery.

The expansion of the EIB's lending is, however, not to be at the cost of the quality of projects supported. The conclusions of the Edinburgh Summit confirmed that in implementing the new mechanism, the EIB's lending criteria should continue to be met — those ensuring technical, environmental, economic and financial viability and thus the effectiveness of investment financed.

Guide-lines on the types of projects to be supported under the Edinburgh facility were established by the EIB's Board of Directors in January this year. The facility supports infrastructure investment in Trans-European Networks (TENs) of

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The EIB is playing an increasingly crucial role in implementing European Community policies in terms of the scale and range of investment it supports. The Member States view the EIB as an essential mechanism for encouraging economic growth and have called on it to implement two initiatives to speed up the financing of investment — a two year ECU 5 billion lending facility and the longer-term European Investment Fund.

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A key element in the creation of an efficient Single Market is the establishment of effective communications, in particular the establishment of the Trans-European Networks of telecommunications, transport and energy. Lending for investment in telecommunications projects has become a key area of activity for the EIB in recent years.

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The Lomé Convention places a special emphasis on encouraging private sector investment, in particular for small-scale projects, in the African, Caribbean and Pacific states. As foreseen in the Convention, the EIB is extending, in cooperation with EC Financing institutions, its support for small businesses, using concessionary risk capital finance for equity participations.

(1) Edinburgh European Council's 'Declaration on Promoting Economic Recovery', 12 December 1992

(2) See EIB-Information No. 75, February 1993.

transport, telecommunications and energy, investment in the same sectors improving access to these networks, and infrastructure investment aimed at protection and management of the environment.

Such projects coincide with the EIB's on-going activity. In the last five years (1988-92), the Bank lent some ECU 42 billion for investment in energy and infrastructure sectors, accounting for 67% of EIB activity in the Community.

Rapid implementation of the supplementary financing programme requires an active partnership between the Member States, the EIB and the European Commission. The EIB is providing its expertise in project appraisal and the finance at suitable conditions. The Member States will be decisive in speeding up the technical and administrative procedures. The Commission, where appropriate, will provide significant budgetary resources in the form of grants through the Structural Funds, and the new Cohesion Fund. The latter was foreseen under the Maastricht Treaty and was also set up by the Summit.

Large infrastructure projects require time to prepare and construct. The aim of the Edinburgh facility is to accelerate the financing of such investment. The lending ceiling for EIB loans has been raised for projects supported under the facility from 50% to 75% of an investment's cost. The combined ceiling of EIB loans and Community grants has also been raised from 70% to 90%.

To ensure a swift implementation of the facility, the EIB is financing projects known to it that are already underway or likely to be launched in the near future. The higher EIB lending ceiling per project will enable it to increase financing to some schemes that have already borrowed from the EIB, and to add Edinburgh facility loans alongside its own finance for new projects.

During the first quarter of 1993, the EIB's Board of Directors has already approved over ECU 1.6 billion for 21 projects, located in nine countries, to be financed under the Edinburgh facility. The EIB expects to support projects under this facility in all EC countries.

A total ECU 382.5 million has so far been earmarked for **land transport** investment: to construct sections of

motorway and roads in Denmark and France, to modernise international rail links in Denmark and carry out infrastructure works in the UK.

Funds for projects to improve air **traffic links** total ECU 215.1 million, going for: international airports in Germany, Italy and France, the extension and centralisation of Eurocontrol's facilities near Brussels, as well as the development and harmonisation of air traffic control systems in a number of Eurocontrol member countries.

Energy projects account for ECU 510 million, including: the extension of electricity transmission and supply networks in Ireland, Spain and Portugal, the construction of the Italian section of a natural gas pipeline between Algeria and Italy and the renovation of the natural gas transmission system in Germany's eastern *länder*.

Approvals for financing **telecommunications** investment came to ECU 348.8 million, for: the modernisation and extension of trunk lines in Italy, and the expansion of the digital telephone network in six major towns in the eastern part of Germany.

Investment in **environmental protection** is being supported with some ECU 143.9 million for improvements to: drinking water supplies in the UK, waste water treatment in the Balearic islands and smaller public works in France.

The Summit's conclusion also states that networks supported may include projects involving the countries of Central and Eastern Europe to the extent they are of mutual interest and ensure the interoperability of networks with the Community. The EIB's Board of Governors has agreed that in keeping with the Summit's Declaration, consideration may be given to projects in the region provided they further implementation of, or supplement TENs. Portions of such projects located in the former socialist countries in which the EIB is active will be financed under the framework of existing or future EC cooperation arrangements. These projects will not be counted towards the Edinburgh facility's ECU 5 billion total. The EIB is already financing complementing infrastructure investment in the region as part of the Community's policy of support for countries in Central and Eastern Europe.

The European Investment Fund

Work on establishing the European Investment Fund is well underway. A final draft of its Statute is being worked out.

For the EIB to participate in the EIF, the Bank's Statute has to be amended to give the EIB's Board of Governors the power to set up the Fund. This requires a change to the EEC Treaty of Rome, of which the EIB's Statute is an integral part. Procedures to amend the Bank's Statute are underway. The Inter-Governmental Conference meeting on 25 March has agreed to the Treaty change, which now needs to be ratified by the Member States. Ratification procedures are expected to be completed towards the end of this year.

The EIF will be legally independent and is to have a capital of ECU 2 billion, subscribed by the EIB (40%), the European Community (30%) and public and private banks (30%). The EIF's headquarters shall be located at the EIB in Luxembourg, and its administration will be managed by the Bank.

The Fund will issue guarantees on loans for infrastructure projects of European interest as well as for investment by small and medium-sized enterprises (SMEs). Particular emphasis is to be given to supporting Trans-European Networks projects. The limited availability of long-term guarantees in cases where State funding or other guarantees are not available can present difficulties in finding sufficient long-term finance for TENs projects. For SMEs, the Fund will issue guarantees in the framework of global loans to banking institutions. At a later stage the EIF might also provide equity participations in both TENs and SMEs.

The EIF will be a new complementary financial instrument with a mixed private/public/supranational ownership, set up to aid the European economy and to facilitate the financing of investment in sectors promoting European integration. Participation of banks will provide an important wider dimension to the Fund and strengthen co-ordination and links with the financial sector. Its existence should strengthen inter-bank cooperation through exchanges of information between participating financial institutions and encourage cross-border activities in the Community.

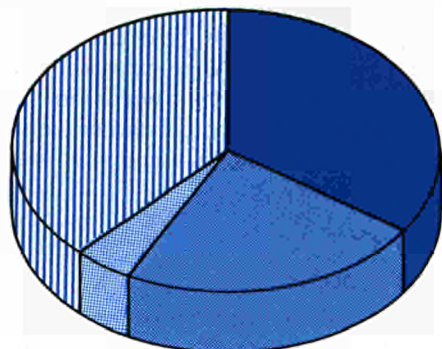
Helping to build a european telecom network

Lending for investment in telecommunications has become a key area of activity for the European Investment Bank in recent years. In 1992 the EIB made loans totalling close to ECU 2 billion available for investment in this sector. The Bank focused its finance on the transfer from analog to digital technology, essentially on the long-distance trunk network. Last year, for this purpose, EIB funds have gone to telephone companies in Denmark, Ireland, Italy, Portugal, Spain and, outside the European Community, in Bulgaria, Morocco and Senegal. Other recent EIB loans have been used for the launching of satellites relaying telecommunications and television signals, the construction of ground stations and the laying of submarine optical fibre cables. With loans for telecommunications projects accounting for 12% of its total lending in 1992, and for 13% in the five-year period 1988-1992, the relationship between the EC's long-term financing institution and what is probably the most dynamic sector of Europe's economy is a close one.

The EIB's main task is to foster the balanced development of the European Community, by financing inter alia capital investment helping regional development and infrastructure projects supporting the economic integration of Europe. There is a direct link between such infrastructure, the effective functioning of the

EIB financing of EC communications infrastructure (1988-1992: 15 986 million ecus)

overland transport other
airlines telecommunications



internal market and strengthening economic and social cohesion. The EIB's role in this domain has been emphasised by the Maastricht Treaty which recognises that the EIB 'is lending large and increasing amounts for the benefit of the poorer regions' and calls on the Community to contribute to the creation and improvement of 'trans-European networks in the areas of transport, telecommunications and energy infrastructures', to enable 'citizens of the Union, economic operators and regional and local communities to derive full benefit from the setting up of an area without internal frontiers'. Investment in trans-European networks is also the main component of the Community's growth initiative adopted at the Edinburgh summit (see lead article in this issue of EIB-Information). Significantly, among the first projects approved under the Edinburgh facility was investment to improve the telecom systems of six cities in the former GDR.

Basically, telecommunications projects may be eligible for EIB financing if they contribute to regional development, or help improve the trans-European network (see chart and table). In some cases, for example satellites, the investment may make a significant contribution to the use of new technology in Europe and may receive EIB financial support for that reason as well.

The EIB's involvement in the telecommunications sector goes back a long way. Total lending in the Community in this area since the first loan for telecom investment was made in 1965 now totals some ECU 14.1 billion, of which over 8.2 billion between 1988 and the beginning of 1993. Over time the European Investment Bank has financed telecommunications investment of different kinds in nearly all Member States of the Community. Initially most telecommunications loans served regional development purposes. However, in recent years the EIB puts particular emphasis on the importance of a network approach to European telecommunications infrastructure.

Network approach

National trunk networks form an interdependent communications network at a European level. It is in the nature of

telecommunications that many alternative routes are possible from one point to another. A networking approach has major advantages in view of the capacity requirements during peak hours. A European network is of interest to the Community as it permits the most efficient use of resources.

Following this logic, many of the projects are looked at by the Bank from a network perspective even though they may also contribute to regional development. Telecommunications investment in Italy, most but not all of it in the Mezzogiorno, has always been significant (ECU 2.8 billion over 1988-1992). Since Spain joined the European Community in 1986, it has also heavily invested in telecommunications and EIB financing has followed suit (ECU 2.4 billion over 1988-1992). Obviously, investment in this sector plays a key role in integrating peripheral areas into the European Community.

A special geographical category is that of projects located outside the EC, but of direct interest to it. These include satellites for EUTELSAT and INMARSAT, and optic fibre cables in international waters such as the transatlantic cable from Ireland to North America and cables to Africa and Asia. More often than not such projects not only benefit the European Community Member States but the whole European Economic Area and other countries as well. EIB financing of the construction and launching of satellites began in the 1980s, concurrently with the development of the European satellite industry. Total EIB finance for satellites from 1980 until the beginning of 1993 reached ECU 1.3 billion, of which 85% has been lent since 1988.

EIB financing of EC communications infrastructure (1992)

	million ecus
Grand total	4 533.1
Transport	2 543.1
Railways	937.2
Roads and motorways	1 097.2
Air traffic	415.4
Other	93.3
Telecommunications	1 990.0
Conventional equipment	1 481.9
Special networks	229.8
Satellites and international cables	278.2

Into the 1990s

From a technological and economic point of view, rapid change will continue to characterise the telecommunications sector. Technical innovations permit new services to be offered and to reduce costs further, while liberalisation and deregulation measures are changing the institutional structures, nationally and internationally. The need for EIB finance is likely to continue to grow. It is estimated that investment to install digital technology in the Community network will be in the order of 300 billion ecus over the next 15 to 20 years. The combined trend of liberalisation and technical development poses new challenges, both for the telecommunications administrations and for the European Investment Bank. The careful appraisal of projects, for the EIB the crucial element in the decision to finance, now takes place in a different and ever changing context. In the past, many of the investments in the network were 'standard', in the sense that they used widely accepted technologies and fulfilled clear economic goals. Expanding the basic network in the less-developed regions of the Community is a clear example.

Nowadays, the challenge for the telecommunications sector is to select economically justified investment schemes which are adaptable to market developments. Liberalisation, at the same time, brings with it a new, more sophisticated demand for finance. In the past telecommunications infrastructure has generally been financed in classical ways: internal cash flow and standard bank loans. With the arrival of private enterprises providing telecommunications services and possibly even infrastructure, alternative and innovative financing techniques, common in other sectors of the economy, are making their appearance in the telecommunications sector. The EIB follows suit by providing tailor-made financing arrangements.

Central and Eastern Europe

Although the starting point is different, investment in improving telecommunications in Central and Eastern European countries shows a similar dynamism. The telecom companies in Central and Eastern Europe are embarking on ambitious investment programmes and major sectoral reform. In Bulgaria, the Czech Republic, Hungary, Poland, in Romania and Slovakia the goals are to raise the

telephone density from the current 10 per 100 inhabitants to 25 or 30 lines by the beginning of the next decade, substantially closer to the present EC average of almost 40 lines per 100 inhabitants.

Integrating the European Community and Central and Eastern European networks is another objective for the 1990s. The development of telecommunications networks will be a major tool for integrating the Central and Eastern European countries into Europe as a whole. Telecommunications — as a central factor in the further development of their infrastructure and a necessary condition to conduct business — will underpin the economic reform of these countries. Improving in international exchanges and international capacity is necessary to adapt the telecommunications systems of East and West to the effects of establishing normal economic relationships for the ideologically motivated barriers that have long divided them.

The EIB has already financed sophisticated investment to improve telecommunications in Bulgaria, Hungary and Poland while telecom loans in other Central and Eastern European countries are likely to follow in the near future.

Paper and environment

Environmental concern has long been part of the EIB's culture. It is a stated objective of the Bank and is imbedded in its work habits. As well as financing projects that will help protect the environment and improve the quality of life, an environmental impact assessment forms an integral part of all project appraisals. The environmental assessment is a decisive criteria when deciding on the financing of a proposed project.

Before making a financing decision, the EIB carries out detailed appraisals of every investment it considers supporting. Such project appraisals are performed by a multi-disciplinary EIB team made up of a financial officer from the lending Directorates, an economist from the Research Directorate, an engineer from the Technical Advisory Service and a legal adviser from the Legal Directorate.

The engineer's task is to examine the environmental impact of an investment, along with aspects such as technical and commercial feasibility, project profitability and competitiveness. EIB engineers are experts in their own fields and on the specific environmental issues in their specialist sectors. A wide international experience in examining projects enables them to develop a comprehensive and constructive approach to environmental issues.

By adopting a sectoral approach to environmental appraisals, the Bank has no specific Environmental Department, unlike other institutions. Consistency and harmonization on standards, along with the flow of up-to-date information on the latest legislative developments is coordinated within the Technical Service and in consultation with the Bank's Legal Directorate.

During the appraisals, project promoters can draw on the Bank's accumulated experience for advice and recommendations, on aspects such as environmental protection and the reduction of pollution. In the course of such discussions, the EIB experts may persuade promoters to choose solutions for their investment that go beyond meeting purely minimum legal requirements. The EIB's concern is long-term, and it considers future trends in legislation that may have to be taken into account during a project's life. As an example, this article outlines the way in which the EIB approaches the technical and environmental aspects of investment in the paper industry.

About paper

Paper is an everyday material that surrounds us: in newspapers, books, cata-

logues, stationery, wallpaper, coffee filters or tea-bags, packaging, in the office, in the shop, and in the home.

West European paper and board production reached 62.1 million tons (Mt) in 1991, the European Community's share being 38.9 Mt. European per capita paper consumption ranged from about 220 kg (Sweden, Finland, Denmark, Benelux, Switzerland) to about 120 kg (Spain, Italy) or less (Portugal, Greece). The EEC average was 155 kg per capita, against 318 kg per capita in the United States.

The EIB and Paper

The European Investment Bank has financed capital investment in the paper industry in the European Community that further EC policy objectives by helping development of the less-favoured regions, saving energy, strengthening the industry's international competitiveness, and protecting and improving the environment.

EC paper industry projects part-financed by the EIB between 1986 and 1992 represented a total investment of about 3.6 billion ECU. The projects ranged from process rationalisation to green-field plants; and in size from small 30 M Ecus to large 400 M Ecus.

During the period about 40 project proposals (1) were examined by the EIB. While project proposal came up regularly in most paper categories, there was a marked increase in lightweight coated paper projects (for magazines) in 1986-89, for wood-free papers in 1988-1990 and tissue papers in 1991-92, reflecting the industry's view of market opportunities, growth expectations and reaction to competition.

Paper manufacture

Paper production is a relatively straightforward but sophisticated and highly capital intensive process. Paper is made out of vegetal fibre, either virgin or recycled, with various additives and fillers, depending on the type. Virgin fibre (pulp) is obtained either by mechanical grinding or by chemical separation of cellulose from the other wood constituents, or by a combination of both. Recycled fibre is made from waste-paper.

These fibres can be bleached to remove unwanted elements from the pulp for durability, colour or other quality purposes. Additives such as mineral fillers, coating materials, glueing agents, retention agents, starches, and pigments are usually added to the pulp for paper production. Some papers are coated to give good printing characteristics or some other desirable feature to the surface. In uncoated papers additions may account for 20% of total feed, while in coated papers they sometimes make up more than 50%.

Environmental impact

It is not surprising that the daily widespread presence of paper provokes some tough questions on its role and environmental impact. Recent issues include tree-felling policies, urban waste mountains, odours from pulp plants, coloured effluents, chlorine compounds in water and claims about dioxins in diapers. At the same time the benefits of paper as a recyclable product made of a renewable and biodegradable resource has also been highlighted. So, how does the Bank's experience shed light on these issues?

The EIB's experience

Before making any financing decisions, the EIB carries out a detailed appraisal of the technical and ecological, as well as the economic and financial soundness of an investment project. On a technical level, the Bank's analysis of the 40 project proposals gives some insight on the development of environmental awareness in the industry:

Wood use

Wood is a renewable and biodegradable resource. In Europe pulp producers consistently replant more trees than they cut. A country like Sweden, which extensively exploits its forests, has more trees now than it had at the beginning of the century. In Finland tree growth exceeds cutting since several years. Only 15% of all wood cut in the world is used for paper-making, other uses being energy (50%) and the mechanical wood industry (35%). Only 2% of all tropical and subtropical forest felling is for industrial use, with almost nothing going to the pulp industry. Good forest

management requires adequate thinning, which can be paid for if immature trees are purchased by the paper industry. Large scale mono-species plantations — particularly if composed of exotic species — are recognised to be less environmentally friendly than multi-crop forests made up of local species. Adequate biodiversity has to be maintained and biotopes of specific interest protected.

Wastepaper usage

Of the proposed projects examined about 12 were based on a predominantly wastepaper raw material base, and came up in the 1990-92 period, highlighting a trend towards a greater use of wastepaper. Seven of these projects are being actively developed.

Wastepaper has been used for several centuries as fibre furnish in paper-making. Its use is now increasing under environmental and legislative pressure to reduce the waste mountain in developed countries. Technological developments in de-inking have allowed this expansion into other areas than just traditional cardboard manufacture.

Wastepaper collection in the EEC in 1991 amounted to about 20.3 Mt, or 38.2% of total paper and board consumption (45% in EFTA, 31% in USA). The picture varies considerably from country to country, and will change further following the introduction of a compulsory minimum content of 50% waste in newspaper in a number of states in the USA. The USA is presently a large exporter of wastepaper to Europe.

While pre-consumer waste (broke, trim, unsold) in paper mills and print shops is generally well exploited, post-consumer waste (households, trade) still presents an important but lower quality potential (estimates range from 15 to 25 Mt in the EEC or 30 to 50% of urban waste). However not all waste paper is equally amenable to treatment and various grading systems have been introduced according to origin, type and degree of usage. Prices in 1992 have varied from negative values for the lowest grades to about 200-300 ECU/t for white wood-free continuous stationery. These prices are not stable, and also reflect demand/supply variations. Other factors conditioning wastepaper usage include:

— while chemical pulp is self-sufficient as regards energy use, wastepaper processing requires external energy input, but less than mechanical pulping.

— de-inking presents a further environmental impact as modern inks are more difficult and costly to extract. Treating any wastepaper requires more complex chemicals, and waste sludges require special disposal because of heavy metals.

— some fibre degradation occurs during recycling, leading to a drop in quality.

Water usage and effluent treatment

Increasingly stricter limits are being imposed through legislation on solids and chemical compounds in effluents. Physico-chemical treatment methods by themselves are often no longer satisfactory. Aerobic biological treatments are now almost compulsory and anaerobic biological treatment, with production of methane, is becoming more widespread in pulping. In chemical pulp mills, effluent content is steadily being reduced from observed values of 40 to 100 to less than 30 kg chemical oxygen demand per tonne of pulp. In mechanical pulp mills, observed chemical oxygen demand is in the range of 5 to 15 but is being lowered to less than 3 kg/t pulp. Observed solids contents are expected to be reduced by a factor of 3 by 1994. Chlorinated organics will in all cases be less than 0.7 kg/t pulp (1-1.5 kg/t today). In paper mills these values are much lower and are still being reduced. Several of the paper mills examined were returning cleaner water to the river than their fresh water intake.

Colour remains a sensitive aspect of pulp mill effluents since it is highly visible though of a limited health hazard. While colour cannot currently be completely removed, it is greatly reduced through biological treatments.

There is a definite trend towards more water recycling and better water use. Limits to this are the build-up and compatibility of chemicals and other contaminants remaining in the recycled water, and the rise of temperature leading to thermal inefficiencies. The trend is best shown when considering water consumption evolutions:

In chemical pulping, observed ratios range between 60 and 140 m³ fresh water per tonne of pulp, with ratios of 20 to 35 m³/t being considered attainable. In mechanical pulping (for newsprint and magazine papers) the ratio is 10 to 20 m³/t, while zero-effluent pulping may be around the corner.

In paper-making the trend is towards an 8 to 25 m³/t water ratio, while in board-making a few are moving towards becoming almost zero-effluent mills. The best performing fine paper mills observed had a water use ratio of 6 m³/t and effluent contents of 0.4 kg/t of chemical oxygen demand.

Atmospheric emissions

The most publicised emissions in paper-making are those generated in chemical pulping by burning the extracted lignins and other non-cellulosic products (black liquor) to regenerate and recycle the leaching liquor. This results in emissions of particulates and foul smells (sulphides and mercaptans). Electrostatic precipitators and scrubbers are effective in bringing particulate content of emissions under the present strictest limits of 50 mg/Nm³. Foul smells can be dramatically reduced by incinerating and scrubbing the gases. Present technology allows a ten-fold reduction compared to a decade ago. Total elimination of odour is however not yet achievable. Some future prospects for odour elimination lie in sulphur-free chemical pulping processes presently under development (see below).

The Chlorine issue

Currently, public pressure is against the use of chlorine in pulp and paper making (for bleaching notably). Chlorine can, under given concentration, acidity and temperature, produce chlorinated organics. A few of these, and notably some of the more complex forms of the dioxin-furane group of compounds, have been shown in laboratory tests to be toxic. Chlorinated organic compounds find their way either into effluents, if not treated, or into the paper products.

In paper products dioxins are said to present an environmental risk when

their concentration exceeds a certain — quite low — level, and which through contact can in humans be bio-accumulated. Recent authoritative studies indicate that actual levels in paper products (a few parts per trillion or 10¹²) are several orders of magnitude lower than that which would present any risk. Only a very small part of human daily dioxin intake appears to be related to the use of paper products (less than 2/1000). The controversy associated with this issue is beginning to die down.

There is concern, however, that chlorinated organic compounds in effluent can result in potential environmentally harmful products. In Europe this has led to an overall legislative trend to reduce chlorine organic contents in effluents. Nowadays limits are much lower than they were a few years ago. Water authorities are also moving away from the use of chlorine in treatment plants.

The industry has responded by using more efficient sulphate pulping techniques, oxygen pre-bleaching, replacement of the more aggressive gaseous chlorine by chlorine dioxide, which have considerably reduced organic chlorine compounds in pulp mill effluents.

Chlorine remains a valuable bleaching element for removing lignin and providing paper durability. As long as chlorine is not totally recyclable, however, public demand for its elimination from all pulp processing is expected to remain as the issue of levels of chlorinated compounds in effluents become associated with arguments for its complete removal.

The feeling currently within the industry and the scientific community is that the concentration of public opinion on the chlorine issue has been somewhat over-exaggerated and has led to other valuable environmental targets being overlooked.

Developments in pulping and bleaching

Promising new bleaching methods using ozone or enzymes and new high yield/low pollution pulping methods or non-sulphur chemical methods are now being tested, which beside other

beneficial effects, will also reduce chlorine in effluents and odour in emissions. Recent progress is substantial and in the long term sulphur-free pulping is likely in Europe.

Marketing

Growing public awareness of environment considerations have naturally become an important marketing tool for paper-makers and paper merchants. Ecological paper product lines have been set up on the grounds that they are recycle-based and contain no chlorine, no dioxin. This is a market-led evolution whereby image-conscious organisations promote the use of chlorine-free or waste based stationery and communication material. An example is the appearance of elemental chlorine free (ECF) and total chlorine free (TCF) pulps and papers which were first successfully translated into commercial advantage by companies who could manufacture these products most easily. They have now been followed, sometimes grudgingly, by almost all European and some North American producers. The same evolution can be observed in tissue paper manufacturing. Since 1991 all chemical pulp projects presented to the Bank have included alternative ECF/TCF pulp production processes.

Prevention

Good environmental prevention is a sign of sound resource management and often carries hidden benefits in the way of unexpected savings or other competitive advantages. A balanced attitude towards conservation is a quality found at some of the most efficient of the enterprises examined. The environmental dimension is one of the parameters that any industrialist has to integrate in his long term plans.

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EIB Technical Adviser for paper and glass industries

EIB to Lend in Asia and Latin America

While the European Investment Bank has been established to facilitate the financing of investment projects in the European Community furthering the EC's integration, it also finances investment outside within the framework of the EC's cooperation policy towards third countries. In 1992, the EIB advanced ECU 17 billion for capital investment furthering Community policies, of which ECU 893 million went for investment in third countries. This 'external' financing by the Bank is carried out with the unanimous authorisation of the EIB's Board of Governors, that sets ceilings on the amounts to be committed in a country or group of countries within given time periods.

Beginning in the early 1960s, the range of countries outside the Community in which the EIB has been active has been constantly widened. The most recent extension was authorised at the beginning of this year by the Board of Governors, allowing the EIB to lend up to ECU 750 million over three years for projects in Asia and Latin America (ALA). The Governor's decision was based on a proposal from the EIB's Board of Directors, following an invitation from the Council of the European Communities to the Bank to participate in project financing in the ALA countries that have cooperation agreements with the EC.

The Council has stipulated that investment supported by the EIB should be of mutual interest to both the country in which the project is implemented and the European Community. Examples of projects of mutual interest could include the following:

- joint ventures between firms from European and ALA countries;
- important technology transfers from Europe;

- investment facilitating closer relations between Asia, Latin America and Europe (e.g., telecommunications and transport);
- environmental protection (e.g., development of renewable energy, anti-pollution measures);
- investment fostering regional integration and privatisation of industry and public utilities.

Presently the following 30 ALA countries have cooperation agreements with the EC:

Asia

Bangladesh, Brunei, China, India, Indonesia, Macao, Malaysia, Mongolia, Pakistan, the Philippines, Singapore, Sri Lanka and Thailand.

Latin America

Argentina, Brazil, Bolivia, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, and Venezuela.

Areas outside the Community where the EIB is already active include the African, Caribbean and Pacific states under the Fourth Lomé Convention, and the Overseas Countries and Territories, where the EIB advanced a total ECU 252 million last year. The EIB also supports investment under financial protocols attached to association or cooperation agreements in non-member Mediterranean countries — ECU 321 million in 1992. Since 1990, the EIB has been active in Central and Eastern European countries as part of the Community's policy of support for these countries establishing market oriented economies: in 1992 the EIB lent ECU 320 in the region.

(1) excluding 10 small-scale projects under global loan schemes and 4 projects outside the Community.

New support for the private sector under the Fourth Lomé Convention

The European Investment Bank finances investment projects in African Caribbean and Pacific (ACP) states, as part of the European Community's development co-operation policy, under the terms of the Fourth Lomé Convention (1). Attached to the ten-year Convention (1991-2000), concluded between the 69 ACP states and the European Community is a financial protocol for the period 1991-1995 outlining the amounts of grant aid from the European Development Fund (EDF) and loans from the EIB to be made available to support investment furthering social and economic development in the ACP states.

Beside its loans from its own resources (2), the EIB manages under mandate from the European Community ECU 825 million of risk capital funds drawn from EDF budgetary resources.

Risk capital may be used to strengthen the own funds of an enterprise in the ACP states and can be in the form of:

- **quasi-capital finance**, mainly subordinated loans (principal and interest repaid after other claims have been settled) and conditional loans (interest and repayment terms linked to the project's performance);

- **direct equity subscriptions**, on behalf of the European Community, in enterprises or financial intermediaries in the ACP countries. Such equity subscriptions are minority holdings of a temporary nature and are intended to be disposed of in due course to nationals or institutions of the ACP country concerned or as otherwise mutually agreed.

The Fourth Lomé Convention places particular emphasis on encouraging the private sector's development in the ACP. To ensure that a substantial portion of the risk capital will be devoted to investment in the private sector, especially for small and medium-sized enterprises (SME), these funds can now also be provided through financial institutions in the EC Member Countries. The EIB has already for some time co-operated with ACP banking institutions in the mobilising of risk capital resources.

As a first step in widening the scope of risk capital activities in this direction, the

EIB is making available ECU 15 million to finance equity and quasi-equity participations in small and medium-sized new ventures and rehabilitated or privatised SME projects involving productive investment primarily in the industrial, agro-industrial, tourism and transport sectors.

The financial intermediaries participating in this financing scheme, initially limited to one per EC Member State, include the Banco de Fomento e Exterior (BFE) in Portugal, the Commonwealth Development Corporation (CDC) in the UK, Compañía Española Financiación del Desarrollo (COFIDES) in Spain, the Deutsche Investitions- und Entwicklungsgesellschaft (DEG) in Germany, the Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden (FMO) in The Netherlands, Industrialiseringsfondene for Udviklingslandene (IFU) in Denmark, the Istituto Centrale per il Credito a Medio Termine (MEDIOCREDITO CENTRALE) in Italy, the Société de Promotion et de Participation pour la Coopération Economique (PROPARCO) in France and the Société Belge d'Investissement International (SBI) in Belgium. In the countries where no financial intermediaries have so far been identified, requests from other institutions can be considered on a case by case basis.

Whilst these EC financial intermediaries vary in terms of legal status, shareholding, experience, size and scope of operations, they all operate in the ACP countries, and are consequently well placed to encourage European entrepreneurs to invest in the ACP, either independently or in the form of joint-ventures with local partners. With their co-operation the EIB hopes to achieve a significant leverage effect on the amount of equity invested in SMEs under the Lomé Convention.

(1) See EIB-Information No. 70, November 1991.

(2) The EIB's own resources are essentially the proceeds of its borrowing on capital markets. Under the Lomé IV Convention's Financial Protocol (1991-1995) the EIB is providing up to ECU 1.2 billion in loans from own resources.

ECU

Below are the ecu values in national currencies, as at 31 March 1993; these rates are applied to the second quarter in preparing financial statements and operational statistics of the EIB:

DEM	1,94002	BEF	39,9566
GBP	0,798809	LUF	39,9566
FRF	6,58153	DKK	7,45075
ITL	1919,87	GRD	264,827
NLG	2,18087	IEP	0,79706
ESP	138,516	PTE	178,878
		USD	1,20125

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