



Federal Office of Energy

S o c i a l a n d D i s t r i b u t i v e I m p a c t s o f E c o t a x P r o p o s a l s

INFRAS: Rolf Iten, Silvia Banfi, Bettina Baumann, Sonja Gehrig, Roman Zürcher
ECOPLAN: Renger van Nieuwkoop, Felix Walter

524.DOC



INFRAS

Gerechtigkeitsgasse 20, Postfach, CH-8039 Zurich, Tel. +41 1 205 95 95, Fax +41 1 205 95 99, E-Mail zuerich@infras.ch
Mühlemattstrasse 45, CH-3007 Bern, Tel. +41 31 370 19 19, Fax +41 31 370 19 10, E-Mail bern@infras.ch

ISO 9001/14001 certified

Social and Distributive Impacts of Ecotax Proposals¹, INFRAS, 1998

What are the social and regional distributive implications of energy taxes and ecological fiscal reform (EFR) models? Can negative regional and distributive impacts of EFR be expected? Is it possible to minimise the negative tax impacts with an appropriate tax design? Which “buffering” measures can be implemented in order to compensate negative distributive effects?

In order to give an answer to these questions the computable general equilibrium model of the Swiss economy by ECOPLAN was used. This model was complemented with a comparative data analysis of the geographical distribution of energy sensitive goods and services and energy intensive industries. The last part of the study focuses on selected questions and problems regarding implementation of EFR models.

The major findings of the study are:

- The macroeconomic impacts of EFR scenarios are modest compared to the benchmark scenario. The environmental impacts are clearly positive.
- The analysis of different revenue recycling schemes indicates that the most positive economic effects can be achieved when the tax revenue is used to lower social security contributions. The use of tax revenue to support research and development of renewable energy sources and to improve energy efficiency also shows positive impacts on economy, especially if it is combined with a relatively low energy tax. A revenue recycling scheme with lump sum payments to households produces slightly negative economic impacts.
- The impact of EFR models on income distribution is moderate and highly depends on the revenue recycling design: Lower income groups benefit from lump sum payments while a reduction of social security contributions favours high income groups.
- The integration of appropriate compensation measures – as for example targeted compensation of energy intensive industries – in the design of EFR minimises the

1 This study has been carried out within the EU 4th framework programme project „Environmental Fiscal Reform“ coordinated by T. Barker (Department of Applied Economics, University Cambridge) and commissioned by EU DG XII. The case study Switzerland was cofinanced by the Federal Office of Energy.

potential negative regional impacts of EFR on energy intensive industries and avoids too high costs of adjustment.