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1. Voluntary Approaches: An Introduction

Charles J. Higley, Frank Convery and François Lévêque

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The use of voluntary approaches has emerged in the 1990s as the most rapidly growing — in terms of number and scope — policy instrument for environmental management and policy in Europe. Despite their increasing implementation, however, voluntary approaches have received relatively little critical discussion amongst academics and policy-makers.

The Concerted Action on Voluntary Approaches (CAVA) network of researchers organised a series of workshops on various facets of voluntary approaches. The papers presented at these workshops provide the latest thinking and research findings in the theory and practice of voluntary approaches in environmental management. The materials included in this policy brief represent a synthesis of these and other findings that will provide some insights as to how to design and implement voluntary approaches.

The information we have distilled here is directed at three audiences. The first are those in government departments and agencies responsible for policy design and implementation. The second are those in industry who are considering the use of voluntary approaches. The third are non-governmental organisations and the general public. For all three groups, research findings have much to offer in terms of fulfilling the potential of this instrument.

Definitions and Taxonomy

Voluntary approaches are commitments from polluting firms or sectors to improve their environmental performance. "Voluntary approaches" is a broad term that encompasses many different kinds of arrangements, such as self-regulation, voluntary initiatives, voluntary codes, environmental charters, voluntary accords, voluntary agreements, co-regulation, covenants, and negotiated environmental agreements, to name just a few. All these types include three main different instruments: unilateral commitments made by polluters, negotiated agreements between industry and public authorities, and public voluntary schemes developed by environmental agencies (See Box 1). The papers in this collection will generally use these three categories in analysing different aspects of voluntary approaches.

Box 1. Types of Voluntary Approaches

Unilateral commitments made by polluters

Unilateral commitments consist of environmental improvement programmes set up by firms and communicated to their stakeholders (employees, shareholders, clients, etc.) An example would be where a firm commits itself to some combination of reducing its emissions by 20 per cent over five years, increasing its rate of re-use and re-cycling, only using readily degradable packaging, etc.. The 'Responsible Care' programme initiated by the chemical industry in Canada, but now found in many jurisdictions, is of this type. Each participant must submit its environmental plans to regular verification and compliance, which is carried out by an external committee composed of industry experts and community representatives. The monitoring results are made public.

Public voluntary schemes

In this model, the public authorities set standards as regards some combination of processes and procedures to be followed, or targets to be attained, and participating firms agree to meet these targets. An example of process type voluntarism is compliance with the Eco Management and Auditing Scheme (EMAS) of the European Union, which has been available to firms since 1993. Firms that apply for EMAS certification must have an environmental policy in place, conduct an environmental review of its sites, set and implement an environmental improvement programme and an environmental management system, and have its policies and management system reviewed to verify that they meet the requirements. Another example is the Dutch benchmarking Covenant, whereby participating firms agree to meet certain specified standards of energy efficiency

Negotiated Agreements

These are agreements between a sector or group of sectors to meet one or more overall targets. A common example in a number of countries in Europe is a commitment on the part of those in the packaging chain – producers, wholesalers, retailers – to meet an overall re-use and recycling target, by a pre-specified year, or a commitment by automobile manufacturers to meet fuel efficiency targets in new models. There has been a tendency for some negotiated agreements to move in the direction of public voluntary schemes; in Denmark and the Netherlands, sectoral commitments to meet overall targets have been individualised into individual firm thresholds to be met in order to quality for compliance.

Background

Where environmental endowments are being degraded, the solution that has been traditionally adopted by most government agencies is regulation, known also as 'command and control,' whereby the agency sets standards with regard to processes, equipment, staffing, emissions etc. for each significant polluter, and these standards have the force of law; if the firm does not comply, it can be charged in the courts as a result of its delinquency.

An alternative approach emerges from the economics paradigm, where the argument is made that environmental degradation is caused because environmental endowments are not valued in markets. No price emerges to reflect their scarcity value, and the market fails therefore to fulfil its most fundamental of functions, that of rationing scarce assets efficiently. The solution preferred by most economists is to introduce market signals, either by charging for the use of scarce environmental endowments via a tax or charge, or by determining the amount of

pollution per unit time that can be absorbed, allocating the rights to these emissions, and allowing the owners of these rights to buy and sell permits, from which emerges a price in the market which reflects the scarcity value of the environment. These alternatives – which are called 'market instruments' - are symmetrical; fix price, or fix quantity, and the market will do the rest. Where it is judged particularly important to meet an emissions target, the fixing of quantity (emissions trading) provides more certainty. Applied appropriately, they should result in the attainment of the environmental objective at minimum cost – what economists call 'static efficiency' and create an incentive for continuing innovation and improvement, that is -- 'dynamic efficiency.'

For polluters, both of these approaches – regulation and market instruments – have substantial disadvantages. Regulation may reduce a firm's capacity to respond quickly to new challenges in regard to process and product development, and the regulations may impose solutions that are high cost and inefficient. Properly designed and administered, taxes and charges will animate an efficient response, but the firm has the on-going cost of paying the tax or charge, or paying for the permit.

For government and its environmental agencies, the command and control model can be technically and administratively difficult, in the sense of knowing what is possible to achieve at what cost, and legal procedures can be time consuming and expensive to implement in the event of non-compliance. The market based approaches can pose difficult institutional challenges – typically requiring the involvement of the fiscal and tax collection authorities in policy design and execution – and political difficulties in the sense that firms argue that their competitiveness will be impaired if they have to pay taxes and charges for permits.

These perceptions on the part of polluters and government have set the stage for the emergence of voluntary approaches as the means of achieving environmental objectives. Attempting to avoid the challenges posed by 'command and control' and market-based instruments, industry leaders and government policy-makers, *de facto*, have created voluntary approaches. VAs are not the product of government intervention, nor of economists' theories. Rather, VAs are pragmatic responses to the need for more flexible ways to protect the public interest in a clean environment.

Incentives to Voluntary Approaches

Pollution abatement involves significant costs to firms. Because firms are profit driven, they will only undertake to invest in further pollution controls if they expect a net gain for so doing. How might a firm benefit, then, from participating in a voluntary agreement?

A firm may benefit from better use of, and access to, inputs. Some environmental performance improvements, known as "no regret actions," simultaneously result in lower consumption costs and pollution abatement. For example, efforts to improve energy efficiency can result in long term cost savings to the firm by reducing the amount of fuel consumed, while at the same time generating a reduction in pollution levels. Though profitable, in the absence of an organised voluntary approach many such programs may never get initiated because of a lack of information or know-how at the individual firm level. In this case, the voluntary approach may play an important role in disseminating and subsidising information.

Another way voluntary approaches may produce input savings is by enhancing the reputations of participating firms. A firm with a "green reputation" may have an easier time recruiting and retaining employees, and may improve employees' motivation. It may also improve its relationship with the local community, making future activities less costly to undertake. Finally, a strong environmental reputation may improve relationships with regulators, reducing the administrative costs of compliance.

Firms may benefit from a sales increase because of a consumer's willingness to pay a premium for green products. The green firm will be rewarded by this increased demand for environment-friendly products with an increase in market share.

Finally, voluntary approaches may produce regulatory gains -- that is, savings through the avoidance of public regulations. Regulatory gains may come in two forms. A firm may enter initiate a voluntary approach if it believes it can influence the setting of a lower environmental target. Alternatively, a firm may expect regulatory gains in the form of reduced compliance costs. For instance, a voluntary approach may set the same, or even a higher abatement target, but may allow the firm greater flexibility in achieving those levels, as opposed to a regulation which prescribes particular processes or technologies. This allows industry to find cost-effective solutions adapted to its specific situation. Clearly, the first form of regulatory gain, a lower target, comes at an expense to the public interest. The second form, however, may offer significant benefits to industry and the public.

Brief Summary of Policy Briefs

The policy briefs that follow in this collection address four fundamental issues in reviewing voluntary approaches: 1) competition concerns; 2) integration of voluntary approaches with existing legal systems; 3) environmental effectiveness and economic efficiency; and 4) design and implementation of voluntary agreements.

With respect to competition concerns, Rinaldo Brau and Carlo Carraro found that VAs, as with other environmental agreements and regulations, must be carefully scrutinised to ensure compliance with provisions of the EC treaty devoted to the protection of competition. VAs have indirect effects on market structures, and can lead to strategic anticompetitive behaviour. In general, though, a concentrated market structure has a positive effect on the environmental effectiveness of a voluntary initiative. There appears to be, then, a trade-off between the goal of maintaining a competitive market and taking advantage of the flexibility and efficiency created by a voluntary approach to pollution abatement. The paper suggests that this trade-off can be diminished somewhat by the appropriate use of a policy mix, making the design of the VA a very important element.

Regine Barth and Birgit Dette found, in their paper on the integration of voluntary approaches into existing legal systems, that existing laws constrain the use of VAs in a number of ways. European Union law prohibits the formation of any agreement that negatively affects free trade and competition in Europe. Moreover, constitutional law in the individual states limits the applicability of VAs. Government agencies may not bargain away the ability of the state to regulate in favour of the health and safety of the public. In addition, the lack of legislative participation in voluntary agreements raises questions of democratic legitimisation. Finally, the implementation of VAs raises a number of other legal issues, including procedural protections, monitoring, and enforcement. These legal issues all suggest that VAs may not be as flexible as has been presumed, and that developing institutions to deal with these issues may detract from the efficiency of VAs.

In his paper on the environmental effectiveness and economic efficiency of voluntary approaches, Signe Krarup found that environmentally effective voluntary approaches require an ambitious environmental target. To ensure such a target, an open and transparent process is crucial to overcome problems of regulatory capture and lack of benefits associated with third party participation. Furthermore, strong monitoring and enforcement are needed to make sure those targets are met. The structural institutions required to guarantee effectiveness, however, may diminish the cost effectiveness of voluntary agreements. This reduction in efficiency,

however, must be viewed in the context of other credible alternatives. That is, are voluntary approaches that contain the necessary safeguards and provisions efficient relative to other instruments?

Finally, Frank Convery, in his paper on implementation of voluntary approaches, offers a set of guidelines that are meant to address the various obstacles to creating an effective, efficient voluntary agreement.

Observations and Continuing Issues

On the most basic level, the results of the CAVA project may stated in very simple terms. Voluntary approaches offer benefits in the form of flexibility to the participating firms and to government, relative to the traditional command and control regime. This flexibility, however, comes at the expense of reduced access of third parties to the policy-making process. The effects of this reduced third party participation may well be that voluntary approaches present the danger of lower environmental targets, and reduced environmental effectiveness, generally. While mechanisms for correcting the risk of less stringent environment protection certainly exist, they are expensive, and may seriously reduce the flexibility of the instrument. So, a clear trade-off emerges between *flexibility* on the one hand, and *environmental effectiveness* on the other.

Voluntary approaches have received much attention in recent years because of their promise to achieve environmental goals in a more flexible manner than traditional regulation. This attention manifests itself in the growing number of VAs being concluded in Europe in recent years. VAs shift much of the responsibility to industry to formulate its own environmental policy. As a result, they allow industry much more flexibility in formulating the means by which it will reduce pollution. VAs engage industry, and invest them with an active role in determining the most efficient ways to achieve environmental goals. In the past, the responsibility for setting targets and outlining methods and procedures has rested mainly in the hands of environmental regulators. Surely there is a compelling argument to be made that industry knows best how to abate its own problems.

In encouraging industry responsiveness, VAs promote an open flow of information within industry associations (particularly where agreements are made with an entire association, rather than with an individual firm). Furthermore, such industry wide agreements allow firms to allocate the burdens amongst themselves in the most efficient manner possible. In doing so,

VAs are able to provide a flexible, customised approach to environmental policy, where command and control techniques have always tried to overlay a single approach, even where it may not be appropriate or efficient for certain industries.

The flexibility of VAs extends to the regulator, as well. For instance, if the public authority wishes to impose a tax on the production of CO2, such a proposition will surely be met with great resistance by energy intensive industries. Because of the powerful position of these industries, their opposition could result in a wholesale obstruction of the measure. In this situation, voluntary approaches could be employed to make exceptions for certain industries -- provide subsidies, rebates, or exemptions -- without having to scrap the entire tax.

We must remember, however, that industries are profit driven creatures. Pollution abatement is often expensive, and the *most* cost effective option for the firm is very often to abate less. VAs present industry with a number of ways to reduce environmental targets, or circumvent stringent regulation.

In each of the policy briefs that follow, one theme recurs over and over -- because VAs, and negotiated agreements in particular, frequently involve direct negotiation between industry and regulators, they may exclude the benefits to the public interest that derive from third party participation. Specifically, VAs, with their closed-door negotiations, appear to make regulatory agencies much more vulnerable to "capture" by the regulated industry.

The reasons for this vulnerability are several: the lack of an open, transparent process of public participation may speed up the regulatory process significantly. In an age of dwindling budgets for environmental agencies, and in the face of considerable pressure from the public to "streamline" the process, the prospect of a speedier process may be very attractive. In addition, regulators may be persuaded to accept a lower environmental target by the (implicit or explicit) offer of future employment in the regulated firms. Or the regulators may be "softened" by invitations to social events or offers of political contributions. This is not to say that all regulators are susceptible to such forces, but without a transparent process in which all interested parties may contribute, the potential for such capture is greatly increased. The result, of course, is a lower level of environmental effectiveness.

Without a doubt, the arena of policy-making knows how to combat the disadvantages associated with closed processes. In fact, the public participation and transparency laws that have developed in public and administrative law stem directly from the same concerns in the regulatory process. As mentioned earlier, however, these safeguards are expensive and time consuming. Much of the flexibility associated with VAs up to the present would be lost if firms and governments were made to bear the administrative transaction costs that go along with full

public participation.

Thus emerges the trade-off: voluntary approaches can be a flexible, and therefore cost effective way of developing environmental policy, but this advantage comes at the expense of public participation and, ultimately, environmental effectiveness. Conversely if invested with the proper procedural safeguards, voluntary approaches can be an effective policy instrument for achieving ambitious environmental goals, but this effectiveness comes at the expense of flexibility.

The question that remains, then, is whether voluntary approaches that provide assurance of environmental effectiveness may still provide some overall benefit in the form of flexibility to industry? Future research of voluntary approaches should address this question.

Several other issues pertaining to voluntary approaches remain unresolved. First, the extent to which voluntary approaches may be combined with other policy instruments to achieve maximum efficiency is largely unexplored. The following policy briefs point out that the existence of a regulatory threat in the event that the voluntary agreement fails is crucial to achieving ambitious targets in the negotiating process. This observation represents the first step in explaining how different policy instruments may interact with each other to produce sound policy. Further studies on the combination of voluntary approaches with green taxes could be very helpful in advancing the understanding in this area. Moreover, the concept of a "menu" of instruments from which an industry may choose presents an interesting possibly for the dynamic interplay of environmental policy instruments, and deserves further attention.

One striking and potentially troublesome observation in the CAVA policy briefs is the number of legally non-binding agreements being made across Europe (the Netherlands being a notable exception). Without legal accountability, industry cannot realistically be expected to follow through on their promises when conflicts arise. Careful observation of the effects of non-binding agreements, and the consequences they may have for realising environmental goals in VAs will be very important for determining the usefulness of the instrument in the future.

VAs appear to present a strong potential to affect competition and market concentration. These negative effects may be (and have generally been found to be) acceptable if the corollary benefits to the environment outweigh the constraints on competition. If at some point in the future, however, jurisprudence finds that the effects on competition violate the single market principle, and are therefore unacceptable according to the European Treaty, this decision could have serious effects on the use of voluntary approaches. Thus, this issue warrants continuing observation.

Finally, because voluntary approaches are relatively new in the environmental policy arena, a general dearth of empirical information exists to determine accurately the effectiveness of the growing number of VAs. Until the results of these agreements have been analysed and quantified, any real assessment of the effectiveness of VAs is impossible. Therefore, future research on VAs should concentrate heavily on empirical evaluations of the progress of existing agreements.

2. The Integration of Voluntary Agreements into Existing Legal Systems

Regine Barth and Birgit Dette

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In recent years the number of voluntary agreements has increased significantly, covering aspects of environmental policy like climate protection, the prevention of pollution and the management of the waste sector. Since mentioning the use of voluntary agreements in the 5th Environmental Action Programme (1992), the EU has continuously encouraged the use of voluntary agreements. The EU End-of-Life Vehicles Directive (1999) even proposes to use voluntary agreements as an instrument for its implementation on national level. While the instrument at first was used without a formal institutional framework, several EU member states now have enacted regulations regarding voluntary agreements. In fact, today voluntary agreements must be seen as an established instrument for environmental policy. There are a number of legal constraints that limit the use of voluntary agreements. These constraints may be found in EU law with issues such as free trade and open competition, and in the constitutional law of the member states with issues such as division of powers, democratic legitimasation, and the state's duty to protect health and safety of individuals, and third party rights. In addition to these constraints, the implementation of voluntary agreements raises a number of other important legal issues, including procedural questions, monitoring and enforcement.

Forms of Voluntary Agreements

Shape, content and impact of voluntary agreements vary widely. But they all have some basic characteristics in common. In summary one can define a voluntary agreement as an agreement or an action of self regulation which is voluntary in character, that involves stakeholders of which at least one is the state, that is either a substitute or that is a device for implementing or going beyond environmental law and policy and that is aimed at sustainable development (elni, 1998:27). In order to be able to assess the legal requirements and problems, a rough grouping is necessary. These groups are whether voluntary agreements are unilateral or multilateral, how they correspond to respective legal norms, whether they are legally binding or not and whether they are concluded under civil law or public law. In order to illustrate the different forms, first a few practical examples of voluntary agreements are given, which then will be subsumed to the different categories.

Practical Examples for Different Forms of Voluntary Agreements

No. 1. Voluntary Agreement of the German Aluminium Industry for the Protection of the Climate, 1997

The Sectoral Association of Primary Aluminium committed itself to reduce the emissions of the greenhouse gases Tetrafluoromethane (CF_4) and Hexafluoroethane (C_2F_6) by no less than 50% by the year 2005 on the basis of 1990. The five associated aluminium works will optimise their process management and use up-to-date techniques of metallurgical engineering to reach the goal. The progress shall be reported to the Ministry for Environment every year on the basis of independently conducted surveys.

No. 2. The Dutch Benchmarking Covenant, 1999

The covenant was concluded by the Minister of Environment, the Minister of Economic Affairs and the provinces on the one side and the general employers' organisation as well as organisations of energy-intensive industries such as electricity companies and refineries on the other side. The goal is to reduce CO_2 so that as many process-installations as possible will belong to the best-of-the-world in the area of energy efficiency by 2012 at the latest. How the goal is to be reached lies within the responsibility of the companies, but intermediate steps and independent monitoring is foreseen. The state is obligated not to take any additional specific measures as to energy saving and the reduction of CO_2, with the reservation though, that general energy taxes may be levied.

No.3. The French "accord cadre" on the treatment of end-of-life vehicles, 1993

The agreement was concluded by the Ministers of Industry and Environment on the state's side, Peugeot/Citroën, Renault and the federations of the major industries producing material for cars. The joint environmental goal is to reach a recovery rate of 85 % of the total weight of end of life vehicles by 2002. The industry is free in the choice among recycling, reutilization and recovering energy.

No.4. The Agreement of the German Federal Government and the Nuclear Industry on Phasing out Nuclear Energy ("Atomkonsens"), 2000

The Agreement was initialled by the Chief of the Chancellor's Office and the state secretaries of the Ministry for Environment and Nuclear Safety as well as the Ministry of Economic Affairs as representatives of the Federal Government and by the four German companies producing nuclear energy. Its goal is to terminate the production of nuclear energy and it also contains provisions on storage and disposal of nuclear waste. The content of the required amendments to German nuclear law are described. The most important provisions are that the amount of electricity which may still be produced by nuclear means has been fixed. The state will not raise undue obstacles regarding permits etc, but no new nuclear plants can be permitted. Also special instruments of monitoring are established.

No.5. The Municipality of Faenza's (Italy) voluntary agreement on air quality,1997

The agreement was concluded between the Municipality of Faenza and some distilleries and oil mill companies (Ditta Neri, Tamperi, Caviro, Distercoop, Villa Pana). It aims at reducing air pollution. All participating companies are committed to improve the quality of the air with specific actions in the places where they work.

No. 6. The Establishment of the Dual System for Packaging Waste ("Green Dot") in Germany, 1992

An agreement was concluded in every regional state with the "Dual System Germany" a corporation founded by the packaging industry, to establish a general system for collection and recycling of packaging waste in cooperation with the municipalities. The aim is to allow the implementation of the "polluter pays" principle while granting the producers discretion on the organisation. Only some basic rules and quotas for the system are laid down in the German Directive for Packaging Waste (version of 1998). All producers of packages who pay licence fees are relieved from their legal obligation according to § 6 para 1 German Packaging Directive, which would oblige them to collect and recycle distributed packages individually. In case the system does not function any more, the basic requirements are not met or licence fees are not paid, the individual obligation of taking back all packages will come back into force automatically.

Unilateral and Multilateral Voluntary Agreements

Unilateral agreements are one form of voluntary agreements. They are unilateral in the sense that technically they are not concluded by two parties, but directed at or related to the state in some way. Usually these are self-commitments initiated by the industry with preceding negotiations between business associations and the government, resulting in some kind of relief by the government (Ex. 1).

Multilateral voluntary agreements are concluded by the state with business organisations or individual companies or with a combination of both. It is also possible to include more parties such as environmental groups, trade unions, local authorities in order to enhance the efficiency, acceptance or legal safety of the agreement (Ex. 2, 3, 4, 5, 6).

Voluntary Agreements in Correspondence to Respective Legal Norms

Voluntary agreements can also be categorised in regard of their relation to legal norms. Among these categories are those voluntary agreements **preventing** legal norms. They are used in a sutuation where no regulation exists at all on a specific topic and the state wants to use a voluntary agreement instead of enacting a legal norm to reach the proposed environmental goal (Ex. No. 2, 3). Voluntary agreements **preceding** legal norms contain certain stipulations concerning the content of a new law to be enacted or an amendment in the near future (Ex. No. 4). This method enables the parties to use some of the benefits of a voluntary agreement even for those matters which must be dealt with exclusively by law for constitutional reasons. The impact of a voluntary agreement can also be that of **substituting** a legal norm, such as when the state decides not to pursue an environmental goal by enacting a legal norm, but with the provisions of a voluntary agreement. After the voluntary agreement has been concluded sucessfully, the legal norm will either be de-enacted or not be enforced as long as the VA is complied with. It has to be noted that this form of voluntary agreement can only be used if the relevant law is formally being de-enacted or if the non-enforcement and substitution is foreseen in the law itself.

Legally Binding or not Legally Binding Voluntary Agreements

One of the major distinctions of voluntary agreements is whether they are legally binding (Ex. No. 2, 5, 6) or not (Ex. No. 1, 3, 4). Whereas voluntary agreements in the beginning mostly were legally unbinding, the number of legally binding agreements has increased significantly.

The reasoning for non-binding agreements usually is that they fit better into the concept of voluntariness, with easier negotiations and less formalities needed. But in case of non-compliance, legally unbinding voluntary agreements cannot be enforced. This has given way to much criticism towards the effectiveness and legality of certain voluntary agreements. Binding agreements, though, are enforceable, in principle, and allow both parties to plan future steps on a more reliable background. The European Commission has suggested to use legally binding agreements if possible in its Communication (1996: No. 19).

The fact whether the voluntary agreement is binding or not has great influence on legal consequences, especially for aspects such as the dissolution of the agreement, sanctions and enforcement. These differences will be addressed in sections 5 and 6 of this paper.

There are different ways to determine whether a voluntary agreement is legally binding or not. One possibility is an obligatory provision in an existing legal framework stating that the voluntary agreement has to be binding, as for example in the Flemish Decree. Therefore all voluntary agreements under such a rule must be concluded as legally binding. If no such rule exists, it is within the discretion of the parties to determine whether the voluntary agreement is meant to be binding or not, as long as specific constitutional restraints are not violated. The determination can for example be done by a respective stipulation in the voluntary agreement itself.

If it is unclear whether a voluntary agreement is legally binding or not, the classic rules of interpreting contracts must be applied, possibly in combination with aspects of administrative law. This would include scrutinising the exact wording, analysing documents of the negotiation period or methods for assessing the potential will of both parties, all from the viewpoint of good faith.

Voluntary Agreements as a construct under civil law or public law

Voluntary agreements can be concluded under the regime of civil law (Ex. No. 2) or of public law (Ex. No. 5). It depends on the country's legal traditions. Both regimes entail important consequences, especially regarding the procedure and jurisdiction. In civil law only very few rules exist, leaving procedural aspects almost completely to the discretion of the parties. Rules of administrative procedure are very formal on the exact steps the competent authority and its counterpart have to take, including time limits, specified written forms or specified procedures for submitting and publishing data. Voluntary agreements under civil law fall within the jurisdiction of civil courts and their respective procedural rules, while voluntary agreements under administrative law can only be challenged or enforced before administrative courts. But

one cannot apply all the classic distinctions between civil and public law to voluntary agreements. They can be characterised as hybrids between civil and public law: Procedural rules which are following certain elements of administrative law, such as public participation, can also be applied in a regime of civil law. Vice versa, the flexibility when negotiating a civil law contract can be, at least partly, transmitted into the regime of administrative law. And all voluntary agreements which are concluded as civil law contracts, such as covenants in the Netherlands, do comprise elements of public law (Hazewindus 2000:6). This becomes evident when considering that, in comparison to the usual situation with civil law contracts, there is no equality between the parties of voluntary agreements due to the state power. For example, the competent authority can, in principle, issue a stricter permit if a company does not comply with the agreement and thus enforce the environmental goal by means of state power. To have this choice is unique in the context of civil law contracts.

Voluntary Agreements and the EU

The possibility for EU member states to use voluntary agreements as an instrument of environmental policy has been acknowledged by the EU as long as they do not violate community law. In its Communication (1996) the Commission has given its opinion and guidelines on voluntary agreements. This includes the use of voluntary agreements by the member states as an instrument of implementing EU-directives, subject to the reservation on two major aspects. According to the European Court of Justice the instrument can only be used if the directive does not create rights and obligations for individuals. Also the character of the voluntary agreement must be that of a legally binding agreement. The choice to use a voluntary agreement for implementing EU law is explicitly foreseen in the End-of-Life Vehicles Directive (1999).

The use of voluntary agreements is not restricted to the EU member states. They can also be concluded on European level by the EU-level itself, then called Community Environmental Agreements (CEAs). In the present legal situation, though, the EU-Commission can only enter into legally non-binding voluntary agreements e.g. in form of unilateral commitments or mutual understandings (Lefèvre, 2000). Due to the pan-European scope of many industries and environmental problems, and in addition, as a possible option to avoid distortion of free trade and competition, the use of CEAs could be a valuable element of effective environmental policy. The scope of potential CEAs would be enhanced, if the necessary provisions for legally binding CEAs were introduced into EU law. The relevant legal aspects to be addressed are similar to those in the member states. For example the role of the European Parliament when

concluding CEAs must be clarified and the requirements on public participation, transparency, monitoring etc, which are demanded from the member states are no less relevant on the European level.

Voluntary Agreements and the Rules of Free Trade, Competition and Illegal State Aid

When concluding voluntary agreements, the EU member states must not violate the principles of the single market. According to Art. 28 of the EU-Treaty the creation of tariffs or non tariff barriers is prohibited. These may occur if a technology or marketing symbol is used or when benefits are granted as incentives for the compliance of a voluntary agreement. Exemptions for environmental protection are possible, though, according to Art.30.

As for the rules on competition voluntary agreements must not prevent, restrict or distort the internal market (Art. 81 par 1). Exemptions for environmental protection are not mentioned literally (Art. 81 par 3), but case law of the European Court of Justice has clarified that environmental protection can be perceived as an element of the stated exemptions. The Commission would then apply the proportionality principle and would weigh the restrictions of competition that would ensue from the agreement against the value of the environmental goals of the agreement.

The situation is similar with state aids. They become an issue for voluntary agreements if the participating businesses are granted financial aid from public authorities in order to attain the goals of the agreement. Generally state aids are prohibited (Art.87 par 1) if they would result in the distortion of competition or free trade. But an exception is also possible in this field if the aid would result in improved environmental protection or a substantial reduction of pollution. State aid is normally only justified if adverse effects on competition are outweighed by the benefits for the environment.

Voluntary Agreements and EU-Directives on Environmental Issues

The rules on free trade, competition and state aid are not the only restrictions by EU law which limit the use of voluntary agreements in EU member states. EU law often contains stipulations on the instruments which must be used to execute EU environmental law implemented into national law. In those cases a voluntary agreement may not be concluded on the issue. A prominent example is the IPPC Directive (1996). The purpose of this directive is to achieve integrated prevention and control of pollution. According to the directive, certain polluting activities must be permitted by the competent authority. The permit must contain provisions to

ensure that the operation takes place according to the standards of the IPPC-Directive. Voluntary agreements may not be used instead of permits here. Such restrictions can be found in other directives, too, e.g. the EU-Directive on Waste (1975) where respective installations and undertakings must be permitted by the competent authorities. This directive also lays down that the authorities must draw up plans for waste management. European law would therefore be violated if the authorities would conclude a voluntary agreement on a subject which should have been addressed to by the foreseen instrument.

In general it can be stated that EU law mostly subjects dangerous or potentially dangerous activities to strict regulations of classic command and control instruments.

Voluntary Agreements and Constitutional Law

In contrast to the classic rules of legislation and administration, voluntary agreements enable private parties to influence the setting, defining or enforcement of laws. It has to be examined to what extent constitutional law can restrain the use of voluntary agreements or limit their authority, especially considering the division of powers, the principle of democracy and the state's obligation to protect health and safety of individuals.

The constitutional principle of division of powers requires the passing of laws by parliament. Therefore legal uncertainties occur if voluntary agreements are being concluded instead of a legal norm. One method to omit these uncertainties and to ensure democratic legitimisation, is to involve the parliament in this process. According to the Flemish Decree on Environmental Covenants (1994) for example, the Parliament can veto an environmental agreement within 45 days, stopping its coming into force. Another possibility is legitimising the administration to conclude a voluntary agreement by a respective passus in a law passed by parliament.

Another result of the principle of democratic legitimisation and the division of powers is that a law passed by parliament and case law by courts is binding for the administration. This may not be circumvented by a mere administrative decision or action. Therefore the content of a voluntary agreement may not contradict existing public law.

Most European constitutions stress the state's obligation to protect the health and safety of individuals, some include the protection of the environment. Regarding the choice of instruments to carry out this protection though, there is generally no constitutional obligation to use classic command and control instruments. Hence the scope of action for public authorities principally includes alternative instruments such as voluntary agreements.

The above mentioned constitutional requirements of the division of powers, democratic legitimisation and the state's duties of protecting its subjects do not forbid voluntary agreements, but they limit the area of their application. Very significant environmental matters such as basic principles and citizens' rights must be dealt with through legislation. For example it was ruled by the French Administrative Court (Conseil d'Etat) in 1975, that a voluntary agreement was illegal because it restricted the state authority and the required protection of third parties.

Voluntary Agreements in Federal Structures

States with a strong federal structure must ensure that the competencies of their regions are respected. This implies that no voluntary agreements can be concluded on national level if its content would violate the legislative or administrative sovereignty of the regions. This can be dealt with by involving the second chamber representing the regions and thus obtaining the consent of the regions.

In addition, voluntary agreements must take law at the local level into account. For example it could happen that a government agency has concluded a voluntary agreement with the respective body of a branch of industry and, at a later date, the individual companies are confronted with more stringent requirements by the local authority. This must be prevented by adequately choosing the procedure for the conclusion and the voluntary agreement's content for both legally binding and non-binding agreements. It has to be ensured that the local authorities are successfully committed to the regulations in the voluntary agreement and that this takes place in accordance with the country's administrative law. It should be considered that local authorities can only be forced to comply with an agreement if the superior authority (which has concluded the agreement) otherwise would have been entitled to influence the local authority's scope of decision by a directive or instruction.

The use of voluntary agreements is not reserved to superior authorities. Naturally, local authorities can conclude voluntary agreements within their administrative competencies. Such voluntary agreements then must certainly be coherent to regulations on national or regional level.

The Flemish Decree: An example for a Legal Framework for Voluntary Agreements

With the Decree on Environmental Policy Agreements (June 15th 1994) the Flemish Region in Belgium has established a legal framework for voluntary agreements. Some of the main issues will be illustrated here. Per definition an "environmental covenant" is "*Any agreement between the Flemish Region, represented by the Flemish Government, on the one hand and one or several umbrella organisations representing enterprises on the other, for the purpose of preventing environmental pollution, limiting or removing the consequences therefor, or of promoting effective conservation of the environment*" (Art. 2). Only organisations which can prove that they have been delegated by their members can enter into such a covenant.. The summary of the draft of the covenant must be published in the Belgian Official Journal and the complete draft must be available for inspection for a period of 30 days. Within 30 days after publication of the summary any person can submit objections in writing to the designated authority, which after an assessment by the authority will be communicated to the other party. The draft covenant is also communicated to the Flemish Social and Economic Council and the Flemish Council for the Environment and Nature, who then issue a will-reasoned opinion within 30 days after receipt, which is not binding. After that the draft including the above mentioned opinions will be sent to the President of the Flemish Parliament. If the Parliament objects to the draft within 45 days by resolution of well-reasoned motion the covenant will not be concluded. Otherwise the covenant will be concluded and published in the Belgian Official Journal. The covenants are concluded under administrative law and are legally binding, with the reservation of cases of urgency or obligations imposed by EU or international law. The Flemish Region can convert a covenant into regulations even before the time limit is up, and thus include non-affiliated enterprises.

It has to be noted that this special framework can only be applied to those agreements which are covered by the legal definition, therefore agreements on local level or with single enterprises are excluded.

The Rights of Third Parties

The rights of third parties play an important role in the context of voluntary agreements. Public law requires that with all external activities of state authorities, the rights of third parties must be considered, and it is a basic principle of civil law that contracts must not be on the expense of rights of third parties.

Thus voluntary agreements may not be concluded if they would imply the disregard of legally protected interests of third parties. Examples in the context of voluntary agreements could be the violation of the individual right to health, if an agreement's limit of toxic emissions is too low to protect neighbours effectively, or the violation of the right to fair competition if cartels would be featured. A number of measures are necessary to prevent such violations. These include the hearing of possibly affected third parties and public participation prior to decisions. If the potential of voluntary agreements is being used properly, the addressing of third parties'

rights can bear advantages in comparison to classic command and control instruments. The relative freedom concerning the procedure allows to integrate third parties in multiple states and forms.

In case of a dispute, the legal situation depends on whether the voluntary agreement is legally binding or not. If a binding agreement violates the rights of a third party, the law must provide the aggrieved parties with access to means of legal redress, which could mean nullification of the agreement, amendment, or compensation for harm.

For non-binding voluntary agreements the situation is different. They do not bind anyone in a legal sense, therefore they cannot violate the rights of third parties directly. Therefore it is not possible for the third party to fight the unfavourable voluntary agreement itself, even if it affects legally protected interests. In some situations, though, legal redress against a non-binding voluntary agreement can be possible indirectly. For instance, if the meeting of requirements of public law can only be ensured by a classic command and control decision, and if the lack of such a decision violates the right of a third party (e.g. the right to health), the harmed party may seek legal redress. In this constellation the third party can have the right to legally force the authority to refrain from the voluntary agreement and use classic, legally binding instruments. Otherwise there is only the possibility of fighting the agreement by political means. Securing the principle of equality and preventing informal, but potentially powerful structures, can be achieved by concluding legally binding voluntary agreements whenever it is possible.

One other very important aspect of third party rights must be addressed here - the right of acknowledged environmental groups to legal redress on behalf of the environment. By using voluntary agreements, the form of actions of public authorities is shifted toward steering processes. The individual decisions then are taken outside the sphere of the state, e.g. within the companies participating in the agreement. This reduces the possibilities of judicial control of the administration, especially in those countries which restrict the access to legal redress against an illegal action of a public authority to those individuals who can prove the violation of their own individual rights. This can be addressed by providing for the possibility of acknowledged environmental groups to legal redress against actions related to the environment by a public authority which are not compatible with existing public law. Then the conclusion of such an illegal voluntary agreement could be revised judicially.

Procedure and Design of Voluntary Agreements

Procedure

In recent years several procedural rules have been established. Some states now have codified basic rules (Denmark, Flanders), some have elaborated official recommendations (Portugal, The Netherlands). Among the main aspects to be considered is the determination of who the parties are and if they are entitled to conclude voluntary agreements. Also it must be ensured that possibly affected third parties are being heard properly and whether public participation is realised according to the rules. If necessary for constitutional reasons or because it is foreseen by law, the parliament must be engaged. Finally, the requirements for due publication must be met.

Public Participation, Transparency and Publicity

Especially in the initial period, with no legal framework established, voluntary agreements mostly were concluded without any kind of public participation. This has always been perceived as one of the weak spots of voluntary agreements, because no interests besides those of the industry and the government have been considered. The concept of a modern and democratic administration, which includes public participation and transparency, is being backed by the Arhus Convention (1998). Also the Communication of the Commission (1996: No. 18) emphasises the necessity for participation and transparency. Even though today regulations exist which make forms of public participation for voluntary agreements obligatory in some EU-member states, there are still examples where the procedure takes place behind closed doors. Public participation is relevant not only from a democratic point of view, but also would enable the parties to take suggestions by interest groups like environmental NGOs or trade unions into consideration. It would also consolidate the acceptance of an agreement in the public. Public participation, though, also entails some disadvantages for the instrument of voluntary agreements. It affects the attractiveness of the instrument especially for the industry. Business strategies may have to be revealed, more interests have to be considered and the process of negotiation may take longer. But one should bear in mind that both classic legislation and command and control systems are no less subject to forms of public participation. It must be seen as an advantage of voluntary agreements, that both parties can influence how well public participation is included into the process of negotiation, while retaining the instrument's

benefits such as promptness and flexibility. In addition, more transparency could be reached by explaining in the agreement, why the parties chose this instrument.

Another requirement to increase transparency of voluntary agreements is the obligation to publish them in the acknowledged way, which means to use the same form foreseen for respective legal norms.

Monitoring is an important factor for the effectiveness of voluntary agreements. In order to inform the public, the results of monitoring should also be published.

Criteria for the Content of Voluntary Agreements

Voluntary agreements grant the parties more flexibility than classic command and control instruments. This does not mean though, that the discretion of public authorities concerning their content is unlimited. Due to the above mentioned constitutional obligations, the final responsibility for securing public interest lies with the state. If public authorities choose to use a voluntary agreement, they partly shift the execution of their obligation to private parties. It must therefore be a precondition that some minimum standards within the entangling of public and private interests are being guaranteed. These standards include the duty of properly fulfilling the given tasks, the equal consideration of interests and the sufficient institutional securing of neutrality. In respect of future democratic changes, voluntary agreements also should be limited in time.

Voluntary agreements should include provisions on the following issues:

- Who are the parties of the voluntary agreement ?
- Can new participants join later or leave earlier ?
- What is the environmental goal of the voluntary agreement ?
- How shall it be reached ?
- In what period ?
- What are the intermediate steps ?
- To what extent may authorities demand access to information ?
- How is the agreement being monitored and who does it ?
- Who will be affected by the agreement ?
- What are the liabilities of business organisations, its members and the state ?
- Are there incentives by the state to fulfil or exceed the goal ?
- What are the sanctions for non compliance ?
- If in discretion of parties: should it be legally binding ?

If it is binding

- How can the agreement be altered ?
- Under which circumstances can the voluntary agreement be terminated ?
- How can the voluntary agreement be enforced ?
- Is a form of arbitration provided ?

Monitoring and Enforcement

Monitoring and enforcement of voluntary agreements are important for the successful implementation of the persued environmental policy. From a legal point of view a number of questions have to be addressed concerning incentives and sanctions, liability, arbitration and litigability. The possibilities and legal conditions for these aspects vary according to the form of voluntary agreement, especially according to whether they are legally binding or not and whether they are concluded under civil or administrative law.

Monitoring

Monitoring is essential to secure the effectiveness of voluntary agreements, to gain knowledge for future planning and to portray progress publicly. Monitoring is also required as an instrument of counter-control. As far as the state relinquishes part of its competencies of surveillance inherent to classic instruments of command and control, this must be compensated in regard to the state's obligation to guarantee public safety. Thus, monitoring is not only crucial for the proper functioning of the agreement, it is also demanded by principles of public law even for those agreements concluded under the regime of civil law. Monitoring can either be regulated by law or official recommendation on the procedural rules of voluntary agreements or it can be foreseen through provisions in the agreement itself. Intermediate goals should be included. The monitoring by independent institutions has proven to be quite effective, especially in controversial situations. The concrete methods which should be used and the extent of monitoring cannot be generalised for all voluntary agreements. Basic rules are that the results of monitoring must give the state authority and the public an overview of the status quo, and the progress made toward reaching the environmental goal. Information provided by monitoring, in addition to the information gained by the remaining means of surveillance from public authorities, must also enable the public authority to secure general environmental standards and to guide further steps. Finally, the results must provide information that will facilitate officials in bringing possible enforcement actions.

The monitoring process can bear the danger of business secrets being disclosed to corporate bodies and thus be transmitted to competitors. This might unfortunately also be used as a pretext. In order to ensure the required intensity and accuracy, it is essential to take great care when designing the concrete monitoring systems, especially with respect to aspects of confidentiality and independence.`

Incentives and Sanctions

Beside the pending threat that public authorities might resort to command and control instruments, the effectivity of voluntary agreements can be enhanced tremendously if tools to ensure a better enforcement are included.

One of them is compliance incentives such as the access to subsidies, tax exemptions, certification, public advertisement or other benefits. When proposing such positive incentives, one must always bear in mind the restrictions by EU-law concerning the distortion of the single market.

Sanctions are another method in case of non-compliance that can make voluntary agreements a more credible instrument of environmental policy. Forms of sanctions are fines, subsidies witheld, exclusion from the agreement of the violating party, or less co-operation on the part of the environmental agency. Sanctions can either be imposed by law or be included in the agreement itself.

Liability in Relation to Third Parties

With all activities, one has to ask for the liability if damage to persons or goods occurs. Actually, this question is especially important for voluntary agreements. The enlarged scope of self-regulation and self-administration often inherent to voluntary agreements must have its counter-balance in a consequent rule of liability. On the side of the companies it is evident that they are liable for deliberate or reckless damages. A different situation exists if the damage occurs even though the company has acted completely in accordance with the voluntary agreement and the fault lies within the voluntary agreement itself. As an example this could be the case if an agreement is concluded with the aim to reduce the emission of a specific material step by step. The company fulfils its obligations by the agreement, but later it is shown, that the reduction was not sufficient to prevent health damages to neighbours. It then depends on the laws of liability in the member states to determine whether this company would still be liable or not. Apart from the liability of the company, one also has to take the liability of the state into account. The Flemish Decree on Voluntary Covenants (1994), for example, provides for the possibility of suing the state for damages or specific performances if the rights of third parties are violated due to a voluntary agreement. But liability of the state in the context of a faulty voluntary agreement is also possible without a specific regulation. It can derive from the general rules of state liability in case of negligence by the authority or a single civil servant, which are quite different among the member states. Generally, liability law should be designed in a way

that neither the company nor the state should be able to rid itself from liability for damages by using a voluntary agreement instead of another instrument.

Liability between the parties

Apart from the moral responsibility for both parties and the usual *bona fide* rules, several aspects of legal liability must be considered. Depending on the content of the agreement, collective and individual liability have to be discerned. Collective liability comprises those provisions which are in the responsibility of the business associations, whereas individual liability is related to the individual companies either as members of the association or as an individual party. In this context, members of an association which has concluded a voluntary agreement must not be allowed to circumvent their obligations by leaving the association. Liability naturally is not limited to the industry. The state is liable to its partners in the agreement. Exemptions may be applicable in case of international obligations or a state of emergency.

Dealing with "Freeriders"

Problems may occur if a voluntary agreement has been concluded between public authorities and an association representing a field of industry. If the membership of the association does not include all active companies and thus not all are bound to participate, unwanted results could be the consequence. Among these unintended consequences are the possibility that all the potential benefits to the environment may not be met, or that imbalances may occur in the allocation of burden between firms in an association. This problem can be avoided by enabling the state by law to lay down similar requirements for enterprises not covered by the agreement or to declare a voluntary agreement as generally binding. Another way to deal with the problem is to deny freeriders usually granted benefits or to use mechanisms of publicity to expose the company as a freerider.

In some cases the identity of freeriders is unknown. Here it would be the responsibility of both the state and business organisations to use all adequate means to identify and confront any freeriders.

Arbitration

The functioning of voluntary agreements also depends on the capability to settle disputes. As a very useful instrument for resolving conflicts, arbitration fits perfectly into the concept of cooperativity rather than supremacy of the state. It must be settled in advance which circumstances allow a call for arbitration, as well as the line-up of the arbitration panel, which ideally should include independent persons. Arbitration can either be installed as the final instance. Disputes on legally binding agreements, though, usually cannot be resolved by arbitration once and for all. The banning of courts, depending on the actual case, could conflict with constitutional law. It is very useful and fits well in the concept of co-operation, to make the

arbitration process a precondition for the litigability of voluntary agreements.

Litigability

The hybrid character of voluntary agreements brings up several questions concerning their coming to court. Naturally this only concerns legally binding agreements. First of all, there is the question of jurisdiction, whether the civil court or the administrative court is relevant. If not provided otherwise by law, the voluntary agreements concluded under the regime of civil law are in the jurisdiction of civil courts, and, respectively, those concluded under the regime of public law are in the jurisdiction of administrative courts. One of the major consequences of jurisdiction are the applied rules on procedure. For example in some member states civil courts may only base their decision on those aspects which habe been brought forward and proved by one of the parties, while the procedural rules for administrative courts demand the court exploring all relevant aspects, even if they were not brought up by either of the party.

Exemplary constellations for the litigation of a voluntary agreements are, that the state is suing the association of a single business for not complying the agreement. Usually the aim would be to enforce sanctions or even have the agreement or parts of it nullified. On the other hand a respective member or an association can sue the state for breaking the agreement in order to get protection from the state enacting a legal norm or commanding a measure which is contrary to the agreement. Also benefits which should have been granted might be claimed that way. Finally there could be a third party trying to pursue its rights. The hybrid and mainly uncodified character of voluntary agreements arises many important questions of detail, such as legal methods to nullify a voluntary agreement (*ex tunc* or *ex nunc*) or the amount in dispute. It has to be noted that these details differ extremely between the legal systems of the member states.

Hardly any cases of litigation of voluntary agreements have occurred so far. Apart from legal uncertainties, which might lead to the abstention from bringing voluntary agreements to court, the infrequency of this kind of enforcement can also be attributed to the benefits of the instrument. In the process of negotiating the agreement, many potentially disputable aspects are likely to turn up and thus can be settled in advance.

Policy Conclusions and Recommendations

- Voluntary agreements can be performed legally if certain rules are applied.
- Currently legally binding voluntary agreements may not be concluded on EU level. To change this, the EU would have to establish the respective legal conditions.
- Legal safety of voluntary agreements can be improved if states develop a legal framework for voluntary agreements, either by law or recommendation.
- With such a framework possible breach of constitutional law could be prevented by including major aspects such as the role of parliaments and restraints in respect of the division of powers and the basic rights of individuals.
- Limiting the framework to basic rules would prevent suffocating the flexibility of the instrument. Such basic rules can include the need for hearing third parties, public participation, publication, monitoring, sanctions and jurisdiction.
- States usinglegally binding agreements wherever useful and legally possible would have the advantage to be able to enforce the voluntary agreements and to enhance the acceptance.

Summary

This policy paper gives an overview on the aspects which have to be considered when integrating voluntary agreements into existing legal systems.

Various forms of voluntary agreements exist. Their legal conditions and consequences depend on whether they are unilateral or multilateral, on their proportion to legal norms, whether they are legally binding or not and whether they belong to civil or public law.

EU-law still lacks provisions on voluntary agreements on EU-level. Voluntary agreements in member-states are encouraged by the EU, but the rules of free trade, competition and illegal state aid as well as EU-directives on environmental issues must be observed and limit the use and restrict the content of voluntary agreements.

Special attention must be given to questions of constitutional law. The principles of division of

powers, democratic legitimisation and effective protection of individuals from harm require the respect of certain limitations and procedural rules. One way to prevent constitutional violations is to implement or recommend rules on the conclusion and content of voluntary agreements.

Voluntary agreements can be concluded on national, regional or local level. The competencies of the different levels in federal structured states must be respected.

Voluntary agreements may not contradict existing public law. Rights of third parties must not be ignored. This includes involving possibly affected third parties or environmental interest groups in the process of negotiating and concluding a voluntary agreement.

Public participation, transparency and publicity are important factors for effective voluntary agreements. Much of the past criticism on voluntary agreements was due to the lack of public participation and transparency.

Concerning the content of a voluntary agreement, it is very useful to set an environmental goal and a date by which the goal has to be achieved, to foresee. intermediate steps and to determine the obligations of both parties as exactly as possible.

The success of voluntary agreements also depends on monitoring, incentives and sanctions for non-compliance. These features enhance the impact of voluntary agreements and can lead to a better acceptance.

An effective voluntary agreement also depends on whether the state can force the opposite party to comply with its stipulations. In this context questions of liability, arbitration and litigability play an important role, although, few practical cases can be cited and the legal conditions are very different in the member states concerning those questions.

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3. Are VAs a threat to competition?

Rinaldo Brau and Carlo Carraro

Contents

Summary

The General Guidelines section of the "Communication from the Commission on Environmental Agreements" dwells extensively upon the compliance of environmental agreements with the articles of the EC Treaty devoted to the protection of competition within the EU. Similar caution can be applied to the broader category of Voluntary Approaches (VAs), given that competition can be hindered not only through explicit agreements but also through unilateral or individual undertakings.

According to economic theory, voluntary approaches have indirect effects on market structure and competition whether they are principally aimed at improving the environmental reputation of the products sold by undertakers or at pre-empting policy interventions based on regulatory or economic instruments. Moreover, economic analysis provides support to the intuition that in a few cases voluntary approaches could be adopted with the strategic objective to affect market structure and competition conditions. However, in general, a concentrated market structure has a positive effect on the environmental effectiveness of the actions undertaken within a voluntary initiative. This clearly raises a trade-off between the goal of maintaining competition in the market and the objective of exploiting the well-recognised flexibility that generally characterises voluntary approaches.

This trade-off can be lessened by the appropriate use of a policy mix in which the design of the environmental agreement is a very important element.

I. Introduction

That Voluntary Approaches (or Voluntary Agreements, henceforth VAs) could represent a threat to competition under certain circumstances has been publicly recognised at least since the Communication on Environmental Agreements (hereafter simply "the Communication") issued by the European Commission in 1996 (CEC, 1996). Indeed, many voluntary approaches necessitate collective action and the establishment of agreements among firms. By contrast, the Communication recalls that Article 85 (1) of the EC Treaty (now art. 81(1)) states that "all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market"[1] shall be prohibited as incompatible with the common market.

It is well known that Article 81(1) is tempered by the provision of Article 81(3), to which the Communication explicitly refers by allowing the Commission to weigh the restrictions on competition resulting from an environmental agreement against the environmental objectives to be attained by that agreement. However, these restrictions must be indispensable to the attainment of the environmental goal.

It is not the scope of these pages to discuss how scholars, European Commission and the national competition authorities have interpreted or put into practice the provisions contained in the Communication. For these interpretations and applications, the interested reader can refer to Bailey (2000), Vedder (2000) and Martinez-Lopez (2000). Here, the focus is rather on the economic mechanisms by which the adoption of voluntary initiatives can undermine competition in the market and on the trade-offs between restrictions on competition and environmental effectiveness.

There may exist VAs which reveal publicly their anti-competitive features through explicit provisions such as collective price fixing, surcharges, market sharing and exclusion of

[1] With respect to the topic of the Communication, which specifically refers to "Environmental Agreements", this policy brief focuses on the broader category of "Voluntary Approaches". Following a widespread definition (Lévêque, 1997), this expression refers to "commitments from polluting firms or industrial sectors to improve their environmental performance". These commitments can be placed into three main categories: *unilateral commitments*, which consist of environmental improvement programmes established by firms themselves and communicated to their stakeholders; *public voluntary schemes,* in which participating firms agree to standards developed by public bodies such as environmental agencies; *negotiated agreements,* which are contracts between the public (national, federal or regional) authorities

competitors from a given market - and therefore can easily be identified.[2] However, in general VAs may include concerted practices which implicitly (and even in spite of the intention of the undertakers) *de facto* negatively affect competition. An economic viewpoint in these cases is helpful, because it helps identifying the incentives for firms that choose a VA to carry out practices that restrict competition.

Let us start by identifying the incentives that lead a firm or a group of firms to adopt a VA, even if it involves costly activities. Behind the incentives to adopt a VA there are also the incentives to restrict competition. Most existing studies have underlined two possible reasons that, by using the terminology contained in OECD (1999), can be summarised as follows:

- there are VAs which increase market demand and therefore profits by *enhancing firms' green reputation*. VAs therefore become a product improving and differentiation strategy that helps to create niche markets and/or help to identify a firm's products;

- other VAs are used to achieve *regulatory gains*. In this case, the profit generally coincides with the avoided costs of public regulation aimed at addressing the environmental problem. Profits can also be affected by the effects on market structure of a new regulatory regime.

Hence, in the first case a basic assumption is that consumers give a positive value to environment-friendly products or processes and that this value is reflected in their demand for goods; in the second case, the assumption is that public bodies are sensitive to firms attitude towards the environment.

In the following, this distinction between *reputation enhancing VAs* and *regulation offsetting VAs* will be largely used also to understand how market structure affects VAs and their likelihood of being used as environmental policy tools, as well as how VAs can affect those market conditions which are responsible for the distortion or the restriction of competition.

By exploiting the likely effects of VAs on competition, firms could also try to achieve a third benefit form the adoption of a VA. Indeed, the agreement could be used "strategically" when operating in the market, where by the term "strategic" it is meant a deliberate use of VAs aimed at negatively affecting the competitors' performance. In this case, the benefit for the firm that adopts a VA comes from the competitive advantage thus achieved.

It is not the goal of this paper to discuss whether and when the benefits for firms are larger than

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and a given industry.

[2] A few examples will be provided in section III. See also Vedder (2000) for a more in depth analysis.

the costs of complying with the adopted VA. Nor to assess the social benefits provided by VAs.[3] It is obvious that the impacts on the environment and competition are not the only ones induced by the adoption of VAs. Of these many facets of VAs we would like to explore the one that relates this policy instrument to market competition leaving to a subsequent policy brief the goal to assess and compare all pros and cons of VAs. Hence, Section II will be devoted to an overview of the recent literature on the relationship between VAs and market competition. Section III will present the available empirical evidence on this relationship. Section IV will show that the relationship between VAs and competition is bi-directional and that a certain degree of concentration may favour the adoption of environmental VAs. Finally, Section V will be devoted to an assessment of the policy implications of the results presented in the previous section. Some recommendations for further research conclude this paper.

II. Theoretical analyses. An overview

The theoretical framework that is more often used to analyse the relationship between VAs and competition is the theory of oligopolistic markets. There is at least one important reason that justifies this choice. If the analysis is aimed at understanding how changes of industry concentration affect VAs and *vice versa*, it becomes indispensable not to assume a given level of concentration in a given market structure (this would be the case under the two polar cases of perfect competition or monopoly). In order to analyse the variability of the number and size of firms in the market, i.e. of industry concentration, the focus must be on a market structure in which concentration is a variable dimension.

II.a Reputation enhancing VAs

Consider first the case where firms' voluntary initiatives are mainly aimed at capturing consumers' willingness to pay for the environmental attributes of goods. Under these circumstances, either firms exploit the increasing demand for green products, and/or firms differentiate their products or processes in order to increase their own market demand *vis à vis* their competitors. A firm's environmental performance may affect market demand in two ways: (i) through the market demand upward shift or increased slope (Carraro and Soubeyran, 1996);

[3] Indeed, VAs provide environmental benefits with which other economic and social benefits can be associated. Provided that the environmental goal is attained, benefits from using VAs can arise in a number of ways. For example, in terms of reduced public costs (whether monitoring or transaction costs), diminished implementation time or greater learning. Further benefits can emerge from the higher quality

(ii) through product differentiation (Arora and Gangopadhyay, 1995; Nadaï and Morel, 2000).

A possible increase of market demand induced by a VA is easy to understand. If consumers do assign value to a cleaner environment, they are ready to pay a higher price for non-polluting products or products produced using environment-friendly technologies. Hence, market demand shifts upward when "clean" products are sold in the market. This increases firms' profits, thus providing an incentive for firms to voluntarily carry out emission abatement policies that can be framed within a VA with the regulator. Consumers are also generally better off if they can enjoy the better environment that they are ready to pay for.

A change in the slope (i.e. price sensitivity) of market demand is also a consequence of the consumers' preferences for the environment. In particular, it is shown in Carraro and Soubeyran (1996) that, if consumers care about the environment and environmental quality is related to firms' output (emissions), then the demand curve is generally steeper for any output level (i.e. a reduced production induces a higher price level). As a consequence, if firms sign a VA in which they commit to reduce emissions, they can increase their market prices without suffering excessive demand reductions and therefore increase their market power. The formation of higher prices, while increasing firms' profits, may reduce the consumers' surplus.[4]

Finally, firms can also try to increase profits by differentiating their product or process from those of the other firms in the industry. In this case, the benefit of the VA within which product differentiation is achieved goes to a subgroup of firms. Consumer's surplus may not be reduced, whereas profits and environmental benefits generally increase. However, firms which sign the VA enjoy a competitive advantage vis à vis the other ones.

Do the above changes in market demand also affect market structure and competition? Certainly an increased demand may induce some firms to enter the market, whereas an increased slope of market demand favours market concentration. Even the differential benefit provided by product differentiation may lead some firms to exit the market. However, it is not possible to conclude that, in the presence of "green consumerism", the emission abatement achieved through a VA has a direct negative effect on market concentration.

There may be however an indirect effect that emerges once a dynamic analytical framework is adopted. Indeed, a change of market demand modifies the incentive for collusive behaviour

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of commodities.

[4] The "consumers' surplus" is the difference between the maximum amount which the buyers of a good would have been willing to pay and what they actually pay. The larger this difference, the greater the net benefit accruing to consumers.

(Rothemberg and Saloner, 1986) and entry deterrence (Fudenberg and Tirole, 1984).

These analyses are applied to VAs in Brau and Carraro (1999). This paper shows that the adoption of VAs makes a collusive outcome more difficult to be sustained in the case of an exogenous market demand increase over time. However, VAs make it easier to achieve collusive equilibria if they positively affect the rate of growth of market demand (for example, due to the progressive diffusion of the effects of green consumerism). On the whole, tacit collusion is made more likely by those VAs which imply a firm's cost decrease and spread their demand shift effect progressively over time.

As said, VAs are considered likely to be used strategically to deter entry in the market (Denicolò, 2000). In the case of *green reputation enhancing*, the possibility of capturing the willingness to pay for green consumerism can lead to strategic over-investment by the incumbent firm in order to impose a quality level that cannot be afforded by the entrants. Moreover, product differentiation can be used with the aim to create a barrier to entry also through the "brand proliferation" phenomenon, which takes place when the same company tries to fill-in the market by occupying the largest possible number of market niches. In our case, it could be the case of a firm or of an industry association which, by means of a VA, enters the market with a new "clean" product while continuing to produce an old (and "dirty") similar good. By doing so, the incumbent firm or cartel is deterring entry given that it is limiting the maximum distance in the space of the environmental characteristics (and, as a consequence, the profit level) which the entrant could obtain.

In the case of explicit or tacit collusion and in the case of entry deterrence, VAs have certainly a negative impact on market concentration and hence on consumers' surplus. This economic cost could significantly reduce the economic and environmental benefits provided by the adoption of VAs.

II.b Regulation offsetting VAs

The most important incentive for VA adoption is probably the gain arising from the avoided costs of environmental direct regulation (OECD, 1999). Loosely speaking, by undertaking a VA, firms avoid or postpone the introduction of a regulation that would have been caused higher costs for firms than those associated with the VA.

In this case, the direct counterpart of a firm is no longer the consumers but a public institution. As a consequence, what is expected is not a change in market conditions, but an institutional change, whether in terms of legal framework or of public opinion attitude. In particular,

adoption of a VA is expected to produce two main effects: (i) to pre-empt the occurrence of (possibly more stringent) direct regulation, of which the severity cannot be influenced; (ii) to influence the severity of the regulation.

The first effect is what actually represents a "regulatory pre-emption" (or even a "legislative pre-emption" when the VA anticipates the establishment of an environmental tax). By committing themselves to improve their environmental performance beyond what is demanded by law, firms avoid being faced with a direct regulatory regime, i.e. a condition where public authorities mandate the environmental performance to be achieved, or the technologies to be used. Within the regulatory pre-emption hypothesis, an additional distinction can be made:

- *cases in which firms can reach a given objective at lower costs than in the case where they are forced to satisfy a compulsory standard*. This effect of VAs only affects the way in which the environmental target is achieved and not the definition of this target. In this case (see Segerson, 1998**)** voluntary compliance only discloses more efficient practices than those implied by direct regulation.

- *cases in which a given abatement level can definitively pre-empt a regulatory intervention that would have imposed a tighter standard*. In this second situation, the environmental target under the VA regime is actually lower **(**Lyon and Maxwell, 2000; Segerson and Miceli, 1998). The case can be seen as the extreme of a situation where carrying out a legislative action is costly and the benefits offered by the agreement are always greater than the fixed costs implied by the legal intervention.

For regulatory pre-emption to occur there must be a situation where the adoption of the VA is profitable both from a private and a social viewpoint. However, by abandoning the hypothesis that public bodies do pursue the interests of the society as a whole, a VA may also be undertaken whenever the public institution charged with signing VAs has a private agenda to satisfy which does not coincide with the objective of the institution (e.g. the legislator) charged with implementing the environmental policy to be pre-empted. In this case, to sign a VA is, first of all, a "shortcut" to satisfying the regulator's interests and firms may be able to sign a VA which is less stringent than a truly effective environmental policy (Hansen, 1999; Maxwell, Lyon and Hackett, 2000). This third effect of a VA aimed at achieving a regulatory gain represents a case of "regulatory capture".

The evaluation of the effects on competition of the regulation offsetting VAs should take into account that the regulation that is being pre-empted by the VA has also some effects on competition. Hence, it is by no means obvious that the effects of VAs are larger or different from those of environmental taxes, subsidies or emissions tradable permits. However, as the

influence of these latter instruments on competition is well-known (Cf. Carraro, Katsoulacos and Xepapadeas, 1996), in the following we will only mention those effects that seem to be specifically referable to VAs. As it was done above, it is important to look for dynamic and strategic effects above all.

In the case of regulation offsetting VAs, their dynamic effects on competition seem to be univocally negative, particularly by fostering the possibilities of tacit collusion. Indeed, the existence of a regulatory threat represents an implicit tool that makes collusion among firms more difficult. As a consequence, the use of a VA aimed at pre-empting or lessening a regulatory threat gives more room for collusive strategies among firms (Brau and Carraro, 1999; Millock and Salanié, 2000).

The intuition that is given for this result is as follows. Certainty (i.e. the removal of the regulatory threat) increases the present value of future profits (which can no longer be undermined by regulation). While this does not affect the advantages arising from breaking "one shot" a collusive behaviour, it affects the advantages from maintaining collusion over time (in the form of expected higher profits in the future).

As for the strategic effects, the impact on competition depends on the form of interaction among the firms and the starting market conditions, although these effects generally lead to an increase of the concentration index. For example, consider a VA undertaken by a generic firm, which is costly to implement and reduces the regulatory threat for all the firms entering the market. In this case, a direct effect on the latter firms is represented by the increase in their present value profits while keeping constant their output. However, since the adoption of the VA has changed firms' relative cost structure, the initial production level in no longer optimal, so that firms will redefine their individual output levels and market shares. Economic theory in this case foresees that this indirect effect, provided that the market is already concentrated to some extent, will increase concentration (Carraro and Soubeyran, 1996).

It is also worth mentioning a particular case of regulatory gain - in which the VA adoption is aimed at deterring entry - which takes the form of an "induced regulation". This situation (which is expected to be particularly relevant in the presence of asymmetric information between public and private agents) takes place when firms, through voluntary over compliance, try to induce a future stronger regulation which would prevent entry of new companies. In particular, a VA can become the appropriate tool for the firm with the lowest abatement costs to reveal its own "type" and show itself to be ready to comply with a stricter regulation (Denicolò, 2000). Should this occur, however, entry of the competitors of the over complying firm could be deterred. Hence, under these circumstances there is a clear trade-off between environmental effectiveness and competition protection.

III. Empirical evidence on the relationship between VAs, market structure and competition

There is certainly an increasing empirical evidence on the functioning of the reputation enhancing and regulatory gain effects of VAs (see Arora-Gangopadhyay, 1995; Arora and Cason, 1995; Arora, 2000; Maxwell, Lyon and Hackett, 2000; Johannsen and Togeby, 1998; Rietbergen, Farla, and Blok, 1998). However, there are fewer studies that report on the likely conflicts between VAs and free competition. This is partly explained by the fact that many of the about 40 environmental agreements which have been notified to the Commission are still under scrutiny (Martinez-Lopez, 2000) and no official information is available on them.

As for the cases for which a decision has already been taken, a few of them are worth mentioning:

CECED case. CECED is the European Council of Manufacturers of Domestic Appliances and holds 90% of the European Market. The case is important since it represents the first one for which the Commission has applied Article 81 (3) to an agreement designed to improve the environmental performance of goods. The contrast between competition protection and environmental effectiveness which emerged from the content of this environmental agreement was so evident to have become an official example in the section of the "Draft Guidelines of the Commission on Horizontal Agreements" (hereafter Draft Guidelines) devoted to environmental agreements (CEC, 2000). In particular, CECED members agreed to stop producing washing machines with low levels of energy efficiency and to replace them with more environmental friendly (but also more expensive) machines. The decision has been adopted on 24 January 2000 and granted an exemption from the application of Article 81(1) until 31 December 2001 on the grounds that the undeniable limitation of competition implied by the initiative is causing consumers economic losses (higher prices) which, besides the improvement of the environmental situation, will be rapidly recouped thanks to the lower running costs of the new machines.

"VOTOB" case. As is reported for example in OECD (1999) and Vedder (2000), VOTOB is the Dutch industry association of independent companies that offer liquid tank storage services to the chemical industry. After a covenant was signed in 1989 with the Dutch government, firms belonging to the VOTOB association decided to charge on their customers a uniform surcharge which was said to be related to the abatement effort undertaken by the agreement. This provision was seen as a case of collective price setting not related to actual emission reduction costs incurred by the firms. The European Commission finally rejected this provision.

"STIBAT", "Dutch Association of Flower Auctions" and "FKS" cases. These cases, briefly reported on in Vedder (2000) are of interest since they witness of situations in which the trade-off between competition and environmental protection was particularly evident and the environmental safeguard was considered the prevalent interest by the Dutch Competition Authority. In particular, the STIBAT case concerned the market for batteries and accumulators and was about a surcharge practice similar to that foreseen by the VOTOB association, while the Association of Flower Auctions case was about a restriction imposed on the allowed types of packaging. Finally, in the FKS case (where the acronym stands for the Dutch Association of Manufacturers of Plastic Pipes), an agreement concerning a collective system to collect, sort and recycle plastic pipe wastes went under scrutiny by the National Competition Authority since a mechanism which allocated the generated wastes according fixed shares based on historical firms' market shares was developed.

These cases show that VAs, in particular industry-wide VAs, often provide the incentives for firms to adopt an anti-competitive behaviour. However, they also show that:

- the economic costs of reduced competition may be largely dominated by the environmental benefits provided by the VA;

- it is possible to intervene to regulate the market and modify firms' behaviour in a way that eliminates the economic costs while preserving the environmental benefits of the VA.

IV. VAs and competition. A bi-directional relationship

As shown in the previous sections, the theoretical literature on the relationship between VAs and competition, despite its limited size, has achieved some important results. However, there are some further results that are very relevant for policy analysis and implementation. They are based on the recognition that not only VAs affect market structure, and but that market structure also affects the existence and environmental performance of VAs.

The first result can be phrased as follows

The environmental effectiveness of VAs increases when industry is more concentrated, i.e. a larger number of firms (more competition) involves lower voluntary abatement (e.g. Dixit and Olson, 2000; Garvie, 1999; Maxwell *et al.*, 2000; Manzini and Mariotti, 2000).

This result can be shown both within the reputation enhancing and the regulatory gain

framework. The main explanation is based on the role of "free-riding" (Garvie, 1999; Maxwell *et al.,* 2000). If the benefits provided by the adoption of a VA – either in the form of positive demand effects or of changed regulator's attitude -- are not fully excludable, then firms in the market have an incentive to under-supply their own level of emission abatement. As it is well known from general economic theory (Olson, 1965), the extent of free riding is directly related to the number of actors in the market; and the phenomenon is even stronger when the possibility not to adhere to the voluntary initiative is accounted for (Dixit and Olson, 2000).[5]

A second explanation specifically concerns industry-wide agreements. When several firms enter a given market in which an environmental regulation is required, the negotiation process between the regulator and firms is usually subjected to the so-called "toughest firm principle" (Manzini and Mariotti, 2000), according to which the outcome of negotiations must satisfy the requirements of the firm more reluctant to abate (i.e. the "toughest" one). When firms are heterogeneous in emission abatement costs, a larger number of firms makes the expected outcome of the agreement lower. Also the failing of negotiations is more likely, unless the regulator is willing to accept any level of voluntary abatement (Manzini and Mariotti, 2000).

A second important result is as follows

VAs are more beneficial in terms of emission reductions if firms are allowed to co-operate on emission reduction (the setting of the VA) (Garvie, 1999; Maxwell et al., 2000).

When the potential negative impact of the collusive behaviour on competition is neutralised - for example relying on a separate antitrust regulation (Garvie, 1999) - social welfare is increased by firms co-operation because the free riding incentive is offset and this leads to higher emission reductions (Garvie, 1999; Maxwell et al., 2000). Moreover, in some cases, namely in the presence of green consumerism or of production cost gains related to the VA adoption, even the total output sold in the market could be higher. This rules out the traditional negative effect that co-operation is said to have on consumers' surplus. Finally, co-operation among firms can also be beneficial because it fosters environmental innovation thus increasing emission abatement (Poyago-Theotoky, 2000).

Finally, it is important to realise that:

In very competitive markets, VAs are unlikely to be signed, which implies that either no

[5] However, incentives to free-ride can be offset by an appropriately designed VA. See Brau, Carraro and Golfetto (2000) and the discussion below.

abatement is carried out or the regulator must rely on other, possibly more costly, policy instruments to achieve its environmental goals (Dawson and Segerson, 2000; Brau, Carraro and Golfetto (2000).

Again, the origin of the problem is the incentive to get the benefit of the VAs without paying the costs in terms of emission abatement, if some other firms in the industry sign the VA. This incentive may lead to equilibria in which no VAs are signed.

However, the situations described above can be dealt with by introducing specific clauses in the design of the VA. For example, if the benefits in terms of increased demand or offset regulation provided by the VA are at least partially excludable – i.e. only signatories get most of these benefits -- and if a minimum participation constraint is imposed, then the VA is going to be signed and it is likely to be signed by all firms in the industry (Brau, Carraro and Golfetto, 2000). If in addition a minimum abatement constraint is imposed, then the incentive to under-reduce emissions is also offset and firms may be induced to choose non co-operatively the co-operative level of emission abatement.

Notice, however, that the optimal design of the VA can also be more easily implemented when industry is more concentrated and negotiations take place among a limited amount of parties.

V. Policy Lessons

Although the empirical evidence (at least as much as the possibility of tacit collusion is concerned) is still is at a preliminary stage, and although theoretical results are based on simplified mathematical models, a few lessons emerge from what has been said so far. The first general (nearly trivial) lessons which has come out is that:

Some effects of the adoption of VAs on competition are to be expected.

The direction of these effects seems to go against the objective of maintaining or increasing competition in the market.

These two propositions are supported by three main findings:

- Reputation enhancing and regulation offsetting VAs are likely to increase industry concentration by modifying the distribution of costs across the industry.

- With a few exceptions, all kinds of VAs tend to reduce market competition by favouring the

adoption of tacit collusive practices in the industry.

- VAs can potentially distort competition since they provide firms with a strategic variable that can be used to create barriers to entry or damage new firms that want to enter the industry.

By referring to the part of the Communication where it refers to the EC Treaty provisions on competition, these results highlight the relevance of VAs as potential threat to competition and seem to call for an application of Article 81(1). However, the relationship between VAs and competition is bi-directional. Hence, market concentration is generally a crucial factor relevant for the adoption of VAs. In particular:

A more concentrated industry favours the adoption of VAs.

The effectiveness of VAs increases when industry is more concentrated.

VAs are even more beneficial if firms are allowed to co-operate on emission reduction (the setting of the VA).

These results are the logical consequence of the presence of free-riding incentives (common to all voluntary initiatives that entail non-excludable effects) that give rise to strategic behaviours, which reduce firms' abatement effort. It is true that the free-riding incentive can be offset by adequately designing the voluntary agreement, but this optimal design is again easier when industry is more concentrated. Therefore, these findings provide room for exemptions in light of Article 81(3).

Summing up, there is a two-way relationship between VAs and market structure: on the one hand, the adoption of VAs is favoured by a more concentrated situation; on the other hand the adoption of VAs is likely to further increase industry concentration. This may create a sort of vicious circle that raises some economic costs in terms of reduced consumers' surplus. Reduced competition and increased industry concentration may indeed imply higher market prices and reduced output. On the other hand, VAs provide environmental benefits that may not be achieved otherwise. There is therefore a *trade-off between environmental benefits and economic costs provided by the adoption of voluntary approaches*.

Moreover, a *conflict between environmental policies and competition policies* may occur. Indeed, the two policies may have conflicting objectives if the adoption of VAs and the consequent environmental benefits are associated with reduced competition within the industry. In other words, if a VA is the optimal environmental policy tool to deal with a given environmental problem, an environmental regulator may prefer a concentrated industry structure

in which the VA can more easily be implemented and is likely to be more effective. But a competition authority may not accept to trade-off the environmental benefits of the VA with the economic costs possibly induced by a concentrated industry.

It is of interest to compare these policy lessons with the "Draft Guidelines" recently issued by the Commission. As for an assessment under Article 81(3), paragraph 185 specifically states that "the expected economic benefits must outweigh the costs" (CEC, 2000, par. 185), by this way providing room for a cost-benefit analysis. "Where consumers individually have a positive rate of return from the agreement under reasonable payback periods, there is no need for the aggregate environmental benefits to be objectively established" (ibidem, par. 186).

Hence, it is clear that the many *actual* benefits that can be achieved from the adoption of a VA should be carefully compared with their *potential* costs in terms of reduced competition. The solution of this trade-off, as well as of any other economic trade-off, is well known and lies in the adoption of two instruments to achieve two objectives. If a VA actually reduces competition by cleaning the environment, then a regulator should intervene with a second policy tool (e.g. an environmental subsidy for entrants or sanctions on collusive behaviours).

However, there is another solution that may work in some cases. Instead of intervening ex- post, if the VA shows negative effects on competition, it may be possible *to intervene ex-ante, by designing the VA in such a way that its effects on competition are totally offset or minimised.*

Finally, as shown above, a certain degree of market concentration may be the pre-condition that favours the emergence of effective VAs. Hence, (a) if the necessary emission abatement cannot be obtained through other policy instruments, or (b) if there is a relevant economic and environmental gain from achieving the emission abatement through a VA, then the optimal strategy could be the one which accepts or even favours a reduced competition in the market.

VI. Recommendations for Future Research

As said, the literature on the theoretical and empirical literature on VAs and competition is still in its infancy. There are several case studies and sufficient legal assessments of the links between VAs and competition law. But we certainly need more extensive theoretical analyses that focus on the specificity of VAs rather than simply drawing from analogies with issues already studies in the industrial organisation literature.

In particular, most studies are based on simple assumptions on market structure whereas more

research is needed to analyse the relationship between VAs and competition when product differentiation, both horizontal and vertical, and market leadership are taken into account. In addition, it would be useful to analyse the strategic interactions between VAs and other firms' decision variables, e.g. investment, advertising, R&D, location decisions, etc.

Most importantly, it is crucial to achieve further results on the optimal design of VAs. These results should be obviously derived for different types of VAs and different types of industries in order to provide a taxonomy that could be useful for policymakers who need to implement their environmental policy through VAs.

Finally, as it is often the case in Europe above all, more empirical analyses should be devoted to check the consistency between the theoretical predictions and the actual functioning of VAs. These empirical analyses could also be the proper input to develop further the theoretical modelling of VAs.

VII. Main References

For a legal perspective of the issue "VAs and competition" the interested reader is referred to Vedder (2000), Bailey (2000), Julich and Falk (1999) and the references cited therein. The first two papers also are a useful introduction to the Draft Guidelines (CEC, 2000), for which the basic reference is the paper by Martinez-Lopez (2000).

A general assessment of the relationship between voluntary approaches and competition is provided by Brau and Carraro (1999). This survey also provides an extensive overview of the existing literature on the topic.

The role of market structure in determining the environmental effectiveness of VAs is well described in Garvie (1999) and Maxwell *et al.* (2000). Voluntary overcompliance as a product differentiation strategy is the subject of Arora and Gangopadyay (1995).

The optimal design of industry-wide VAs is discussed in Brau, Carraro and Golfetto (2000).

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4. Can Voluntary Approaches be Environmentally Effective and Economically Efficient?

Signe Krarup

Contents

1. Summary

Environmental policy seeks to find policy instruments that enhance environmental protection at the lowest possible costs. Previous studies point out components for environmentally effective voluntary approaches. The most important ones are: 1) an open and transparent target setting process; 2) a regulatory threat; 3) inclusion of monitoring and enforcement mechanisms; and 4) an efficient burden sharing of targets among firms.

With these elements in place, negotiated agreements and public voluntary programmes have the potential to be environmentally effective policy instruments. The institutional demands needed to achieve this effectiveness, however, may impose significant transaction costs, thereby reducing the economic efficiency and attractiveness of using such approaches.

A discussion of the credible alternatives to voluntary agreements is also necessary to evaluate the comparative advantage of agreements over other types of environmental policy. Here the questions are whether a credible alternative to voluntary approaches exists and if so, whether this policy is an efficient one. Only when these questions are answered is it possible to say whether voluntary approaches are more environmentally effective and economically efficient than other policy instruments.

2. Introduction

During recent years the use of voluntary approaches with industry in environmental policy has grown significantly in the OECD countries. Voluntary approaches are numerous in their use and are usually defined as negotiated agreements, public voluntary programmes or unilateral initiatives. Unlike other policy instruments, voluntary approaches have been created by practitioners, such as industrialists and policy-makers, in a response to the need to find measures for achieving environmental objectives, without overburdening industry and affecting its ability to compete internationally. As such, voluntary approaches have been created in the market rather than in textbooks on environmental regulation. This means that it is only within the last decade that theoretical and empirical evaluations have begun to emerge to explain the workings and to assess the environmental effectiveness and economic efficiency of volutary approaches. See Krarup (1999) for a survey on these issues.

An evaluation of the **environmental effectiveness** of voluntary approaches should address two main concerns. First, whether the voluntary approach allows for *ambitious target setting*, where targets are higher than a business-as-usual trend. That is, do targets lie beyond what would have been reached in the industry without voluntary approaches? Second, whether those targets, once set, are *actually achieved.*

An evaluation of the **economic efficiency** requires determining whether the instrument achieves the environmental target at the least possible costs. Such an analysis should include an evaluation of costs at the firm as well as the more general welfare level. At the firm level, the costs considered cover the firms' economic cost of achieving an environmental target, i.e. the abatement costs. These costs include changes in the technical activities of firms that enable them to improve their environmental performance., such as investments in new equipment and environmental management systems. From a welfare perspective it is also relevant to look at the administrative or transaction costs caused by the implementation of the voluntary approaches. The public agency as well as the firm (or branch association in case of collective agreements) defray these kinds of costs. For public agencies these costs arise from communicating and negotiating with industry, and subsequently from the administration, monitoring and enforcement of the voluntary approaches. Transaction costs are also incurred by the industry due to their negotiation and communication with the public agencies and the pending administration caused by involvement in the voluntary approach.

The following evaluation focuses on the environmental effectiveness and economic efficiency of negotiated agreements and public voluntary programmes. We will not discuss the efficiency of unilateral initiatives, as it is difficult to assess their effects and efficiency because they are pure industrial initiatives without any involvement by public authorities. Rather than evaluating their effects and efficiency, here we ask why industry might agree to participate in a voluntary approach. In this paper, the discussion of motives will be in the context of public voluntary programmes. Such a discussion, however, is also relevant to understanding the incentives industry has in initiating a unilateral programme.

3. Negotiated Agreements

One kind of voluntary approach is a negotiated agreement. The environmental targets in such agreements are formulated and settled through negotiations between some public agency and the polluter (an individual firm or industrial branch association). An example is the Danish agreements on Industrial Energy Efficiency (see box 1).

Box 1. The Danish Agreement on Industrial Energy Efficiency (until January 2000)

The Danish agreement scheme on energy efficiency in industry is part of a policy mix combining voluntary agreements, SO_2- and CO_2-taxes and subsidies for both energy efficiency counselling and investments. The most important incentive for the companies to enter into an agreement is a substantial CO_2-tax rebate. The reduction of the CO_2-emissions resulting from the CO_2-package (CO_2- and SO_2-taxes, investment grants and agreements) is expected to be 4.4% of the Danish CO_2-emissions in relation to their 1988 level by the year 2005.

The target group for the Danish CO_2-agreement scheme is energy-intensive companies. Agreements can be either individual (covering a single plant) or collective (covering several companies within a subsector). The idea of the collective agreements is to reduce administrative costs of entering an agreement, but individual agreements are by far the most common arrangement. The agreements entered in 1996, 1997 and 1998 cover approximately 150 industrial companies and 100 greenhouses.

The basis of individual agreements is an energy audit, generally carried out by a consultant certified by the Danish Energy Agency. The audit report must include mapping of the energy consumption at the plant, a list of identified potentials for energy-efficiency improvements and suggestions for special investigations to be carried out. The report must be verified by an independent agency assisted by a technical expert. The companies defray the costs of the audit and the verification, but subsidies of up to 50% of the costs can be granted from the Danish Energy Agency. The collective agreements are not based on energy audits performed in the individual companies. Instead, an analysis of energy consumption and production processes in the sector is made to identify general potentials for improving energy efficiency in the companies.

On the basis of the audit report an action programme is made for the plant. As a general rule, all energy-efficiency projects with a payback period of less than four years must be carried out as part of the plan. However, during the negotiations the company and the Danish Energy Agency can decide that alternative projects replace some of the "obligatory" projects. In addition, the company must describe and implement an energy management system including energy accounting, procedures for energy efficient procurement, appointment of an energy manager and education and motivation of staff.

When the agreement is signed, the company must carry out the projects and investigations listed in the action programme and implement the energy management system. Every year the company must deliver a progress report to the Danish Energy Agency. In this report the fulfilment of the agreement must be reported together with a status for the energy management. If companies fail to meet the obligations in the agreement, the Danish Energy Agency can cancel the agreement, and the tax rebate will be annulled.

Source: Krarup & Ramesohl (2000)

Ambitious Target Setting

The environmental effectiveness of a negotiated agreement depends largely on the strength of the target arrived at through the negotiation process. Because industry and public agencies

negotiate directly, often to the exclusion of other parties, "regulatory capture" may create barriers to strong environmental targets. By regulatory capture we mean that industry succeeds in persuading the public agency to agree on unacceptably weak targets. This could be due to, for example, pro-industry governments, the agency's concern for avoiding conflicts, disproportionate bargaining power between the agency and industry, even the prospect of future employment of regulators in the regulated industry. A "captured" agency will not be able to ensure adequate environmental targets.

Another obstacle in achieving ambitious targets is the lack of participation by third parties such as parliament and environmental organisations. These bodies are often considered to represent the "public interest," and are less vulnerable to the problems associated with capture. In a traditional regulatory scheme, environmental groups can lobby government and apply pressure and information that may influence the target. Additionally, they may have an indirect impact on target setting. Governments are sensitive to the public criticism that results from weak targets, or the non-attainment of agreed environmental targets, so they may try to enact ambitious targets to avoid such criticism. Environmental interest groups, therefore, are a mechanism that can criticise and punish the agent responsible for target formulation and attainment. With voluntary approaches, however, the responsibility for the target achievement is shifted towards industry, which means that the government is less exposed to such criticism. Industry, isolated from any electoral influence, does not feel the same pressure to avoid public criticism (though, it must be said, public reputation may affect profits). Negotiations could therefore result in lower environmental targets than those set through a traditional policy formulation process, where all kinds of interest groups are heard and where the government alone is responsible for the success or failure of the environmental policy (Hansen, 1999; Maxwell et al., 1998).

An open, transparent negotiating process can reduce the possibility of regulatory capture and lessen the harmful effects of excluding third parties. When negotiating positions are open and known to the general public, opportunities for capture decrease significantly. Agency officials are forced to be more accountable to the public and to other third party interest groups. Furthermore, the information that third parties bring to the negotiations may inform the decision making process, expand the scope of the debate, and lead to a better outcome.

Where an agency has the will to pursue strong environmental targets, the bargaining position of the public authority is decisive for the outcome. When the agency has a stick waiting in the wings, industry is more likely to accept the carrot. That is, the existence of a regulatory threat as an alternative to an agreement, promotes voluntary action by industry (Segerson & Miceli, 1998). When the threat of regulation is actually present, it would appear that the targets

specified in the agreements are slightly above the business-as-usual trend in industry. However, when the threat is not explicit, the bargaining position of the public agency might be weakened and the risk of too weak targets is still present.

Reaching the Targets

Accurate reporting of pollution levels by firms or industry branches is crucial in determining whether targets, once set, are being met. This reporting could be done by the regulated industry itself, or by an independent agent. This will enable the agency to assess whether targets have been reached. This information also allows the agency to adjust to problems or changed circumstances in the implementation of the agreements.

In cases where the firms do not reach the targets, the agency must have the possibility to impose sanctions on such non-complying firms. Examples of sanctions could be taken from the Danish agreements where non-complying firms have to reimburse their tax rebate. Alternatively, a sanction could be a more implicit regulatory threat in case the conditions in the agreements are not meet. Both types of sanctions strengthen the industry's incentives to comply with the agreement and to reach the targets. This emphasises the role of both monitoring and enforcement in the agreements.

Cost Effectiveness

It is often assumed that the transaction costs of negotiated agreements are lower than in the case of mandatory regulation. The argument for this relative cost advantage is that the negotiated agreements lower transaction costs and industry's abatement costs because of greater flexibility in the finding of cost-effective solutions and fewer conflicts between industry and the agency. Further, the public agency saves monitoring and enforcement costs. However, the relative cost advantage of agreements can be questioned on several grounds. If the transaction costs of agreements approach the costs related to other types of regulation, the comparative advantage of an agreement diminishes. Furthermore, empirical studies point to the fact that additional effects from voluntary approaches are higher when they have a high degree of structure and a system for monitoring and enforcement by the responsible agency in place. Thus, effective agreements might not result in lower transaction costs.

The transaction costs of the agency depend on the type of agreement considered. In case of agreements with individual firms, the agency has higher transaction costs compared to a situation with branch agreements. This means that the cost burden is shifted from industry to the

public sector. However, in both cases there is a trade-off between a more efficient burden sharing among firms and the level of transaction costs. From a societal point of view, the question is then whether the total transaction costs are higher or lower with collective agreements than with agreements with individual firms. In other words, whether it is more cost effective to let branch associations negotiate with their member firms to allocate the targets, compared to a situation where the public authorities do it. No clear answer can be given here.

4. Public Voluntary Programmes

Public voluntary programmes are another kind of voluntary approach. Here the public authorities pre-set the target and firms that participate in such a programme agree on achieving this target. In return, services, financial assistance, etc. are often provided to firms by the public agency. An example of a public voluntary programme is the Swedish ECO-Energy (see Box 2).

Box 2. The Swedish ECO-Energy

The Swedish agreement scheme was a specialised effort aimed at preparing companies for EMAS and ISO 14001 certification. Companies have committed themselves to: 1) formulate an environmental policy; 2) long-range energy saving goals; 3) firmly establish energy saving goals at all levels of the organisation; 4) establish a plan of action concerning energy efficiency; and 5) use energy efficiency standards in the procurement activities.

In return, they basically receive a free energy audit and other kinds of help with the certification process, as well as some publicity and the right to use the ECO-Energy label in their marketing.

The scheme was targeted at companies specifically interested in this package, rather than any specific industrial sectors. Agreements were made directly between companies and authorities, without any involvement of industrial organisations. The scheme was commenced in 1994 and terminated in 1999, when the certification process was assumed to have gained sufficient momentum to proceed without further public involvement. A total of some 30 companies were involved, large as well as small. There was no clear concentration on specific industries.

The scheme was decided and implemented at the administrative level, without involvement of the political level (government, parliament), and without negotiations with industrial organisations. The funds came from general budget allocations for CO_2-reduction and energy efficiency measures meant to support Swedish compliance with the Rio commitments.

The scheme was based on the internal goal-setting and self-control mechanisms that are required for EMAS and ISO 14001 certification. It involved no additional public controls or sanctions.

ECO-Energy was terminated in the summer 1999, pending a general review of Swedish climate change policy. This review is now in the hands of a parliamentary committee. No official assessment of the programme has been made.

Source: Krarup & Ramesohl (2000)

Ambitious Target Setting

The targets in public voluntary programmes are defined by the public agency. Usually the targets embrace implementation of requirements to register under EMAS, implementation of energy management systems, or the achievement of specific reductions in different kinds of emissions. Firms that participate in the programmes agree on the same targets and they are not able to change the general programme. However, usually the participation in such programmes would result in more firm-specific formulations of targets after the programme has been signed.

As the targets are pre-set, the public agency is the only one responsible for the target setting. The question is, therefore, whether the agency is able and willing to put up ambitious targets in such programmes. At least two elements are decisive here. First, the agency needs expertise and good preparations to put up targets that induce some extraordinary effort from the participating firms. Second, the problem of capture with the public administration must be limited. Here, the interests of the particular agency are crucial for determining which target levels are chosen. Furthermore, capture could be present when there are divergent interests between different ministries and agencies. The question is whose interest determines the programmes. Transparency and involvement of third parties are therefore still important when public voluntary programmes are designed.

Reaching the Targets

Like with negotiated agreements, it is decisive for an assessment of public voluntary programmes that data exist on the performance and target achievement of firms. As this is rarely the case, it is difficult to estimate the degree of target achievement. Furthermore, formal sanctions are not generally part of voluntary programmes. This calls into question the level of target achievement. However, we can point to various reasons that explain why firms commit themselves through a public voluntary programme and comply with the targets.

The inducement for compliance stems from the green demand by consumers and the role of green marketing in industry. See, e.g., Arora & Gangopadhyay (1994). Firms may act responsibly and try to internalise the diseconomies of environmental pollution in order to respond to consumer demand for pollution reductions. Firms know that consumers are willing to pay a higher price for a good that is produced with lower emission levels and it is assumed that consumers have information about the environmental performance of firms. As firms compete on environmental quality, this green demand will lead to decreased pollution. When consumers' willingness to pay (for environmental quality) depends on their income, the pollution level

might decline further when there are general increases of income or when the lowest income groups get higher incomes. Another consequence of this green demand is that as the public gets more information about firms and their environmental performance, the threat of regulation of the firms will probably increase. This is due to political pressure for environmental protection when consumer interests affect the political process. This will further increase the firms' incentives to limit emissions voluntarily and participate in voluntary programmes.

Firms can also increase their expected revenue from production by reducing pollution. The roles of strategic interactions with competitors, the opportunity to differentiate products, and unexploited cost savings due to imperfect markets are measures that can increase the value of the firm. Environmental risk management might also explain the economic rationale for complying with voluntary programmes.

In many countries voluntary programmes are part of a mix of policy instruments. By this, one could say, that this provides a menu of different policy instruments provided to firms between which firms sometimes have to choose. As firms would choose the instrument that lowers their costs, such a menu would induce an efficient burden sharing among firms (see Chidiak, 1999 or Millock, 1999). This also indicates that the firms participating in a public voluntary programme have low abatement costs. Otherwise, they would have chosen to stay out of the programme. In general, such a menu would allow the agency to regulate high and low cost firms differently and thereby induce an overall cost minimisation. In addition, the agency does not need information about firms' abatement costs to induce such an efficient burden sharing.

Another advantage of voluntary programmes could be that they induce a flexible target setting in each firm. As the targets in the programmes are often very general, the firms could formulate more specific targets for their firm after the programme has been signed. When information or technical assistance is offered to participating firms, this would also help firms to find and choose to implement cost-efficient solutions. However, as no sanction mechanism is part of voluntary programmes, there is indeed a risk that the programmes will have no effects in the firms whatsoever. This leaves us with the risk of free-riding firms.

Cost Effectiveness

The transaction costs of public voluntary programmes are lower compared to negotiated agreements. This is because with voluntary programmes there are no negotiations about the target setting, and control and enforcement are seldom part of a public voluntary programme. However, some costs are still incurred.

One must consider whether some kind of regulation already exists in the area where the public authorities want to introduce a programme. If some initiatives have already been taken in the area, the costs of introducing a voluntary programme might be lower compared to an unregulated area. The relative cost advantage of a voluntary programme therefore depends on whether the area is regulated or not at the time that one considers introducing such a programme.

If firms can get some kind of public funding or assistance through their participation, the social costs of raising such funding should be considered as well. Here the relative cost advantage of providing information and technical assistance to firms depends on several conditions. If public services are provided to firms, it is important that no private alternative exists. If private services exist, the comparative advantage of the voluntary programme depends on how costly the public services are compared to the private ones. Hereby "the wasteful duplication of efforts" is avoided. This advantage will increase as the number of firms involved in the programme increases (Wu & Babcock, 1999).

5. Policy Lessons

In a perfect world environmental taxes are considered an efficient type of regulation. Voluntary approaches would be of little use in such a world. Or as Sunnevåg (1998) puts it: "If regulators acted everywhere in the public interest, and if public regulation were costless to introduce and enforce, there would be little scope for voluntary agreements as a form of economic regulation". However, in a world with informational, political and administrative constraints it is difficult to design such first-best policy instruments such as taxes. This makes room for other policy instruments such as voluntary approaches, and an evaluation of voluntary approaches should therefore be seen in this context. The theoretical literature as well as empirical evaluations point to situations where public voluntary programmes and negotiated agreements can be effective as well as efficient.

An Open and Transparent Target Setting

It is important that the negotiations between industry and the public agency do not result in low environmental targets. There has to be an ambitious target setting. In order to obtain this at least two things must be considered. First, if governments are more industry friendly than parliament, it is necessary to allow environmental interest groups and parliament influence on the negotiations. This could increase the environmental target agreed upon. Second, the target

setting and implementation of the voluntary approach must be transparent so stakeholders are able to influence the target setting and control the performance of firms.

Monitoring and Sanctions

To allow for an assessment of voluntary approaches monitoring of the performance of the firms is very important. This should be done through self-reporting by firms or branches to the responsible agency, or through an independent auditor. Control of firms' performance is another possibility, but it is rarely part of voluntary approaches. The information from self-reporting should be used to evaluate the single firm performance. Here the agency must be able to use sanctions towards non-complying firms. At the more general level the information could be used to assess the working of the voluntary approach. In case of unintended effects or problems the agency must revise the scheme.

A Regulatory Threat

The existence of a credible regulatory threat will strengthen the bargaining position of the public agency and increase the environmental target agreed upon in case of negotiated agreements. This could even induce firms to agree on targets that lie beyond the business-as-usual trend. There might, however, be a trade-off between saved enforcement expenses and environmental quality. If firms believe there is an implicit threat of regulation this will also induce industry to start voluntary reductions in pollution within the framework of public voluntary programmes.

An Efficient Burden Sharing of Targets among Firms

In order to limit the possibility of free riding, individual firms should be committed to the voluntary approach taken. This applies for agreements with firms as well as with branch associations. In order to allocate the burden of pollution abatement efficiently, firm specific considerations must be taken into account in the target setting. To fulfil this, the agency has several options. One is to get reliable information on firms' performance and estimations of the business-as-usual trend for industry which would allow for an ambitious and efficient target setting, where considerations are taken regarding the performance of industry. The exchange and supply of information and the completion of audits could be measures to do this. The problem here is that this could be a very costly task. Another option is to leave it to the firms to find the most cost-efficient solutions to reduce pollution. A menu of policy instruments or flexibility within a general voluntary programme could secure efficiency. In the latter case, however, precautions have to be taken to avoid free riding.

Summing up, several theories on the efficiency of voluntary approaches have emerged during recent years. However, no clear answer can yet be given concerning the efficiency and environmental effectiveness of voluntary approaches, so future research in this area is still needed.

6. Recommendation for Future Research

When comparing voluntary approaches with other policy instruments, it is implicitly assumed that the transaction and compliance costs are relatively lower for voluntary approaches. Compliance costs are presumed to be lower because the firm has the flexibility to find the most cost-efficient way to achieve the abatement level. Empirical evidence, however, emphasises the trade-off between effective voluntary approaches and a high degree of structure in such approaches. This further questions the comparative cost advantage of voluntary approaches. So what remains to be studied in more detail are the administrative demands from voluntary approaches compared to other policy instruments. Theoretical as well as empirical estimations of the transaction costs associated with voluntary approaches are also lacking.

Asymmetric information makes it difficult to design an economically efficient and environmentally effective policy. The question is whether information can be supplied to firms or shared between firms lowering their compliance costs. The public administration or individual firms often have information about general technologies in industry and even in different sectors that could easily be supplied to other firms or sectors in order to reduce their costs of compliance. However, when firms are too different with respect to their production processes, this will not be the case. This means that there will be a limit to how much information could be applied to firms or shared between firms to lower their abatement costs. Following the line of informational problems, further research is needed to determine whether voluntary approaches, as part of a policy mix, could limit such problems and ensure an overall +efficient environmental policy.

The influence of auditing on the economic efficiency and environmental effectiveness of a voluntary programme has so far not been dealt with in the literature. Auditing is a way of obtaining information about firm characteristics. Internal or external auditors can be used to gather information about firms in order to diminish the informational asymmetries. The question here is if such auditors are able to gather (all) private information. Auditors might also have private interests and act strategically, for example through collusion with firms. Additionally, it can be costly to use auditors. This suggests a trade-off between increased information and costs from audits. However, the influence of auditing remains to be analysed within the theoretical literature.

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5. Applying Voluntary Approaches – Some Insights from Research

Frank Convery and François Lévêque

Contents

Note to Readers

This policy brief is designed to provide those in the policy process with a quick overview of the key issues to look out for in considering the use of voluntary approaches in the design and implementation of environmental policy. The first sections provide some context, evidence and references that support the arguments in the 'Guidelines' outlined later on. The busy reader can go directly to the Guidelines at the end of the paper.

Introduction

This paper is in a sense an update and elaboration of an earlier paper - Lévêque (1997) – which summarized the key issues and potentials in application as they prevailed in 1997.

Glasbergen (2000) sees the emergence of voluntary agreements as symptomatic of a change in the 'architecture of decision-making' where government is retreating, and the civil organizations and the business community are expected to 'share the task of public service.' In this context, 'voluntary agreements are not just a means of expression, they are constituent parts of the structure.'

In shaping this 'new architecture', there are a number of trends evident in Europe. The first is an evolution from where the targets (if any) are set under the leadership of the firms, to where government agencies are the predominant shaper of the targets to be achieved by the voluntary agreement.

The second, related trend, is for the voluntary agreements to become more demanding over time in terms of quantitative targets, delivery and reporting mechanisms etc.. The history of the German CO_2 agreement illustrates this pattern. The Federation Association of German Industry in 1995 took the initiative to propose a reduction of CO_2 emissions or energy intensity by up to 20 per cent by 2005, with 1987 as the base year, in exchange for which the Federal government 'announced the withdrawal of plans to introduce a waste heat ordinance and promised an exemption from a possible energy tax.' (Ramesohl and Kristof, 1999). But, as Jochem and

Eichhammer (1996) pointed out, the target was so modest that 80 per cent of the target had already been achieved at the time it was announced, mainly due to the restructuring of industry in the former East Germany, and the natural improvements in energy efficiency as plant is replaced over time. In fact, they note that the annual rate improvement in energy efficiency in Germany achieved in the past was estimated to be 1.8 per cent, while the target corresponded to an increase in efficiency substantially below this, namely 1.2 per cent. But the agreement has evolved. The base year has now been changed to 1990, an independent institution has been commissioned to monitor progress, and there are proposals to change the base year again, to 1995, and further changes and improvements are being proposed (Rameshol and Kristof, 1998), based in part on the monitoring results. In a follow-up paper on the German experience, Eichenhammer and Jochem (1998) focus their attention on the crucial issue of target setting, and how and to what extent structural changes that would happen anyway are acceptable as energy efficiency gains. Developments in the Netherlands have followed a similar path, with relatively modest sectoral targets - a target of energy efficiency gain of 2.0 per cent, compared with a historic average annual energy improvement rate of 1.8 per cent described by Reitbergen, Farla and Blok (1998) now superseded by very demanding 'benchmark' targets in energy efficiency being set unilaterally by government (Hazewindus, 2000)

A third development is for voluntary approaches to be overtly linked to other instruments, the combination being sometimes characterized as 'hybrid instruments.' Such links have always been there, but the links in the past were often implicit; now they are explicit. The linkage is typically exclusionary, whereby those adhering to the voluntary agreement will be exempt from other demands, as in the case of the benchmarking covenant in the Netherlands. Thus, in this case, Article 10 states that 'The Ministers, binding the State, will see to it that no additional specific measures as to further energy saving or CO_2 reduction shall be taken with regard to the Companies.' Hazewindus (2000) interprets this to mean that no specific energy tax will be levied, no obligatory CO_2 emission ceiling will be set, no additional energy efficiency or CO_2 targets will be established, and no additional energy savings will be demanded, for those party to the covenant.

The analyses that look backwards analytically at the performance of voluntary approaches that are already in place are sceptical as to their environmental effectiveness. Ribeiro and Schlegelmilch (1998) interrogate the evidence and conclude that the virtually complete lack of base lines indicating what emissions would have been in the absence of the agreements makes meaningful evaluation impossible, and this crucial deficiency is frequently complemented by a lack of transparency in the data indicating performance over time. Gibson (2000) notes that 'expectations for voluntary initiative success are not yet firmly supported by the record of

experience.' However, it is true that similar analytical deficiencies are characteristic of most environmental policy interventions. It is also the case that the evolution in the design of voluntary agreements noted above means that a critique of their potential based on past experience is not necessarily appropriate for assessing their potential for the future. Moreover, in selected specific cases, efficiency and innovation gains associated with voluntary approaches have been noted. For example, Albrecht (1998) found that those participating in the voluntary agreement limiting the exports of CFCs did overcome the limitations of such restriction, and established a competitive advantage.

This paper is designed to draw lessons for policymakers from this evolving architecture, to provide guidelines as to key elements to be addressed when voluntary approaches are being considered as part of the policy mix.

Key issues to be addressed in design and implementation

Moffet and Bregha (1999) identify a number of issues to be considered in evaluating a voluntary agreement:

- Effects on competitiveness of firms, including improved market image and better market acceptance, reduced cost of environmental compliance, extent of product differentiation, risk management, quality of service.

- Effects on efficiency, including technical efficiency, allocative efficiency (cost effectiveness) and dynamic efficiency (innovation)

- Effects on market structure, including affect on cost structures (cost of entry and economies of scale and scope), potential for collusion and restrictions on entry, and implications for consumer choice.

- Effect on the regulator, including forestalling and delay in anticipated regulatory provisions and/or taxes and charges

To which we can add:

- Environmental effectiveness – the manner in which targets are set, the degree to which they are achieved, and how these targets relate to what would have been achieved in the absence of the agreement.

- Links to other instruments, and the potential for 'hybridisation' in this regard.

Taking each of these in turn:

Effects on competitiveness and profitability

For the private firm, this is a crucial consideration. Unless the voluntary agreement proves to be less costly, or more beneficial from a marketing and image point of view, or both, than the alternative policy options, then it is not a sensible choice. The decision sequence by the firm will be the following: will the compliance requirements involve any net additional costs? It may be that, as in the early version of the German CO_2 agreement, compliance would be achieved naturally by the normal processes of capital replacement and increased efficiencies. If there is a net cost, is it likely to be lower than would be incurred under other policy approaches? In the case of a sectoral voluntary agreement, how is the burden of compliance going to be allocated? In this latter case, if the protocols guiding behaviour are not unambiguous, then there can be high costs involved in reaching agreement, and in enforcing same. It is perhaps for these reasons amongst others, that the most recent high profile energy efficiency agreements in Denmark and in the Netherlands are bilateral, between a firm and the relevant government agency. This eliminates the transactions costs incurred in allocating the burden of compliance among firms that arises in the case of sectoral agreements.

For governments, protecting the competitiveness of the economy is a central consideration, all the more so at a time when globalization and evolving technologies widen and intensify the range of competition for some firms. While there is no evidence from the past to support the proposition of capital flight as a result of high environmental standards – see Raucher (1997) - intensifying environmental standards in the future could conceivably have such an effect. However, the likelihood is that, while the overall competitiveness of an economy will not be substantively damaged by rising environmental standards, some energy intensive sectors, such as cement manufacture, iron and steel, metal smelting and heavy chemicals are likely to suffer competitively, and this causes political problems for governments, even where the effects on the overall economy are positive. To the extent that voluntary approaches reduce the costs of compliance to firms, by giving them as much flexibility as could be experienced if emission charges and environmental taxes were imposed, but with less drain on cash flow, then both governments and firms will feel that the voluntary approach deserves consideration.

Economic Efficiency

Does the voluntary approach yield the least cost mix of compliance for a given environmental objective? There is very little evidence to answer this question. We would expect potential efficiencies to be achieved where there were substantial economies of scale, where policy was specifically designed to reduce the 'free rider' problem to manageable proportions, and where generally there is 'incentive compatibility' – the incentives facing the key players encourage compliance. The experience with regard to packaging is instructive in this regard. The unit costs of aggregation, collection, re-use and reprocessing are usually lowest where there are large volumes of packaging available in concentrated areas, A collective agreement by all involved to achieve specified aggregate targets will allow more effort to be devoted where costs are least, thereby reducing overall costs of achieving the target. And so, in a number of European countries there are voluntary agreements to meet the European Union re-use and recycling targets. But the fact that there are a large number of actors at various levels of the production chain makes enforcement difficult, and so the 'free rider' problem, whereby firms benefit from overall sectoral achievement, but try to avoid specific responsibility on their own part, arises. A number of strategies have been introduced to help overcome this problem, including the 'green dot' branding of the packaging of firms who are paid up members, thereby providing some consumer – and associated retail outlet - pressure to join; requiring those not joining the collective effort to comply individually with targets, the compliance costs for which are presumably typically more expensive than the membership fees. In the case of Ireland, there was 'incentive incompatibility' as regards enforcement, in that local authorities are the enforcement authorities, while they viewed the problem as a national one with little local benefit to be achieved from vigorous enforcement (Cunningham, Convery and Joyce, 1998). In France, incentive incompatibility arose in that the local authorities have responsibility for waste management, but didn't judge that the funds being made available from the voluntary organizing body (Eco-Emballage) was sufficient to justify investment and sustained operation of reuse and recycling facilities.

Firms that want to play their part in the achievement of targets will want to ensure that there are indeed economies of scale, that there are effective mechanisms in place to limit the extent of free riding, and that the incentives facing the key actors encourage the necessary actions. For those firms that see collective agreements as an opportunity to free ride, their needs are the opposite – enforcement and other mechanisms that are strong enough to achieve overall compliance, but weak enough that they allow free riding.

For government, the objective is to design and implement policies that provide the appropriate

incentives to the key actors, and that limit free riding sufficiently such that objectives are achieved. In comparing the costs of implementation of different policy options, the costs of limiting free riding associated with voluntary approaches needs to be considered.

Is there dynamic efficiency? For a voluntary agreement to encourage innovation, 'it must provide for rising standards of performance or for periodic updates; otherwise the code will offer no incentive for continuous improvement and innovation.' (Moffet and Bregha, 1999, p. 11). Support for specific and demanding standards as a means of inducing innovation is also forthcoming from Ashford and Caldert (1999).

Environmental Effectiveness

On voluntary agreements in the US, Mazurek (1998, p.5) comments as follows: 'In most cases, poorly designed evaluation methods make it difficult to attribute environmental changes exclusively to voluntary programs. Because few data exist to demonstrate environmental effectiveness, it is virtually impossible to assess whether or to what degree voluntary programmes affect abatement cost.'

In developed countries, to an increasing extent environmental targets are set based on a health, biodiversity or aesthetic standard, and not on a formal consideration of marginal benefits and costs. The objective then becomes how to meet this target effectively, at minimum cost, in fashions that are judged to be 'fair and reasonable.' Thus, much European Union legislation relating to air and water quality sets ambient standards to be achieved, and the global and regional agreements on greenhouse gas and acid precursor emissions have established national quotas or assigned amounts. But environmental performance is a product of actions taken by actors in various sectors – industry, energy, agriculture, tourism and transport – and households. From the point of view of economic efficiency, the target would be achieved most efficiently if each source cut back emissions to the point where the costs of abatement at the margin were equal for all sectors. But this is rarely computed, so policy becomes a patchwork of instruments applied to different sectors in hopes that the combined effect will reach the target at something approaching minimum cost. When a sector 'volunteers' to meet a sectoral target, an important strategic consideration is to know to what extent the target set is actually the economically efficient target for the sector, in the context of the other opportunities that exist.

It is in every sector's interest to shift as much of the burden as possible onto other sectors, and to reduce its commitment to the minimum that is politically acceptable. Thus the target for a particular sector should be set independently based on the estimates of marginal costs across all abatement options. And to know the true marginal costs, we need to know what would happen

in the absence of policy intervention (the counterfactual) and then estimate the marginal costs of achieving successive reductions in emissions. In Europe, there are two significant sources of information as to the targets that are technically feasible to set. German policy has traditionally been 'driven' by what was technically feasible, and so the emerging best available technology tended over time to set the emission standard. In the area of energy, the standards emerging from the Dutch 'benchmarking' covenant will probably in time comprise the European standard. But the costs at which these are achieved, and the benefits ensuing, are rarely quantified.

Anti-Competitive Behaviour

Institutional context is very important in addressing this issue. In the European Union, the Treaty and the various amendments and additions thereto - see Box – provide such a context. Decisions by the European Commission and the European Court of Justice, and the associated publications of guidelines and communications by the Commission provide a basis for determining if a given voluntary agreement is likely to lead to anti-competitive behaviour.

Voluntary Agreements and Anti-competitive behaviour – the European Union Context

A commitment to free trade within the European Union is an underlying leitmotif in the Treaty (the 'Rome' Treaty, 1957) as revised by the Single European Act (1986) and the Maastricht (1992) and Amsterdam Treaties. Article 28 (formerly Article 30) et seq. are the articles which prohibit the creation of tariffs or non-tariff barriers among Member States. Article 30 (formerly 36) provides the well-known exemptions to the above restrictions, including the exemption for measures designed to protect the health and life of humans, animals and plants. 'The European Court of Justice (ECJ) has held that the protection of the environment may be a ground for an exemption where the restriction is proportional to the goal sought and where the measure is not arbitrary or a disguised restriction on trade (Commission v. Denmark (Danish Bottles), 1988)' (Bailey, 2000). It is prohibited under Article 81 for any environmental agreement to which a firm or trade association is a party, to have as its 'object or effect, the prevention, restriction or distortion of competition within the common market.' However, exemption can be provided if the agreement 'promotes technical or economic progress'. In practice, the Commission examines the restrictions of the environmental agreement to determine if they are truly necessary and compares this with whether consumers would in fact receive their fair share of the benefits arising. The information exchange amongst firms which is inherent in sectoral agreements has the potential to act as a screen, where the opportunity to dialogue is used to shape the market, recalling Adam Smith's well known admonition:

People of the same trade seldom meet together, even for merriment and diversion, but the conservation ends in a conspiracy against the public, or in some contrivance to raise prices. (Wealth of Nations, 1776).

However, Bailey (2000) notes that 'One should however note that empirical evidence of this effect has been quite limited and the number of complaints filed with public authorities has been quite few.'

Article 82 of the Treaty prohibits an undertaking from abusing its dominant position in the internal market to the extent that it affects trade between Member States. In this context, Bailey (2000) cites the packaging voluntary

agreement, namely the 'green dot' which started in Germany as Duales System Deutschland but now operates in a number of countries, whereby producers, wholesalers and retailers who join the system and pay a fee are exempted from certain regulations regarding re-use and recycling, and their packaging carries a symbol signifying to other producers and consumers that they are members. Although she notes that while one could argue that Article 82 is infringed because the requirement of the 'Green Dot' restricts the national market to those producers and importers who comply', in practice, 'the Commission has chosen not to pursue allegations of an abuse of dominant position by Duales System Deutschland.'

In the case of public undertakings and undertakings to which a Member State has granted special or exclusive rights, they shall be subject to the competition rules also, but 'in so far as the application of such rules does not obstruct performance, in law or in fact, of the particular tasks assigned to them.' (Article 86). However, as the European Court has so far interpreted this section, it seems that competition rules apply to public operators given quasi-monopoly rights.

Article 87 prohibits government financial assistance to enterprises or industries where that aid would result in a distortion of competition or will affect trade between Member States. State aid is 'normally only justified when adverse effects on competition are outweighed by he benefits for the environment (European Commission, 1994)

A particular problem arises when environmental agreements contain technical specifications for products. 'As these specifications have such a strong potential to disrupt the internal market, they must be first screened by the Commission and then communicated to the other Member States.' Agreements must also comply with the principles of Article III of the GATT regarding equal treatment of domestic and imported goods.

Hybrid Agreements

Albrecht (1999) makes the point that, if carbon and energy taxes alone were to be depended on to achieve Kyoto targets, the tax levels required are likely to be substantially greater than the political and policy process are likely to find acceptable. And so the idea of using a combination of integrated instruments to achieve objectives is gaining force in theory and application. Specifically, he examines the potential for combining emissions trading with voluntary agreements, and concludes that both environmental performance and economic efficiency are enhanced, in part because the emissions trading inhibits free riding. Salmons (1999) shows how economic efficiency and environmental performance could be advanced in the context of combining a voluntary agreement and taxation to achieve better energy efficiency and lower greenhouse gas emissions.

Denmark has an ambitious energy policy, with the objective of reducing CO_2 emissions by 20 per cent in the year 2005. A mix of instruments is being employed to achieve this end, including direct investment – infrastructure for provision of natural gas and expansion of district heating schemes – regulation (concerning the use of electric heating in new buildings). A CO_2 tax was

introduced, and rates on industry and commerce were increased in 1996, and will increase annually up to 2002. The revenues from the trade and industry sector will be recycled, and in particular, enterprises in energy intensive sectors will be re-imbursed their tax payments provided they enter into a binding agreement with the Danish Energy Agency. (Johannsen, 1998).

Guidelines

The research undertaken thus far provides a very rich source of insight for those on the side of government or industry that are contemplating introducing and operating a voluntary agreement. A key question to keep in mind is: What is the likely alternative? The answer to this question is crucial in shaping the debate about the merits and otherwise of voluntary approaches. Most policy, including that related to voluntary agreements, can be characterized as 'muddling through' or learning by doing. But the costs of such learning can be reduced by some front-end research and analysis. The following guidelines are designed to help those involved reduce the costs of muddling through, and ensure that the instrument is used to its full potential. They are directed mainly at the 'policy maker' –the constellation of forces in the policy system that has ultimate responsibility for the design, enactment and implementation of policy.

Target Setting

The government should take on primary responsibility for setting targets. Independent information on what represents 'best practise' will emerge from a variety of sources, including (in the case of energy) the benchmarking being implemented in the Netherlands, as described by Hazewindus (2000). A wide variety of stakeholders – the firms involved, environmental and other NGOs, relevant authorities – can be involved in the target setting process, but ultimate responsibility rests with government. It may however be necessary to have a transition phase, where relatively modest targets are set, perhaps by industry, to allow the process to get started, and for the actors to develop familiarity with the protocols involved. See the German CO_2 example as a model of such 'instrument evolution' (Ramesohl and Kristof (1999).

Bilateral vs. Collective or Sectoral Agreements

Decide whether bilateral agreements – whereby firms meet standards set for them by government – or multilateral agreements – whereby an entire sector is to meet an overall target

– will apply. The choice will depend on the extent to which free riding and transactions costs are prevalent, and the cultures prevailing in this regard. Bilateral agreements give more control to government, eliminates the free rider problem, and reduces transactions costs for companies. The Danish energy agreements are of this character, and preliminary indications are that they are likely to be economically and environmentally effective (Johannsen, 1998). Collective agreements can give rise to free rider problems – where some firms do not join the agreement at all, and do not suffer sanctions sufficient to make joining worthwhile for them, while others do join, but are dilatory in fulfilling their obligations – and to associated high transactions costs in getting overcoming this problem. On the other hand, for some sectors in some jurisdictions, e.g. Germany, their protocols seem to allow them to successfully address the free rider and transactions costs problems, and they find collective agreements culturally and practically congenial (Jeder, 2000).

Achieving Incentive compatibility

It is important that those who have responsibility for the implementation of a voluntary agreement have positive incentives to fulfil their responsibilities. Where, for example, national government sets out the policy objectives and negotiates the agreement, but implementation – especially as regards enforcement and overcoming the free rider problem – is left to another political jurisdiction, ensure that the latter have some incentive to do so. An asymmetry in incentives appeared to characterise voluntary agreements on regard to packaging in Ireland (Cunningham, James, Frank Convery and John Joyce, 1998) and France, where the implementing agents (local authorities) did not feel that they had sufficient resources and incentives to ensure compliance.

Monitoring and Transparency

Make sure that the targets, the responsibilities – who does what – and schedules are specified, and clearly understood. Identify those indicators of performance that will make it feasible to decide if the agreement is meeting its objectives. Ideally, these should be available to the public, but at least they should be known to the key actors in the policy process.

Competitiveness and efficiency

The efficiency of the economy overall should be enhanced if the environmental objective is met at least cost. And this in turn will serve the competitiveness of the economy overall, as the burden imposed will be minimised. Doing so means trying to make sure that, in its design and

execution, the voluntary approach adopted achieves costs of administration, transactions costs, enforcement levels, that are not higher than the costs associated with other instruments. It is important to note in this context that the financial well being of individual companies is not synonymous with overall economic wellbeing. If targets are tightened over time, to a known schedule, this appears to encourage innovation.

Voluntary agreements in the European Union must comply with the Commission rules on free trade, and the relevant WTO provisions. For example, where implementation of a voluntary approach involves the sanctioning by the State of a quasi-monopoly to expedite a voluntary agreement, e.g. an entity to implement the achievement of packaging targets, it is important for Member States of the EU to have the proposal reviewed by the Commission before proceeding with implementation.

Assess Likely Environmental Effectiveness

Most voluntary approaches implemented in the past did not set out the 'counterfactual' or 'with-without' – what it is estimated would have been achieved in their absence – and so it has proved impossible to evaluate their environmental effectiveness *ex post*. Make sure that this is estimated before the voluntary approach is implemented. This will then comprise a baseline against which performance can be judged. Of course this deficiency is not confined to voluntary approaches, and the admonition applies also to other proposed policy interventions.

Examine the potential for combining voluntary approaches with other instruments so as to enhance effectiveness

There are a number of options whereby voluntary approaches can be combined with other instruments. Salmons (1999) and Johannson (1998) show how taxation can be used – by providing the carrot of tax exemptions - to encourage the achievement of voluntary targets in the UK and Denmark respectively. And this combining of approaches to produce a hybrid instrument is been applied to the benchmarking covenant in the Netherlands, whereby exemption from regulation is earned by meeting the benchmark. In the case of emissions trading, a sector could be allocated a target for emissions of (say) greenhouse gasses, individual quotas could be assigned to firms in the sector such that the total does not exceed the sectoral target, and the firms could then be allowed to trade.

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