The Association of Geological Surveys of the European Union
(EuroGeoSurveys)
in their position as
custodians to their national natural resources
and
guardians of their terrestrial environment

present their contribution to the
Preparation of the 5th Framework Programme of Research and Technological Development Activities of the European Community
(COM (96) 332 final of 10.07.96)

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19 September 1996

1. Members of the new association EuroGeoSurveys have participated in the Fourth and previous Framework Programmes in the areas of: Industrial and Materials Technology; Standards, Measurements and Testing; Environment and Climate; MAST; JOULE; and Radiation Protection as well as in DG I and DG VIII International Cooperation programmes. EuroGeoSurveys regards the forthcoming 5th Framework Programme as important for its activities and welcomes this opportunity to contribute opinions to the European Commission.

2. The sixteen Members of EuroGeoSurveys are the national Geological Surveys of all fifteen European Community countries and of Norway and are governmental organisations currently containing 6500 geoscience professionals active in basic and applied programmes in geology, geochemistry, geophysics and related disciplines. Each Survey has been gathering information continuously through such work over an average period of 120 years.

3. Each Geological Survey reports continuously to its national government on the state of the country's landmass and earth resources, and is a prime national authority or topic centre on detailed resource and environmental information and policy-related questions. The Surveys maintain large geoscience information banks and have strong links with government and industry. The results of Geological Survey work provide the baseline information for decision-making and implementation by governments and industry of national resource and environment programmes. The geosciences are of central relevance to European Community problems in earth resources and the environment and are critical to their resolution.

4. EuroGeoSurveys would like to see the 5th Framework Programme support an enhancement of the global relevance and applicability of RTD in the geosciences. The work of EuroGeoSurveys members already has transnational extent across the European Community and extends globally through cooperation programmes with governments and the private sector in the countries of Central and Eastern Europe and the Mediterranean, the New Independent States and the Developing World.

5. EuroGeoSurveys endorses the four basic activities of the new Framework Programme: RTD and demonstration programmes; international scientific cooperation; dissemination and optimisation of results; and training and mobility of researchers.

6. EuroGeoSurveys would like to see the 5th Framework Programme provide support for the geosciences in several specific areas, each of which requires sophisticated RTD work and has direct relevance to the competitiveness of industry and quality of life in the European Community:

i) European mineral resource assessment, exploration and extraction

More support is needed to develop innovative methods of mineral exploration and extraction. Europe needs to make a realistic assessment of the supplies of metallic, non-metallic and fuel materials it needs to produce and drive the high-technology transport modes and electronic networks scheduled for future production.

Support is needed to enable the modern exploration and extractive industries to be seen as activities enabling essential wealth-creation through the provision of essential basic materials leading to added-value products rather than degradation of the environment.

ii) European water resource assessment

The quality, availability and abundance of groundwater are controlled by pollutants (of natural as well as human origin) and by natural circulation cycles which can operate to depths of several kilometres, with patterns of activity which can be modified by climate, natural bedrock "geodiversity" and human influences such as urbanisation, overconsumption and industry. The natural cycles are largely beyond human control and need to be investigated on regional and transnational scales in order to define their effect on the total ecology of Europe.

iii) European energy resource assessment

Realistic predictive scenarios need to be made in order to define the balance of renewable, non-renewable and imported energy resources on which Europe should rely in the long term future. The European Community will depend on hydrocarbons to supply about 65% of its total energy needs for the next 50 years. In the course of this period production in important oil and gas fields in the North Sea (and Canada) will decline and a third oil crisis is foreseen. EuroGeoSurveys therefore believes that targeted 5th Framework research programmes are imperative in this area to develop the technical and scientific competence needed for science and industry to advance the competitiveness of economic development in the European Community. Increased use of geothermal energy should also be promoted to supplement hydrocarbon use and lessen atmospheric pollution, for instance in countries on the eastern and southern costs of the Baltic. Increased funding should be made available within the Joule (and Thermie) programmes.

7. Priority topics (at III.1.1)

i) Unlocking the resources of the living world and the ecosystem

In this topic EuroGeoSurveys would like to see the 5th Framework Programme recognise the vital role and influence of groundwater and geodiversity (see 6 (ii) above) on life at or near the atmosphere/ground interface. It is increasingly difficult to separate processes that operate naturally in both the geosphere and the biosphere.

ii) Creating a user-friendly information society

EuroGeoSurveys endorses the enhancement of the transnational context and applicability of scientific information at both the European and global levels through the development of electronic IT networks within the new Information Society and would like this to include the geosciences.

iii) Promoting competitive and sustainable growth

Minerals Sources of new advanced materials are needed to support increasingly more sophisticated new technologies and manufacturing industry. The need for such new commodities will demand specialist geoscientific RTD and the re-evaluation of existing resources and supplies. Exploration will be needed, particularly for new sources of non-metallic minerals. This will require the development of enhanced capabilities in remote sensing applicable to the solid Earth so that Europe does not fall behind its competitors in this important field.

Environment, climate, groundwater and natural hazards The damages caused through inability to understand, predict or to adjust to the natural processes of the environment exact a heavy economic cost from modern society. Among other topics RTD in this field needs to develop new means for the treatment of contaminated land and the underground disposal of carbon dioxide. Remote sensing techniques will be needed to assist management of water resources and to monitor land susceptible to floods, desertification and salinisation. A strong geoscientific contribution to climate research will be important because research on the reconstruction of time series from geological sequences contributes to a better understanding of climate processes and their consequences. Current public knowledge of climatic history is not always grounded on such sound scientific information or contexts and could lead to unsatisfactory decision-making followed by serious economic impacts and legal consequences.

Agriculture and soils The relation between the bedrock geology and hydrogeological regime of agricultural land needs to be investigated in detail in order to achieve a sustainable water balance suitable for producing foodstuffs. The geochemistry of agricultural soils needs to be investigated.

8. Horizontal activities (at III.1.2)

i) Human potential

Support is needed to facilitate the exchange of scientists between academic, industrial and government workplaces, to promote “cross-fertilisation” of ideas and to promote a positive public image of European scientists as problem-solvers acting to enhance quality of life for the citizens of Europe.

ii) Confirming the international role of European research

EuroGeoSurveys endorses the proposals to improve the direct involvement of participants from the Central and Eastern European countries and the Mediterranean, to improve cooperation at European level and to define international scientific cooperation projects relating to specific countries or regions. Work of this type is a specific part of the EuroGeoSurveys mission and an important part of Geological Survey programmes. Plans are already in hand for the electronic exchange of geoscience data between the European Geological Surveys and partners in third countries.

9. Implementation (at III.2)

There is a need to increase the transparency of selection processes and reduce the time for release of funds to successful proposers. Detailed evaluation notes should be provided as a matter of routine to assist unsuccessful proposers. To date the high cash cost of preparing a full proposal has discouraged even large consortia from applying to the Framework Programmes.

The welcome trend of making more and more essential programme policy and opportunity documents accessible free of charge on the Internet should be further developed.

An open Fifth Framework forum should be maintained on the Internet to enable ongoing dialogue with participants and others as a means to improve administrative processes.

10. Task Forces

A Task Force on European Earth Resources should be set up. In general, Task Force work should be made more open, with an economical, lightweight style of operation (e.g. through e-mail discussion groups) with aims, objectives and deliverables made more accountable to the scientific community.

11 The Joint Research Centre

It will be necessary to foster the growth of closer links between the Joint Research Centre and national and international organisations. Efforts should be made to attract a greater proportion of mature visiting scientists to the JRC, for example through the new EU RTD cooperation agreements with Canada, Australia and other countries in order for it to enhance its international standing.

The scope of the JRC Institute of Prospective Technology Studies should be widened to the geoscientific field to include long-term predictive scenarios on topics such as natural disasters, geohazards and realistic future supply/demand scenarios for European resources of mineral, water and energy materials.