Voluntary Agreements in Industry: A Comparative Description of the Process and a Normative Analysis

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ABSTRACT

In this paper we analyse voluntary agreements used as policy instruments to increase energy efficiency in industrial production processes. The analysis is based on case studies of voluntary agreements in Great Britain, Denmark, Finland, The Netherlands and Sweden. The viewpoint in our approach will be the policy process starting with the political choice of the use of voluntary agreements as a political instrument ending with the effects at company level.

The agreements are negotiated between representatives from the industry and the authorities. The targets are the main issues during the negotiations. Methods for monitoring and sanctions have only been minor issues in the negotiations. The choice of voluntary agreements follows a tradition in industrial policy of using voluntary approaches or softer measures in general. The design of the voluntary agreements differs substantially in scope and design.

Concerning the normative assessment, we use seven criteria based on suggestions put forward by the European Commission and the International Energy Agency among others. Looking at the agreement through these glasses, they do not look very good. The Dutch and the Danish agreements come out as the winners. But other glasses could be used. Voluntary agreements could also be considered as an early instrument in a new policy area in situations where a more coercive regulation with taxes or prohibitions is impossible.

Introduction

Governments face the challenge of reaching ambitious goals within environmental and energy policy. As concerns the effort towards industry, considerations about competitiveness of energy intensive sectors become important. Governments lack instruments that meet the environmental goals without harming their national competitiveness. This need for new policy instruments has contributed to the widespread use of voluntary agreements. According to International Energy Agency (IEA, 1997) voluntary actions aimed at reducing CO_2 emissions are established in almost all OECD countries, and a majority of these involve industry.

This paper is based on five case studies investigating voluntary agreements between regulators and single product companies or industrial organisations in Great Britain, Denmark, Finland, the Netherlands and Sweden. These studies give insight from these experiences in designing and implementing voluntary agreements and to some extent their effects. The cases are limited to voluntary agreements in the energy area and only cover the energy used in

industrial production.[1]

Finally, we will make an assessment of the agreement schemes presented in the case studies. We will discuss the weaknesses and strengths in the five agreement schemes, using seven criteria.

To be able to separate the overall programme consisting of several agreements, from the individual agreements concluded between authorities and industrial companies or organisations, the former is in this paper called an agreement scheme, whereas the latter are called agreements.

Methodology

The Implementation Perspective

The analyses on these five agreement schemes are based on a model of implementation of policy instruments, inspired by Winter (1994), Vedung (1991) and Mitnick (1980). In this model different levels of the implementation of agreement schemes involving different actors are analysed. The theoretical point of departure at the different levels is not described here, as the focus is the empirical findings.

One level to focus on when investigating agreements is the initial settings that led to *the decision to use agreements*. It is interesting to look into that motives that lead to the decision to use agreements. Is it expectation about agreements being a more efficient policy instrument, or are other more pragmatic reasons important? Explanatory factors could be previous and actual energy policy, a tradition for using agreements as a policy instrument in other areas, new targets within energy policy, inspiration from other countries, interaction with other policy instruments, expectations about agreements.

When it is decided to use agreements as a policy instrument, the specific design of the agreement is going to be negotiated and formulated. This *negotiation* phase allows expression of different interests. An analysis of the interests reveals whether they are very contradictory or not, and thereby the potential for cooperation. Also, it is important to note interested parties who did not participate in the negotiations to evaluate whether relevant interests have been considered.

A third level of investigation is at the company level. *What happens in the company when the agreement is concluded*, and what kinds of *effects* result from this? This includes questions such as: What were the motives behind investments and activities? How is the agreement controlled and monitored? Have the authorities fulfilled their obligations? Have the companies or industrial organisations cooperated with authorities in meeting the goals of the voluntary agreement? Have the voluntary agreements after all resulted in investments or activities leading to energy savings?

[1] The implementation analysis is described in Krarup and Larsen (1998), Larsen, Krarup & Kræmer (1998). The country case studies are described in details in Hansen et al. (1998) and for the Danish Agreement Scheme in Johannsen et al. (1998). The case studies were carried out during 1996 and 1997, so new adjustments in 1998 are not considered in the studies.

Five Agreement Schemes

The empirical findings from the five case studies will be presented according to the policy process, *choice of agreement*, *negotiations* and *implementation (at company level) and effects* as this is the structure applied in the investigations. Concerning the depth of the investigation, *negotiations* and *implementation and effects* have received most attention, whereas the choice of agreements is investigated more briefly.[2] The five agreement schemes are briefly introduced in the following section and in Table 1.

Presentation of Agreement Schemes

Table 1. The Analysed Agreement Schemes

	Great Britain	Denmark	Finland	The Netherlands	Sweden
Programme name	Make a Corporate Commitment Campaign (MCCC)	Agreements on Industrial Energy Efficiency	Agreements on Industrial Energy Conservation Measures	Long-Term Agreements on Energy Efficiency (LTA)	EKO-Energy
Year of adoption	1991	1996	1992	1990	1994
Target group	The biggest companies in the UK	Energy intensive companies	Industrial sector organisations and individual companies	Industrial sector organisations and individual companies	Big companies
Target	Implementation of procedures	Energy management & specific conservation projects	10-15% reduction in energy intensiveness in 2005*	20% reduction in energy intensiveness in 2000**	Reduction of industrial electricity consumption through changed procedures
Sanctions	None	Not refunding CO_2 reimbursement	None	Threat of other regulation	None

* Compared with the 1990 level.
** Compared with the 1989 level.

In *Great Britain* the Energy Efficiency Office in 1991 took the initiative to create an environmental and energy scheme called »Make a Corporate Commitment Campaign«

[2] A more thorough analysis of this phase is carried out in the project »Joint environmental policy making: new interactive approaches in the EU and selected member states« (Contract CT96-0227) coordinated by Duncan Liefferink, Wageningen Agricultural University, The Netherlands.

(MCCC). MCCC is a scheme originally aimed at big companies with more than 1,500 employees. The agreement is a standard describing seven procedures to which the participating companies commit themselves.[3] The main instrument is to increase information concerning energy efficiency in the companies. An indication of the performance of the companies in the MCCC exists in the form of national surveys, but no possibility of subsequent sanctions exists.

In *Denmark* an energy agreement scheme was adopted in 1996 after an intense debate in parliament. The programme is called »Agreements on Industrial Energy Efficiency«. Energy intensive companies may get reimbursement of part of their CO_2 tax if they enter an agreement with the regulator. The agreement determines, based on an estimation of cost effectiveness, specific energy saving projects to be implemented by the companies. Yearly, the companies report their progress to the authorities. The reimbursement is cancelled, if the company does not maintain its obligations. This has happened once. The main instruments used are partly subsidised energy audits and reimbursement of CO_2 tax.

In *Finland* the Ministry of Trade and Industry in 1992 took the initiative to create an experimental programme for an energy agreement scheme with inspiration from the Dutch LTA programme (see below). »The Agreements on Industrial Energy Conservation Measures« lay down goals for specific levels of improvements in energy efficiency in industrial sectors and individual companies. The target is to reduce energy intensity by 10-15% by year the 2005, depending on the size of the companies and the kind of energy use, in relation to the level of 1990. Agreements are a possibility for sector organisations and individual companies. In this paper only agreements with sector organisations are dealt with.[4]

In *the Netherlands*, the Ministry of Economic Affairs in 1990 implemented an agreement scheme called »Long-Term Agreements on Energy Efficiency« (LTA). The energy authorities and industrial sector associations enter an agreement endorsing the national target of 20% reduction of energy intensiveness in the sector during the next ten years. Today, the agreements cover 90% of Dutch industrial energy consumption, mainly through agreements with sector organisations. Subsequently, the individual companies enter the agreement by signing a letter of intent. Also here, the targets are specific reductions of energy intensity. Annually, the companies report their progress to the authorities. No formal sanction structure exists at individual company levels, but the threat is that the authorities exchange the agreements with other kinds of regulation.

In *Sweden*, NUTEK (the Swedish energy agency) launched an agreement scheme in 1994 called »EKO-Energy«.[5] NUTEK enters agreements with big companies. The instruments are standards for energy efficiency of processes, environmental standards and standards for

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[3] The seven procedures are: to publish an energy and environmental policy, to implement energy management, to monitor and evaluate the level of performance, to set up targets for performance improvements, to include the employees in the process, to carry out regular energy audits, and to report on the system and the progress to employees and shareholders.

[4] The information in this paper concerning the Finnish agreement is based on an agreement scheme established in 1992. In November 1997 new agreements were signed between the Ministry of Trade and Industry and the various industrial companies, industrial organisations, service sector organisations, municipalities, etc. This new scheme is still at the first stage.

[5] The administration is by now taken over by STEM, The Energy Authorities of the State. EKO- in EKO-energy is no abbreviation but simply a name.

purchases. The agreements last as long as the company and the authorities want them to. No formal control or sanction structures exist.

The Political Choice of Agreements

The investigated agreement schemes are decided at different levels. Some are decided through a parliamentary process. Others are decided in the agencies as a result of a parliamentary discussion about, e.g., an extended effort towards energy conservation and GHG-reduction.

The British agreement scheme *»Making a Corporate Commitment Campaign« (MCCC)* was introduced by the Energy Efficiency Office (EEO), which at the adoption time was a part of the Department of Energy.[6] The EEO had previously launched campaigns aiming at energy efficiency. Despite these campaigns, the management of companies did not (according to the EEO) give energy efficiency and energy management much attention. MCCC was born because of the need to focus more management attention on energy. MCCC was not passed through parliament but established by the EEO. From 1991 to 1997, 2,000 companies signed the commitments of MCCC. About 1,300-1,400 of them are industrial companies. The Department of Environment estimates that the participating companies account for approximately 10% of total industrial energy consumption.

The national goal concerning *CO_2 reduction in Denmark* is a decrease of 20% of the level in 1988 by the year 2005. To be able to reach this goal, further efforts for energy savings and CO_2 reduction from industry were necessary. This led to the introduction of a CO_2 tax for industry. Environmental organisations were informed about this, and approved the introduction of taxes but they were not further involved (Johannsen et al.,1995). The Danish voluntary agreements are very much linked to the CO_2 taxes. Several taxation models were discussed with industry, which opposed the idea of a CO_2 tax on the basis of the need to protect competitiveness of industry. During these negotiations, the industrial organisation, the Confederation of Danish Industries (DI), launched the concept of voluntary approaches, referring to the Dutch LTAs as an alternative to taxes. This was rejected by the authorities, but it was agreed that agreements could be used as a supplement to CO_2 taxes. In 1997, 37% of the total energy use in industry was covered by agreements (Pedersen et al., 1998).

The choice of voluntary agreements in Finland was part of a programme for energy savings established by the Finnish Parliament in 1992. This programme for energy savings was formulated by a working group consisting of representatives from the Ministry of Trade and Industry, as well as representatives from industrial organisations, supply companies, etc. The decision to apply voluntary agreements was not it self passed through parliament, but via the programme for energy savings and it was closely connected to a previous parliamentary decision. One motive for introducing agreements was the economic interests of industry. Therefore, agreements being a »softer« instrument than for instance taxes seemed suitable. Also, the working group was aware of the Dutch voluntary agreements, LTAs, and had used this knowledge as inspiration.

The Dutch national targets concerning CO_2 reductions are formulated in the action plan »The National Environmental Policy Plan – Plus«, issued in 1990. According to this, the

[6] Until 1992, the EEO and the programme were administered by the Department of Energy. In 1992, the Department of Energy was closed down. The EEO was moved to the Department of Environment.

overall CO_2 emission by the year 2000 should be reduced by 3% compared with 1989. 50% of this reduction of CO_2 emission is expected to be gained through improved energy efficiency in industry and the energy supply sector. Therefore increased effort towards industry's energy efficiency was needed.

In addition, industry and authorities had, during the eighties, cooperated through voluntary agreements concerning environmental policies. The decision of using agreements as a policy instrument in the energy area can, in this perspective, be understood as a continuation of the tradition of cooperation between industry and authorities. The Dutch LTAs were introduced in 1990 and now cover 90% of industrial energy consumption through 26 voluntary agreements (Ministry of Economic Affairs, 1998).

The introduction of the agreement scheme in Sweden was decided in the agency, NUTEK, (Närings- och teknikutvecklingsverket) dealing among other matters with energy questions. The decision was thus not passed through parliament. The introduction of this scheme is largely attributable to the CO_2 emission reductions that Sweden is committed to, through the United Nations' Framework Convention on Climate Change. One experience NUTEK had with previous energy saving programmes was that too many administrative tasks could keep the companies from participating, although subsidies could be given. Thus, NUTEK was searching for an instrument with the starting point in the companies' wants and needs. In this search NUTEK was inspired by the American »Green Lights Program«. Another attempt to comply with the need and wants of the companies was to combine the energy saving programme with elements concerning the company's environmental policy. In general, the companies are more concerned with environmental policies than energy policies as they are more important in relation the image of the company. Thus, an environmental audit is offered and one of the obligations of the company is to become certified via either EMAS or ISO 14001. In all, 15 industrial groups covering 50 production plants have concluded an agreement with NUTEK. On a rough estimate this corresponds to 1.5% of total industrial energy consumption in Sweden.

To sum up, the reasons for using voluntary agreements as a policy instrument, follows a tradition of using softer policy instruments. In other words, (further) taxation on energy or CO_2 emissions is politically hard to adopt. Agreements are thereby leading the way for alternative approaches to improve energy efficiency and reduce emissions. The introduction of voluntary agreements is also inspired by the experience of other countries' use of voluntary agreements. This does not mean that the design of the agreement schemes are alike. On the contrary, the designs and the targets groups differ considerably.

Negotiations

The negotiations are the occasion for the participating company or industrial organisation to make the voluntary agreement fit its needs. In *the case of MCCC and EKO-energy*, this part of the process did not exist. The companies can choose whether or not to participate, but there can be no changes in the content of the agreement. Consequently, the environmental organisations have no chance to influence the agreement signed.

As most of the voluntary agreements in the *Danish agreement scheme* are concluded with single companies, participants in the negotiations between authorities and industry, are representatives from Danish Energy Agency (DEA), and from the specific company. The course is normally initiated by the company sending a declaration of intent to the DEA. After

the company is informed about obligations of the agreement, an energy audit of the company is initiated. The energy audit provides the basis for further negotiations. The targets are defined in terms of energy saving projects that the company should fulfil before the agreement expires, i.e., within three years. Among the energy saving projects proposed in the energy audit, the company must undertake those with a payback period less than four or six years depending on the kind of energy use (heavy or light processes). It is stated that in general there is no conflict concerning the identification of the energy saving projects in the agreement. However, the officials in DEA have only the energy audit to lean on when negotiating with the companies. The consequence is that the companies can influence the selection of energy saving projects considerably.

The Finnish agreements were signed a month after the conclusion of the programme for energy savings which included the agreement scheme, and the subsequent negotiations therefore could be understood as a continuation of the cooperation in the working group. The representative from the authorities was the Ministry of Trade and Industry and from industry it was the Confederation of Finnish Industries and the Energy Federation of Finnish Industries (TELI). This latter organisation was established in 1992 and was tasked with energy-related issues for industry. The remaining participating industrial organisations, the Chemical Industries Federation of Finland, the Finnish Forest Industries Federation and the Federation of Finnish Metal, Engineering and Electrotechnical Industries, were informed about the course of the negotiations. The negotiations do not seem to have demanded too much effort of the participants. There was neither involvement of, nor contact with other interest groups, such as environmental organisations.

The overall target for energy efficiency improvements in industry in the *Dutch agreement scheme*, LTA, is 20% improvement by the year 2000, compared to the energy efficiency in 1989. The targets for individual sectors are also 20% on average. This is a common target for the sector as a whole. The negotiations about the target are based on an analysis of the possible savings in the sector. The companies within the sector organisation adopt the overall target. In practice, the companies contribute to the target according to their abilities to achieve energy savings. The targets are expressed in energy efficiency and are thus related to the specific energy consumption. They are settled on the basis of negotiations between the sector organisation, the Ministry of Economic Affairs and NOVEM. Other issues, such as calculation of the index to illustrate the energy efficiency improvements and methods of monitoring, have been treated as minor issues during the negotiations. The negotiations in the Dutch LTAs are a much more time-consuming part of the course of the agreement compared to the other agreement schemes. It can take between 12 and 36 months to conclude an agreement. The very profound and time-consuming negotiations could indicate that the mission of the negotiations, besides resulting in a consensus about the target, which seems to be more or less settled in advance, is to generate information about the energy saving potential in the specific sector. The sector organisations are committed to the Ministry of Economic Affairs and vice versa. The role of NOVEM is as the connecting link between the two parties. Thus, NOVEM is not an opponent to the sector organisation, but is signing the agreement in order to commit itself to its tasks in the agreement scheme, such as technical assistance, monitoring etc.

All in all the agreements are negotiated between representatives from the industry and the authorities. No environmental organisations or other interested parties have had the opportunity to influence the agreement. In the Danish case, environmental organisations were involved in the design of the agreement scheme to a small extent, but not concerning the

agreements with companies. The agenda seems to be predefined in various ways. In the Danish agreement scheme the only issue is identifying the activities necessary to enter an agreement. The Finnish and Dutch negotiations are concerned with setting energy efficiency goals. Other issues, such as methods for monitoring and sanctions, are discussed briefly during the Dutch negotiations. Concerning the efforts made to reach an agreement, there appears to be large differences. The Dutch and Finnish cases represent the extremes.

Implementation at Company Level and Effects

The implementation of *MCCC* consists of two simple parts. First, the companies sign the agreement, the »Declaration of Commitment« and second, the participating companies fulfil the obligations. Without too many problems, 1,500 companies signed the agreement, but after that interest declined. This led to an enlargement of the target group so that also smaller companies could participate. In the beginning, the target group were companies with more than 1,500 employees. The enlargement meant that companies with as few as 100 employees, and in special cases even smaller companies, could participate. Originally, it was the idea to make the top management commit to the agreement, but in practise the authorities let the companies decide who would sign. Concerning monitoring and sanctioning, the authorities deliberately do not make too high demands. There has been no kind of forcing or punishing the companies for not fulfilling the agreement, and the EEO has never excluded any company from the list of participating companies.

In 1994, the Corporate Commitment Club was established in order to help the participating companies. Most of the activities within the Corporate Commitment Club, such as seminars and newsletters, were not exclusively addressed to companies participating in MCCC.

Evaluations (based on surveys) of the management of energy in companies are carried out yearly. This survey does not only cover companies within MCCC. In 1995, only 49 companies within MCCC were in the survey (BMRB International Ltd., 1995). In general, the MCCC companies have a reasonable score in fulfilling some of the commitments. But it is, of course, unclear whether this high score is due to the MCCC, or if it had happened anyway. No quantitative assessment of the effects of the MCCC has been made. However, in 1995 the participating companies were asked whether the programme had an effect. 700 companies answered, of these 10% indicated that MCCC had a major effect, and 50-60% indicated that it had a slight effect, and the remaining companies had not observed any effect at all. Thus, the effect in terms of energy savings is probably not big. In the EEO it is considered that the major effect of MCCC is that energy has appeared on the agendas of boards of directors.

The companies in the *Danish agreement scheme* must implement the identified energy saving projects, and subsequently report the developments in their energy consumption and implementation of projects to the DEA. A survey investigating the impact of the agreement scheme on energy consumption shows that the energy savings due to the agreed projects are expected to amount to 2.2% of total energy costs. 34% of these savings are expected to be realized anyway which leaves the net impact of the project to be 1.4% of total energy costs (Togeby & Hansen, 1998). Further savings are expected since several companies have agreed to investigate a number of specific energy saving opportunities during the three-year period. Also, the agreed activities in relation to energy management are expected to result in energy savings (Krarup et al., 1997).

The obligations and means in the *Finnish agreement scheme* that should lead to increased energy efficiency are divided between the industrial organisations and the Ministry of Trade and Industry. The industry carries out energy audits, and hereby identifies suitable areas for energy savings. Also, it should seek to increase research and development aiming at energy efficiency. Furthermore, it should organise education and information for employees and monitor and report to the authorities about energy consumption. The Ministry of Trade and Industry should, if possible within its budget, make subsidies available for the participating companies. TELI was responsible for gathering data about the development in specific energy consumption, i.e., energy use per unit of production. But in 1995, TELI was closed, and no systematic gathering of data has been done since the last effort of TELI in 1993. This poor monitoring makes it impossible to evaluate the effects of the agreement scheme in terms of energy savings. Other issues, such as an increased focus on energy questions and increased focus on methods in order to measure specific energy consumption, could be regarded as indirect effects.

When a company has signed *the Dutch LTA*, it is obligated to set up an Energy Conservation Plan. In this plan, the energy saving investments planned for the next four years are indicated. Furthermore, projects that possibly can be carried out should be noted. This plan must be approved by NOVEM. For the sector as a whole a »Long Term Plan for Improvement of Energy Efficiency« describing the necessary effort to reach the target is set up.

The agreement is monitored every year and the improvement in energy efficiency is measured via an energy efficiency index, EEI. This index expresses the development in energy used to produce a specific amount of the product. The index in 1989 is 100 and the target is thus to reach an EEI at 80 by the year 2000. The companies report the data needed to calculate the EEI to the sector organisation. The sector organisation gives it to NOVEM, which subsequently writes a report for the industry as a whole describing the development in the EEI in the different sectors. Energy efficiency had improved by 12.5% in 1996, in the industry as a whole (Ministry of Economic Affairs, 1998). This means that in 1996, the EEI was 87.5. In connection with the yearly monitoring, the progress made by the companies is evaluated by comparing the results with the Energy Conservation Plan. Deviations are discussed with NOVEM. Monitoring was considered a heavy work load by case study participants.

When a *Swedish* plant within a company signs an EKO-energy agreement, NUTEK makes sure that consultants are ordered to carry out an energy and environmental audit. Based on these, the company must set up its energy and environmental policies including action plans. NUTEK follows the formulation of these policies closely. While this is done, NUTEK also ensures that the company management receives guidelines on energy efficient purchases.

The idea is that NUTEK follows the plant for two years, and subsequently it is expected that the company continues the work itself. Thus, the most important element in the agreement scheme is that the plants and their companies continue to strive for environmental improvement and energy savings. At the end of the case study, all companies were still in regular contact with NUTEK.

To sum up, it is evident that there are big differences across countries in what is implemented and how it is done. The British MCCC is very much based on the assumption that a better image concerning energy is important for the company. This is the only element that is offered to the companies participating, as the services offered are often available to all companies.

A striking trait in the implementation of the Finnish VA scheme is the lack of monitor-

ing and control of whether the parties fulfil their obligations. This is done more systematically in Denmark and the Netherlands. Especially in the Netherlands, a big effort is made in monitoring the development and quantifying the results. As regards the implementation of the Dutch scheme in general, it is based on well-described procedures for carrying out and monitoring energy saving projects. The efforts made by the Danish participating companies are self-reported and monitored by the authorities.[7]

The targets in investigated agreements divide the five cases into three groups. The Dutch and Finnish agreements have targets concerning improvements in energy efficiency, whereas the Swedish and British targets concern improved procedures in the companies. Finally, the target in the Danish case is the identification and implementation of energy saving projects.

A Normative Assessment

As voluntary agreements are new policy instruments, experience and evaluations of agreements are scarce. Also, theoretical insights about voluntary agreements are limited. However, normative criteria have been set up (European Commission 1997, IEA 1997, Ekins 1998 and Kræmer & Hansen 1998). These criteria describe conditions needed in order to set up an effective agreement. On the basis of these (quite similar) criteria, we have created seven in order to focus the discussion on the most central elements of the course of an agreement. The criteria (a to g) are presented below and related to the five agreement schemes.

a. The government should have an agency close enough to industry to understand both the concerns and potential of business but in turn under the control of an upper administrative branch to limit collusion (agency capture).

In all the five schemes analysed there is a public agency close to the industry, e.g., the Danish Energy Agency. The agencies close to the industry can have different roles: A general administrative role, like in Great Britain, Denmark and Finland; or a more technical role concerning saving potentials and technological development as in NUTEK in Sweden and NOVEM in the Netherlands. In the schemes, where the agencies have a more administrative role, external consultants are often used, e.g., from ETSU[8] and BRECSU[9] in Great Britain. There are, of course, also in all countries (and at EU level) agencies that in principle promote the competition and try to limit collusion. We do not know whether these »antitrust agencies«, have played a role in assessing the analysed schemes, but our impression is that they have not.

b. A statement should be presented concerning rights and responsibilities of all parties, and improvement targets and procedures should be clear for the participating companies.

The first impression of the schemes is that the roles and the rights are clear in the sense that the seven commitments in the MCCC are clear, the assumed efficiency increases in the

[7] Furthermore, two evaluations have been carried out by independent research organisations: Krarup, Signe; Mikael Togeby & Katja Johannsen (1997): *De første aftaler om energieffektivisering – Erfaringer fra 30 aftaler indgået i 1996*, and Pedersen, Preben Buhl; Christina Ingerslev, Mikael Togeby & Gert Ahé (1998): *Evaluering af energiaftalernes effekt*, AKF, Dansk Energi Analyse & Rambøll.

[8] ETSU: The Energy Technology Support Unit.

[9] BRECSU: The Building Research Energy Conservation Support Unit.

Dutch and the Finnish schemes are clear, and the investment criteria in the Danish scheme are clear. But in many cases, much room is left for interpretation, at the company level. That holds for all the commitments in the MCCC and the definition of the projects in the Danish agreements. The overall targets in the Swedish agreement scheme are defined in general terms giving the companies flexibility to set goals which vary from general formulations to quantitative goals concerning energy efficiency. In the Finnish scheme there are different targets depending on type of energy use – heat or electricity – and on the size of the company – small and medium-sized enterprises or large companies – which complicate monitoring.

c. Environmental interests should be sufficiently organised and informed concerning the environmental performance and potentials of companies and industrial sectors.

The environmental interests could play different roles, depending on the type of the agreement scheme. When the overall general targets are negotiated in some kind of alternative democratic process, the environmental movements should balance the industrial interest. - When the targets are set in the normal way through parliament, the environmental interest could play a role in the monitoring of the agreements. In our cases, environmental organisations have not at all been an important part of the process. This holds for both the overall target setting and for monitoring.

d. Before adopting reduction targets, procedures or investment criteria, an independent estimation of business as usual should be made.

To make sensible targets at national level, an independent estimation at sector or company level seems logical, in a rational policy process.[10] But the agreement schemes are typically not, as described above, decided after such a rational policy process. In some of the schemes the business-as-usual baseline plays a role in the negotiations about a reasonable goal for the efficiency improvement or definitions of reasonable investment criteria. Independent estimations of business as usual are also seen as part of an evaluation (e.g., Rietbergen et al., 1998). But we have not seen independent estimations of business as usual before adopting targets.

e. A system involving concerned parties, independent of industry, should be established to monitor and verify progress towards, and the achievement of, targets.

In a very broad understanding of the term, all the agreements have been »monitored«. But the Finnish monitoring unit, TELI, only operated from 1992 to 1995. In Great Britain the MCCC has been monitored as part of a general survey. But this survey is neither part of the MCCC, nor has it any consequences for the companies in the MCCC. The Swedish companies concluding an agreement are »followed« in two years by a consultant from NUTEK. The Danish and the Dutch are continuously monitored, but based on reporting from the companies. Only aggregated figures from the monitoring are available to third parties.

Thus, monitoring independent of industry is not carried out in any of the agreement schemes, but the monitoring in The Netherlands and Denmark seems to give an adequate picture of the development.

f. Broad sectoral coverage and participation from both large and small companies and support from sectoral associations should be present.

On the surface, the Dutch, the Finnish and the Danish agreements appear to have a

[10] A rational process follows the following steps: 1. Identification of the problem, 2. Analysis of benefits and costs related to alternative solutions, and 3. Decision. For a thorough description of this decision-making process, its assumptions and the critique of it, see e.g. Dorn & Phidd (1983).

broad sectoral coverage. For the Dutch, this also holds in practice; for the Danish, this is only true when the Danish scheme is seen as part of the combined Danish CO_2 tax and agreement scheme. With some uncertainty and based on few observations (Hansen et al., 1998) we conclude that the actual coverage of the Finnish 1992 scheme is much smaller than the theoretical. In theory, probably at least 75% of the industrial Finnish energy consumption should be covered. The Swedish scheme covers less than 2% of the Swedish energy consumption. So whatever effect the Swedish scheme has on the companies signing up the scheme cannot be considered a general policy instrument. This also holds true for the British MCCC that covers 10% of the energy use in Great Britain. On the other hand a scheme with a narrow focus (specific kind of end-use or specific branches), could be very useful within the focus, but it is something different from a general national policy instrument like the Dutch one.

g. There should be a feedback mechanism for imposing sanctions in the event of non-compliance

Feed back and sanctions in the event of non-compliance only exist in the Danish and the Dutch schemes. There are no sanctions in the other schemes. In the Danish scheme the sanction consists of a tax payment. Energy price increases 20% when the tax reimbursement is cancelled, and is thus a big axe for a little offense. This sanction has only been used once up till now (1998). The sanction in the Dutch case is regulation of the companies concerning energy efficiency, administered by the provinces instead of by NOVEM and the Ministry of Economic Affairs. This sanction has not been used, and it must under all circumstances be considered a very weak sanction.

All in all, looking at the agreement through these glasses, they do not look very good. Through the glasses of the seven criteria, the Dutch and the Danish schemes come out as the winners. According to these criteria, the Danish and the Dutch only fail completely in relation to involvement of third parties. Looking at the discussion above, it is easily seen that the other schemes have problems with scope, unclear targets and monitoring.

There are limitations to this conclusion. Passing the above criteria only tells something about the outcome, if the theory of efficient policy instruments behind the criteria is valid and relevant. Even if all the organisations mentioned in criterion 1 are in place, it is not a guarantee that the agency close to industry has the necessary information, or that »the antitrust agency« controls collusion properly. And an agreement scheme fulfilling all the criteria above, but with ambitions very close to business as usual, will not make a difference.

And other glasses could be used. Voluntary agreements could also be considered an early instrument in a new policy area in situations where a more coercive regulation with taxes or prohibitions is impossible (Dorn and Phidd 1983). Moving successively from the least coercive instrument to the most coercive instrument is considered a normal political process: Thus, politicians tend to start with a policy instrument like a voluntary agreement and can end up many years later with taxes. Through these glasses rather weak voluntary agreements could be a reasonable, and perhaps the only possible, first step in a new policy area as the public intervention in the industrial energy use.

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