COMMISSION OF THE EUROPEAN COMMUNITIES

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COMMUNICATION FROM THE COMMISSION TO THE COUNCIL
AND THE EUROPEAN PARLIAMENT

Directions for the EU on Environmental Indicators and Green National Accounting

The Integration of Environmental and Economic Information Systems

1. The need for new policy guiding instruments.

Sustainable growth respecting the environment as a major new policy goal for the European Union is now enshrined in Article 2 of the Treaty of the European Community as amended by the Treaty on the European Union. Similarly Article 130r requires environmental protection to be integrated into the definition and implementation of other Community policies.

The Commission's White Paper on Growth, Competitiveness and Employment [COM 93, 700] highlights the need for a 'New Model of Development' and stresses the importance of an integrated approach comprising economic growth, quality of life, jobs, local development and the environment.

No instruments for policy guidance and public information are, however, available. What is needed - as a first step - is a harmonised European system of integrated economic and environmental indicators and accounts which addresses the problems of the various economic sectors and policy fields at various levels and which will allow for comparison between Member States.

2. Background

The Fifth Environmental Action Programme [COM 92, 23] contains a number of building blocks for a strategy aiming at sustainable development in Europe. The Programme specifies that 'exploiting and strengthening the experience and capacities of the European Statistical System to deliver environmentally relevant statistics on a regular basis, which will be comparable to and linked to the traditional official statistics in the economic and social fields [...] should imperatively be given a high level of priority'.

The Programme adds 'that although the value of many environmental assets is difficult to measure in monetary terms, and in the case of particularly important or rare elements should not be priced in any event, valuations, pricing and accounting mechanisms have a pivotal role to play in the achievements of sustainable development'. Among the measures required, the Programme mentions 'extension and adaptation of the traditional tools of economic statistics on the basis of research at national and European level including modification of key economic indicators, such as GNP, so as to reflect the value of natural and environmental resources in generating current and future incomes and to account for environmental losses and damage on the basis of assigned monetary value'.

Also the Commission's recent Communication [COM 94, 465] on 'Economic Growth and the Environment. Some implications for Economic Policy Making' stresses the need for new policy guiding instruments in the form of integrated economic and environmental information systems.

The Council and the Representatives of the Governments of Member States, meeting with the Council, reaffirms in its opinion on the Fifth Environmental Action Programme delivered 1 February 1993, the 'crucial importance of ensuring that environmental concerns are taken fully into account from the outset in the development of other policies and in the implementation of those policies, and the need for appropriate mechanisms within the Member States, the Council and the Commission to help achieve this integration, upon which the strategy advances in the programme relies'. It invites the Commission to 'consider developing initiatives to this end'. It undertakes to 'consider at the national level, and at the level of the Council in its various formations, the introduction of comparable measures to achieve the same aims'.

Likewise the European Parliament in its resolution on the Programme delivered 17

November 1992 welcomes 'in principle the guidelines set out in the Programme and in particular [....] the importance which it attaches to the quality, evaluation and distribution of data on the environment'. It furthermore calls on the Commission to 'establish clearly the mechanisms for interaction and the conciliation instruments necessary to ensure the effective participation of all political, economic and social operators and agents, NGOs, consumer associations and the general public'.

The European Parliament furthermore details its position in its Resolution of 22 April 1994 on 'The Inclusion of environmental considerations in the calculation of the Gross national product' in which it advocates broad 'collaboration' on the issue, calls on the Commission 'to give an impetus to the scientific community [....] to come to useful and acceptable environmental indicators' [....] calls on the Commission to 'put forward as soon as possible practical proposals based on the results of the 'environmental pressure index' project'.

Until now, however, specifications on how to embark on the issue has been lacking. The establishment of the European Environment Agency in Copenhagen (DK), which opened officially its activities 1 November 1994 and which will develop and structure comprehensive information on environmental issues underlines the need - besides the extreme necessity of developing a common EU ready-for-use policy guidance instrument - for a common framework for 'green accounting' in the EU. A framework which, if worked out in a coordinated effort, will provide legitimacy and - most important - a common reference to the various activities under this heading.

3. The aim

On the basis of a Report prepared by the Services the Commission has developed a set of complementary actions establishing a European framework for 'green accounting', which will provide:

i) a European System of Integrated Economic and Environmental Indices (ESI), a much needed direct integration of economic performance and environmental pressures of economic sectors in a comparable way, within 2-3 years

ii) the larger and more fundamental work on the 'greening' of the National Accounts in a satellite format (detailing environmental expenditures, establishing natural resource accounts, improving knowledge of methodologies for environmental damage assessment and monetary evaluation)

The methodology proposed permits the establishment of a number of key environmental indices, which can be aggregated in full or partly.

Obviously, sustainable development comprises a large number of facets which go well beyond the environmental aspects which are the focus of this Communication. The framework of activities reflects how far one can go now, and is at the same time open to take in new knowledge when this becomes available. The framework also allows for the integration of other aspects of sustainability (e.g. social aspects).

4. The various elements.

Policy guidance on the integration of environmental concerns in other policies should in principles be based on an evaluation of - in its broadest sense - environmental damage of human activities as compared to economic and other social performance of this activity, and

taking into account the cost of avoiding or remedying the damage. Evaluation of damage, however, is difficult, time consuming and resource intensive for a number of reasons. In many cases, moreover, the necessary knowledge will not be readily available and damage evaluation therefore a matter of costly and time-consuming research.

The pressure that economic activities exert on the environment is easier to obtain. The first operational element (actions 2 and 3) of the proposed framework is therefore to establish within 2-3 years a European System of Integrated Economic and Environmental Indices (ESI). The system - which will resemble the Dutch NAMEA system (Integrating indicators in a National Accounting Matrix including Environmental Accounts), but will be developed using a common European System of Environmental Pressure Indices (ESEPI) - will be available to Member States and the EU in 2-3 years time. It will need permanent updating.

ESI will provide useful guidance on how to integrate environmental concerns in other policy areas and will thus be a powerful policy guiding instrument. This requires that sectoral specificities are closely integrated into the development, interpretation and use of indicators, indices and more aggregated information.

ESI will also provide - for the first time - a comparable means of public information on EU progress towards a better balance between economic performance and environmental pressure.

The *economic part* of ESI will be compatible with the System of National Accounts (SNA). What is needed - as a first step - is in effect a reformatting and extension of the existing National Accounts (NA), providing for the linkage to environmental indices.

The *environmental part* of ESI is more difficult. The European System of Environmental Pressure Indices (ESEPI) will as a first major contribution indicate priorities for the compilation of relevant, comparable physical data on environmental pressure. It will identify - for each environmental problem area as defined by the 5th Action Programme, or later generated by the ESI itself - a common list of main pollutants. It will establish sets of European Weighting Coefficients (EWC) needed for a harmonised aggregation of pressures from different polluting agents. The system operates in a simple, transparent and time efficient manner.

The ESEPI-system is designed in a way which will let environmental 'pressure' come as close as possible to environmental 'damage'. It is also designed to take into account a broad spectrum of environmental problems from unwanted changes in land use to human health. In principle the same methodology may be used also for the establishment of EWCs useful in systems like 'Life Cycle Analysis', 'Eco Labels', 'Best Available Technologies', and other areas of specific interest to sectoral policy making in which a common European approach is important.

It should be stressed, that ESEPI only yields relative valuations of environmental damages and operates on a strictly non-monetary basis. Although transparent, the ESEPI does not reveal the reason why different experts value certain pressures higher than others. It is therefore essential to ensure the credibility of the EWCs by a transparent selection process of the experts involved.

The combination of economic performance indicators and environmental pressure indices in

ESI as described above, however useful, does not provide for the full integration of economic and environmental indicators. For this a monetary valuation of the environmental indicators is necessary. The second operational element of the framework (actions 4 and 5) is designed to promote work in these fields.

Various attempts to establish aggregated figures on national economic performance according to one or more sustainability definitions have been offered by academia during the last years, and valuable information is still being provided, mainly as regards contributions to a better understanding of the concept of sustainability.

The development of a 'greened' GNP, although having a certain appeal and potentially being a useful component of an integrated economic-environmental information system, raises a number of difficult methodological questions which rule it out as a realistic option for the foreseeable future. Therefore what is needed - as a first step - is an approach which makes environmentally interesting parts of the System of National Accounts visible by disaggregation, which adds other parts like resource depletion and environmental degradation, firstly in the form of physical indicators, later with the help of available techniques transformed into monetary value, still - however - keeping the various building blocks of such a European System of Integrated Environmental and Economic Accounting separate, a so-called satellite approach.

The various building blocks may be viewed as having three levels: In the first level is found the information that in principle can be derived directly from the existing SNA through disaggregation and reformatting. Although available in principle a lot of work is needed for data collection, e.g. in areas like environmental protection activities, where the methodology SERIEE developed by Eurostat and Member States statistical offices for the collection of environmental expenditure data is now after some years of pilot testing ready for the actual collection of data.

In the next level is found those satellite accounts which are partly available in some (but few) Member States: natural resource accounting, other physical data, like flows of raw materials, land use changes and flow of 'residuals' , i.e. polluting agents.

In the third level are found satellite accounts, which necessitate imputations of environmental costs. Although essential it is also acknowledged that this part of the 'greened' SNA is laborious, and to some extent still a domain of research and development.

To these operational elements are linked a proposal (Action 1) to establish a common framework, a 'Handbook on a European System for Integrated Environmental and Economic Accounting (ESEA). The basic idea is to establish a framework of the various components of integrated economic and environmental accounting, so as to provide legitimacy to relevant activities - and to provide a common conceptual basis and a common reference for the work. The last proposal for action (Action 6) is intended to keep coordination in the area at a horizontal level close to the President of the Commission.

5. Summary of main actions of the framework for EU 'green' accounting

1. establishing a common framework of understanding, a common reference for accounting for all activities of the EU in the area of 'green' accounting: a 'Handbook on a European System for

Integrated Environmental and Economic Accounting (ESEA)'.

2. establishing a European System of Environmental Pressure Indices [ESEPI]. The system will be useful for setting priorities in the collection of physical environmental pressure indicators, for collecting these indicators, for establishing sets of European Weighting Coefficients, and for the aggregation of indicators into environmental pressure indices

3. the bringing together of indices for economic performance and environmental pressure, to form a European System of Integrated Economic and Environmental Indices [ESI], which could be achieved in a first run within 2 years, providing for the first time comparable systems of integrated environmental and economic indices in the EU

4. continuing and enlarging work on satellites to National Accounts of essential value for 'green' accounting, such as environmental expenditures, natural resource accounting etc.

5. improving the methodology and enlarging the scope of monetary valuation of environmental damage with a view of bringing such information into the above system

6. ensuring horizontal co-ordination of the activities

Conclusions

1. The Commission is of the opinion that

- there is a need for new instruments for policy guidance and public information at European level in relation to the Sustainability Development goal set out by the Treaty on European Union, by the Fifth Environmental Action Programme, as well as by the 'New Model of Development' in the Commission's White Paper on 'Growth, Competitiveness and Employment',

- the integration of economic and environmental information systems into A European System of Integrated Economic and Environmental Indices (ESI) is a suitable starting point for the development of such policy guiding instruments,

- further integration of environmental and economic information systems aiming at a 'greening' of National Accounts following the satellite approach should be intensified in accordance with a common framework and using a common reference,

-the integration of economic and environmental informations systems should be developed in six parallel actions detailed in this Communication, making sure that all competencies are taken into account, particularly those of the European Environment Agency and Eurostat.

2. The resources necessary for the implementation of these actions will be determined in the context of the annual budgetary procedure, in the light of the resources available within category 3 of the financial perspectives.

FINANCIAL STATEMENT

Multiannual actions (1995-1999) related to the establishment of environmental indicators and green national accounting for the European Union

1. Title of operation:

   Multiannual actions (1995-1999) related to the establishment of environmental indicators and green national accounting for the European Union

2. Budget heading involved:

   - B4-304 Legislation and other general action based on the Fifth Environmental Action Programme

3. Legal basis:

   - Resolution of the Council and the Representatives of the Member States, meeting within the Council of 1 February 1993 on a Community programme of policy and action in relation to the environment and sustainable development (5th Environmental Action Programme)[1]
   - Council Decision 93/464/EEC on a framework programme for priority actions in the field of statistical information 1993-1997[2]
   - Council Decision 94/.../EEC adopting a four-year development programme (1994-1997) relating to the environmental component of official statistics[3]

4. Description of operation:

   4.1 Specific objectives:

   Establishment of a system of environmental indicators and environmental satellite accounts as an instrument for guiding EU policy in accordance with the principles of sustainable growth, as enshrined in Article 2 of the Treaty on European Union.

   4.2 Duration: 1995-1999

5. Classification of expenditure or revenue:

   5.1 Non-compulsory

   5.2 Differentiated

   5.3 Type of revenue involved: none

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[1] OJ No C138, 17.5.1993, p1.
[2] OJ No L219, 28.8.1993, p1.
[3] Common Position in OJ No C213, 3.8.94, p15, to be adopted by Council on 15-16 December 1994

6. Type of expenditure or revenue involved:

6.1 100% subsidy:

Yes for certain specific elements of these actions which may require 100% subsidy. However, there is general operational subsidiarity in statistical actions in the EU, in that the major part of the cost is supported by the Member States. Overall, the Community contribution is well under 5%.

6.2 Subsidy for joint financing with other sources in the public and/or private sector:

Yes: joint financing with public sector (national statistical services).

6.3 Interest subsidy: no

6.4 Other: none

7. Financial impact on appropriations for operations (part B of budget)

7.1 Method of calculating total cost of operation:

(1000 ECU)

Action	Note	1995	1996	1997	1998	1999	TOTAL
1. Handbook on green accounting		(d)	300	(pm)	(pm)	(pm)	300
2. European System of Environmental Pressure Indices		(d)	2400	2300	500	500	5700
3. Integrated Economic and Environmental Indices	(a)	(pm)	(pm)	(pm)	(pm)	(pm)	(pm)
4. Environmental satellite accounts		(d)	1000	2000	2000	2000	7000
5. Research on damage evaluation and monetarization techniques	(b)	(pm)	(pm)	(pm)	(pm)	(pm)	(pm)
6. Horizontal coordination	(c)	(pm)	(pm)	(pm)	(pm)	(pm)	(pm)
TOTALS		(d)	3700	4300	2500	2500	13000

Notes:
(a) no additional operational appropriations needed
(b) it is expected this action will be funded from appropriations in Chapter B6.
(c) no additional resources needed.
(d) preparatory activities

The resources necessary for the implementation of these actions will be determined in the context of the annual budgetary procedure, in the light of the resources available within category 3 of the financial perspectives.

7.2 Administrative expenditure to be included under Part B:

(1000 ECU)

Item	1995	1996	1997	1998	1999	TOTAL
Meetings of experts	200	200	200	200	100	900
Conferences	100	100	100	200	100	600
Publications and information	-	100	100	100	100	400
TOTALS	300	400	400	500	300	1900

7.3 Indicative schedule of commitment and payment appropriations:

(1000 ECU)

	1996	1997	1998	1999	TOTALS
Commitments	3700	4300	2500	2500	1300
Payments					
1996	2000				2000
1997	1700	2100			3800
1998		2200	1000		3200
1999			1500	1000	2500
2000 and later				1500	1500

8. What anti-fraud measures are planned in the proposal for the operation?

Contracts and conventions made by the Commission, including those with national statistical services, are concluded on the basis of the delivery of specified products; payment is not made until these are delivered. Regular contacts with contractors ensure that work is carried out along the lines envisaged in the contract.

9. Elements of cost-effectiveness analysis:

9.1.1 Specific objectives:

In the areas of environmental indicators and environmental satellite accounts

- development of methodologies
- pilot studies in selected Member States to test elements of the methodologies
- publication of agreed, harmonized methodologies, incorporated where appropriate into legal instruments
- collection of additional data needed for the integration of environmental concerns into statistics for major economic sectors (energy, industry, agriculture, forestry, fisheries, transport etc)
- regular production of indicators and satellite accounts
- dissemination of results and of information about the methodologies used

9.1.2 Beneficiaries:

- EU institutions, the governments of Member States, enterprises, decision-makers
- Research institutes, universities
- Non-governmental organizations concerned with environmental questions

9.1.3 Monitoring and evaluation of the operation:

The actions foreseen here will be covered by the monitoring and evaluation procedures applicable to the Statistical Programme 1993-1997.

10 Administrative expenditure (Part A of the Budget)

10.1 Will the proposed operation involve an increase in the number of Commission staff?

It is understood that any increase in staff for a particular area of work is subject to the normal budgetary procedure, involving a decision on the attribution of human resources by the budgetary authority, or internal redeployment approved by the budgetary authority. The following table indicates new posts which would be required for efficient execution of the actions covered by this financial statement:

(Permanent officials)

	1995	1996	1997	1998	1999	TOTALS
Action 2			1B			1B
Action 4		1A				1A
TOTAL		1A	1B			2(1A,1B)

10.2 Indicate the amount of staff and administrative expenditure involved in the proposed operation. Explain the method of calculation:

(ECU)

	Notes	1995	1996	1997	1998	1999	TOTALS
Staff expenditure (Title A-1)	(a)		70000	140000	140000	140000	490000
Operational expenditure (Title A-2)							
Linked to new posts	(b)		20000	40000	40000	40000	140000
Other (A-250)	(c)	(pm)	40000	40000	40000	40000	160000
TOTAL		(pm)	130000	220000	220000	220000	790000

Notes:
(a) assumes average cost of post: 70000 ECU (based on B2)
(b) estimated operation expenditure linked to a post: 20000 ECU
(c) for two working party meeting per year with two government experts per Member State