



# UNEP Collaborating Centre on Energy and Environment

The UNEP Collaborating Centre on Energy and Environment was established on 1 October 1990 and the official opening took place in February 1991. The general objective of the centre is to promote and facilitate environmentally conscious energy planning throughout the world, and especially in developing countries. This is being put into practice through collaboration with relevant institutions and individuals in developing countries as well as with international organizations, research institutes and researchers in industrialized countries.

## ENVIRONMENTAL IMPACTS

of energy production and use in developing countries: studies of greenhouse gas emissions, efficient energy production and end-use technologies, potentials for energy conservation, and the environmental impacts of specific energy technologies.

## ENERGY POLICY

in selected countries and formulation of guidelines for incorporating environmental considerations into energy policy. Studies are carried out by teams in the respective countries, with support from the Centre.

In the first instance priority is given to the major developing countries. The aim is to determine the environmental consequences of current energy plans and policies, and to suggest alternative

development strategies that reduce the environmental impacts, while maintaining the same level of energy services.

## INFORMATION

on energy-related environmental effects, energy planning methods and models. Establishment and maintenance of databases and dissemination of information to UNEP and other UN agencies, governments and other interested institutions and individuals.

## SCIENTIFIC AND TECHNICAL SUPPORT

to UNEP on energy questions on an *ad hoc* basis, includes participation in conferences and expert groups, preparation of background papers, and collection of information on specific topics.

The UNEP Collaborating Centre on Energy and Environment is situated at Risø National Laboratory, Denmark.

The Centre is funded jointly by the Danish International Development Agency (Danida), the United Nations Environment Programme (UNEP) and Risø National Laboratory.

The activities of the Centre are governed by a Management and Policy Committee comprising:

*Hans Larsen*, Head of Systems Analysis Department, Risø (chairman)

*Naigzy Gebremedhin*, Chief, Technology and Environment Branch, UNEP

*Sten Lilholt*, Head of Division, Danish Ministry of Foreign Affairs  
*John Christensen*, Head of the Centre (secretary)

*John Holten Andersen*, Head of Systems Analysis Department, Danish Environment Research Institute (observer)

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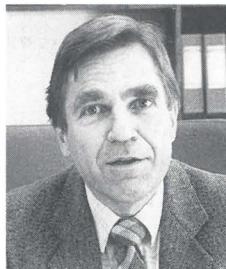
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# Official opening of the Centre

The Centre was officially opened on 11 February 1991. Guests from Denmark and abroad heard addresses from representatives of the three organizations behind the centre: UNEP, The Danish Ministry of Foreign Affairs and Risø. Extracts of the speeches are presented here.



**Dr. Martin Uppenbrink,**  
**Director, UNEP Regional Office**  
**for Europe, Geneva**



**Bent Haakonsen,**  
**Permanent Under-Secretary of State,**  
**Danish Ministry of Foreign Affairs**



**Hans Bjerrum Møller,**  
**Managing Director,**  
**Risø National Laboratory**

I am both pleased and honoured to be present here at the occasion of the inauguration of this important Collaborating Centre on Energy and the Environment and want to take this special opportunity to present you with the greetings and best wishes of UNEP's Executive Director, Dr. Tolba, for a fruitful and successful future for the Centre.

UNEP's mandate in the energy area is in general to catalyze and initiate the incorporation of environmental aspects into energy policy and planning at national and regional levels and into the energy activities of the UN agencies and other international organizations. The Centre's work on assessing the environmental impacts of energy production and use in selected countries and the formulation of guidelines for incorporating environmental concerns into national energy policies will be an essential contribution to UNEP's continued work in the energy sector.

The Centre will also assist UNEP in finding acceptable ways for developing nations to combine their economic growth with the need to reduce greenhouse gas emissions which are in any case inextricably linked to any kind of industrial development. The Centre's role as information centre on energy matters and its online access to many international energy databases will be important and useful for the international community.

UNEP is very grateful to the Danish International Development Agency (Danida) and Risø National Laboratory for providing the necessary financial and structural support to make this Centre a reality. It is our hope that the Centre will be able to develop into a worldwide recognized centre of excellence in the field of energy.

I take great pleasure in addressing you today on the occasion of the official opening of the UNEP-Risø Collaborating Centre on Energy and Environment. I would like to explain in general terms how we in Danida see the role of the Centre within the overall context of the climate change issue.

We know that we in the industrialized world consume much more energy *per capita* than do most people in developing countries. At the same time it becomes increasingly evident that the global ecological balances will come under unbearable strain if the developing world chooses to follow the same energy-intensive avenues to economic growth as we did.

When we accept to take responsibility for most of the existing global environmental problems today we must also accept responsibility for assisting developing countries in their aspirations for development, without raising their energy consumption excessively. I can see no better way for achieving this than a Collaborating Centre of the kind we have the honour and pleasure of opening today.

Combining the wide-ranging experience of the United Nations Environmental Programme and the outstanding technical expertise of Risø National Laboratory will, I'm sure, prove to be most efficient in meeting the increased demand for solutions and responsive strategies. And this is where we see the key role for the Centre: As a promoter and facilitator of strategic and environmentally responsive planning in individual developing countries as well as in the specialized UN-Agencies operating in these countries. It is in this capacity that Danida has been happy to contribute to the establishment of the Centre and to pledge continued support for its operation.

The name of the centre we are inaugurating today – the UNEP Collaborating Centre on Energy and Environment – contains two of the three keywords we use to profile Risø National Laboratory, as a centre for strategic research in energy, environment, and materials. Energy, environment and materials are three fields of research with a common perspective: the development of efficient and environmentally benign energy technologies, and the development of new materials to extend the bounds of what is technologically possible.

These aims are reflected in Risø's departmental structure, and in the wide scope of scientific disciplines and research themes, ranging from optics and solid state physics to environmental chemistry, meteorology, and combustion technology, thus providing the scientific basis for approaching the problems from many different angles.

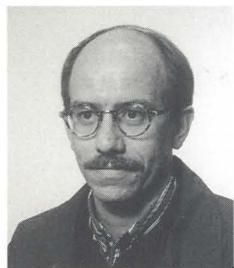
Risø considers the UNEP Collaborating Centre an extremely valuable asset, and an important extension of our contact to the international energy and environmental research community.

The Centre is hosted by the Department of Systems Analysis – among engineers and economists, psychologists and mathematicians – an exciting and truly cross-disciplinary department – with many years of experience in energy systems analysis, risk analysis, and cognitive engineering.

It is a privilege for Risø to host the Centre, and it is a great pleasure for me to welcome you, and to thank UNEP and DANIDA for their cooperation during the process of planning and establishing the UNEP Collaborating Centre on Energy and Environment.

Thank you once again and welcome to Risø!

# Staff profiles



**John Christensen**  
(Denmark), Engineer with experience in renewable energy technologies and energy planning. Joined Risø in 1984 to work on a project on energy planning in developing countries. Programme officer with the Energy unit at UNEP Headquarters, Nairobi, 1988-90. Head of Centre from 1 October 1990.

**Gordon Mackenzie**  
(United Kingdom), Physicist, based at Risø since 1980 working on energy demand modelling, transport energy, integrated energy-environment models, and energy planning in developing countries. From 1984 to 1987, seconded to Department of Energy in Zambia as Energy Adviser/Deputy Director. Senior Energy Planner in Centre from 1 October 1990.

**Arturo Villavicencio**  
(Ecuador), Mathematician. International experience as energy consultant and energy planner, particularly in Latin American countries, working with the National Energy Institute (INE) in Ecuador, OLADE, the World Bank and the Commission for the European communities. Joined Centre 1 May 1991 as Senior Energy Scientist.

**Camilo Lim (Philippines)**, Economist. International experience in energy economics and planning, particularly in South East Asia. Based at Asian Institute of Technology, Bangkok as Senior Research Associate in Energy Technology Division until joining Centre on 1 June 1991 as Energy Economist.

**Jette Larsen** (Denmark). Secretary with Energy Systems Group at Risø since 1982. Joined the Centre 1 October 1990.



## Joint Host Agreement:

## Environmental Database

The Environmental Database (EDB) was developed by the Stockholm Environment Institute's Boston Centre with partial funding from UNEP. The purpose of the database is twofold. It can be used in conjunction with the energy planning model LEAP (also a SEI-B development) to calculate the environmental loading of any energy scenario. The database can also be used as a "stand-alone" reference tool to provide appropriate data on the environmental impact, e.g. emissions, of particular energy technologies.

The aim is to make EDB available to institutions and researchers in develop-

ing countries, and elsewhere, in line with the main overall aim of the Centre and a major objective of SEI-B: to promote environmentally conscious energy planning in developing countries.

The Centre and SEI-B have recently agreed to be joint hosts for EDB. At any given time there will be a mutually approved version of the database which will be available for dissemination to users. In general SEI-B will be responsible for software development and maintenance, while the Centre will be responsible for the data content.

Government planning units, government or private research institutes, university researchers, and non-governmental organizations working in the energy and environment field will be eligible to obtain EDB. Again the responsibilities for distribution are shared between the Centre and SEI-B.

For more information on EDB and details of getting access, please contact Gordon Mackenzie (UNEP Centre) or Michael Lazarus, SEI-B, Tellus Institute, 89 Broad Street, Boston, MA 02110-3542, USA.

## UN SOLAR ENERGY GROUP ON ENVIRONMENT AND DEVELOPMENT (UNSEGED)

The UN Solar Energy Group was established as an *ad-hoc* expert group in 1990, at the request of the UN Intergovernmental Committee on the Development and Utilization of New and Renewable Sources of Energy, to prepare a comprehensive and analytical study on NRSE with a view to providing a significant contribution to the UN Conference on Environment and Development (UNCED).

The group comprises 20 members representing 15 countries as well as a number of UN organisations. It is in the process of preparing a report which should be completed later this year. It will then be presented to the NRSE Committee in January 1992 and subsequently to the UNCED Preparatory Committee for consideration in its fourth session in February 1992.

UNEP and the Centre are represented in the group by John Christensen, who is responsible for the policy perspective part of the report together with Prof. Niels I. Meyer, Denmark and the chairman of the group Prof. Thomas B. Johansson, Sweden.

## GHG STUDY FOR ASIA AND BRAZIL

The Asian Energy Institute (AEI) is a networking arrangement of energy institutions in 11 Asian countries. Along with the Centre for Science and Tech-

nology in Brazil, AEI has initiated a study on "Asia's and Brazil's contribution to Green house Gas (GHG) Emissions and Policy Responses for their Minimization". The aim is to develop reliable national data on GHG emissions and a set of practical suggestions for the implementation of relevant GHG-limiting strategies and to present these suggestions to the national governments.

The study is the first major activity on GHG emissions and abatement strategies based entirely on developing country institutions, and it will help to improve the necessary local expertise and increase the local political awareness of GHG emissions and possible abatement actions.

The Centre has been invited to join the steering committee for the study along with a number of international experts. The data from the study will provide valuable input to the Centre's activities on the GHG and climate change issues.

## GLOBAL COLLABORATION ON A SUSTAINABLE ENERGY DEVELOPMENT: CONFERENCE HELD AT SNEKKERSTEN, DENMARK, 25-28 APRIL 1991

Around 100 participants from 40 countries took part in the conference which was organized under the chairmanship of Prof. N. I. Meyer of the Technical University of Denmark.

John Christensen took part in the organizing committee and the Centre was responsible for UNEP's contribution which was presented by Mr. B. I. Megherbi of UNEP's Industry and Environment Office.

Participants discussed the energy situation in the main regions of the world, with particular emphasis on development and the environment, and how to encourage international collaboration on sustainable energy development. Among the main recommendations were: strengthening of national activities on new and renewable sources of energy (NRSE) and energy efficiency, and establishment of an international (UN) institution with responsibility for supporting policy, planning and implementation of energy efficiency measures and NRSE.

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The C2E2 newsletter provides up-to-date information at regular intervals on the activities of the Centre, UNEP and related events and developments. Information on forthcoming conferences, reports, studies, etc. are welcome.

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The views expressed in this newsletter do not necessarily represent those of UNEP.



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