

ESEE Newsletter - N°2 - June 1997

Published by the European Society for Ecological Economics

Dear Friends,

Here is the second issue of the European Society for Ecological Economics Newsletter. It is intended to be a communication media for members of the Society. So please do not hesitate to send us any information that you deem relevant, including small texts for the "Thoughts..." section. In particular, we would like to enrich the "Publications" section. Information on forthcoming publications, as well as reviews of books that you have read, are welcome. Finally, your comments can help us make this newsletter better, please write us at : <eseec@ced.uvsq.fr>.

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A Word from the President

THE MULTI-STAKEHOLDER PARADIGM

by Sylvie Faucheux

For more than ten years now, Ecological Economics has advocated new methodological approaches to the design of environmental norms, rules and policies. Included in these new orientations are consultative and participatory processes involving the various stakeholders concerned with environmental policies, where policy is realised through processes that allow for collective social learning in order to enhance the legitimacy of the chosen solutions.

A recent example of such a procedure is the establishment of the European Forum for the Environment and Sustainable Development. This Forum, officially launched by the president of the European Commission, Jacques Santer, on the 5th of June 1997, brings together 32 members from the business world, professional organisations, trade unions, consumer bodies, academics, regional and local authorities as well as other sectors of society, within the Union and in Europe as a whole. The Forum must act as an independent consultative body to the Commission, building upon communication and dialogue between the European actors in the field of sustainable development and the environment, to help in decision-making.

Another example is the process chosen by the Commission to prepare its negotiation position for the Kyoto Conference of the Parties to the UN Framework Convention on Climate Change, which will meet next December. Faced with scientific uncertainties and conflicts of interests between different stakeholders which will mark any policy aimed at reducing atmospheric forcing, a series of workshops has been organised since January 1997 in order to improve interfaces between : (i) the scientific community; (ii) the European Commission climate negotiation team; (iii) other Commission interests including the "inside" stakeholders : the Forward Studies Unit, DGXI, DGXII, the Inter-Service Group, etc.; and

(iv) a range of "outside" stakeholders including industry, finance and commerce, employment, environment, consumer and citizen interests.

In the business sector, the sorts of environmental protection instruments currently favoured by industrial actors such as voluntary agreements or eco-labels, also go in this direction of process and negotiation.

Decision-makers slowly recognise that these new forms of collective action which build upon a direct participation of informed and motivated stakeholders at every decision-level, provide a new means to confront ever more complex situations in environmental affairs where uncertainties and risks are always on the rise. Integrating in real time the divergent interests of the various stakeholders in their scientific, economic and social aspects, in a sort of multi-disciplinary dialogue, provides a basis which can help decision-makers in the evaluation of risks, in the setting of priorities and in the evaluation of actions in the field of the environment. By this, decision-makers recognise that the choice and fulfilment of the objectives of an environmental policy are not only dependent on the strength of judgement and action of the State but more particularly on the ways in which the various stakeholders are associated with the preparation and the implementation of policies.

In such a framework, genuinely pertinent environmental policies have to be based on scientifically valid information at all levels of decision, so allowing each concerned actor to translate global objectives into individual ones, and vice versa. One is then confronted with a problem of multiple scales. We should not only think in spatial terms when collecting information and implementing policies, but also in terms of institutional scales of interests and competencies. Specific management criteria and constraints are present at each

level of analysis, management, or decision. Additionally, any one level (e.g. the European Union) can influence the others (e.g. through the common Agricultural Policy). This influence can go upward or downward. In the case of the European directive on nitrates (1991) for instance, the rule was adopted at the European level, but its implementation takes place at the local level through local authorities and local agricultural organisations all the way down to the individual farm level. Policies will be more pertinent when they ally the spatial and the competence scales.

The local levels would then be places where one could finally find a collective purpose, hence leading to better actions at the higher scales. However, means of governance calling for more collective, decentralised and participative forms of action cannot be implemented without institutional safeguards. More decentralisation, more feed-backs, require more strategic capacities and more responsibilities at the heart of governments. One should go beyond the classical limits of the liberal and the socialist state by instituting new practices based on broad consultation, negotiated and other new forms of regulation, extended power delegation to independent authorities, judicial control of administrative action, and extended use of evaluation and auditing tools.

The more and more frequent bringing together of heterogeneous stakeholders in "peer communities" is, in this light, a desirable (but, on its own not sufficient) practice for sustainable development. It is important to normalise methods of prior consultation and institutional guarantees at each decision level in order to secure equitable consultations. It is also essential to allow for the permanent update and consideration of new reactions and

facts. This requires enhanced recognition for "weaker" actors (poorer or less favoured people, future generations, non-humans, etc.) which can for example be achieved by them acquiring a full status in the identification and negotiation of decision options. It is clear that the variety of actors recognised must be much richer than the homogenous and fuzzy status of undifferentiated consumers or producers. The case of pesticides is a good example : one can identify a whole set of stakeholders that would need to be brought together to socially validate any integration of environmental concerns in agricultural policy : pesticide producers, farmers, workers, local communities' members, public authorities, "spokespersons" for future generations, for fish, for stream and marine ecosystems, and so on.

The ability to animate networks of public and private actors at all levels has become of prime importance. The development of participative settings for the follow-up as well as for the revision of policies and models of action becomes a critical element for the pertinence of action and for the construction of a shared knowledge and understanding. This constitutes a challenge, an agenda for research and a perspective for decision-making, which Ecological Economics cannot ignore, and this for at least two reasons. On one hand, it calls for a genuinely interdisciplinary approach which integrates elements of economic and sociological analysis articulated with the inputs from scientific knowledge. On the other hand, the setting up of environmental policies based on the concerns of members of a society corresponds to the implementation of a real vision of social transformation, that of sustainable development in all its dimensions: economic, social and ecological.

Thoughts...

POST NORMAL SCIENCE AND ECOLOGICAL ECONOMICS

by Silvio Funtowicz & Jerry Ravetz

The great achievement of modern European science was the successful simplification of complexity, where abstract, standardised knowledge mastered the particularity of natural events and processes, We are now learning that this success has had a price; what is the price?

The underlying belief of the founders of modern science was that ignorance would be conquered by the power of reason. Uncertainty was the result of human passions. The task for science was the creation of a Method that would ensure the separation of reason and passion. The goal was the discovery of the pure hard facts, uncontaminated by soft values.

The emerging scientific method included the assumptions that the natural system could be divided into isolated quasi stable components, and that the objects of study could be separated from the subject studying them. Disciplinary science (which is the basis of the University system) and the myth of value free, neutral science

(which legitimises expertise), are the direct consequences of these endeavours. At the same time as Europe was conquering the new worlds, modern science was conquering Nature, and the two conquests were closely related.

The sciences of humanity and society have had an ambivalent relationship with this hegemonic reductionist natural science. The reductionist social science of Hobbes was contemporary with the reductionist natural science of Descartes. Since then, sometimes the human sciences have asserted their differences; at others they have accepted inferiority and succumbed to envy. Contemporary mainstream economics is an extreme case of the latter syndrome; it now models the social world on an image of physical science that is a full century out of date.

The success of natural science provided the modern State with a legitimating model of "rational" decision making, in which correct actions followed the discovery

of true facts. In other words, the Good was implied by the True. Rationality became synonymous with "scientific rationality" and knowledge with "scientific knowledge". Other claims to rationality or forms of knowledge were dismissed as illegitimate, and even practical knowledge based on craft skills was considered a lower class of knowledge.

Mainstream economics has copied this restricted image of rationality, so that the maximisation of a quantifiable utility becomes the only conceivable goal for human action. The successes of other styles of social and economic organisation (as the European and the Oriental) are rendered incomprehensible. And the systemic interactions of the economy with the natural world are incorporated, if at all, in a lame and truncated fashion. Mathematical analyses require assumptions of an "equilibrium" when that is conspicuous by its absence; and the "discount rate", which expresses the sacred compact between ourselves and future generations, is assigned arbitrarily as if it were a simple fact.

There is now a widespread feeling that the scientific system (including science-based technology) is responsible for many of our perceived environmental and health problems. It is also seen to be closely associated with an economic theory which privileges economic growth as the only form of development, has a total disregard for questions of fairness and equity, and professes a reckless "technological optimism".

If this is the state of affairs nowadays, then we could ask: Is the science and technology that created the pathologies of our industrial system, the same science and technology that will contribute to resolve them? Also, what could be the possible contribution of an economics paradigm which justifies such a destructive system and makes any other unthinkable? If the answers are negative, what would be the tasks of a "new science", including a new "ecological economics"?

Clearly, the task can no longer be solely the advancement of knowledge, motivated by a mixture of scientists' curiosity, sponsors' profit, and the rationalisation of a non-sustainable economy. Rather, it will be devoted to the resolution of issues in health, at the human, community and environmental scales. In this, its

method will still necessarily be some sort of simplification of complexity. This time, however, it will have to be done in the context of irreducible uncertainty and even acknowledged ignorance. The basic assumptions of modern science will have to be modified for the development of a new, issue-oriented science. Confronted with these new problems, disciplinary science will have to give way to trans-disciplinary science, and reason will have to be reconciled with passion. This new practice of science we call Post Normal; and it is relevant and effective when facts are uncertain, values are in dispute, stakes are high and decisions urgent.

In Post Normal Science, Quality replaces Truth as its organising principle. The task is no longer one of accredited experts discovering "true facts" for the determination of "good policies". Rather it involves an extended community, which evaluates and manages the quality of scientific inputs; these are provided for complex decision making processes whose goals are negotiated from conflicting perspectives and values. In such negotiations, inputs from economics, and the tools of economic analysis, should be accepted along with all others. But its ruling assumptions of superiority of quantitative statements, and of the unique validity of mathematical arguments, regardless of the insecurity of their foundations, should no longer hold. We will still need good quality traditional science and technology. Their products, however, will have to be embedded in an integrating social process. In this way, the scientific system will become a useful input to novel forms of policy making and governance.

The modern scientific system and its model of decision making could not by itself provide the whole answer to issues of health at the individual, community or environmental scales. Health can only be comprehended as a systemic concept, which is also complex because it includes a plurality of legitimate perspectives. Post Normal Science provides a context, a practice and a commitment in which these real issues of health have a chance of genuine resolution. A new ecological economics should make its contribution to the new post-normal science, respecting uncertainty and quality, and comprehending diversity, dialogue and debate.

WHAT PRICES FOR THE ENVIRONMENT?

by professor Beat Biirgenmeier

In the ongoing debate about environmental evaluation, policy recommendations have not only to refer to the market but also to other sectors of the economy, which has to be understood as a combination of markets, State and informal activities. Each of these sectors can be linked to different philosophical references. The market economy is backed by liberalism; the public sector can be seen in the light of collectivism and the third sector strongly refers to communitarianism. Each sector highlights different interpretations of values and comes up with a different answer to the old question how to define the "just price" of the environment.

What is finally the most promising way to protect the environment? This question reflects a more fundamental issue concerning the boundaries between the public and the private spheres and between economic and social values as key references to environmental protection.

Why should the environment exclusively be submitted to the market and to price determination? How can other value references be used in order to promote environment protection?

Reference is made to behavioural assumptions other than economic rationality namely those related to social norms which determine prices set by the public sector such as

tariffs, and by the third sector such as gifts and prices set by cooperatives.

(A paper on this theme is available on request from the author)

On the Web

Web Site on the Economics of Biological Diversity

The IUCN Biodiversity Policy Coordination Division is announcing the development of a new Web site focusing on the economics of biological diversity. Its aim is to provide pertinent information and facilitate the sharing of experiences in support of the approved work programme and resolutions of the First IUCN World Conservation

Congress and in support of the implementation of the Convention on Biological Diversity.

For more information contact : Frank VORHIES, <fvv@hq.iucn.org or: <http://iucn.org/>>

**ESEE Web Site soon to open:
<http://www.c3ed.uvsq.fr/esee>**

Ecological Economics Teaching in Europe

*** M.PHIL IN LAND ECONOMY - University of Cambridge - U.K.**

Two options are offered to students taking the M.Phil.: Option A which is a one-year research degree; or Option B, which is a one year instructional degree. All students take a course in research methods. Those in Option A concentrate upon a thesis while those in Option B complete course work and an extended research paper or dissertation. As part of their course work, Option B students can choose from ten courses two courses or 'papers' (as they are known at Cambridge). This allows some specialisation in an otherwise interdisciplinary degree. For example, one of the areas in which students have the possibility to specialise is ecological & environmental economics and environmental law. The ecological & environmental economics course is described further below.

Ecological and Environmental Economics 'Paper'

Lecturer: Dr, Clive L. Spash

Subject: the role of economics in environmental policy formation and the interactions between natural science, economic and political studies in environmental management.

This 'paper' aims to cover the role and range of environmental economic models applied to environmental policy questions and compare this body of knowledge with the newly developing area of ecological economics. A central theme will be the role of value formation, the methods employed in cost-benefit analysis and the policy

implications of monetary evaluation approach. Current debates on a range of environmental problems will be discussed e.g., biodiversity, the enhanced greenhouse effect, air pollution, and sustainable development.

Aims:

To develop an appreciation of the influences which economics has upon the environment

To understand the range of environmental valuation methods applied by economists

To comprehend the complex interactions between different disciplines in environmental management e.g., ecology, economics and politics

To recognise value conflicts in environmental policy formation

To be able to constructively analyse environmental policy formation and suggest progressive ways forward

To give those unfamiliar with economics sufficient knowledge of the subject to allow them to intelligently discuss and debate current controversies facing the application of economic analysis to environmental issues

To complement the 'paper' in Environmental Law and Policy

For more information on the M.Phil. please write to: Director of Graduate Studies, Department of Land Economy, 19 Silver Street, University of Cambridge, CB3 9EP, United Kingdom

*** ECONOMIC ANALYSIS AND RISK MANAGEMENT - University of Versailles, France**

The University of Versailles-Saint Quentin en Yveines (France) is launching a new master degree (Diplôme d'Etudes Supérieures Spécialisées) entitled "Economic Analysis and Risk Management". It is organised in partnership with the National Institute for Nuclear Sciences and Technology (INSTN) of the French Atomic Energy Agency (CEA).

The objective of this programme is to train undergraduates from different backgrounds (engineering,

natural sciences, economics, law, etc) in the economic analysis of risks. It is also open to professionals wishing to develop their competencies on the inclusion of risk management dimensions in the design and maintenance of industrial systems.

The degree is composed of a set of theoretical and practical courses provided by a multidisciplinary team of academics and professionals, and of a 5 months internship in a firm. Selection of candidates is made by a jury, based on a written application and an interview.

News

GERMAN SPEAKING GROUP OF ECOLOGICAL ECONOMICS

by *Irmi Seidl, Harald Spehl, Fritz Hinterberger*

In 1996 the "Deutschsprachige Vereinigung für Oekologische Oekonomie, VOeOe, (German Speaking Group of Ecological Economics) was founded. A central aim of this group was to strengthen the academic discussion, implementation, and development of Ecological Economics in Germany, Austria, and the German speaking part of Switzerland as well as to link and deepen this discussion with international scholars.

The preparation process and the foundation both took place at about the same time as that of the European Chapter of Ecological Economics. Amongst the persons who attended the foundation meeting at Heidelberg (50), about 30 became members of the ESEE and about 20 were ISEE-members. In the meantime the establishment of this group advanced and the constitution phase was concluded with a conference on "Working in a sustainable society" and a general meeting on May 29-31, 1997 in Heidelberg. The group now holds 130 members. Most of these joined through networking. The members of VOeOe come from 30 universities and research centers. Two thirds of these members are economists, and the rest come from human and/or other social and natural sciences and planning. Concerning the positions, 25 % of the members are university professors, 50 % are (non-professorial) teaching staff of universities and students, and 25 % work in research centers or politics. As the implication in politics is one of the important objectives, the group considers it as crucial to have members from politics. Women are represented with 20 %.

The existence of the German speaking group and their activities are framed by particular aspects : the members speak the same native language and for most of them, this plays a major role in simplifying scientific exchange, cooperation and integration, as well as differing perceptions on politics and public. Furthermore,

many members work on similar research topics as these topics are based on similar social and ecological problems and discussions. The frames for work and research are determined by similar university traditions as well as a shared background in Ecological Economics. Finally there is a similar cultural background combined with environmental awareness and a shared approach to environmental problems. Although we highlighted in the previous lines the specific frame of this group, it is also a fundamental aim to strengthen and support the international scientific cooperation and exchange. We feel that the international discussion about Ecological Economics, particularly in our own home countries, can further gain and develop if there is an intensive and living exchange in this field among the members of VOeOe.

At the moment, there are 10 self-organized work groups with 5-30 members. The topics they are working on include : development of a text book and curriculum for teaching at German speaking universities, cooperation and networks, material fluxes and communication, globalisation, regionalisation, ethics, primary production, evaluation of natural resources, long-term scenarios. Usually the members of the work groups meet at different places in Germany, Switzerland, or Austria.

In the last year the board of the German speaking group realised that it may take some time to put into practice a formal affiliation to the ISEE and ESEE. In order to be able to constitute lawfully, the German speaking group of Ecological Economics has postponed the initial aim of affiliation. We hope that this will allow all sides to deepen the contacts and to strive for affiliation within the upcoming years.

For further information contact:
Irmi SEIDL <iseidl@uwinst.unizh.ch>

WORKSHOP ON VALIDATION OF THE ENVIRONMENT-WATER TASK-FORCE

Martin O'Connor participated as a stakeholder (representing the ecological economics interests) in the *European Commission's Workshop on Validation of the Environment- Water Task-Force Final Report* defining policy and research priorities for the coming years, held at Baveno, Italy on 19-21 June 1997. This report, presented in a preliminary (and incomplete) draft form, sought to define research priorities for improving water resources management across the EU, as part of the design of a *Key Action* on water within the Commission 5th Framework Programme (1998-2002). Much of the

emphasis in the draft was on physical sciences, markets and technical research. Delegates sought for greater recognition of institutional aspects of water management as a vital human need, of the integration of ecological systems management and economic demand management for sustainable resource use, and multi-stakeholder perspectives in policy, research and conflict resolution. The Task Force will produce its Action Plan proposals later this year, and ESEE members interested in water should look out for it as an important reference document.

EUROPEAN "TRAINING AND MOBILITY OF RESEARCHERS" RESEARCH GRANTS

The Directorate General for Science, Research and Development of the European Commission is proposing research training grants to nationals of Member States of the EU or of Associated States who wish to do work in a research institution established in a Member (or

Associated) State and located outside the country of origin of the applicant. More information about these grants can be obtained by contacting : TMR Programme - DG XII - Rue Montoyer, 75 - B1040 Brussels - Belgium - Fax : +32 2 296 21 36 - e-mail : info.tmr@mhsq.cec.be.

Publications

Transport and the Global Environment, Special Issue of the International Journal of Environment and Pollution, Volume 7 n° 3, 1997. Guest editors: P. Nijkamp, K. Button & E. Verhoef

Contents :

- Issues in evaluating the long-term global impacts of transport policy, *by J. Dodgson*
- Long-term scenarios for surface transport, *by P. Nijkamp, S.A. Rienstra & J.M. Vleugel*
- Motor transport, greenhouse gases and economic instruments, *by K. Button & W. Rothengatter*
- Environmental effects of transport: a model of optimal pricing and investment for the UK, *by J. Pierson & R. Vickerman*
- Optimal restrictions on vehicle use for urban sustainability for Mexico City, *by H.C. Goddard*
- Economic instruments, transport and the global environment, *by H. Opschoor and T. Jones*
- Political economy issues of environmentally friendly transport policies, *by P. Rietveld*
- An assessment of the aggregate impacts of the proposed reduction in motor fuels tax in the United States, *by N.D. Uri & R. Boyd*

Towards Sustainability, Progress report from the Commission on the implementation of the European Union programme of policy and action in relation to the environment and sustainable development. (1997) • Ref.: COM95/624.final

Decision-making and the Environment, Special Issue of the International Journal of Environment and Pollution, Volume 7 n° 4, 1997.

Guest editor : **M. O'Connor**

Contents :

- The internalization of environmental costs: implementing the Polluter Pays Principle in the European Union, *by M. O'Connor*
- The foundations of environmental decision-making, *by A. Holland*
- Reconciling different approaches to environmental management, *by C.L. Spash*
- Use of scientific inputs for environmental policy-making : the RAINS model and the Sulfur Protocols, *by N. Castells and S. Funtowicz*
- Seveso: from pollution to regulation, *by B. de Marchi*
- The economics of recycling in France: institutional framework and technological adoption, *by C. Defeuilley and O. Godard*
- Waste incineration in cement plants: constraints and development opportunities (a French-German comparison), *by Virginia Setbon*
- Social perceptions of environmental issues: a case study looking at people's representations of environmental issues, *by S. van den Hove and M. O'Connor.*

Can be bought from C3ED at special discount price of 1.50 French Francs per copy. Contact **Martin O'Connor**, e-mail : <martin.oconnor@c3ed.uvsq.fr>

Conferences

1 **Open Meeting of the Human Dimensions of Global Environmental Change Research Community - Workshop on Industrial Transformation**

Laxenburg, Austria - June 12- 14, 1997

Co-organised by the International Institute for Applied Systems analysis (IIASA) and the Institute for Environmental Studies (IVM)

Contact: Prof. Dr. Pier Vellinga, <pier.vellinga@ivm.vu.nl>

1 **Quelles techniques de traitement pour les émissions de composés organiques volatils d'origine industrielle?**

Angers, France - June 24-25, 1997

Organised by ADEME and the French Ministry of Environment

Contact: C. Boux or C. Millot, Tel : (33) 1 47 65 20 00 • Fax: (33) 146 45 52 36

1 **Access to Environmental Justice : A Comparative Examination**

University of London - July 8- 11, 1997

W.G. Hart Workshop 1997 - Institute of Advanced Legal Studies.

Contact : D.E. Phillips, <dphillips@sas.ac.uk>

1 **Informatique pour l'Environnement 1997 - Umweltinformatik '97**

Strasbourg, France - September 10- 12, 1997

Conférence Européenne sur les Technologies de l'Information pour l'Environnement - Internationales Symposium der Gesellschaft für Informatik (GI)

Co-organised by : Institut National de Recherche en Informatique et en automatique (INRIA), Institut Franco-Allemand de Recherche sur l'Environnement (IFARE) Université Louis Pasteur Strasbourg CNRS, Forschungszentrum Karlsruhe (FZK), Deutsch-Französisches Institut für Umweltforschung (DFIU) Universität Karlsruhe (TH).

Contact: Dr. Eric Simon, <eric.simon@inria.fr>

Environmental Policies in Europe : Towards Sustainability ?

The University of Leeds, 15th and 16th September, 1997.
The Seventh Annual European Environment Conference
Contact: Tel: +44 (0) 1274 530408 Fax: +44 (0) 1274 530409

Partnerships for Global Ecosystem Management : Science, Economics and Law

Washington D.C. - October 6-8, 1997
Fifth Annual World Bank Conference on Environmentally and Socially Sustainable Development
Co-organised by the World Bank, the Environmentally and Socially Sustainable Development (ESSD) Network, the Learning and Leadership Center (LLC), and the Economic Development Institute (EDI).
Contact: The George Washington University, 730 21st Street, N.W, USA.

Third EC I OECD I IEA Workshop on Energy Externalities

Brussels, December 1997
"Policy Relevance: Concrete steps for policy makers to integrate environmental and economic performance in the electricity sector"
Contact: Dr. Irmela Brach, Fax : +32 2 299 49 91

Knowledge, Participation and Power in the Environmental Policy Process

Amsterdam, 18-20 September, 1997
International Workshop
Organised by Matthijs Hisschemoller, Jerome Ravetz, Rob Hoppe, Kees Midden, Peter Groenewegen
The workshop will examine which forms of public participation are needed in order to cope with the technical and scientific complexity of the issues at hand. It will bring together a limited number of people who have contributed valuable insights on knowledge use in public (environmental) policy from three different perspectives, i.e. the scientific process I dealing with expert communities, public administration I political decision making and public attitudes and involvement.
<matthijs.hisschemoller@ivm.vu.nl>

Symposium on environmental valuation. Natural capital : institutional, regional and sectoral dimensions

Vaux de Cernay, France - October 4 to 7, 1997.
The purpose of this international Symposium is to give impetus and visibility to environmental valuation work within the European Union, with special emphasis on in situ resources such as water forest and biodiversity, considered in their regional dimensions. About 50 participants selected for research or policy expertise will aim at producing some well-considered recommendations on evaluation methodology and practice, and requirements for effective decision-support applications.
Contact: Martin O'Connor,
<martin.oconnor@c3ed.uvsq.fr>

Economic Globalisation and Sustainable Development : Are they compatible?

Université de Versailles-Saint Quentin en Yvelines, France - November 7-8, 1997

In the context of the European network on Sustainable Development, C3ED (France) organises an international workshop. It will address the following questions : Can improved environmental performance be considered as a significant factor in the growth or renewal of competitiveness? What are the conditions required for sustainable development, not solely at the level of firms (company and sectoral competitiveness), but also for whole national units and at a global scale ? What is the connection between (i) environmental strategies that are - or could be - adopted, (ii) environmental policies and (iii) social legitimacy? The workshop will bring together about 40 participants.

Contact: Sylvie Faucheux,
<sylvie.faucheux@c3ed.uvsq.fr>

Energy Flows in Ecology and Economy
International Workshop - Advances in Energy Studies

Portovenere, Italy - 24-29 May, 1998
Organised by: Mark Brown, Mario Giampietro, Robert Herendeen, Kozo Mayumi, Sergio Ulgiati.
The goal of the workshop is to revitalise the discussion about the use of biophysical analyses in the field of Ecological Economics as a crucial source of information about the relation between economic and ecological processes. The workshop will especially examine the methodological approaches that have been developed in the field of biophysical analyses of economic and ecological processes, based on energy (e.g. traditional energy accounting, net energy analysis, embodied energy analysis linked to network analysis, exergy analysis, eMerger analysis, life cycle analysis, etc.). It will seek clarification of the theoretical background and the consequent implications for their possible use as decision support tools. Different experts of these different methodologies will be asked to discuss the usefulness of their assessments as decision support tools by discussing a case study.

Contact : Mario GIAMPIETRO,
<Mario.Giampietro@DPS.VH.WAU.NL>

Options for Closed Water Systems: sustainable Water Management

Wageningen, the Netherlands - March 11-13, 1997
International Congress

Contact: Dr. Marjo Lexmona',
<Marjo.Lexmond@Algemeen.MTWAU.NL>

17th World Energy Congress

Houston, Texas - September 13-18, 1998
Contact: Barry Worthington, U.S. Energy Association (USEA), <76043.1425@compuserve.com>

ESEE CONFERENCE

ECOLOGICAL ECONOMICS AND DEVELOPMENT

Geneva, 5-6 March 1998

Organised by Université de Genève (SES, CUEPE, ECOLU), Institut Universitaire d'Etude du Développement (IUED) and Académie Internationale de l'Environnement (AIE).

The main themes of this second conference of the European Society for Ecological Economics are : Climate and Society; Biodiversity and Land Use; Pollution and Health; Population Dynamics and Resources Use; Institutional Analyses.

Deadline for Abstracts : 31 October 1997.

Contact : Roderick LAWRENCE, <lawrence@uni2a.unige.ch>

Summer schools

Cows d'été en droit et politique communautaires de l'environnement

Louvain-la-Neuve, Belgique - July 1-11, 1997

Organised by Centre de Droit de la Consommation, Université Catholique de Louvain. Co-organised by Fondation Universitaire Luxembourgeoise.

Contact: Miss Beata DUNAJ, Fax : +32 10 47 83 05

Advanced study course: Goals and Instruments for the Achievement of Global Warming Mitigation in Europe

Technical University, Berlin - July 20-26, 1997

Organised by UMB (Environmental Management Consultancy) in the context of the Environment and Climate Research Programme of the European Communities (DG XII).

Contact: Jürgen HACKER,
<UMB-Hacker@t-online.de>

Advanced study course: Systemic Complexity and Eco-Sustainable Development

Città di Erice, Sicily, Italy - September 8-27, 1997

Organised by the University of Padua in the context of the Human Dimensions of Environmental Change Programme of the European Communities (DG XII), with the support of the European Parliament and European Council.

Contact : Prof. Ivano SPANO,
<dipsoc@ipdunidx.unipd.it>

Summer School in Applied Environmental Economics

Chieri (TO), Italy - September 16-26, 1997

Organised by Università degli studi di Torino - Dipartimento di Economia.

Contact : Prof. Alberto CASSONE
Fax : +39 11670 27 62

-THE EUROPEAN SOCIETY FOR ECOLOGICAL ECONOMICS -

The aims of the **European Society for Ecological Economics (ESEE)** are to foster the combination of knowledge across the specialisms of ecology and economics, and to ensure that policy advice on environmental problems be formulated on this basis. In addition, the ESEE has a unique position in encouraging the social aspects of environmental policy and the wider considerations human interaction with the environment raises. This implies an enriched methodological perspective allowing for a discourse on the development of a socio-economic and ecological discipline.

HOW TO BECOME A MEMBER:

The ESEE is open to all persons having an interest in ecological economics and furthering the aims of the Society. The ESEE is a branch of the *International Society for Ecological Economics (ISEE)*, and so the ESEE subscription covers **joint membership for both societies**. Fees are set based on income range (low, medium, high), with the option also to subscribe to the ISEE journal *Ecological Economics*.

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C3ED, Université de Versailles St Quentin en Yvelines, 47 boulevard Vauban, 78047 Guyancourt Cedex, France.
Tel: +33 1 39 25 53 75 Fax: +33 1 39 25 53 00; Email: esee@c3ed.uvsq.fr

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