

Ecological tax reform in Germany: handling two hot potatoes at the same time

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Abstract

Combining environmental with employment objectives, ecological tax reform (ETR) envisages a double dividend. While research has mainly focused on the socio-economic and environmental impacts of ETR, there is less literature on the social responses. This paper gives an overview and history of German ETR as well as investigating the understanding of perceptions and attitudes towards ETR of those being “subject to tax”. The research is based on qualitative social research methods. As with the other PETRAS papers, interviews were conducted with policy-makers and business leaders and focus groups were formed with lay persons. The results show that responses of policy-makers and business leaders are modest. Although some criticisms about the specific design of the German ETR remain, complaints towards ETR are settled. Attitudes appear influenced by more fundamental convictions such as economic interest or altruistic views. In contrast, ETR appears to politicise common people. Attitudes are influenced by the overall comprehension of the ETR concept, the expected impacts, perceived information deficits, as well as a general distrust in politics. Our data show that the linking of environmental and employment objectives is not understood and not welcomed. In order to increase social acceptance, the paper discusses refocusing ETR on environmental objectives, modestly increasing the share of ETR revenue spent for environmental purposes, removing inconsistencies in the ETR design, and improving information policy.

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1. Introduction

In 1999, ecological tax reform (ETR) was introduced in Germany. German ETR has two objectives. The first is environmental protection, and in particular, the reduction of greenhouse gas emissions as a means of climate change mitigation. The second objective is to reduce the statutory pension contributions in order to reduce labour cost and to increase employment. Both issues have high political visibility in Germany. Environmental policy has been a top priority issue for years but is perceived as being complementary to economic policy and, therefore, competes with other issues.

Unemployment is the biggest issue of public concern and the share of long-term unemployment is continuously increasing. At the same time, the social security system, which is based on the idea of intergenerational justice and compensation, is under scrutiny. ETR addresses all these complex issues with one policy at the same time in an intellectually appealing way. However, other views are that ETR mingles all these crucial issues and does not solve any of them sufficiently. Only a few other policies at issue have polarised the debate as much as the German ETR, not least due to its long history of discussion. Massive criticism contrasts with almost unconditional support.

A review of social responses to ETR in Germany shows that acceptance has generally appeared to rise and fall over the years. Before and during the implementation of ETR, industries and business associations raised most criticism. Once in force, criticism

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expanded to other interest groups and to the general public. In May 2000, when fuel prices exceeded the symbolic price of 2 DM for the first time, the debate reached its climax of negative social response.¹ While protests were organised against rising fuel prices in several other European countries at that time, public protest in Germany was mainly directed against ETR (BMU, 2002, p. 97).² The ensuing discussion between opposition parties and those in government, varying lobby groups as well as government administration was so intense that ETR was close to being dismissed. Countervailing forms of tax relief safeguarded ETR, and the discussion relaxed with decreasing crude oil prices. With its re-election in 2002, the coalition government of Social Democrats and Greens decided not to continue to increase ETR rates beyond 2003. But, although annual increases of ETR ceased after the fifth step in 2003, an increase in the tax on natural gas as well as a reduction of industry exemptions took place in 2004.

The introductory article of this volume outlined the objectives and methodology of the project in detail. Therefore, they will only be partly recalled here. After briefly describing the political and scientific debate on ETR in Germany, the article continues with a presentation of patterns of awareness and understanding as well as attitudes derived from empirical investigations. On that basis, explanatory factors of those patterns are discussed. The article closes with some conclusions on the improvement of social acceptance of German ETR in a broader policy context.

2. Objectives and methodologies

Investigating social responses to ETR, the following objectives are pursued:

- to assess the patterns of awareness of ETR policies,
- to gauge the understanding of the intentions behind ETR,
- to reveal positive or negative attitudes to ETR,
- to identify specific objections to these policies and principles.

In order to address these objectives, the research was designed along the approach of carrying out specific case studies (Yin, 1994). In doing so, this study applied qualitative research methods based on the use of interviews and focus groups. Interviews were conducted

with selected policy-makers and with representatives from businesses. In addition, focus groups were formed with people from the general public.³ In contrast to quantitative social research methods, findings drawn from qualitative methods cannot claim to be statistically representative of the public as a whole or of German industries. Qualitative methods have been chosen because they are the most appropriate means of uncovering thinking processes underlying attitudes expressed by the interviewees.

To provide a background for the business interviews and the focus groups, eight interviews with policy-makers were conducted between August and October 2000. They cover representatives of the Ministry of Finance (BMF), the Federal Environment Ministry (BMU), and the Federal Ministry of Economics and Technology (BMW), as well as of both parties in government: the Social Democratic Party (SPD) and the Greens (Bündnis '90/Die Grünen). The interviews were held with policy-makers involved in the implementation process of the German ETR. Additionally, two interviews were conducted: one with a former representative of the Christian Democratic Party (CDU) and one with an employee at the German umbrella organisation for business associations, the BDI. While the policy-maker interviews provided useful details on the policy formulation and implementation phases, the policy-makers' suggestions on how to further improve the design of the German ETR partly contrasted with the criticism mentioned by the business interviewees and people from the general public.

In the period between September 2000 and June 2001, 12 representatives from five different companies were interviewed. These comprised a chemical company, a car manufacturing company, a financial institution, a textile company, and a transport and logistics company.⁴ The attitudes expressed towards an ETR reflect both the specific circumstances of the respective companies as well as their general corporate identity. Interpretations drawn from the cases were used to identify and discuss possible general patterns of awareness and thinking.

During February and March 2001, five focus groups were formed with randomly recruited people from the general public. Two groups each were formed with people aged 25–40 and 40–60 years, one of each including people with higher incomes and the other including people with lower incomes. Additionally, a fifth group with people over the age of 60 was formed. In total, with about 10 people per group, more than 50 people were involved. By first considering the overall

¹The increase in fuel prices was only in part due to ETR. More dominant factors were the increase in crude oil prices and the exchange rate of the euro.

²See, for example, the "Bild" newspaper several times, e.g. the 3.6.2000 heading "Hello Chancellor, the car drivers are running away" pointing to the voting power of this group.

³On focus group methodology and particularly validity of data, see, for example, the overview section in Dürrenberger et al. (1997).

⁴The companies interviewed were chosen according to three criteria: the size of the company, its energy intensity, and its assumed environmental attitude.

general concept of an ETR and later discussing specific features of the German ETR, patterns of awareness, comprehension, and attitudes could be analysed separately. Interpretations then again served to discuss possible more general patterns.

3. History of ETR policy in Germany

3.1. Process of discussion

Prior to the introduction of the ETR, a systematic approach to ecological taxation did not exist in Germany. Environmental policy mostly consisted of command and control measures, administered prices, subsidies, or the negotiation of voluntary agreements. Yet several single taxes with environmentally relevant effects existed, such as the mineral oil tax, the motor vehicle tax, the charge for road use by heavy goods vehicles, the wastewater charge or the property tax. Not originally implemented for environmental purposes, some of them have been developed further to additionally cover environmental objectives.

The idea and term “ecological tax reform” was explored in the early 1980s (Binswanger et al., 1979, 1983). The new idea was to address unemployment and environmental destruction at the same time. Revenue from environment-related taxes was to be used for the creation of new jobs according to the double dividend argument.⁵ Since the early 1990s, the ETR concept has gained political momentum and has been established on the German political agenda, strongly promoted, for example, by Weizsäcker (1990) and Görres et al. (1994). Preceding its introduction, however, a long and intense political discussion took place. Three phases of discussion can be distinguished. Both media response and the participation of interest groups increased during each of these phases (Reiche and Krebs 1996, 1999).⁶ At the time of implementation, all major political interest groups were involved: political parties, industry associations, single large companies, labour unions, and environmental NGOs. Furthermore, scientific research institutes particularly framed the debate with impact assessments and recommendations on policy design.

During the first phase until 1994, a number of ETR concepts had been discussed (UPI, 1988; Weizsäcker, 1990). However, the complexity of these concepts

prevented them from becoming attractive to policy-makers.⁷ In the election campaign in 1990, ETR was designated a high priority issue by both the Social Democrats (SPD) and the Greens. At this time, the issue gained considerable media response for the first time (Weidner, 1995, p. 17). With the political focus on climate change since the late 1980s, environmental taxation and in particular, a CO₂ or energy tax has been discussed as one policy to introduce structural changes and, then later, to implement the CO₂ reduction target of –25% by 2005 based on 1990 levels. In 1992, 1995, and 1997, the discussion on the introduction of an EU-wide CO₂ tax⁸ marked the German debate on ETR.

The second phase can be associated with a publication by the German Institute for Economic Research (DIW) before the federal elections in May 1994. For the first time, DIW estimated the macroeconomic effects of an ETR in Germany. The assessment concluded that an ETR would not have any significant adverse effect on inflation or GDP growth. Moreover, it would considerably reduce both energy consumption and unemployment (DIW, 1995, 141f). Positive labour market effects would amount to the creation of approximately 600,000 new jobs after ten years.⁹ However, the report also mentioned some industry branches where such an ETR would cause negative effects. These were, in particular, energy-intensive industries, which might have faced a higher tax burden and negative employment effects (DIW, 1995, 155f). Due to these employment assessments, the discussion gained new momentum. Subsequently, proponents and opponents initiated additional reports on ETR effects¹⁰ (e.g. Görres et al., 1994; RWI, 1996; Arndt and Heins, 1998). During 1995, all parliamentary parties developed their own official or unofficial ETR proposals.¹¹ The implementation of an ETR failed, however, mostly because of industrial lobbying and internal conflicts among the parties in government. In particular, confidential talks by high-ranking industry representatives with the then chancellor at the end of 1995 broke off any negotiation and governmental attempt to introduce an ETR (Schlegelmilch, 2000, p. 50; Reiche and Krebs, 1999, p. 137). The need to harmonise an ETR at the EU level for reasons

⁷For example, the UPI report proposed 12 different charges on 34 processes and products: taxes and charges related to waste, transport, energy consumption, pollution, water protection, nature conservation, etc.

⁸For example, see European Commission (1992).

⁹Employment figures vary between about 300,000 and 800,000 new jobs according to the details of the econometric model used.

¹⁰Positions and controversies are summarized in e.g. Prieue (1998).

¹¹See (*passim*): CDU (1995), Rexrodt (1995), Bündnis 90/Die Grünen (1995, 1996) and SPD-Bundestagsfraktion, (1995). See also Reiche and Krebs (1999, 131ff). Only the concept of the Liberals, Social Democrats, and Greens mentioned concrete figures and tax rates. Their proposals still differed widely from the ETR implemented in 1999.

⁵The correction of market prices of two production factors at the same time is referred to as a “double dividend”. Regarding the German ETR, market prices of the factor “energy/electricity” are increased through imposing taxes, while the price of the factor “labour” decreases through the reduction of statutory pension insurance contributions by using ETR revenues.

⁶For a detailed analysis of the discussion, see Reiche and Krebs (1999).

of competitiveness became the dominant government line of argument.¹² During the federal election campaign in 1998, ETR again became a very prominent issue because of the support of the Green Party, several environmental NGOs, and green business associations.

The third phase started with the change in government in 1998. With the coalition decision to introduce ETR, the debate concentrated on crucial issues of tax design such as tax rates and tax subjects, the exemption of industries, and the use of revenues.¹³ This “hot” phase lasted until implementation in spring 1999. Since its implementation, ETR has raised public concern from time to time. Criticism was directed both at specific design features and at ETR on a more general level. Due to increases in the crude oil price and intense lobbying from the opposition parties, ETR continued to be a pivotal issue in the media until late 2000. Subsequently, the debate on ETR has remained calm, although future developments of ETR could have been an issue during the federal election campaign in 2002. Preceding the fifth step of ETR on 1 January 2003, changes in the ETR exemptions are heavily disputed. In the long run, however, the decision of the re-elected government not to extend the step-by-step increase in taxes after 2003 might take ETR out of the political discussion.

3.2. Design of German ETR

The German ETR is implemented through two laws, which endorse five steps of energy tax increases over a period of five years (BMF, 1999a–c; Meyer, 1999). The first step (“Law on the Introduction of the ETR”) was established on 1 April, 1999. It levelled taxes on heating oil to 17.89 cents/ton, which entailed an increase of 2.56 cents on the existing tax on heavy heating oil for the generation of heat, and a decrease of 10.23 cents on the existing tax on heavy oil for the generation of electricity. All road fuels were charged by 3.07 cents/l. With 1.02 cents/kWh, the law further introduced a tax on electricity. Furthermore, the existing tax on light heating oil was increased from 4.09 to 6.14 cents/l and the tax on natural gas from 0.18 to 0.35 cents/kWh. The differentiated tax levels on heating oil and the tax level on

natural gas were chosen in order to prevent market distortions between the different energy carriers. The subsequent four steps of the ETR (2000–2003) entered into force on 1 January 2000 (Law on the Continuation of the ETR). This law only entailed further tax increases on electricity (0.26 cents/year) and on road fuels (3.0 cents/year), while since November 2001 the tax on road fuel is differentiated according to the sulphur content.¹⁴ Both laws will remain in place beyond 2003, but the federal government currently does not plan further tax increases. However, an increase in the tax on natural gas as well as a reduction in the original industry exemptions described below were implemented in 2004.

Both laws include various tax exemptions. All businesses that are statistically classified as producing industries, agriculture, fishery, and forestry businesses as well as factories of disabled people are entitled to an 80% reduction in tax rates, as long as a minimum consumption of 50,000 kWh per energy source is exceeded (at maximum two energy sources). Hence, the tax rate on electricity only increased from 0.2 cents/kWh in 1999 to 0.41 cents/kWh in the year 2003. Furthermore, producing industries can apply for a net compensation if their additional tax burden from ETR is at least 1.2 times higher than the tax release from reduced statutory pension contributions. This arrangement reduces the additional burden for energy-intensive businesses in the producing industries. Energy carriers used for energy production in power stations (mineral oil, natural gas) are also entitled to tax reductions of 80%. Only a 50% rate for both electricity and mineral oil taxes applies to public transport. In addition, there are special exemptions concerning Combined Heat and Power plants (cogeneration and use of electricity and heat), highly efficient gas–steam power plants, and night storage heaters in households.

As has been mentioned in the introduction to this paper, after its re-election in 2002, the government decided not to further increase fuel and electricity taxes after 2003. It decided to increase the tax on natural gas slightly by 0.55 cent/kWh, to increase the tax on liquid gas from 38.34 to 60.60 euro/1,000 kg, and to increase the tax on heavy heating oil from 17.89 to 25 euro/1,000 kg. Besides this, the government reduced industry exemptions from an 80% reduction to a 40%. Through the net compensation mechanism for producing industries, only 95% of the tax burden above the tax release from reduced statutory pension contributions will be refunded (before: 100% were refunded). These as well as other minor changes amount to an increase in revenue of about €1.4 billion. Yet, one billion will not be

¹²In 1992, however, the adoption of a European ETR was linked to the introduction of comparable taxes in other OECD countries for reasons of the competitiveness of European industries. At the OECD level, subsequently, the conviction was that an introduction of such a tax ought to be harmonised with industrialised non-OECD countries, in particular the “tiger economies” in Asia. Again in 1995, a European ETR was proposed suggesting lower tax rates and a greater flexibility in time for the implementation in the EU Member States. At this point, particularly Germany insisted on higher tax rates, for example, those of the proposal in 1992 and, hence, contributed to the failure of the proposal. For more details, see Loske (1992, p. 4).

¹³Two public inquiries were held (Deutscher Bundestag, 1999a–c) where interest groups had the opportunity to present their views on the draft ETR laws.

¹⁴Since 1 November 2001 road fuels with a content of more than 50 ppm/l sulphur and after 1 January 2003 road fuels with a content of more than 10 ppm/l sulphur are charged an extra 3 cents/l.

Table 1
Revenue from ETR (in billion €)

| Year | Total revenue | Revenue spent for the programme to promote renewable energies | Revenue recycled to reduce statutory pension contributions compared to 1998 (in percentage points, cumulative) |
|------|---------------|---|--|
| 1999 | 4.3 | .102 | −0.6 |
| 2000 | 8.8 | .102 | −1.0 |
| 2001 | 11.8 | .153 | −1.3 |
| 2002 | 14.6 | .190 | −1.5 |
| 2003 | 18.8 | .190 | −1.7 |

Source: BMU, 2003.

recycled or spent on renewable energy projects, but will go into the general budget (BMU, 2003).

In principle, the German ETR is designed to be revenue neutral¹⁵ except for a small, though increasing, amount that is used for a programme to promote renewable energies.¹⁶ The remaining revenue is used for a gradual reduction in statutory pension contributions on equal terms for employers and employees. Table 1 shows the plans for revenue generation and spending.¹⁷

The effects of the ETR are calculated through model simulations. Using two different models, LEAN and PANTA RHEI, both estimates resulted in positive economic and environmental effects (DIW, 2001).¹⁸ While the econometric model runs differ in details, they show a decrease in CO₂ emissions of more than 2% in 2005 because of the ETR. LEAN indicates an increase in employment of 176,000 in 2008, whereas PANTA RHEI states an increase of about 220,000–250,000 jobs already in 2003. Both models do not calculate any significant impact on inflation or on GDP growth.

4. Perceptions and attitudes

The interviews and the focus groups showed that the German ETR is an issue that is known throughout German society. Yet, while the comprehension of the general ETR concept and its specific design features in

¹⁵Revenue neutrality relates to the fiscal level, but second-order effects such as the value added tax (VAT) are neglected. The ETR is not necessarily income neutral for all groups of society.

¹⁶In 1999 and 2000, €102 million per year, in 2001 €153 million, in 2002 and 2003 €190 million per year, in 2004: €200 million, in 2005 €220 million, and in 2006 €230 million have been/will be used to promote renewable energies (BMU, 2003).

¹⁷Whereas the gradual increase in taxes has been implemented as planned, the reduction in statutory pension contributions was less than planned because of adaptations of the figures due to other circumstances not related to ETR.

¹⁸The models used are LEAN from the DIW and PANTA RHEI from the University of Osnabrück.

the German case were quite high among the selected policy-makers and business people, it was rather low among the majority of the focus group participants. Attitudes varied significantly among interviewees and focus groups. Generally, ETR appears to politicise ordinary people insofar as everyone interviewed expressed very strong convictions about ETR. These general views were either very positive or very negative with not much in between. Independent of the degree of knowledge and comprehension, the fraction of “don’t know” hardly existed.

4.1. Political decision-makers

As interview partners who were involved in the development and implementation of the ETR in 1999 were selected, excellent knowledge of the details of the concept was expected. Moreover, the majority of the interviewees were involved in the German ETR debate for years. Hence, the interviews basically contributed to the clarification of details of the negotiation and implementation process and provided suggestions on how to improve the current ETR in order to increase social acceptability.

Individual perceptions of the decision-making process differed in detail. There was no consensus found among interviewees whether the coalition government primarily introduced ETR for either its environmental or labour market effects or whether both goals were of equal priority. Some interviewees explicitly stressed the reductions in greenhouse gas emissions as the primary goal of ETR, whereas others focused on economic structural change and increasing efficiency in fossil fuel consumption. Moreover, the perceptions of the process of introducing ETR differed, for example, as regards the influence of the different ministries and actors participating in the formulation of the ETR laws.

Nevertheless, on the whole, the results of the interviews with political decision-makers were quite consistent. The decision-makers’ analysis of the existing ETR covered problems during the implementation of the reform, especially those problems between the parties in government, the ministries involved in the policy formulation phase, and between the government and the European Commission. Likewise, criticism focused on similar issues, for example on what were perceived to be rather negligible environmental and employment effects, as well as on low social acceptance. Several policy-makers mentioned inconsistencies in the ETR design. They pointed out the rather low environmental effects of ETR in the industry sector due to the reduced tax rates. They revealed windfall profits due to tax exemptions for energy carriers used in combined heat and power plants (cogeneration and use of electricity and heat). Furthermore, they criticised the taxation of electricity generated from renewable energies in

households,¹⁹ which contradicts ETR objectives. Correspondingly, similarities across party lines concerned ideas of how to further develop ETR and, particularly, how to improve the information policy of the government and to reduce the tax exemptions.

4.2. *Business representatives*

Business representatives expressed a considerably high level of environmental awareness. Environmental awareness, however, does not necessarily imply the willingness to adopt national policies and measures, nor, for example, the effort to implement energy strategies at the company level beyond measures improving the cost-effectiveness of the company. While the textile company voluntarily engages in developing standards to improve the environmental and social performance of its business, the others appeared less dedicated to implementing “sustainability” principles in their companies.

Business representatives had a detailed knowledge of all aspects of ETR design. However, attitudes varied considerably. In particular, the generally expressed preference for certain types of instruments of environmental policy appeared to dictate their attitude towards ETR. In general terms, representatives of the three less energy-intensive companies found ETR in principle an adequate instrument of environmental policy. They explicitly approved of applying economic instruments in environmental policy. Other instruments such as voluntary agreements were assessed as being too ineffective as regards environmental effects and not reliable enough. The transport and logistics company supported economic instruments. It did not disagree with ETR but primarily favoured subsidies. The chemical company favoured voluntary agreements as they provide companies with maximum flexibility in decision-making. In general, companies favoured European-wide policies as compared to national policies. Despite this, representatives of the three less energy-intensive companies also supported a national leadership role of Germany as regards ETR.

Nevertheless, all companies interviewed, criticised the current ETR concept. None of the five companies interviewed noted any employment effects due to the ETR since 1999. The transport and logistics company, the textile company, and the car manufacturer explicitly criticised the use of the revenue for decreasing pension contributions. Both the textile and the transport company suggested using the revenue for environmental

purposes, whereas the car manufacturing company recommended using revenue for financing alternatives in order to enable a change in consumption patterns. The representatives of the car manufacturer recommended a per capita environmental bonus system. The car manufacturer, the textile company, and the financial institute also criticised the current ETR for being too complicated and not transparent. Even though the textile and the car manufacturing company profit especially from current exemptions, they recommended reducing them.

Most suggestions on how to further develop the ETR to increase its social acceptance refer to the need for improved governmental communication, and to using a larger share of revenue for environmental purposes. The financial institution and the textile company, in particular, advocated a progressive and product-like marketing strategy. The representative of the latter remarked that environmental protection ought to be “sexy”. The chemical business representatives refused to even theoretically discuss potential measures to further develop ETR.

4.3. *Focus groups*

All participants in the focus groups were aware of the introduction of an ETR in Germany. However, knowledge of the details of ETR turned out to be rather weak. Information on ETR was in almost all cases obtained passively through newspapers and television, or from hearsay. The majority perceived ETR effects in their daily lives only as increasing fuel prices. But still, there was some confusion as to whether higher fuel prices result exclusively from ETR or can be put down to some other causes. Knowledge about the details of the ETR varied considerably across and within the focus groups. In general, all participants were aware of the environmentally motivated tax increases, whereas the spending of revenue was apparent only to very few. However, none of the participants had realised that the individual net income increased due to ETR. The majority stated that they had never heard anything about the use of ETR revenue before. Many participants complained about not knowing details of the ETR and criticised the government for an insufficient information policy.

The general attitudes of the majority of participants towards taxing resource consumption for environmental reasons were positive. Nevertheless, the views towards the actual ETR ranged from support to scepticism to very strong disagreement. Positive reactions in the groups of 25–40-year-old participants appeared motivated by arguments such as polluter liability or nature protection as a value in its own right. In contrast, support in the group of participants aged over 60 primarily related to responsibility for future generations and fears for the future. Participants disapproving of

¹⁹This, however, would be difficult to organise because electricity generated from renewable energies which is fed into the general grid is taxed together with all other electricity in the grid (not only for households). This is because the origin of electricity so far cannot be traced. However, electricity from renewables generated for the own use of its producer or fed into a grid that is exclusively fed by “green” sources is not taxed.

ETR primarily used arguments of individual economic interests or general anxiety.

Even those participants who expressed a positive attitude towards ETR in general, perceived the impacts of the actual ETR sceptically. The design was viewed critically and with general distrust. Revenue spending was subject to strong distrust and speculation. For example, a general suspicion was that revenue fades into the general budget and would not really be recycled.

The reform's name "ecological tax reform" generally had negative connotations. The strong objections resulted from the perception that the reform is named according to the environmental objective of ETR only. It was perceived as a major inconsistency that the revenue is not used to further the environmental objective by funding environmental projects. In response to the explanation that the revenue is used for reducing pension contributions, participants argued that the tax should then be called a pension tax. After prolonged discussions, some participants could still not comprehend the environmental effects of a petrol tax, although some of them had argued earlier in favour of energy conservation.

As participants were not familiar with the use of revenue for reductions of the pension contributions, they were also sceptical about the idea of a double dividend of ETR. The idea that a "simple" tax shift contributes to the solution of two complex challenges such as environmental protection and unemployment met with general disapproval. Confronted with calculations of the environmental and employment effects, participants generally doubted these estimates on the basis of their individual experiences in daily life. These doubts still remained after discussions, although many stated that they do not actually know much about methods to generate these estimates. The majority was clearly in favour of using revenue for environmental purposes. This would improve the transparency of ETR. As both these issues, environmental protection and the reduction in unemployment, are important challenges to German society, participants concluded that these challenges should be addressed with separate reforms.

5. Explaining factors for perceptions and attitudes

The above perceptions and attitudes towards ETR among the three groups of interviewees can be summarised as follows. Decision-makers perceive ETR as an important policy as regards climate protection and energy saving. Despite some differing conceptual views on details, the general attitude appears to be that ETR is implemented and, therefore, all is settled. Attention focuses on a potential further development beyond 2003. In times of more visible negative public response, attention focuses on appropriate reactive strategies.

Business representatives showed mixed views from positive to negative. However, the five-step ETR implemented in 1999 appeared to be a given fact that is not discussed with much emphasis any longer. For an extension of ETR beyond 2003, this is of course a different matter. The focus groups showed a different pattern. Although at the time of the focus group interviews, ETR was not as much a top priority issue as, for example, foot and mouth disease, the discussion showed that just mentioning ETR deeply affects people. Participants for the most part were very outspoken and emotionally involved. Four general factors explaining the perceptions and attitudes could be found across the focus groups and, to a lesser extent, in the interviews with business representatives. These factors are the level of understanding of the concept of ETR, expectations regarding the impacts of ETR, lacking and selective perception of information, as well as distrust in politics and political decision-making.

5.1. *Comprehension of the ETR concept*

The level of comprehension of ETR was not adequate in the focus groups. Fundamental elements of the ETR concept were unknown, such as the idea of a double dividend, the principle of revenue neutrality, and the use of revenue for decreasing labour cost. When providing participants with information on these issues, some sceptically assessed the information as not being correct. Although ETR was designed as a first step towards a complex reform of the tax system, public perception and understanding is clearly limited to the environmental part of the reform, i.e. the tax increases. Participants did not appear to be conscious of the employment part; their recurring experiences are fuel price increases. The decrease or stabilisation of pension contributions was not visible and, therefore, is not a recurring individual experience. Some of the political decision-makers also made the point that the widespread lack of understanding of the current compensation mechanism negatively affects social acceptance.

5.2. *Expectations of ETR impacts*

Policy-makers, business representatives, and focus group participants almost unanimously supposed that the current ETR has neither environmental nor employment effects. This contradicts any model assessments. Interestingly, political decision-makers supported this opinion.²⁰ They argued in particular with the asymmetrical relation between

²⁰Interviews were held in early 2001. Besides model assessments, later in 2002, the German Federal Environmental Agency and the Federal Ministry of the Environment reported of evidence that ETR has led to a trend reversal in CO₂ emissions from transport (BMU, 2002).

the volumes of ETR revenue and other taxes on labour. Hence ETR compensation effects would be marginal. Nevertheless, the majority of them recalled that it was the conviction of the existence of a double dividend and, in particular, the estimation of job effects which induced the government to introduce ETR. Business representatives (except one company) and focus group participants were sceptical about estimated job effects. But likewise, they did not prominently refer to the argument that ETR reduces the competitiveness of German industry. In particular, businesses pointed to the exemptions from ETR and stated that the competitiveness problem therefore was solved for the moment. Competitiveness only was an issue for political decision-makers. The interviewees from the Ministry of Economics and Technology argued that this is the only criterion to evaluate ETR. Expectations of focus group participants concentrated on the implications of ETR for their lives. Individual concerns as regards maintaining the individual living standard were compounded by fears that the tax burden would be increasingly unfairly distributed. At the same time, however, concerns were raised about increasing environmental pollution. During this part of the discussion, there was also some understanding of the necessity for stricter environmental policy. Both lines of argument resulted in demands for developing products and services that are environmentally friendly alternatives to specific consumption patterns that are addressed with ETR.

5.3. *Lack of information*

Among the focus groups in particular, one prominent reason for responding sceptically to ETR was a perceived information deficit. The obviously distorted knowledge of ETR design, and the unequal visibility of the two ETR elements resulted in the impression that ETR is not a transparent policy. Government was basically blamed for not having provided sufficient information. Despite several information campaigns of the government, these campaigns do not appear to have reached ordinary people. Focus group participants themselves identified the compensation mechanism and ETR effects as the most urgently needed information to contrast the daily experience of increasing fuel prices at the petrol pump. Political decision-makers, however, did not identify deficits in the official dissemination of information.

5.4. *Distrust in politics and political decision-making*

Besides criticism regarding ETR design, statements demonstrated a fundamental distrust in any kind of politics and policies. ETR appears to be a vehicle for the articulation of a more general unease with the political system. The name “ecological tax reform” was spontaneously heavily criticised by many focus group participants. Business representatives basically questioned the mid-term to long-term reliability of political decisions.

Focus group participants also suggested that political decisions couldn't be trusted because they are frequently reversed. Obviously, no one really trusted the implementation of the principle of revenue neutrality. Deep-rooted scepticism could be observed in how “governments” deal with tax money. Despite explaining the use of revenue for stabilising or decreasing pension contributions, scepticism prevailed that the original objectives might be revised and, finally, ETR revenue would be used for other purposes or seep away into the general budget anyway. Part of this distrust is related to the complexity of the ETR concept. Therefore, the issue of distrust is connected with the issue of access to information and the comprehension of it. Both business representatives and participants in the focus groups expressed their concerns about making the ETR concept more transparent.

6. **Discussion and recommendations**

The perception of ETR may teach lessons for many other policy areas in Germany: the goals are commendable to many, but the policies are perceived as being insufficient. The objectives of environmental protection, in particular climate protection, and decreasing unemployment are still priority issues in Germany. A great majority of the interviewees were concerned about environmental degradation and about what “we leave behind for our children and grandchildren”. Many were convinced that environmental protection is an important political task. Moreover, the majority of both business representatives and participants of the focus groups stated a willingness in principle to pay for environmental purposes, for the prevention of climate change, or the protection of natural resources. Therefore, the general framework conditions in German society for a continuation of ETR seem to still exist.

At the same time, ETR has a rather bad reputation. This appears to result from a conglomerate of reasons, four of which have been analysed in more detail above. Especially with regard to the focus groups, incomprehension of the ETR design, lacking or partial understanding, scepticism about the effects, and distrust in political decision-making all add to a general public perception that ETR is not an appropriate instrument to address the objectives of climate protection and unemployment. Criticism is especially concentrated on the perceived weak environmental impacts. Business representatives expressed both interest-driven and altruistic views. On the one hand, whereas the objectives of ETR are generally acknowledged, some business representatives questioned the choice of the instrument or the specific design of the German ETR. Criticism then was motivated by the aim to preserve as much flexibility for the company decision-making processes as possible and to avoid extra cost. On the other hand,

positive attitudes towards ETR appear to result from a strong belief in entrepreneurial responsibility and producer liability to stop social and environmental developments going off course.

The generally high level of environmental concerns in German society are reflected in several opinion polls on environmental consciousness and behaviour (Bolscho, 2002; Kuckartz and Grunenberg, 2002; Kuckartz, 2000, 1998; Preisendörfer, 1998). For several years, unemployment and environment protection have been ranked among the top five priority issues in these polls. Our focus group-based suggestion of a divide between high acceptance of ETR objectives and weak acceptance of ETR policy in practice is supported by a 2002 opinion poll (Kuckartz and Grunenberg, 2002, p. 57). Whereas 79% of the interviewees agreed with the basic ETR principles, 68% found the present ETR socially unfair and designed to “cash in” on the population. Generally, the results of the opinion poll demonstrate an ambiguous and ambivalent perception of ETR similar to the focus group results presented here. A majority agrees that higher energy taxes contribute to increasing efforts for energy-saving behaviour and, therefore, contribute to environmental protection. At the same time, two-thirds are convinced that the German ETR does not contribute to the solution of environmental problems. As an explanation for this, it was suggested that the German ETR is not perceived as environmentally effective because revenue is not used for environmental purposes—a view that was prominently expressed during all of the focus group discussions. Discussions clearly demonstrated that there is difficulty in linking measures and potential effects if there is not a direct causal connection. The poll shows, furthermore, that the combination of employment and environmental objectives is criticised by about 70% and the job effect is generally questioned.

In light of our qualitative findings on perceptions, comprehension, and attitudes, as well as in reference to the discussed explaining factors, and the quantitative data cited above, policies to improve the social acceptance of ETR might consider the following core questions:

- Should ETR be refocused towards its environmental objectives?
- Should the ETR compensation mechanism be revised?
- Which specific inconsistencies in ETR design could be cleared up?
- Which kind of information campaign helps to improve social acceptance?

6.1. Should ETR be refocused towards its environmental objectives?

The current ETR was developed with the notion that environmental policies generating extra cost would not

be accepted. Thus, ETR-related information policy was developed according to this assumption. In order to increase acceptance, public presentations of the ETR concept focused on the estimated employment effects or the contribution to solving financial problems with pensions. Empirical data in this study demonstrated, however, that this claim is not believed. Clearly there is a connection between the stated attitudes towards increasing taxes and the willingness to pay for specific objectives. But then, participants in the focus groups accepted the environmental objectives. Problems regarding the understanding of the employment objectives and targets could not generally be solved in two hours of discussion. Moreover, employment objectives were assessed as a secondary priority because of the perceived limited employment effects. ETR appeared not suitable for employment policy as its effects could hardly be distinguished from the trend. Criticised as being “neither eco nor logical” (CDU, 2000), this slogan very accurately describes the public’s perception of ETR.

One political decision-maker pointed out that ETR experts could generally be divided into two schools of thought regarding how to create social acceptance for the introduction of ETR: either those accentuating the employment effects or those focusing on the environmental effects. As those arguing for employment effects were more visible, this resulted in the environmental objectives being driven aside and becoming less visible. Given the overall positive response and attitudes towards the importance of the environmental objectives of ETR in combination with an outspoken call for more environmental measures, social acceptance of ETR might profit most from a reorientation towards the environmental objectives. Demonstrating and strengthening the environmental advantages might lower suspicion and remove confusion about ETR as regards perceived and real environmental effects. Focusing ETR more on its environmental effects would imply changes both to design and public communication procedures. Regarding such changes, some thoughts are presented in the following.

6.2. Should the ETR compensation mechanism be revised?

Our empirical findings clearly suggest that social acceptance of ETR would increase through a revision of the compensation mechanism towards funding for environmental purposes. The fact that the current spending of revenue is perceived as not being logical at all and is not understood by many seems to suggest partially giving up the link between both ETR objectives. Generally speaking, this demonstrates a public preference for policies that only pursue one single goal. More complex tax policies such as ETR are either not comprehended or are perceived as not

being transparent and as having a potential openness to abuse. Yet even business representatives and participants of the focus groups who understood the double dividend argument concluded that using revenue for environmental purposes might be a way out of the acceptance dilemma. At the same time, it appeared reasonable to them to spend some of the revenue on the development of alternatives for specific common consumption patterns. The focus group representatives in particular supported the view that ETR revenue should be spent entirely for environmental purposes.

However, it can be argued that the principal connection between the labour market and environmental objectives should be maintained for at least three reasons. First, econometric studies demonstrate ETR has a positive employment effect, although this effect might not publicly be perceived or discerned as an effect of ETR (e.g. Bach et al., 2001a, b). Second, financing pension contributions could be a stabilising factor in maintaining ETR in times when it is the subject of controversial political and public debates. This stabilising function had proven important, for example, during the phases when crude oil prices increased and fluctuated in 2000. Third, increasing the share of ETR revenue that is used for direct environmental purposes²¹ at the same time violates the principle of revenue neutrality, which could also be crucial with regard to social acceptance. As the historic review of the implementation process suggests, it might have been the connection of labour and environmental issues that probably mutually reinforced momentum for the introduction of ETR. Therefore, one could argue that it was just the negligible employment effects and their invisibility at the company level that led the business representatives to support the idea of changes in the compensation mechanism towards environmental projects, even among those businesses that profit from the current mechanism.

Therefore, changes in the compensation mechanism have to be weighed up carefully. While on the one hand the use of ETR revenue for environmental purposes appears publicly more popular than the use for something that is perceived as not being transparent, on the other hand an increasing tax share as a result of tax policies that are not revenue neutral would probably not be favoured. Nevertheless, from a social acceptance point of view, it is recommended to increase the future share of ETR revenue for financing environmental objectives much more significantly than at present. Since the introduction of the ETR, the share has been less than 1% of the total revenue. One option could be to start from the existing programme to promote

renewable energies and to increase the share gradually over time to also promote other environmentally sound technologies or to further develop alternative specific consumption patterns such as the promotion of public transport systems.²² The more such measures will be visible to the public, the more this in turn will increase social acceptance of ETR.

6.3. Which specific inconsistencies in ETR design could be cleared up?

Besides revenue spending, criticism focused on the design of ETR. The ETR concept, as introduced in 1999, was considered by some to be inconsistent and therefore appeared not acceptable. This was especially mentioned by policy-makers and business representatives. Suspicion focused on the effectiveness of the policy and on the appropriateness of the design as regards the exemptions for industry. Therefore, these exemptions might be addressed with periodic reviews to assess their suitability and to avoid windfall gains. Some of these exemptions have already been reviewed and revised. Besides these, the following elements of the ETR appear to have first priority in discussions on the further development of ETR:

- A more systematic approach to the tax base could be considered. The existing system of ETR is characterised by different tax rates on the specific energy carriers, with some fossil fuels not being subject to tax at all, for example, the exemption from taxation of aviation fuel was criticised in interviews and discussion.
- An exemption of electricity from renewable energies, however, should be considered. The logic behind taxing this kind of electricity appeared difficult to communicate as ETR aims at strengthening environmentally sound behaviour. When promoting the development and diffusion of renewable energy technologies, it was perceived to be inconsistent not to distinguish between electricity from renewable sources and fossil energy carriers.
- As a specific measure, the tax exemption for natural gas in cogeneration plants with an efficiency of more than 70% should be reviewed. The legitimacy of this exemption is difficult because of related windfall gains: already prior to the introduction of ETR, cogeneration plants with an efficiency of more than 70% were standard in several branches of industry.
- Addressing mobility issues, the promotion of alternatives to the use of cars should be considered. The focus

²¹Although the goal of reducing labour costs has an environmental component (encouraging less polluting, more labour-intensive businesses), it is primarily seen as serving social/economic purposes.

²²With the further development of ETR in 2003, this has already been partly approached by the government: besides the promotion of renewable energies, €190 million are spent on a programme to improve environmental renovation of old houses (BMU, 2002).

group discussions revealed an understanding of the principle that petrol consumption should be reduced for environmental purposes. However, acceptance of this policy suffered in part from the perception that consumers are not provided with alternatives to car use. Therefore, ETR taxes are perceived as a means to generate more revenue, whereas government would fail to facilitate adequate options to change mobility patterns at the same time. In this context, criticism also focused on taxation of rail transport and public transport. A general view was that if these taxes were lowered, the difference in the cost of the different transportation modes would create incentives to change mobility patterns. Without additional policies addressing rail or public transport, these are not perceived as increasingly attractive options.

6.4. Which kind of information campaign helps to improve social acceptance?

Even if all the suggested changes regarding the current ETR were implemented, this alone would probably not be sufficient to change attitudes towards ETR. The development of a stronger environmental profile has to involve better communication of ETR objectives and design. Concentrating on the adaptation of the design would only be partly successful regarding an improvement in the perception of ETR policy. As the empirical data, in particular from the focus group discussions, demonstrate, it has not been possible to get both the objectives and the functionality of ETR across to people. The German ETR has still not taken shape in the perceptions of many, and misconception prevails. Knowledge-based deficits might be addressed by a convincing information campaign whereas issues of trust are difficult to address. The necessity of such information campaigns was stressed by all interviewees, business representatives as well as participants of the focus groups. Besides information regarding the details of the ETR, a specific focus on image improvement might be considered. In doing so, a campaign might be designed according to principles of product marketing.

Given the results of the focus group discussions, a primary objective of such a campaign would be to stress the environmental effects of the ETR. This might answer the question as to why ETR has environmental effects, although only a small proportion of the revenue is spent on environmental purposes. Environmental effects might be illustrated by findings of recent studies (Bach et al., 2001a, b). A second objective might be a simple explanation of how ETR functions. In particular, the compensation mechanism is sceptically viewed because it is not understood.²³ One lesson from

the focus group interviews was that sporadic information on the compensation mechanism is not enough to anchor this complex mechanism in the minds of taxpayers. Therefore, it appears necessary to establish a means of periodically calling the ETR compensation mechanism into mind. A simple measure could be to separately list ETR-related tax savings on salary statements and wage slips to remind employees of the ETR compensation mechanism on a monthly basis.

7. Conclusion

The implementation of ETR in Germany in 1999 was largely motivated by the estimation of positive macroeconomic effects in two critical policy areas: the continuous increase of energy prices would contribute to steering production processes and demand towards technological innovation and hence towards more energy-efficient products. At the same time, it would add to the creation of additional jobs as labour cost could be reduced. The objective of this paper was not to investigate on the macroeconomic effects ex-post ETR's implementation. The objective here was to examine social responses to the implemented tax policy.

The qualitative social research methods applied reveal that factors other than the expected macroeconomic effects influence social responses to ETR. Our empirical data provide evidence that attitudes relate to two kinds of factors: those that are indirectly and those that are directly linked to ETR. Regarding the indirect or soft factors, on the one hand, general normative and moral convictions are revealed as driving forces towards positive responses to ETR. On the other hand, frustration with and distrust in politics negatively influence attitudes to ETR. Because social responses are at least partially formed by these indirect, non-ETR-related factors, they are difficult to address with changes in the design of the policy. However, those factors that are directly related with ETR might still suffice to increase social acceptance. As has been discussed above, refocusing ETR on environmental objectives, modestly increasing the share of ETR revenue spent for environmental purposes, removing inconsistencies in the ETR design, and improving information policy may increase the policy's acceptance.

Nevertheless, policy-makers will have to put these suggestions in relation to other motivations for ETR, such as macroeconomic considerations. There might be some kind of trade-off between measures to improve social response and macroeconomic goals. This type of investigation, however, is outside the scope of this paper.

²³Given a wide dissemination, the brochure "ETR—saving or paying?", published by the Federal Environmental Agency in September 2002 (UBA, 2002), is a step towards such a campaign.

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