

COMMISSION OF THE EUROPEAN COMMUNITIES

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INSTRUMENTS OF MINING AND ENERGY COOPERATION WITH THE ACP COUNTRIES

(communication from the Commission to the Council)

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The proposal put forward here refer to the context of EEC-ACP relations because of the alarming manner in which Africa in particular has lagged behind in mineral exploration over the past ten years and also because of the opportunity offered by the current negotiations to define on a contractual basis the details of the action to be taken in an area of mutual interest and to demonstrate the value of such action. These proposals are, however, part of a policy which, at our initiative, will ultimately involve other developing countries.

I. EXPLANATORY MEMORANDUM

A. Importance to the developing countries, particularly the ACP

Clearly it is in the interests of those developing countries that are in partnership with the Community for cooperation with the latter to cover the development of their energy and mining potential.

A greater effort in this field, which has been neglected in recent years, would favourably affect :

- the volume of external earnings, which the developing countries need to achieve their economic development ;
- their level of employment;
- their technological and scientific development (given the advanced technology generally needed for prospecting and the exploitation of mineral resources);
- their effective participation in the development of certain economic sectors which are of global significance.

In particular, cooperation in developing energy potential ¹ should, by alleviating balance of payments deficits and increasing disposable income for non-energy consumption, to some extent relieve the non-oil developing countries of the strain imposed on their development by conventional energy imports.

¹ This was the subject of Communication COM(78)355 of 31 July 1978.

This analysis is akin to that of the World Bank, which recently decided to play the part of an active "catalyst" as regards mining and energy investment in the developing countries ¹.

B. Increasing the resource flows transferred to the developing countries

An increased commitment in the energy and mining sector of the developing countries by the industrialized countries and the Community in particular is ultimately necessary in order to sustain world economic growth. The objective proposed in this respect by the OECD is to increase considerably and rapidly the financial flows from the industrialized and OPEC countries to the Third World in order to stimulate world demand and thereby encourage the raising of production in the developed countries.

Given the limits on increases in official aid transfers the developing countries must above all be helped to attract external finance under satisfactory conditions of security.

Energy and raw materials are suitable priority sectors for such intensification of investment provided that such investment is geared in particular to the long-term structural requirements of the world economy ².

C. Community's needs

The Community's interest in increased cooperation on energy and mining matters with the developing countries - particularly those which have close economic relations with it - is due to its degree of dependence on outside supplies, which is far greater than that of the United States. Japan, which is also to a large extent dependent on other countries for its supplies, has put into effect a supply policy that is perfectly coordinated with the private initiatives of its industry; this has not yet been done by the Community.

¹ See IBRD, Annual Report 1978, and Minerals and Energy in the Developing Countries, Report No 1588, May 1977.

² OECD, Stepped-up Investment Programme in Developing Countries, DAC/78/21 of 20 July 1978.

The developing countries provide a substantial share of Europe's supplies ¹ and, given the distribution of world reserves, this situation could not change in the short or medium term, except at the enormous cost of an increased dependence of Europe on certain industrialized countries (South Africa, Australia, Canada for example) and/or on global multinational producers.

Increasingly large sums of money will have to be invested in the developing countries in order to improve or even maintain the Community's supplies of most major metals ².

However, according to available information the exploration and investment policy followed by European mining companies does not seem to be consistent with the Community's medium or long-term needs.

For a number of years now the mining companies have been reluctant to invest in developing countries other than those regarded as "stable" and are switching their exploration effort to the industrialized countries. Thus the developing countries share of mining firms' overall exploration expenditure, which was around 40 % in the late sixties, fell to an average of 13 % between 1972 and 1977.

The cutback in exploration activities in black Africa is particularly significant; if uranium is excluded, it is dramatic as explorative expenditures in that area has averaged only £ 220 000 (1976 prices) over the last four years (Nil in 1976) while it was twelve times as high throughout the periode 1966-73.

(1) Cobalt: 92%; tin: 85%; phosphates: 68%; tungsten: 58%; copper: 57%; manganese: 42%; chromium: 38%, etc.

(2) The amount of investment needed for the main mineral products (not including oil) for the period 1977-90 is estimated at \$ 158 000 million (1975 prices), about a third of which will be spent in the developing countries (which means more than \$ 4 000 million per year for those countries) - See tables in annex.

European capital expenditure in the mining sector in the developing countries - whose slowdown will take a number of years before it becomes evident - has since 1970 represented only half the American flows; the latter have thus ensured that sources of supply will be renewed well beyond the United States' requirements, in particular for the benefit of Europe.

As for Japan, its participation in foreign mining developments has increased rapidly since the early seventies; it takes largely the form of loans guaranteed by long-term output rather than direct investment.

II. PROPOSALS

A. Exploration and prospecting

It has been found that a major obstacle to the development of the mineral resources of certain developing countries is the inadequate investment in prospecting and exploration ⁽¹⁾. This is the case in particular with the African countries, which thereby risk not being able to attract a suitable proportion of the mining investment flows when they will be needed once world industrial demand improves .

It is possible to help the ACP countries to remedy, at least partially, their inadequacy regards prospecting by providing them with the technical assistance needed :

to reinforce the administrative capacity of geological and mining departments;

to enable them to exploit properly the geological and mining data base available presently and gear additional work that needs to be done accordingly.

This type of activity can and should be financed by the EDF, and by bilateral aid under national or regional programmes.

(1) Prospecting and exploration expenditure in Africa is almost nil, except in the case of uranium and oil.

This is only a first step, however. The main gap to be filled, at least in Africa, is not at the level of identifying potential projects, since a number of these are already known and appear promising. The principal difficulty is at the level of the intensive exploration needed to bring a potential project to the technical stage of a "bankable" project, provided of course that the other conditions relating to the project's profitability are satisfied (particularly from the aspect of foreseeable demand).

Exploration investment defined in this way is relatively costly compared with the geological inventory which makes such investment possible and it entails considerable risks.

Traditionally, this exploration investment has been self-financed by the mining companies from the "rent" accumulated while prices are high.

At present, following a long period of depressed prices, the chances of foreign firms restoring their mining "rent" are slim in most developing countries because of the widespread tendency of the producer countries to cream off the temporary super-normal profits in various ways (progressive export charges, participation without financial reciprocity in the company capital, etc). At any rate, the lack of effective protection against political risks and the resulting insecurity are enough to paralyse investment in this field.

Since a fresh impetus must be given to exploration investment both in order to ensure the security of the Community's medium-term supplies and to develop the ACP's mining potential, new ways must be found of reactivating European firms' technological capacities in the field while safeguarding the host countries' sovereignty over their natural resources.

In this respect, two complementary ideas deserve to be considered :

- (a) The first is suggested by the IBRD's experience in Bolivia, where it noted that the risk inherent in financing exploration investment is significantly reduced if its participation is channeled via a well-conceived "national mining exploration fund" instead of operating on a case-by-case basis in particular projects ¹.

To translate this idea into practical terms in the EEC-ACP context would involve Community assistance for the setting up of such national funds (in countries which are big enough and have a mining potential that is sufficient to warrant such action) or regional funds in the ACP and the participation of Community instruments (see below) in the financing of their operations in conjunction with other possible providers of funds (IBRD, ADB, ABEDIA, etc).

- (b) The second idea enlarges upon the experience gained under the Lomé Convention as regards the use of Community assistance in the form of risk capital.

In this case, assistance in the form of risk capital which will be provided under the next EEC-ACP Convention to help in the execution of projects, particularly in the mining and energy sectors, will allow the financing of exploration and prospecting investment.

Where such assistance thereby serves to finance investment preparatory to the bringing on stream of a mining or energy project, it may be incorporated in the capital aid which the promoting company could receive if the project in question is carried out.

¹ IBRD, 5 January 1979, World Bank Role in Non-Fuel Mineral Development in Developing Countries - 1978 Progress Report. p.7, paragraphs 3.14 to 3.17.

The financing resources thus mobilized could be combined with national or Community resources, particularly those of the national mining exploration funds referred to under (a) above.

B. Production investment

The proposals below are essentially aimed at bringing public financing bodies, particularly those belonging to the Community, to act as catalysts in attracting direct investment from European mining firms initially in the ACP countries and where appropriate, in other developing countries later on.

The Community may already act in this way particularly via the EIB, within the limits specified in the Lomé Convention and more generally under Article 18 of the Bank's Statute.

Three conditions must be satisfied before these resources may be placed at the service of a Community supply and mining and energy cooperation policy with the developing countries more systematically than they have been to date.

1. The Council must acknowledge the principle that it is in the Community's interest to achieve greater diversification of its sources of supply, particularly in EEC-ACP cooperation, as regards certain mineral substances (the list of which would be determined by the Council) and that the Community financing bodies should act accordingly.

It would therefore be presumed (at least for those substances and the designated non-member countries) that projects presented by the Commission / would receive sympathetic consideration (1).

The EIB in particular would be called upon to play a more active part in the financing of energy and mining projects in the ACP countries and to act as a catalyst in attracting European capital in this sector. This could be achieved if :

- (i) the EIB is permitted in the new Convention to commit its own resources beyond the amount contractually laid down by that Convention to mining investment in the ACP countries, provided that this is in keeping with its statute and within the limit of a ceiling determined annually by the Bank in a proportion of its total commitments; this ceiling should be agreed by the Council and the Bank before the conclusion of the EEC-ACP negotiations to indicate the Community's willingness to place at the disposal of its partners financial flows which would go beyond the official development assistance (ODA) from the EDF, and the contractual facilities offered by the EIB;
- (ii) the restrictions imposed under Article 5 (3) of Protocol No 2 to the Lomé Convention on the granting of interest-rate subsidies on EIB loans are dropped.

Neutralizing the non-economic risk

The non-economic risks generally involved in investment in the developing countries are particularly pronounced in the case of energy and mining investment for such investment is usually on a large scale, has a very long gestation and amortization period and relates to sectors which, more than any other, are politically sensitive. Often, the risks also relate to a number of countries (in the case of landlocked resources); they are therefore particularly significant.

¹ Article 18 of the EIB's Statute, requiring the unanimous agreement of the Board of Governors for an external investment.

The setting up of an agreement between host country and foreign mining firms always proves to be a delicate operation. The precariousness which, rightly or wrongly, seems to attach thereto unfortunately increase the reluctance of firms to invest in energy and mining in the developing countries. The ACP cannot escape this fact, however open-minded their policy is towards investment from outside (a policy independently established by each of them).

Two factors are likely to encourage the establishment of relations between host countries and firms on a more stable basis:

- effective participation by host countries which so wish in the capital of the firms involved in developing the subsoil resources of those countries;
- the existence of standard rules of conduct agreed between the public authorities concerned.

(a) Effective participation by the host country in a company's capital

The funding of large-scale mining or energy capital projects would be greatly facilitated, and relations between host countries and foreign firms would be placed on a better footing of mutual interest, if the host country which wishes to acquire a share (whether a majority one or not) of the capital of the firm to be set up were able to count on Community aid to partially cover the financing of its share of the capital.

To this end, it must be stipulated in the new EEC-ACP Convention that Community assistance in the form of risk capital may be used for granting quasi-capital aid to public or semi public firms ¹.

(b) Standard rules of conduct agreed upon contractually

In order to encourage the conclusion of agreements between host countries and firms, and guarantee that such agreements are sound, it has become vital for rules to be agreed upon between the public authorities concerned.

¹ This quasi-capital aid will take the form of conditional loans, the repayment and duration of which depend upon certain conditions being fulfilled which have been laid down when the loan is made.

The Commission has proposed that these standard rules be fixed with reference to those generally accepted by countries which conclude bilateral investment protection agreements among themselves but with the stipulation in the specific case of investments concerning minerals that the reciprocal advantages accorded by each of the parties should be defined on an equitable basis (e.g. transfers of technology, stability of the establishment agreements, stability of supply, sharing control of the company and of profits).

The existence of such standard rules of conduct would be likely to promote an easing of relations between host States and mining firms and, in the latter's view, to neutralize the magnitude of the non-economic risks to which it is exposed.

In practice, the Commission proposal in this matter would be to include these rules in a standard type of agreement, the details of which would be established on a case-by-case basis with the host country in the light of the specific characteristics of the project in question.

The Commission proposes that such specific protection agreements might be concluded between the Community and the host countries in addition to any bilateral agreements that may be in force whenever investors of a number of Member States of the Community take part in a mining project relating to a mineral product recognized by the Council as being in the Community's interest because, for instance, of the favourable impact it will have on the Community's supplies, particularly in the case of substances covered by stockpiling policies, whether national or coordinated at Community level. This framework would permit the EIB to participate financially (viz. above), since criteria for bringing into effect of Art. 18 of its statutes would be acknowledged.

3. The existence of financial guarantees against certain non-economic risks

. Explanatory memorandum

On the basis of the precedents in this field, it can be taken for granted that it will be possible to guarantee, through the Community budget, operations in the ACP countries financed with the EIB's own resources, without this guarantee being limited to non-economic risks.

However, private investors of European origin which cofinance with the EIB a mining or energy project in the ACP countries are at present covered very unevenly, and in most cases very inadequately, by the national systems that provide guarantees against non-economic risks (1).

For the Community's financial instruments to be able to act as a catalyst in attracting European capital in these sectors and these countries, this gap too must be filled.

The existence of standard rules of conduct agreed contractually with the host country would not, however, completely exonerate foreign firms from certain non-economic risks which may result from factors beyond the control of the host countries' governments and/or countries used for transit purposes.

. Commission proposal

The Commission proposes that this deficiency in the Community and national mechanisms for promoting external investment be remedied as described below.

(1) For instance, the French investment guarantee system does not cover investment in oil. None of the national guarantee systems covers prospecting operations.

Furthermore, the commitment ceilings existing for most of the systems (UK : £ 250 million; DK: 500 million Dkr; NL: ceiling by host country, etc.) are an obstacle to a satisfactory covering of large-scale projects on a national basis.

In the case of exploration or production projects in the mining or energy sector on the territory of an ACP country which are recognised by the Council as being in the interest of the Community and as therefore eligible to be covered by a specific protection agreement between the Community and the host country, the Community may provide European firms, if needed, with a guarantee supplementing that provided, where appropriate, by the national bodies.

This supplementary guarantee would cover non-economic risks not already covered by national systems. On the basis of the guidelines recently laid down by OPIC (American Overseas Private Investment Corporation) when it concluded its first contract for insurance cover against political risks in connection with an oil project ⁽¹⁾, the following arrangements could be made :

- a ceiling could be imposed by project and by country on the Community guarantee commitments and the guarantee (which could not be a full one) could cover only net non-recuperable expenditure by the insured firms;
- the guarantee could give comprehensive cover for the following political risks in host countries, and where necessary, in countries used for transit purposes :
 - . violation of the stipulations of the specific protection agreement
 - . war, revolution, insurrection.
 - . monetary inconvertibility

Organization

If the above proposal were adopted for examination by the Council the Commission would then make the necessary implementing proposals. At this stage it is sufficient to point to the following guidelines ⁽²⁾ :

(1) OPIC Communiqué of 8/2/77 - RJ/379

(2) See COM(78)23 of 26 January 1978.

- The Community guarantee will make it necessary to set up a Guarantee Committee consisting of Representatives of the Commission, EIB and competent authorities from the Member States, to ensure coordination of national guarantees for specific cases and examine requests for additional cover by the Community guarantee.

- A guarantee fund will be set up at Community level and financed by the premiums paid by the insured firms; operations under this fund being themselves covered by the guarantee provided by the Community budget. The services of the competent national agencies shall be responsible for its' implementation. (1)

In this way, without it being necessary to consider setting up a new Community institution it would be possible to guarantee external investment projects against political risks on a case-by-case basis, provided that such projects are consistent with the Community policies of diversifying sources of supply and of developing the mining and energy potential of its ACP partners, and provided that they are recognized as such by the Council of the European Communities and the host country by the conclusion of specific protection agreements, covering specific projects and agreed at the initiative of host countries./

(1) It is understood that recourse to the guarantee of the Community budget will take place only when the resources of the Guarantee Fund are inadequate, as indicated in document COM(78) 23 final p. 10.

III. CONCLUSIONS

The Commission proposals set out above are not entirely new. They have been put forward on a number of occasions in the context of EEC-ACP relations or in a more general context.

The Commission has brought these ideas together here in the framework of the current renegotiation of EEC-ACP Convention and with a specific field of application in mind : the development of the ACP countries' mining and energy potential and diversification of the Community's sources of supply for mineral and energy substances. On both counts the trend of European investment in these sectors and these countries over the past few years gives cause for concern.

The Commission therefore considers it essential that the Council rapidly expresses a favourable opinion on these proposals which, it is convinced, must be implemented to bring about a reversal of the trend, while substantially increasing the resources available for the development of the ACP countries. Moreover, it can be observed that these facilities would usefully be combined with those of the same nature from other international financial institutions (IBRD and regional banks); the guarantees could equally be combined with those of other national agencies (the US Treasury has in principle already expressed its interest in joint operations with OPIC).

From the aspect of their sectoral scope (mines/energy) and geographical scope (ACP countries) these proposals form a coherent whole even if the various aspects may each be considered on their individual merits.

The effectiveness of measures to promote external investment

depends upon the Community interest

as reflected in the conclusion of a specific protection agreement. Similarly, the EIB's effectiveness as a catalyst in attracting European capital in sectors with a high risk coefficient, though important for the industrial future of the Community and the development of the ACP, would be significantly reduced if there were no serious financial guarantee against non-economic risks.

Extract of "Perspectives d'évolution structurelle d'ici 1990"

Introduction

It is not the purpose of this document to engage in the uncertain business of forecasting in order to reach conclusions which would at any rate be speculative. There are hundreds of raw materials that are subject to different trends and developments. Such an exercise would make it difficult to see the wood for the trees.

The aim of this study is in fact to outline a few of the main predictable trends that are likely to take shape over the next ten years and to propose guidelines of a general nature that might channel those developments. This analysis is by no means exhaustive, first of all because certain developments cannot be foreseen, but also because a meticulous examination of all the possible problems in as varied a field as this would be counterproductive. The aim of the study is to underscore the main ideas that might help in the framing of a guaranteed supply policy, on which the survival of our industrial activities depends.

A. The physical availability of raw materials

1. A comparison between known resources and reserves and total requirements for the next two decades leads to the conclusion that a general physical shortage of industrial raw materials as a result of exhaustion of reserves and resources is not very probable. This conclusion was reached inter alia by the OECD "Interfutures" Group. Table 1 in the annex compares known reserves with total demand as far as the year 2000.

Some figures may appear low when the ratio of reserves to demand approaches or drops below 1, i.e. when reserves do not cover the needs of the next twenty years.

However, known resources are on average two to three times greater than reserves. The reserves figure inevitably reflects the prospection policy of the mining companies which are understandably content with having potential exploitable resources that will ensure a continuation of their activities over the next twenty to thirty years.

In addition, chance has it that there are possible substitutes for some of the rarest materials (silver, bismuth) and there are growing obstacles to the use of others for ecological reasons (mercury, asbestos).

2. The geographical distribution of known reserves across the world could raise problems.

At first sight, the distribution among the various groups of countries is fairly balanced :

44 % of the reserves are held by the developed countries,
33 % by developing countries and
23 % by state-trading countries.

However, within each group the reserves are heavily concentrated in a very small number of countries :

- 90 % of the industrialized countries' reserves are to be found in the United States, Canada, Australia and South Africa ;
- the Soviet Union possesses 82 % of the reserves in the state-trading countries (1) ;
- seven developing countries hold 77 % of the reserves in this group (Brazil 25 %, Chile 19 %, New Caledonia 8 %, Indonesia 7 %, Zaire, Guinea and India 6 % each).

Table 2 in the annex shows that 75 % to 100 % of the reserves of seven raw materials (chrominon, columbium, manganese, molybdenum, vanadium, platinum and asbestos) are concentrated in only three countries.

Between 75 % and 100 % of the reserves of fifteen products out of a total of twenty are located in only five countries. There are only four products (copper, lead, zinc and bismuth) in which the first five countries hold less than 65 %.

This geographical distribution of reserves means that the industrialized countries other than the United States, Canada, Australia and South Africa are heavily dependent on outside sources for their supplies of industrial raw materials.

(1) However, it should be noted that prospecting work on Chinese territory has only just begun.

3. The Community's degree of external dependence for its supplies of raw materials has been estimated (1) at 75 % overall as against 90 % for Japan and 15 % only for the United States. Table 3 in the annex compares the degree of dependence of the three groups for a number of raw materials.

A high degree of dependence is not necessarily a source of concern when the sources of supply are sufficiently varied and when they offer lasting guarantees of access to the resources.

However, the fact of the Community's high degree of dependence for most of its raw materials coupled with the concentration of reserves in a very small number of third countries should occupy our attention.

In particular, a very high degree of dependence on a very small number of sources represents a real underlying danger when those sources are for example state-trading countries that are liable to change their policies at short notice on the basis of non-commercial criteria, competing industrialized countries or regions which might be hit by domestic troubles or conflicts.

The following short list has been drawn up by way of example :

	<u>Community's degree of dependence</u>	<u>Distribution of known reserves</u>
Manganese	100 %	Republic of South Africa (RSA) 45 %, Soviet Union 38 %
Chrominon	100 %	RSA and Rhodesia 96 %
Cobalt	100 %	Zaire and Zambia 38 %, Soviet Union and Cuba 21 %
Platinum	100 %	RSA 82 %, Soviet Union 16 %
Tungsten	99 %	China 47 %, Soviet Union 11 %, North Korea 6 %
Vanadium	99 %	Soviet Union 75 %, RSA 19 %.

(1) Council on International Economic Policy in a special report entitled "Critical Imported Materials" - December 1974.

This degree of dependence is not necessarily at the level of the unrefined product. Thus, in the case of titanium, the diversity and scale of known reserves of ilmenite and rutile allows for considerable diversification. However, as it lacks production capacity for titanium sponge, the Community will have to depend almost exclusively on Japanese producers for its supplies as the Soviet Union has withdrawn from the market. However, Japanese suppliers are its main competitors in the field of titanium strip and tubes used in the construction of nuclear power stations and desalination plants, both of which products have a very large potential market.

4. The prospects for improving the Community's self-supply rate in order to reduce the risks outlined above are limited.

There are definite possibilities of improvement for lead and zinc in Ireland and Greenland. Enlargement of the Community may improve the situation, to a substantial degree in some cases (e.g. Spanish mercury). An improvement in prospection methods and recycling and more economic use, which often depend on research, are likely to produce sufficiently tangible results to justify operations in this direction. But it is clear that these results will not bring about any fundamental change in the Community's heavy dependence on external supplies of raw materials. The Community, which is a large consumer and an important processor for other countries, has almost exhausted its own subsoil.

On the other hand, bottlenecks at the first-stage processing level (e.g. titanium) could be cleared by coordinated action between the private and public sectors.

B. The balance between supply and demand in the 1980s

1. The volume of investment needed to guarantee a balance between supply and demand in raw materials between now and 1990 has been the subject of a number of studies by the World Bank and the United Nations Centre for Natural Resources.

For six metals only (iron ore, copper, aluminium, zinc, nickel and lead), the annual investment that would be necessary in the world, outside the state-trading countries, is estimated at US \$ 12 000 million (1975 prices) per annum. Table 2 in the Annex gives the figures for each metal assuming a low average and high level of economic activity.

These six metals represented more than 95 % of the value of mining production in 1974 and account for about 80 % of the total value of the developing countries' exports of minerals not linked to the production of energy.

2. The inadequate volume of investment resources committed over recent years has been a source of concern to various international institutions and a number of governments.

In 1976, the United States Government proposed the setting up of an International Resources Bank in order to remedy this situation. More recently, Chancellor Schmidt has, in various speeches, expressed his deep concern over this problem. The World Bank Group has decided to devote a much greater part of its operations than in the past to mining projects.

The OECD has set up a sub-committee with the job of collecting the data needed for a clearer idea of these problems. However, statistics in this particular field are almost non-existent. The sub-committee has therefore been unable to carry out its tasks satisfactorily up to now.

However, the Engineering and Mining Journal conducts an annual survey on proposed mining investments for the following five years. Total investments planned in respect of the six metals mentioned in section 1 above is US \$ 49 900 million over the five year period 1979 to 1983, i.e. about \$ 10 000 million per annum. The United Nations estimated that \$ 12 000 million was required. In view of the fact that the price of commodities is extremely volatile, it is not difficult to imagine the impact on price levels of a 17 % gap between supply and demand nor is it difficult to imagine the consequences as regards the trend towards cartel formation in the producer countries.

The survey arrived at a total figure of \$ 68 000 million for all mineral raw materials (see Table 4 in the annex).

The survey also reveals that since last year the volume of planned investment has declined by \$ 4 000 million despite the fact that there have been record investments in respect of uranium.

Over the last ten years or so the cost of mining investments has increased considerably as a result of the need to begin exploiting more remote or poorer grade deposits and the fact that the cost of capital goods has increased considerably.

In addition, the Engineering and Mining Journal figures are expressed in current dollars.

Taking these factors into account, the decline in absolute figures observed over the last few years give cause for concern.

A group of the main mining companies in the Community has established investment statistics for the years 1966 to 1977 inclusive (see Table 5 in the Annex).

Their annual investment varies between \$ 400 and 500 million. If this figure is related to the \$ 12 000 million required for the world as a whole, excluding the state-trading countries, and in view of the fact that the Community is the largest world consumer of imported raw materials and that some of the investment projects of our mining companies are not designed to ensure Community supplies but rather the supplies of other consumers such as Japan, it would not appear out of place to ask questions about the security of our future supplies.

3. The decline in the mining companies wealth is currently the main reason behind the lack of mining investments. Despite a few sharp increases, the prices of most raw materials have stagnated since the Korean war. Investment costs have shot up and non-commercial risks have become prohibitive in both the industrialized and the developing countries.

For some years now the mining companies have been suffering considerable losses. To mention but two examples that have appeared in the press, Inco and Kennecott have had to make drastic cuts in their budgets. In 1978, the turnover from nickel dropped by two-thirds and the Community's zinc industry lost about one-third of its own funds in the same year. Copper producers in Zaire and Zambia no longer have the means of maintaining their machinery.

4. The role of international financing bodies is limited of necessity by the availability of worthwhile projects. The UNDP, for example, has done excellent work on its limited budget, but cannot hope at present to fill the vacuum in project formulation left by the mining companies, with the result that the efforts of the international financing bodies have become all the more ineffective. The good will of those bodies cannot fill the vacuum created by the inactivity of private circles either in the formulation of projects or in the raising of the volume of the finance to ensure a balance between world supply and demand.

C. The geographical imbalance in investment and prospection expenditure

1. The geographical distribution of world mining investment requirements, excluding the state-trading countries for the period 1977 to 1990 is estimated by the United Nations Centre for Natural Resources at a little over \$ 100 000 million in the industrialized countries and at about \$ 50 000 million in the developing countries. This reflects annual investment requirements amounting to \$ 8 000 million dollars in the industrialized countries and \$ 4 000 million in the developing countries (see Table 3).

2. The geographical distribution of mining investment projects is, according to the Engineering and Mining Journal, 40 % in North America, Europe, Australia and Oceania, as against 60 % in Africa, Latin America and Asia. These percentages obviously do not correctly reflect the disparity between industrialized and developing countries since Southern Africa, Australia and Japan would have to be transferred from one group to the other.

The Community mining companies' investment statistics are more explicit in this respect. Investments over the last few years are broken down as follows : about 75 % in industrialized countries as against 25 % in the developing countries (see Table 5 in the annex).

The gestation period for mining investments is eight or more years so that the flow of investment funds often reflects the completion of projects decided on previously rather than future intentions.

3. The geographical distribution of prospection expenditure is therefore much more revealing. The United Nations Centre for Natural Resources estimates that more than 90 % of the mining companies' prospection expenditure has been concentrated over the last few years in the industrialized countries almost exclusively in the United States, South Africa, Australia and Canada.

The remaining 10 % invested in the developing countries relates mainly to Brazil, Chile, Indonesia and the Philippines.

In 1966-67, Community mining companies' prospection expenditure was broken down as follows : 60 % in the industrialized countries as against 40 % in the developing countries. In 1976-77, the breakdown was 85 % and 15 %.

Tables 6 and 7 in the Annex show that prospection expenditure in the developing countries in Africa fell sharply from 1973 onwards and dropped to zero in 1976 of uranium is excluded.

The geographical distribution is roughly as follows :

	<u>Industrialized</u> <u>countries' share</u>	<u>Developing</u> <u>countries' share</u>
Known reserves	60 %	40 %
Investment requirements	66 %	33 %
Expenditure on prospecting	90 %	10 %

4. The causes of the geographical imbalance that can be expected in the future are fairly clear. Over the last decade, the non-commercial risks have become prohibitive in many developing countries. Nationalizations, rejection of installation agreements, political or financial instability and a climate of antagonism towards the big western companies have inevitably prompted those companies to seek more conducive locations for their operations.

In addition, the companies were no longer able to find the bank financing needed for large mining investments operations when those operations were located in countries which were not even in a position to service their foreign debt.

TABLÉAU I

Durée de vie des réserves et rapport entre les réserves et la demande cumulée
de 1976 à 2000

	Fer	Cuivre	Plomb	Etain	Zinc	Antimoine	Titane ¹⁾
Rapport des réserves à la demande actuelle (en années)	194	54	29	42	27	284	163
Rapport des réserves à la demande cumulée 1976 - 2000	5,1	1,4	1,2	1,5	0,9	6,2	3

	Chrome	Cobalt	Colombium	Manganèse	Molybdène	Nickel	Tantale
Rapport des réserves à la demande actuelle (en années)	320	44	800	185	108	125	60
Rapport des réserves à la demande cumulée 1976 - 2000	10,3	1,3	17	4,6	2,2	3,3	1,8

	Tungstène ²⁾	Vanadium	Bismuth ¹⁾	Mercuré ¹⁾	Argent	Platine ¹⁾	Or ¹⁾
Rapport des réserves à la demande cumulée (en années)	57	340	30	30	20	110	22
Rapport des réserves à la demande cumulée 1976 - 2000	1,4	8,2	0,8	0,9	0,6	3	0,5

1) Données relatives à 1974 et à la période 1974-2000

2) Données relatives à 1975 et à la période 1975-2000

TABLEAU II

Distribution régionale des réserves découvertes et indiquées en 1977

Éléments primaires	Part des trois premiers pays	Part des cinq premiers pays	Part de certains pays en %
Fer	59,4	76,7	URSS (20,2), Brésil (17,5), Canada (11,7); Australie (11,5), Inde (5,8)
Cuivre	44,9	58,7	USA (13,5), Chili (12,5), URSS (7,9), Pérou (7,0) Canada (6,3), Zambie (6,4)
Plomb	47,8	61,4	USA (20,8), Australie (13,8), URSS (13,2), Canada (9,5), RCA (4,1)
Etain	50,2	68,1	Indonésie (23,5), Chine (14,8), Thaïlande (11,8), Bolivie (9,7), Malaisie (8,2) URSS (6,1), Brésil (5,1)
Zinc	45,8	58,6	Canada (11,7), USA (14,5), Australie (12,6), URSS (7,3), Islande (5,5)
Aluminium	62,8	74,8	Chine (33,9), Australie (18,6), Brésil (10,3), Canada (6,2), Inde (5,8), Guyane (4,1), Alumina (4,1)
Nickel	58,2	81,8	Brésil (23,2), Canada (18,7), Inde (16,3), Norvège (15,2), Australie (8,4), USA (7,4), RCA (4,3)
Chrome	96,9	97,9	USA (74,1), Rhodésie (22,2), URSS (0,6), Indonésie (0,6), Inde (0,4), Brésil (0,3), Madagascar (0,3)
Cobalt	63,0	83,5	Haïti (30,3), Nouvelle Calédonie (18,8), URSS (13,0), Philippines (12,8), Zambie (7,7), Cuba (7,3)
^{Ni} Co Cobalt	88,5	95,3	Brésil (75,6), URSS (6,4), Canada (5,5), Haïti (3,0), Ouganda (3,0), Niger (3,0)
Manganèse	90,5	97,7	USA (45,0), URSS (37,5), Australie (8,0), Liban (5,0), Brésil (2,2)
Molybdène	74,3	86,9	USA (33,4), Chili (27,3), Canada (8,1), URSS (6,6), Chine (6,0)
Nickel	48,8	70,6	Nouvelle Calédonie (18,8), Cuba (17,3), Canada (12,3), URSS (11,0), Indonésie (10,8), Philippines (10,0)
Tungstène	69,6	80,6	Chine (46,9), Canada (12,1), URSS (10,6), Norvège (5,6), USA (5,4), Australie (2,7)
Vanadium	94,9	97,2	URSS (74,3), RCA (18,7), Chili (1,4), Australie (1,4), Congo (0,9), Inde (0,9)
Bismuth	47,9	60,9	Australie (20,7), Bolivie (16,3), USA (10,9), Canada (6,5), Mexique (6,5), Pérou (5,4)
Mercure	65,2	78,3	Espagne (33,4), URSS (13,2), Yougoslavie (3,6), USA (8,6), Chine (4,5), Mexique (4,5), Turquie (4,5), Italie (4,1)
Argent	54,9	76,5	URSS (26,2), USA (24,8), Mexique (13,9), Canada (11,6), Pérou (10,0)
Platine	99,5	99,9	USA (82,3), URSS (15,5), Canada (1,6), Bolivie (0,3), USA (0,1)
Antimoine	81,3	91,8	Canada (42,7), URSS (22,3), RCA (6,3), Chine (4,5), USA (3,2)

Dépendance en importations de la CEE, des USA et du Japon

Les importations en % de la consommation

	CEE	USA	JAPON
Aluminium	61 (b)	85 (b)	100 (b)
Cuivre	81	-	90
Plomb	53	4	76
Nickel	100 (a)	71	100
Etain	87	75	97
Zinc	< 63	64	80
Minerai de fer	79	29	94
Manganèse	100	99	90
Antimoine	95 (a)		
Cadmium	36 (plus) (près de 100 avec minerai)		
Chrome	100	91	100
Cobalt	100 (a)	93	
Niobium	100	100	
Columbium	100	35	
Mercuré	33	73	
Molybdène	100	-	
Platine	100 (a)	80	
Sélénium	100	42 (a)	
Tantale	100	95	
Titane	100		
Tungstène	> 99	54	
Vanadium	99	36	
Zirconium	100		
Uranium	59 (c)		
Phosphate	99	-	100
Potassium	20		
Soufre	> 43	-	
Amiante	100	53	100

Les chiffres sont les moyennes de 1974-1976 pour la CEE, ce sont les chiffres de 1974 pour les USA et ceux de 1972 pour le Japon.

La consommation comprend la seconde fusion.

(a) à l'exclusion des débris

(b) en tenant compte de la bauxite, de l'alumine et du métal importés. Les chiffres des USA proviennent du "Mineral Development of the Eighties Prospects and Problems - ENAC 1976". Les chiffres japonais pour 1972 proviennent du "Report of United States Council on International Economic Policy - "Critical Imported Materials" - December 1974

(c) La proportion augmentera rapidement quand la consommation de la CEE va croître et que la production sera...

TABLA IV

REQUIS FINANCIEROS PARA EL DESARROLLO DE LOS RECURSOS MINEROS 1977-1990 (1)

(millions de U.S. Dollars de 1975)
croissance estimée de la consommation

	croissance faible		croissance probable		croissance forte	
	PFD	hors industriel.	PFD	hors industriel.	PFD	hors industriel.
Minerai de fer	15,997	33,993	21,874	46,056	27,231	51,991
Cuivre	13,193	12,173	15,764	14,552	17,537	17,112
Aluminium						
Bauxite	1,277	638	2,042	1,100	2,924	1,575
Alumine	1,708	5,125	2,800	8,400	4,058	12,175
Aluminium	5,971	19,992	7,932	26,722	10,299	34,480
Zinc	920	1,268	1,130	2,397	1,460	2,964
Nickel	1,533	2,501	2,189	3,571	3,037	4,954
Plomb	1,179	723	1,318	808	1,414	866
TOTAL	41,778	77,068	54,949	103,606	69,960	134,117
Moyenne annuelle	3,214	5,968	4,227	7,970	5,332	10,317

(1) Estimation des taux de croissance de la consommation (en pourcentage)

	<u>Bas</u>	<u>Probable</u>	<u>Elevé</u>
Minerai de fer	3	4	5
Cuivre	3	3,5	4
Aluminium	5	6	7
Zinc	2,5	3	3,5
Nickel	3,5	4,2	5
Plomb	2,5	2,8	3

Source : Financial Requirements for Mining in Developing Countries (New York : United Nations Centre for Natural Resources, Energy and Transport, 1977), background paper n° 1 for the United Nations Panel on International Mining Finance. Tables 9 and 20

TABLÉAU V

Investissement projeté par l'industrie minière pour 1979-1983
 Nombre de projets: investissement en Mio de dollars

Produits	U S A		Canada		Amérique centrale et du Sud		Europe		Afrique		Japon et Asie		Australie et Océanie		Total territoires	
	No	millions	No	millions	No	millions	No	millions	No	millions	No	millions	No	millions	No	millions
Aluminium	5	1.505	1	207	14	5.670	6	1.064	4	2.810	10	2.707	12	5.356	52	19.329
Cuivre	4	235	4	755	27	9.103	4	585	2	555	7	770	10	1.632	58	13.696
Plomb et Zinc	2	610	6	427	9	833	5	416	3	423	5	270	1	23	31	3.102
Minerai de fer	4	653	-	-	8	2.155	3	310	8	2.833	8	2.831	6	1.972	37	10.349
Nickel	-	-	-	-	3	510	4	450	-	-	1	55	5	1.957	13	2.372
Or	-	-	2	15,6	-	-	-	-	3	325	-	-	1	3,1	6	313
Uranium	13	565	10	1.184	3	175	1	46	6	383	-	-	4	939	37	3.197
Autres métaux	4	550	4	276	5	414	3	102	10	235	6	233	4	122	36	2.601
Total métaux	32	4.252	27	2.855	62	13.910	26	3.900	36	6.854	37	6.916	43	11.315	270	59.552
Phosphates	5	736	-	-	7	1.091	1	20	6	3.640	6	1.467	-	-	25	7.004
Autres prod. non métall.	5	366	3	3.268	5	350	1	36	8	1.131	4	407	1	210	37	5.708
Total des prod. non métalliques	10	1.192	3	3.268	12	1.441	2	56	14	4.771	10	1.874	1	210	62	12.302
Total de tous les produits	42	5.444	30	6.133	81	20.351	28	3.956	50	11.625	47	8.790	44	12.055	332	68.354

ANNEX VI

Evolution des dépenses d'investissement des entreprises européennes (y inclus uranium)
de 1966 à 1977 aux prix de 1976 (millions US dollars)

A. DEVELOPED COUNTRIES

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
AFRICA	19557	25048	27338	29585	25642	25607	19350	19659	26718	53016	41925	20251
AUSTRALIA	129303	124674	67396	59080	166503	104743	84654	51327	56043	45305	32295	115049
EUROPE	70337	69555	70803	21157	32219	75519	52003	27485	26360	23857	49614	70241
NORTH AMERICA	35745	54328	36036	33435	46758	71173	20747	20855	54422	103910	114228	126276
OCEANIA	54857	9222	10222	83143	144722	80932	27461	8452	11210	12422	22222	42335
SUB TOTAL	312259	233265	205289	222272	352514	472163	244747	122722	142511	222227	260456	322942

B. LESS DEVELOPED COUNTRIES

AFRICA	77703	24033	39435	26721	29374	19326	24325	10648	34411	49244	107770	62771
ASIA	0	4217	1151	153	83	2057	1842	1395	92	593	2200	8381
LATIN AMERICA	9225	6077	9353	15225	22722	9047	9222	11970	11527	37313	42520	35419
OCEANIA	0	0	0	0	132584	142557	11300	16553	3777	8430	17244	19224
NOT SPECIFIED	0	0	0	0	0	0	0	922	3522	3206	0	0
SUB TOTAL	86928	34322	49237	42102	192220	174790	47755	49503	53222	92777	149224	126225

TOTAL 399187 317587 254526 264374 544734 646953 291122 177250 222707 326634 430480 569267

PERCENTAGE DISTRIBUTION BY COUNTRY GROUP

DEVELOPED	78	89	80	84	65	71	84	72	76	74	61	75
LESS DEVELOPED	22	11	20	16	35	29	16	28	24	26	39	25
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100

Source: Groupement Européen des
Entreprises Minières

