



# ENERGY SUBSIDIES: LESSONS LEARNED in ASSESSING their IMPACT and DESIGNING POLICY REFORMS





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*their* IMPACT *and* DESIGNING  
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## Foreword



The need to reform energy subsidies was one of the pressing issues highlighted at the World Summit on Sustainable Development held in Johannesburg in September 2002. Many types of subsidies, especially those that encourage the production and use of fossil fuel, and other non-renewable forms of energy, are harmful to the environment. They can also have high financial and economic costs, and often only bring few benefits to the people for whom they are intended.

Removing, reducing or restructuring such energy subsidies is helpful for the environment and the economy at the same time. Potential social costs in terms of employment in the conventional energy industry or reduced access to energy could be addressed by re-directing the money formerly spent on subsidies to income support, health, environment, education or regional development programmes.

Of course, subsidies can have certain positive consequences, particularly where they are aimed at encouraging more sustainable energy production and use. Temporary support for renewable energy and energy-efficient technologies to overcome market barriers, and measures to improve poor or rural households' access to modern, commercial forms of energy, for instance, could be positive measures in support of sustainable development.

I hope that this book will be successful in raising awareness of the actual and potential impacts of energy subsidies and in providing guidance to policymakers on how to design and implement energy-subsidy reforms. It provides methodologies for analysing the impact of subsidies and their reform and reviews experiences with energy subsidies in a number of countries and regions. Drawing on these case studies, it analyses the lessons learned as well as the policy implications, and provides guidance on how to overcome resistance to reform.

A handwritten signature in black ink, appearing to read 'Klaus Töpfer', with a long horizontal stroke extending to the right.

**Klaus Töpfer**  
**Executive Director**  
**United Nations Environment Programme**

## Acknowledgements

This report was commissioned by the Economics and Trade Branch (Division of Technology, Industry and Economics) of the United Nations Environment Programme (UNEP). The Branch is headed by Hussein Abaza. Anja von Moltke, Economics Affairs Officer, was responsible for managing the project, assisted by Colin McKee, Consultant. Martina Otto, Associate Expert, of the DTIE was also involved in the project.

This report builds largely on presentations and discussions held during a series of regional workshops on reforming energy subsidies, organised jointly by UNEP and the International Energy Agency (IEA) in 2000 and 2001. The workshops were largely financed by voluntary contributions from Austria, Canada, Denmark, Germany, the Netherlands, Sweden, Switzerland and the United Kingdom. Both UNEP and the IEA would like to place on record their appreciation to these governments as well as the workshop participants for their contributions. Additionally, UNEP would like to express its formal appreciation to the United Nations Foundation, whose funding made this publication possible.

Whereas the compilation of papers presented in this study addresses a number of important issues related to energy subsidies and their reform that arise in a variety of countries and regions, it does not strive for a common or comprehensive approach. Furthermore, the views expressed in the following chapters are those of the authors and do not necessarily reflect those of UNEP. The principal authors are as follows:

- *Chapter 1 (introduction)* – Trevor Morgan of Menecon Consulting, United Kingdom;
- *Chapter 2 (analytical framework)* – Trevor Morgan, Professor Anil Markandya and Alistair Hunt of Bath University, UK;
- *Chapter 3 (OECD)* – Trevor Morgan;
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- *Chapter 11 (Chile)* – Raul O’Ryan and Sebastian Miller (University of Chile), Jorge Rogat (UNEP) and Carlos de Miguel (ECLAC), Chile;
- *Chapter 12 (country analysis)* – Trevor Morgan;
- *Chapter 13 (policy design and implementation)* – Trevor Morgan; and
- *Annex (methodological approaches)* – Professor Anil Markandya and Alistair Hunt of Bath University, UK

Anja von Moltke, Colin McKee and Trevor Morgan were responsible for reviewing and editing all chapters.

The report also benefited from comments and suggestions from Ronald Steenblik from the Organisation for Economic Cooperation and Development (OECD), R K Batra, Meeta K. Mehra and Divya Datt from The Energy and Resource Institute (TERI), Kai Schlegelmilch from the German Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Doug Koplow from Earth Track, Inc., Kristi Varangu from the International Energy Agency (IEA), Roberto Kozulj and Hector Pistonesi from the Instituto de Economía Energética/Fundación Bariloche (IDEE/FB), and Slav Slavov from the United Nations Economic Commission for Europe (UNECE). Their help is gratefully acknowledged.

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# United Nations Environment Programme

The United Nations Environment Programme (UNEP) is the overall coordinating environmental organization of the United Nations system. Its mission is to provide leadership and encourage partnerships in caring for the environment by inspiring, informing and enabling nations and people to improve their quality of life without compromising that of future generations. In accordance with its mandate, UNEP works to observe, monitor and assess the state of the global environment, improve the scientific understanding of how environmental change occurs, and in turn, how such change can be managed by action-oriented national policies and international agreements. UNEP's capacity building work thus centers on helping countries strengthen environmental management in diverse areas that include freshwater and land resource management, the conservation and sustainable use of biodiversity, marine and coastal ecosystem management, and cleaner industrial production and eco-efficiency, among many others.

UNEP, which is headquartered in Nairobi, Kenya, marked its first 30 years of service in 2002. During this time, in partnership with a global array of collaborating organizations, UNEP has achieved major advances in the development of international environmental policy and law, environmental monitoring and assessment, and the understanding of the science of global change. This work also supports the successful development and implementation of the world's major environmental conventions. In parallel, UNEP administers several multilateral environmental agreements (MEAs) including the Vienna Convention's Montreal Protocol on Substances that Deplete the Ozone Layer, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (SBC), the Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention, PIC) and the Cartagena Protocol on Biosafety to the Convention on Biological Diversity as well as the Stockholm Convention on Persistent Organic Pollutants (POPs).

## **Division of Technology, Industry and Economics**

The mission of the Division of Technology, Industry and Economics (DTIE) is to encourage decision makers in government, local authorities and industry to develop and adopt policies, strategies and practices that are cleaner and safer, make efficient use of natural resources, ensure environmentally sound management of chemicals, and reduce pollution and risks for humans and the environment. In addition, it seeks to enable implementation of conventions and international agreements and encourage the internalization of environmental costs. UNEP DTIE's strategy in carrying out these objectives is to influence decision-making through partnerships with other international organizations, governmental authorities, business and industry, and non-governmental organizations; facilitate knowledge management through networks; support implementation of conventions; and work closely with UNEP regional offices. The Division, with its Director and Division Office in Paris, consists of one centre and five branches located in Paris, Geneva and Osaka.

## Economics and Trade Branch

The Economics and Trade Branch (ETB) is one of the five branches of DTIE. Its mission is to enhance the capacities of countries, especially of developing countries and countries with economies in transition, to integrate environmental considerations into development planning and macroeconomic policies, including trade policies. ETB helps countries to develop and use integrated assessment and incentive tools for sustainable development and poverty reduction. The Branch further works to improve the understanding of environmental, social and economic impacts of trade liberalisation and the trade impacts of environmental policies, and to strengthen coherence between Multilateral Environmental Agreements and the World Trade Organization. Through its finance initiative, ETB helps enhance the role of the financial sector in moving towards sustainability.

In the field of environmental economics, ETB aims to promote the internalization of environmental costs and enhance the use of economic instruments to contribute to sustainable development and poverty reduction, including in the specific context of Multilateral Environmental Agreements. The UNEP Working Group on Economic Instruments serves as an advisory body to UNEP-ETB's work programme on economics and has been instrumental in the preparation of UNEP publications on economic instruments.

For more information regarding UNEP's work on economic instruments and subsidies reform, please contact Anja von Moltke, Economic Affairs Officer, Economics and Trade Branch (ETB) at tel : 41-22-917 81 37, Fax : 41-22-917 8076.

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