



Voluntary Agreements and Environmental Labelling in the Nordic Countries

Bjørn Bauer og Rikke Fischer-Bogason

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Preface

Important areas of focus for the Nordic Council of Ministers are assessments of the effects of regulatory instruments for environmental management and regulation. Economic and legal instruments are regularly mapped and evaluated, and through the recent years, soft regulatory instruments have also become central study themes.

In this report, we take a closer look at Environmental Voluntary Agreements (VA) and Eco-labelling Schemes in policy mixes and their prevalence in the Nordic countries. The study is a part of the fulfillment of Environmental Action Plan 2009–2012 of the Nordic Council of Ministers. It refers to the theme Sustainable Consumption and Production and is specifically linked to Resource Efficiency and Environmental Driven Markets.

The report reveals that there is a need for more knowledge on the actual economic and environmental effects of both VAs and Eco-labelling schemes. Systematic monitoring and evaluation processes must be carried through on a regular basis in order to gather valid data and form a knowledge base from which practitioners can learn. It is also concluded that policy mixes with these instruments are rare and seldom intended.

The study of available evaluations shows that it is essential to develop structured methods for monitoring and evaluating both the Voluntary Agreements and the Eco-labelling Schemes. The existing evaluations are thorough and factual, but they lack baseline and economic analysis.

This report is, thus, a call for national authorities to establish monitoring programs and gain more experience with especially the Voluntary Agreements as a soft regulatory instrument and the use of both Eco-labelling Schemes and VAs in policy mixes. More “hands on” experience is needed and the actual effects of the instruments and their usability in combination with other instruments need to be documented.

May 2011,

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Chairman, Working Group on
Environment and Economy
of the Nordic Council of Ministers

Inger Grethe England
Chairwoman, Working Group for
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Summary

The present study sets out to map the use and prevalence of Eco-labels, Environmental Voluntary Agreements in the Nordic countries, and the inclusion of these specific tools in policy mixes. The study is based on existing evaluations of Voluntary Agreements and Eco-labelling Schemes from which conclusions on cost effectiveness and examples of implemented policy mixes are extracted. The study comprises a broad selection of Voluntary Agreements and Eco-labels in function from 2005–2010 and evaluations carried through since 2005.

The study reveals that Voluntary Agreements and Eco-labelling Schemes are in use in all the Nordic countries. Especially Denmark, Sweden and Norway have made numerous experiences in the use of these soft regulatory instruments. Whereas the development and implementation of Voluntary Agreements is ad hoc based, Eco-labelling is a quite well developed policy tool and especially the Nordic Swan is well known in the Nordic markets and has increased the number of licenses in the recent years.

The use and effects of the Voluntary Agreements are not well documented in any of the countries; evaluations are few and data are quite poor. Eco-labels are evaluated on different levels, but actual environmental effects of the schemes are not documented.

Only few evaluations on the cost effectiveness of Voluntary Agreements have been identified, all stating that cost effectiveness is difficult to assess; not least caused by a general lack of data and lack of comparables and baselines. Moreover, it is difficult to isolate the effects of the agreements. The conclusions that are made state that the studied agreements are considered cost effective either in terms of “expected costs” or in comparison to other measures. Cost effectiveness seems to be a strong argument for drawing and entering the agreements. Evaluations of the effects of Voluntary Agreements on society level are not seen. No analyses have been identified on the cost effectiveness of The Nordic Swan, the EU Flower (EU-Ecolabel).

There are not many examples of strategic use of Voluntary Agreements or Eco-labelling with other policy instruments, and policy-mixing has not been thoroughly addressed in the existing evaluations. Successful cases of policy mixes are mainly found within energy efficiency, linking energy efficiency agreements with instruments such as environmental permits, green taxes and information campaigns. This issue of implementing VAs in policy mixes with economic instruments is an area that needs further focus when designing VAs in the future. More experience and analyses of the combination of policy tools are needed.

Concerning Eco-labelling there are good examples and a large potential in using the labelling criteria in public tenders. This is practiced in the Nordic countries at times and there would be more potential for linking these instruments in the future. Policy-mixing between the implementation of the Ecodesign directive and the EU-flower and the Nordic Swan has a clear potential.

The mappings show that little knowledge exists on the environmental effectiveness of policy mixes – and of Voluntary Agreements and Eco-labels in policy mixes. It is concluded in other studies that the use of policy mix is particularly relevant when aimed at environmental problems that are of a “multi aspect” nature.

A main conclusion of the study is that there is a lack of national strategy in all Nordic Countries on the use of Voluntary Agreement and on the use of both Voluntary Agreements and Eco-labelling schemes in policy mixes. More experience with the use of the instruments is needed, and there is an explicit need for systematic monitoring and evaluation of the results; including analyses of “business as usual” scenarios. On an overall level it is recommended that further experiences with the implementation of intended policy mixes are made and monitored. Combinations of VAs and economic instruments are considered relevant to implement and analyse. It is considered difficult to propose elaborated implementation strategies for suitable combinations of policy instruments. It may be more effective to implement combinations of policy instruments and learn from structured monitoring and evaluation processes. The lack of measures is often even greater than the lack of knowledge. Reality might be too complex and multi-factorial to fully allow for calculations of which policy mixes that would work, and thus trial might be a more fruitful way of development.

A second main conclusion is that it is deemed highly important that the designing of Voluntary Agreements includes measurable objectives, baseline studies, monitoring programmes and planning of structured evaluations of effects.

The report is mainly based on literature studies and interviews with relevant experts and stakeholders. Information from assessments, evaluations, articles and thematic reports published by authorities and scientists has been combined with the research of the team behind the report. In order to gain knowledge on the most recent developments, future expectations and actors’ opinions, the team has carried through interviews with representatives of agencies, authorities, trade and industry either by telephone or e-mail. The main themes of the interviews have been experiences with Voluntary Agreements and Eco-labelling Schemes as well as references to relevant studies and evaluations.

The report is comprised of a main report and five individual country studies in annexes.

1. Introduction

In modern environmental regulation, the authorities welcome and encourage governance by the industry. The reasons for this are many; it can be considered cost-effective by relieving the authorities from regulatory control, it can ensure that the expertise of the private sector is utilised, and it can promote a proactive approach to environmental protection by the industry.

A wide variety of instruments are in use in governance of environmental issues in the relation between the industry and public authorities. Eco-labelling, environmental management schemes, voluntary agreements and environmental reporting are all examples of initiatives that companies can implement. The incentives to implement the schemes include increased resource effectiveness, marketing opportunities and supply chain demands, political pressure, benefits from subsidies and reduced green taxes.

Many discussions and analyses have targeted the questions of whether the voluntary initiatives are environmentally effective, to which extent they can replace traditional command and control regulation, and if/how the authorities can promote and support these voluntary approaches to environmental improvements. A core question is, whether additional regulatory initiatives must be employed in order to achieve an actual effect; whether the voluntary instruments must be employed in the shadow of the hierarchy. Not many thorough studies on the subject have been made. A recent OECD report¹ concludes that policy mixes between soft regulatory instruments and economic instruments can increase the environmental effect and the cost effectiveness. It is however also concluded that cost effectiveness may be *reduced*, which is also the conclusion of a 2003 OECD report².

The present study sets out to map the use and prevalence of soft regulatory instruments in the Nordic countries with focus on Eco-labels, Environmental Voluntary Agreements (VA), and the inclusion of these specific tools in policy mixes. The study is based on existing evaluations of VAs and Eco-labelling Schemes from which conclusions on cost effectiveness and examples of implemented policy mixes are extracted. The study comprises a broad selection of VAs and Eco-labels in function from 2005–2010 and evaluations carried through since 2005. It cannot be

¹OECD, Instrument Mixes for Environmental Policy, 2007

² OECD, Voluntary Approaches for Environmental Policy, Effectiveness, Efficiency and Usage in Policy Mix, 2003

guaranteed that the mapping fully covers all VAs and Eco-labels and related evaluations, but it has been the intention.

The study is carried through by a Nordic team comprised of:

- Denmark: Bjørn Bauer and Rikke Fischer-Bogason, PlanMiljø
- Finland: Petrus Kautto and Hanna Mela, Finnish Environment Institute
- Iceland: Stefán Gíslason, Environice
- Norway: Ole Jørgen Hanssen, Østfold Forskning
- Sweden: Åke Thidell and Carl Dalhammar, IIIIEE, Lund University

Professor Arne Remmen from Aalborg University has commented draft versions of the report and has been responsible for QA.

2. Definitions and approaches

The term “soft regulatory instruments” has been defined by many actors, but no common definition has yet been agreed on. In this project soft regulatory instruments are understood in a wide sense, covering cooperation between authorities and the private sector as well as government means of promoting a proactive approach to environmental challenges. The definition includes, but is not limited to, “soft law”, which has been defined as: “rules of conduct which, in principle, have no legally binding force, but which nevertheless may have practical effects”³.

The soft regulatory instruments are perhaps most easily defined by their counterpoints to their opposites; the command and control based instruments and economic incentives. Whereas command and control relies on detailed legislation, regulation and enforcement, and economic incentives include taxes and subsidies, the soft instruments are associated with self-governance, dialogue, networking, communication and voluntariness. Consequently, the soft regulatory instruments are de facto non-binding and without other means of enforcement than a suspended agreement or process.

Soft regulatory instruments include voluntary tools such as Eco-labelling, environmental management schemes, voluntary agreements and environmental reporting. The present study focuses on Voluntary Agreements and Eco-labelling Schemes.

2.1 Definition of Voluntary Agreements

Voluntary Agreement (VA) is a term often applied to describe agreements wherein companies agree to meet objectives related to environmental impacts. A core point of discussion is how “voluntary” the scheme must be in order to fit the term. Is an agreement voluntary if there is a background threat of regulation or legislation (a “stick”), or must the agreement be made on grounds of for example cost-sharing subsidies (the “carrot” approach)? In most literature on the subject, it is concluded that true voluntary agreements cannot be based on the threat of regulation (among others: Goodin⁴). This is, however, not an easy

³ Snyder, F., *Soft Law and Institutional Practice in the European Community*, European University Institute Working Paper, 1993

⁴ R. Goodin, *The principle of voluntary agreement*, Public Administration, 1986

condition to apply when selecting cases of VAs, since a threat of regulation is not necessarily explicit.

In the context of this study, the definition put forward by OECD⁵ will be used: *“Environmental voluntary agreements are arrangements between firms and regulators in which firms voluntarily commit to actions that improve the natural environment. The regulator encourages and/or supervises these actions.”*

This definition emphasises the participation of a public authority, but defines the authority’s role as a mere supporter and a possible “supervisor”.

Further, OECD defines three different types of VA, similar to the subdivision of Börkey and Léveque⁶:

- Public Voluntary Programme
- Negotiated Agreements
- Unilateral Commitments

“Public voluntary programmes involve commitments devised by the environmental agency and in which individual firms are invited to participate. Since participation in the voluntary programme is a choice left to individual companies, they can be seen as “optional regulations”. Examples are the US program 33/50 or the EcoManagement and Auditing Scheme (EMAS) implemented in the European Union since 1993.”

The public voluntary programmes are typically initiated by an environmental authority and have thus a clear regulation related fingerprint. This type of programme is truly voluntary. The “carrot” can be green tax refunds, marketing advantages, free counselling, investment support etc. The Danish “Green Accounts” can be seen as a mandatory policy instrument for especially large enterprises that at the same time encourages companies to implement EMAS.

“Negotiated agreements involve commitments for environmental protection developed through bargaining between a public authority and industry. They are frequently signed at the national level between an industry sector and a public authority, although agreements with individual firms are also possible.”

The negotiated agreements tend to be formal, but not necessarily legally binding; rather political gentlemen agreements. These types of agreements *may* be motivated by the threat of regulation and can thus be considered in a “grey zone” as to whether they are actual voluntary agreements, but usually the involvement of authorities in the actual design and implementation of the agreement is low. Objectives for the agreement are negotiated between the two parties, but the actual meth-

⁵ OECD, Voluntary Approaches for Environmental Policy, Effectiveness, Efficiency and Usage in Policy Mix, 2003

⁶ Börkey, P. and Léveque, F., 2000: Voluntary Approaches for Environmental Protection in the European Union, A Survey, European Environment, Vo. 10, No. 1, pp. 35-54

od of fulfilment is decided by the industry. Examples of negotiated agreements are many, including the Danish Agreement on Recycling of Transport Packaging and the Finnish SOILI Programme.

“Unilateral commitments are set by the industry acting independently without any involvement of a public authority.”

The unilateral commitments are, strictly speaking, outside the overall definition (which included the participation of a regulator), but some unilateral commitments include a third party for monitoring or validation, hereby establishing the credibility created through participation of an authority.

The Voluntary Agreements can further be subdivided on parameters such as⁷

- Individual/collective
- Local/global
- Binding/nonbinding
- Open/closed access to third parties
- Target based or implementation based

These parameters are all helpful when describing and categorizing the agreements and the relevance of the parameters illustrates that there is a vast variety within the use of this instrument.

2.1.1 National definitions

In the Nordic countries, the term “Voluntary Agreement” is either not defined in national legislation or used in different ways.

In Finland, the environmental legislation does not specifically refer to voluntary agreements, nor is VA defined in other national legislation. However, energy efficiency agreements are linked with environmental permits in Finnish environmental protection law (86/2000). In general, voluntary agreements have been used in Finland typically as ad-hoc – practices and in individual cases, not on strategic decisions at ministerial or governmental level.⁸

In the Danish environmental regulation, voluntary agreements are used in several contexts and on the basis of different definitions. In the environmental sector, the most important definition can be found in the Environmental Protection Law, stating that the Minister of Environment can sign agreements with enterprises and industrial organisations covering a number of environmental improvements that must be reached, and also defining through which means they must be achieved. The VA

⁷ Börkey, Glachant, Léveque: Voluntary Approaches for Environmental Policy in OECD Countries: An Assessment, 1999, CERNA

⁸ Sairinen, 2000

must ensure that binding goals on the use, emissions and/or removal of specified products are reached. This definition shows that voluntary agreements implemented in the environmental sector can be based on law and cover a penalty, but de facto, the Danish agreements signed by the industry and the Danish environmental authorities are considered voluntary. This is mainly due to §11 of the Danish Environmental Protection Law, where it is stated that all relevant parties are invited to the negotiations of the agreement.

In Sweden, no definition of VA has been identified in the national environmental legislation. In some sources, voluntary instruments are mentioned as a sub-group to economic instruments⁹, which indicates that VAs are found in between informative instruments and economic instruments, or used in combination with pure economic instruments. Closest to a definition or specific use of the concept is “*Environmental agreements are voluntary by nature and comprise commitments of individual enterprises or business associations as results of negotiations with public authorities and/or gained recognition by them. The concept includes everything from voluntary commitments, agreements to legally binding agreements.*”¹⁰ Moreover, an additional interpretation is “*an agreement or self-regulating measure of voluntary character, involving actors whereof the state is one, that either replace or is a tool for the implementation of or reach further than environmental legislation/law or a policy aiming for sustainable development.*”¹¹

In Norway and Iceland, VA is neither specifically defined in national regulation/legislation, nor do the implemented agreements provide any independent or specific interpretation of the term.

2.2 Definition of Eco-labelling

In this study, Eco-labels are defined as environmental related labelling systems for consumer products and services. The labelling schemes must be based on criteria that requires “above standard” environmental performances in the production or use of the product.

None of the Nordic countries have country specific definitions of the term eco-label. The Nordic Swan is the dominating de facto interpretation of the term, as well as the EU Flower (the EU Flower is now known as the EU-Ecolabel, but the term EU Flower is used in this report).

⁹ Naturvårdsverket, 2005

¹⁰ Author’s translation. Naturvårdsverket 2000/2003 from EEA, 1997, Environmental agreements- Environmental effectiveness

¹¹ ELNI, 1998, Environmental agreements The Role and Effect of Environmental Agreements in Environmental Policies

In EU Regulation is stated that the EU Flower intended as a “...voluntary ecolabel award scheme intended to promote products with a reduced environmental impact during their entire life cycle and to provide consumers with accurate, non-descriptive, science-based information on the environmental impact of products”.¹²

2.3 Definition of Policy Mixes

The term “Policy Mix” covers the situation where several policies or regulatory instruments are used to address the same problem. The policy mix may be intended or unintended.

It is argued in literature that policy mix can be employed in order to correct multiple reinforcing failures of private governance structures such as pollution externalities, or if the implementation of single first-best policies brings about high transaction costs¹³. It can, however, also be argued that a policy mix often is applied more or less unintentional or at least on lesser well-analysed grounds than described in the section above. A policy mix is thus simply the use of multiple policies to address single pollution problems.

A policy mix can both describe the situation where two policy instruments reinforce one another, but a policy mix may also cover the case where multiple measures inhibit the intended effects of one another.

2.3.1 *In the Shadow of the Hierarchy*

The use of soft regulatory instruments in a policy mix with traditional regulatory tools can be referred to as an encouragement towards governance “in the shadow of the hierarchy”.

The term “hierarchy” is used to describe the more traditional command and control approaches to regulation. This method of regulation has developed in combinations with “softer” methods for a long period of time, and much governing is now carried through as network governance. In network governance, several actors are involved. A combination of hierarchic and network governing, in which the different approaches are co-functioning, is often seen. This mix of policies can be referred to as “the shadow of the hierarchy”.

¹² Regulation (EC) No 66/2010 of the European Parliament and of the Council, 25. November 2009

¹³ Lehmann, P, Using a Policy Mix for Pollution Control – A Review of Economic Literature, Helmholtz Centre for Environmental Research – UFZ Leipzig, 2008

Hierarchy	Network
A governmental authority as decision maker	Many different decision makers; authorities and private participants make joint decisions in a network
The authorities provides framework and guidelines; companies comply	Authorities and private companies cooperate in finding solutions and share the responsibility
Hierarchy and authority are governing principles	Negotiation and dialogue are governing principles
Authorities govern through laws, rules and permits	Governing through development of joint understanding and consensus
Clear division of responsibility, roles and tasks internally among authorities and towards the private sector	Dissolvement of clear lines and distribution of roles; indistinct distribution of responsibilities
Main focus is organisation and result	Main focus is organisation and process

Translated and adapted from Sehested, K.¹⁴

It is argued by many that actual governance by the industry only develops “in the shadow of the hierarchy” and that ongoing governmental action is needed in order to maintain a well functioning industry based environmental effort.¹⁵

2.3.2 Why use a policy mix?

There may be many reasons for employing and combining several policy instruments (when the policy mix is intended). In the matter of environmental regulation, a main rationale is the fact that most environmental problems are of a “multi-aspect” nature. This can be understood in several ways: Important factors can both be related to amounts of pollutants, numbers of polluters, place and timing of emissions as well as product use and types of actor involved. Moreover, different policy instruments can be seen as reinforcements to one another – at least in theory. (OECD 2007, TemaNord 2009:578)¹⁶

¹⁴ Sehested, K., Bystyring og nye planlægningsformer, Når autoritet og hierarki møder netværksstyring, Center for Strategisk Byforskning, Realdania Forskning, CSB Working Paper nr. 6

¹⁵ Héritier, A. and Eckert, S., New Modes of Governance in the Shadow of the Hierarchy: Self-Regulation by Industry in Europe, EUI Working Papers, RSCAS 2007

Halfteck, G., A Theory of Legislative Threats, Berkeley Electronic Press, Paper 1122, 2006

Rottmann, K., Lenschow, A., Emergence and Characteristics of Voluntary Agreements in European Environmental Policy, 2006

¹⁶ Henrik Lindhjem, John Magne Skjelvik, Anna Eriksson, Terhi Fitch and Lise-Lotte Pade Hansen, The Use of Economic Instruments in Nordic Environmental Policy, 2006–2009, TemaNord 2009:578

3. Methodology

The present report is mainly based on literature studies and interviews with relevant experts and stakeholders. Information from assessments, evaluations, articles and thematic reports published by authorities and scientists has been combined with the research of the team behind the report. In order to gain knowledge on the most recent developments, future expectations and actors' opinions, the team has carried through interviews with representatives of agencies, authorities, trade and industry either by telephone or e-mail. The main themes of the interviews have been experiences with VAs and eco-labels as well as references to relevant studies and evaluations.

Three main activities have been carried through in order to complete the study:

- A survey of the use of voluntary agreements and the prevalence of environmental labelling (European Flower and Nordic Swan) in the Nordic countries – including the use of these instruments in intended policy-mixes with other instruments.
- Mapping and summarising existing evaluations of voluntary agreements and environmental labelling in each country, 2005–2010.
- Development of recommendations on two issues:
 - Recommendations for the use of voluntary agreements and environmental labelling
 - Recommendations on further studies.

The interviews are based on semi structured interview guides. The interviewed experts and stakeholders can be viewed in Annex A.

In each country study, national VAs are mapped. In order to focus the study, the mappings have covered VAs that have been implemented or have been in function during the last five years (2005–2010). The result is that a broad selection of VAs has been identified. It cannot be guaranteed that all Nordic VAs have been included.

Each country study also maps the national prevalence of eco-labels. The included eco-labels are environmental related labelling systems for consumer products and services. The labelling schemes must be based on criteria that requires “above standard” environmental performances; either in the production or the use of the product. The selected labels have relatively prominent market positions. It is important to notice that other (environmental) labels may be found on the market, but these are either for specific sectors or primarily for non-Nordic, national markets

(for example the German Blaue Engel and the Dutch EKO). Other labels are mainly focused on health, and these are not included unless they specifically focus on environmental issues. Examples of non-included health labels are the Danish Allergy Label and the international Öko-Tex Standard. Moreover, private labels such as ICA Ekologisk and COOP Ång-lamark are not included.

The mapping and summarising of evaluations of voluntary agreements and environmental labelling is partly based on the authors' considerable knowledge on environmental regulation in the respective countries as well as desk studies of relevant documents. In order to supplement and verify the consultant knowledge, brief interviews with national environmental ministries and agencies, eco-label institutions etc. have been carried through.

Analyses of the cost effectiveness, benefits, disadvantages etc. have been carried through on basis of the mappings and summaries of evaluations.

Recommendations are based on the country study findings. The recommendations have been drafted through desk studies and afterwards discussed and elaborated on a full day workshop.

As mentioned, it cannot be guaranteed that the mapping fully covers all VAs and Eco-labels and related evaluations, but it has been the intention.

Central study questions can be viewed in Annex A.

4. Findings

In this section, the findings from the country studies will be presented and discussed. The full country studies are included as annexes.

4.1 The prevalence of Voluntary Agreements and Eco-labels in the Nordic countries

4.1.1 *The prevalence of Voluntary Agreements*

All Nordic countries have implemented Voluntary Agreements, but the prevalence is quite uneven. Denmark and Sweden are the frontrunners in terms of number of agreements and have several VAs in function. Finland and Iceland do not have the same tradition for applying this instrument, and in both countries only few experiences have been made.

The identified agreements are primarily negotiated agreements (according to the OECD definition). Examples of negotiated agreements are the Finnish SOILI agreement, the Danish Agreement on Recycling of Transport Packaging and the Norwegian Agreement on Climate Gases and Energy Efficiency.

Negotiated agreements are examples of agreements that may have been initiated through circumstances that question the voluntariness. As an example, in the case of the Danish Recycling of Transport Packaging, the industry wished to act proactive in relation to an expected, new EU directive on packaging waste. Through the agreement, the industry wanted to prove that they could manage the problem and thus get the chance to define methods and time schedules for obtaining the goals *and avoid regulation*. A threat of regulation may often be the overriding reason for initiating and entering a negotiated agreement.

Examples of public voluntary programmes in the Nordic countries are EMAS, the Danish agreements on Industrial Energy Efficiency, “Breaking the Curve” (“Kurve-knækkerftalen”) and the Finnish scheme of Energy Efficiency Agreements. EMAS is international and is implemented in all the Nordic countries. In Norway, Sweden and Iceland, no actual public voluntary programmes have been identified. The two examples of Danish programmes are both on the subject of energy efficiency and there is a clear motive for the companies to join; reduced expenses on energy and in the case of Industrial Energy Efficiency also reduced green taxes.

A single unilateral commitment has been identified; the Responsible Care Programme (www.responsiblecare.org). It is a voluntary, interna-

tional environment, health and safety initiative of the chemical industry. Companies joining must comply with guidelines related to environment, health and safety by improving their operations and products continuously. A number of companies in Denmark, Finland, Sweden and Norway are members.

Voluntary Agreements in Finland

In the case of Finland, Voluntary Agreements are a relatively new and undeveloped instrument in the environmental policy. VAs have been implemented in four areas:

- Reduction of the use of CFCs (replaced by legislation in 1989)
- Reduction of packaging waste (replaced by legislation in 1997)
- Promotion of energy conservation
- Remediation of contaminated soil.

EMAS and the Responsible Care Programme are in function in Finland.

New Finnish VAs related to two areas are currently under development:

- Material efficiency
- Waste water nutrients

It can be concluded that Voluntary Agreements do not have an important role in Finnish environmental policy. Rather, they have been used in ad hoc practices and individual cases. This is most likely due to a rather strong legalistic tradition in Finland, emphasizing the role of state control and legislation as primary instruments of public power.

It has been argued that a negotiative and consensual policy culture is very strong in Finland, which paradoxical may have hindered a more active development of VAs in the country. This is mainly due to the fact that the negotiative approaches that have been used have not been open for third parties' participation. According to the industry, the existing regulative system also prevents freeridership, which can sometimes become a problem in voluntary approaches.¹⁷

The current situation and development of VAs in Finland does not suggest a major increase in their importance as environmental policy instruments in the future, at least when it comes to voluntary agreements between industries and government bodies. Voluntary agreements in nature conservation are, however, gaining more importance in protection of forests and their biodiversity. In this sector they can be

¹⁷ Sairinen, 2000

considered as mainstream and there is a strong political will to increase their importance.

Even if Voluntary Agreements between industry and the government are not widely used in Finnish environmental policy, their role can become more important in certain environmental issues such as mitigation of climate change and improving material efficiency. Related to this, energy efficiency agreements have increased their importance as an instrument during the second agreement period and their role is recognised in various policy documents.

Voluntary Agreements in Denmark

Voluntary Agreements are a frequently employed tool in Denmark and has been in use since 1987. VA was incorporated in the Danish Environmental Protection Act in 1994. Within the recent 15 years, numerous agreements have been made within the regulation areas of nature, environment and energy. In 2004, a mapping showed that 15 environmental VAs were in function, mainly covering chemicals and waste management.

In the period from 2005, which this study covers, the following 13 functioning agreements have been identified:

- Agreement on Recycling of Transport Packaging
- Agreement on Industrial Energy Efficiency
- The Agreement of Breaking the Curve (“Kurve-knækkeraftalen”)
- Agreement on users restriction
- EMAS
- Responsible Care Programme
- Agreement on collection of lead accumulators
- Oil Industry Environmental Fund
- Agreement on selective demolition
- Agreement on disposal of refrigerators etc. containing CFC
- Green Taxicabs
- Agreement on Volatile Organic Compounds (VOC) – now cancelled

EFF measure (Environmental Friendly Farming) – now cancelled

Most VAs in Denmark are either negotiated or Public Voluntary Programmes. The partners are typically the Ministry of Environment on one side and the industry (primarily sector organisations) on the other side, but also local authorities and individual companies/farmers can be partners in the agreement. The tradition in Denmark tends to be that new environmental requirements are negotiated with affected organisations. Once a voluntary agreement is implemented, there is no governmental intervention if the agreement partners work towards specific environmental goals.

VAs have seemingly become an integrated tool in the Danish environmental regulation. Both the industry and the authorities seem to consider it an effective and well functioning tool.

The Danish VAs are typically implemented as an alternative to regulation through legislation. Most of the agreements are only politically binding and the parties can withdraw, meaning that compliance with the agreements cannot be enforced through the courts.

Voluntary Agreements in Norway

In Norway, Voluntary Agreements were introduced in 1995 as a new way to reach specific environmental goals. Since, VAs have been established as an integrated part of Norway's environmental regulations and are considered an effective way to reach environmental goals by both the environmental authorities and the Norwegian Business Sector (Næringslivets Hovedorganisasjon and Norsk Industri).

The Norwegian experiences with VAs began with the first generation of Packaging Covenants between the Packaging Sector and the Ministry of Environment. VAs have also been established within other waste sectors, based on experiences from the packaging sector. Battery recycling, electronic and electrical equipment and PCB window glass are three other areas, where VAs have been established since 1995. Since 1997, VAs have been implemented in the areas of SO_x, NO_x and climate gas emissions by the Norwegian industry, transport and service sector. The main environmental areas covered by the VAs are all aspects related to waste and resource management, protection of biological values in forests and GHG-emissions, acidification, eutrophication, smog formation, and toxicity. From the beginning of the early 1990s where waste from used packaging was the only sector involved in VAs, the mechanisms have been further spread to many business sectors, to solve several types of environmental problems.

The main types of VAs in Norway are negotiated agreements between the Ministry of Environment and different economic sectors. In all cases there are general laws that regulate the area of concern as a basis, e.g. the Pollution and Waste Act or the Act for Biological Diversity and Production and regulations concerning Extended Producer Responsibility. However, those regulations are not used to regulate emissions or waste treatment in a detailed manner, nor to use taxes or fees on emissions and waste. In most cases it is thus not a real mix of different regulatory systems, but more a general "basic regulation" that can function as a "whip" if the obligations in the VAs are not achieved.

Both EMAS and the Responsible Care Programme are in function in Norway.

Voluntary Agreements in Sweden

The first voluntary agreements as policy instruments were introduced in Sweden in the 1970s. These agreements included substitution of surfactants in detergents (1973), installation of amalgam separators in dental clinics (1979) and decreased fuel consumption in cars (1980).

In the 1980's, the use of VAs increased in Sweden. Among others, agreements were made on:

- Phasing out of hazardous substances from paints
- Reduced use of PVC
- Introduction of a collection scheme for PET bottles

In 1999, 17 Voluntary Agreements had been implemented.

A main argument for the Swedish authorities for the use of voluntary agreements is lower public administrative costs. The industry recognizes lower costs due to efficiency gains in package material collection and collaboration for water-course protection, but do also mentioned negative impact on competition and the free-riders as drawbacks.

The Swedish regimes of voluntary agreements include all the different types of VAs according to the OECD definitions. The Environmental Code does not specify any particular arrangements, but rather give space for separate solutions, for instance voluntary agreements that can be designed to fit the purposes. Negotiated agreement between authorities and enterprises or industry/business sectors is the most common arrangement, but there are also examples of unilateral commitments (for instance in the building sector) and public voluntary schemes. Both EMAS and the Responsible Care Programme are in function in Norway.

The Swedish constitution (Regeringsformen) sets some limits for the use of agreements without legal ground¹⁸. Therefore, many agreements have actually been commitments from industry rather than contractual agreements. They can typically be characterized as civil law agreements and “gentlemen’s” agreements. Some of the VAs are connected to special economic arrangements.

No specific pattern can be discerned regarding sectors and issues included. There is a lack of a coherent Swedish strategy for VAs, and how VAs can interact with other instruments. The impression is that VAs will not play a major part in the future environmental policy, except in a few areas, but will be a useful complement to other policies.

Voluntary Agreements in Iceland

Iceland implemented the first environmental Voluntary Agreement in 1998; an agreement on actions to ensure a proper treatment of waste oil in accordance with the national Hazardous Waste Act. In addition to this agreement, only one other VA seems to have been formally adopted, also linked to the Processing Charge Act.

The Icelandic strategy for VAs has most likely been to achieve effective methods for solving specific problems arising when implementing an existing legislation. The decision to use VAs has thus most likely not been

¹⁸ Naturvårdsverket 2002

negotiated in the parliament or in ministries as the legislation was being developed, but basically introduced ad-hoc on institutional level later on.

In Iceland, VAs are generally considered as an effective regulatory instrument when the goals or targets of any particular national regulation/legislation cannot easily be reached in the more conventional “command and control” way. Attention is also increasingly being paid to the potential use of VAs as precautionary measures, such as in waste management where VAs can be used to support waste prevention instead of focusing only on specific targets for recycling.

4.1.2 The prevalence of Eco-labels

The dominating eco-label in all Nordic countries is the Nordic Swan. In 2007, the Nordic countries had more than 1,400 licenses to use the Swan label.¹⁹

In Denmark, Sweden and Norway, the EU Flower has a prominent market position as well, and all Nordic countries have national labels. It is very different how widespread and well known these national labels are.

The table below gives an overview of the identified labels. It is important to notice that other (environmental) labels may be found on the market, but these are either for small sectors or not frequently seen on the Scandinavian market (for example the German Blaue Engel and the Dutch EKO). Other labels are mainly focused on health, and these are not included unless they specifically focus on environmental issues. Examples of non-included health labels are the Danish Allergy Label and the international Öko-Text Standard.

	Flower	Swan	EU Organic	Fairtrade	FSC	Other
Finland	√	√	√	√	√	EKO Energia Green Office Organic Production
Norway	√	√	√	√	√	EPD Debio Miljøfyrtårn
Iceland	(√)	√	(√)	-	-	Tún Organic
Denmark	√	√	√	√	√	Ø-mærket Demeter Green Key Energy Saving
Sweden	√	√	√	√	√	KRAV Bra Miljöval

¹⁹ Aalto, K., Heiskanen, E., Leire, C., and Thidell, Å., The Nordic Swan, From past experiences to future possibilities, TemaNord 2008:529

The prevalence of Eco-labels in Finland

In Finland, the Swan label is the dominating label. It is well appreciated among both companies and the general public, whereas the EU-flower is not as well known.²⁰

Available products with eco-labels have increased in Finland during the recent years, but the growth rate is relatively low compared with other Nordic countries. The volume and visibility of eco-labels is expected to increase in the future, alongside with the environmental awareness of companies and consumers. It is also expected that the number of producers' own eco-labels will increase, which is seen somewhat problematic from the point of view of reliability and comparability.

In addition to the Nordic and EU eco-labels, there are other eco-labels and certificates in use in Finland. These are:

- EKO Energia
- Green Offices
- Label for Organic Production
- Fairtrade

Different eco-labelling schemes that are in use in Finland cover a wide range of products and services used by consumers and companies. The different schemes and their criteria are not comparable with each other.

All the eco-labelling schemes, with the exception of the label for organic production, are administrated by organisations that are non-governmental. However, the Nordic Swan and the EU-Flower, are closely linked with the Ministry of Employment and the Economy and the Ministry of the Environment, as the ministries provide funding for the SFS-Eco-labelling to cover some of the administration costs of the two schemes.

Eco-labels are considered an important informative tool for consumers, and there is a strong will to preserve and promote the Swan label in Finland. Also the importance of the EU-flower may increase, but EU-flower is dependent on public funding and its development is largely affected by how much countries are willing to allocate resources for its administration and criteria development.²¹

The prevalence of Eco-labels in Denmark

Besides from the Swan and the Flower, considerable environmental labelling schemes in Denmark are:

- The Energy Saving Label
- The Green Key ("Den Grønne Nøgle")
- FSC Sustainable Wood

²⁰ Aalto et al., 2008, Mela et al., 2010

²¹ Mela et al., 2010

- The EU Organic Labelling Scheme
- Fairtrade

The labelling schemes are different in several aspects. The Nordic Swan and the European Flower cover multiple (non-food) product groups, have similar focus and are administrated by the same body. The other labelling schemes cover different areas such as service and wood and are mainly addressing one specific sector. Only Ø-mærket is under direct governmental administration.

Especially the Flower, the Swan and Ø-mærket are well known in Denmark; recognition is above 90 pct. For the two latter, the number of licenses and products labelled with the Swan and the Flower has grown nearly exponential since the introduction. The same is the case for Ø-mærket. Labels such as the Green Key and FSC are more recent initiatives and have not obtained a market penetration or a general level of recognition among the public that can match the three major labels.

More than 2.300 products on the Danish market are labelled with either the Swan or the Flower. Denmark is one of the top countries in terms of number of licenses and products from both the Swan and the Flower. When considering the size of the Danish population, Denmark is the country with the highest number of labelled products; nearly 500 licenses covering almost 5.000 products. 4.500 products are labelled with the Swan, 500 are labelled with the EU Flower.

The major labelling schemes, the Flower and the Swan, are considered important additions to the governmental regulation. The authorities invest resources in the development, policy work and promotion of the schemes and are in general very supportive. Other stakeholders such as industry and NGOs are likewise positive towards the schemes and consider them useful for both manufacturers and consumers.

The prevalence of Eco-labels in Norway

In Norway, the Nordic Swan is the dominating eco-label. 94 pct. of the consumers recognize the label. Moreover, there are a number of major schemes: The EPD Type III system and the Eco Lighthouse system. These are primarily “business to business” relationships, involving both private and public sectors as customers.

The EPD Type III system is first of all a system for communicating environmental performance of products and services in a business to business relationship, based in Life Cycle Assessment data. There has been a growing interest for this type of information over the past five years, both nationally and internationally, and especially in the building sector. Other labels are more specialised in food or products (Debio and Fair Trade), in specific types of criteria like social equity (Fair Trade), in organic farming (Debio) or to SMB organisations (Eco Lighthouses).

The importance of the labelling systems has increased over the past 10 years both in economic importance and in the diversity of products

and sectors included in the systems. This is mainly due to increased focus on public procurement with environmental and resource criteria.

The prevalence of Eco-labels in Sweden

The Nordic Swan and the EU Flower are the dominant eco-labels in Sweden. Other eco-labels and similar schemes have been added since then. Among the most prominent, beside the Swan and the Flower, are the “Good Environmental Choice/The Falcon” (early 1990s), the organic label KRAV (1985), and the FSC label.

The eco-labels have a clear and strong position on the Swedish market and it is expected to further increase both in terms of product groups, labelled products, and market shares. Eco-labelling of shops and malls is a rather new phenomenon and an area where Sweden is considered a front-runner.

The prevalence of Eco-labels in Iceland

In Iceland, the prevalence of eco-labels is limited. The Nordic Swan has been implemented for almost 20 years and has recently increased in number of licenses and products, but the EU Flower, which has been implemented for 13 years, is not to be found on products in Iceland.

Besides from the two international labels, Iceland has a national organic label, which is administered by Tún Organic Certification. This label is well established in the Icelandic market.

In Iceland, eco-labelling is considered as an effective “regulatory” instrument, and eco-labels are expected to play a significantly increased role in the future, both in terms of market share and number of eco-labelled products.

4.2 Voluntary Agreements and Eco-labels in Policy Mix

4.2.1 Voluntary Agreements in Policy Mix

The overall impression of the use of Voluntary Agreements in policy mixes in the Nordic environmental regulation is that the use of policy mix is uncommon and mainly unintentional.

The examples of policy mixes that have been identified are mainly within the energy sector. This is for example the case in Denmark, where *intended* policy mixes with VA are seen in the energy sector and within recycling:

- The implementation of the Industrial Energy Efficiency Agreement has been combined with economic instruments (taxes, subsidies) and information.

- The agreement on Recycling of Transport Packaging is combined with information campaigns and an economic tool (deposits)

In Norway, VAs function in policy mixes in several cases; mainly due to the fact that the VAs are implemented in areas that are already regulated. The policy mixes are not strategically intentional.

In Finland, unintended policy mixes are seen within climate and energy, and in Sweden, policy mix is seen in nature conservation but not in environmental regulation. No policy mixes have been identified in Iceland.

VA Policy Mix in Finland

Finland has examples of unintended policy mixes including VA. In general, the use of VA in Finland is ad hoc, which strengthens this picture. Examples of unintended policy mixes are within climate and energy, where several policy instruments simultaneously aim at improving energy efficiency and reducing greenhouse gas emissions. These are a collection of different tools such as energy and CO₂ taxation, emissions trading, investment support, regulations on buildings and different informative instruments.²²

VA Policy Mix in Denmark

In Denmark, the case of the Agreement on Industrial Energy Efficiency is a case of policy mix. The voluntary agreement is combined with SO₂- and CO₂-taxes and subsidies for energy efficiency counselling and investments. Moreover, information, and energy management/accounting are implemented as supporting measures

Also the case of recycling of transport packaging is a VA implemented in a policy mix. Information campaigns and an economic tool (deposits) have been implemented.

Other agreements are not as clearly placed in a policy mix.

VA Policy Mix in Sweden

In Sweden, intentional policy mix with VAs are not seen in environmental regulation. The development and implementation of VAs seems to be carried through in order to provide cost effective alternatives to legislation and economic instruments. The PFE program might be viewed as an exception as it is used to implement parts of EU Directive 2003/96/EC on taxation of energy products and electricity.

When it comes to protection of forests, there is, however, a strategic use of voluntary agreements as one out of three means of protection. Long-term voluntary civil law agreements between the authorities and the land-owners give them economic compensation for production re-

²² Sairinen, 2000

strictions²³. Similar arrangements are also used for the protection of other kinds of biotopes or (re)creation of wet lands.

The water utility sector is surrounded by a number of legal requirements, but employ voluntary agreements and certification for specific issues, for instance recycling of sludge.

VA Policy Mix in Norway

Several VAs in Norway are functioning in combination with other regulatory measures. The policy mixes are not intentional, but are due to the fact that the areas, wherein VAs are implemented, are already under regulation. Both in the waste sectors and in the air emission sectors, there are or have been some basic taxes on packaging and fossil energy consumption. More specific and strict regulations or taxes are however not established, as far as the industry fulfil their obligations according to the VAs in the sectors.

For the VA on protection of areas with high biological value in forests, there is still a combination of regulatory measures, where the environmental authorities protect specific areas according to the Law for protecting Biological Diversity. It seems, however, that this is done more seldom today than before the VA system was established a few years ago, and that both environmental authorities and land owners see VA as a more efficient system for protecting areas.²⁴

VA Policy Mix in Iceland

Policy mixes including VA have not been identified in Iceland. Generally, there does not seem to be a tradition for policy mix in Iceland.

4.2.2 Eco-labels in Policy Mix

In all the Nordic countries, Green Public Procurement is the – at the moment – most relevant instrument to use in a policy mix with eco-labels. Intentional and official use of this policy mix is, however, not seen, since it is not legal to demand eco-labelled products in a public tendering process. There are, however, developed guidelines in some countries that encourage the public procurers to put forward environmental requirements that match the eco-labelling criteria.

Other instruments such as general environmental regulation (law, inspections, permits) and green taxes can inspire the companies to turn to labelling schemes such as the Flower or the Swan in order to reduce environmental impacts, but adoptions of the eco-labels are primarily motivated by consumer demands and marketing advantages. Thus, policy instruments that focus on consumer demands are advantageous.

²³ Naturvårdsverket & Skogsstyrelsen 2005

²⁴ Skjeggedal et al. 2010

The implementation of the Ecodesign directive (2005/32/EC) provides potential for policy-mixing with eco-labelling, especially with the EU-flower. The directive outlines requirements for the design of energy-using and energy-related products. The aim of the directive is to include environmental and life-cycle aspects in the early phase of product development. Some electronic product groups that have already criteria for the Nordic Swan or the EU-flower have also requirements within the Ecodesign directive or they are under preparation. The directive mentions EU-flower as one way to prove that a product fulfils the requirements of the directive. This provides synergy between the EU Eco-labelling scheme and the Ecodesign directive. In principle, the same is possible for other eco-labels as well, such as the Nordic Swan. However, this requires additional work from the Nordic member countries as it has to be separately approved in a committee procedure according to 2009/125/EC directive. As the Ecodesign directive may in the future cover also other environmental aspects of products than energy use, there will be bigger potential for policy-mixing with eco-labelling. As such, implementation of the directive has recently been criticised for concentrating solely on energy use within a product's active use phase and not taking into account its whole lifecycle and other environmental impacts (Rossem and Dalhammar, 2010).²⁵

Eco-label Policy Mix in Finland

As it is the case in all the Nordic countries, Green Public Procurement is the – at the moment – most relevant instrument to use in a policy mix with eco-labels. Relevant stakeholders recognize the need for developing expertise and sharing experiences between public purchasers on using environmental criteria in public tenders.²⁶

Goals on GPP have been set in Finland. The Finnish Council of State has made a decision in principle (VNP 8.4.2009) on promoting sustainability in public procurement. It is required that by 2010 at least 70% of all purchases within the governmental sector take into account environmental aspects, and by 2015 all governmental purchases should do the same. The Council of State also recommended that at least 25% of the purchases made in the municipal administration should consider environmental aspects by 2010 and at least 50% by year 2015.

Eco-label Policy Mix in Denmark

Also in Danish regulation, the most obvious policy instrument to support the eco-labelling tool is Green Public Procurement. In Denmark as in Finland, GPP is a national adopted strategy more than 15 years old. The Danish Environmental Agency presents the following focus areas for 2010:

²⁵ Rossem and Dalhammar, 2010

²⁶ Mela et al., 2010

- The need for a strengthened effort within the sectors of transport, construction and foods
- A continued focus from the municipalities, where 2/3 of all public procurement is located
- There is a vast environmental potential in strengthening efforts of green procurement within the private sector
- There is a need of dissemination of knowledge about existing tools and benefits related to green procurement.

Danish initiatives are:

- Governmental agreements
- Partnering within Green Public Procurement
- Adoption of the EU 50 pct. objective
- Environmental innovative procurement
- Voluntary agreements with the Danish regions

Among the tools are:

- Web site containing information and advice on green public procurement (www.groentindkoeb.dk)
- Environmental guidance for professional buyers (www.miljoevejledninger.dk)

Another instrument that is used in a policy mix in Denmark is the EMAS and ISO 14001 schemes; certified companies are subject to a reduced fee on the EU Flower in Denmark.

In the case of The Energy Label, green taxes can be considered a relevant tool for policy mix. The Energy Label guides the consumer to products with low energy consumption.

Eco-label Policy Mix in Norway

In Norway, the Eco-labelling Schemes are first of all used in a mix with Green Public Procurement, as an instrument for selecting the right suppliers and the right products in public procurement. In this context, all types of Eco-labels are used, within the limits set by Laws regulating fair competition. There is considered to be a large potential for improvements in how Green Procurement is operated by the public sector in Norway.

Eco-label Policy Mix in Sweden

In Sweden, there is not a clear tradition of using eco-labelling with other policy instruments. De-facto, there are, however, examples of policy mixes.

As in the other Nordic countries, the most obvious example is utilizing eco-labelling criteria in public and private procurement. Criteria

from labelling schemes have, for example, been used for developing of early purchasers' manuals. Furthermore, Eco-labelling Sweden has initiated a network for professional purchasers and help them finding eco-labelled products. Hence, the eco-labels are embedded both in actor networks creation and green professional procurement.

Eco-labelling can be combined with environmental management in the industry. As an illustrative example, an environmental management system fitting the criteria of the Nordic Swan was developed for the printing sector, providing the sector with tools to improve both the industrial processes and the products.

Eco-label Policy Mix in Iceland

No policy mix has been identified in Iceland.

5. Learnings from evaluations

5.1 Evaluations of VAs in the Nordic Countries

Further details of the evaluations presented in this chapter can be found in the country studies (Annexes B, C, D, and E).

No evaluations have been identified in Iceland.

5.1.1 Finnish Evaluations of VA

Three evaluations have been carried through in Finland. The evaluated programmes are:

- Material efficiency audits and agreements
- Energy Conservation agreements
- Responsible Care programme

Main points derived from the evaluations are presented below.

On the subject of Policy Mix

The evaluation of the material efficiency agreements show that this type of VA has several links to other policy instruments and thus a clear potential for implementing the VA in a policy-mix. For example, material efficiency audits that precede the agreements could be used in cases when environmental permits require the company to report its potential for improving material efficiency.

In the case of the Energy Conservation Agreement scheme, a policy mix with economic instruments has provided a clear economic incentive for the companies, as joining the scheme has enabled them to receive economic support for energy efficiency investments.

On the subject of Efficiency

The evaluation of the material efficiency agreements concludes that economic instruments promoting material efficiency would be considered more efficient than Voluntary Agreements.

The energy conservation agreement scheme has been considered efficient in meeting its objectives. Energy savings achieved during the agreement period 1997–2005 were considerably higher than was estimated in the beginning of the scheme

On the subject of the need for a regulatory threat or other sanctions

The evaluation of the material efficiency agreements communicates a concern among the environmental administration that the industry would not participate in the agreements if no other, more pressing policy instruments are in sight.

Problems in the effectiveness of industrial self-regulation schemes that do not include sanctions have been brought up in several studies. The environmental performance of companies joining the Responsible Care programme has not necessarily improved more than companies outside the programme. It has been argued that the programme may produce a threat of opportunism, providing a framework within which some companies can hide their poor performance.²⁷

On the subject of Competition

Concerning competition, the evaluation of the material efficiency agreements shows that this VA is a competitive advantage for companies, especially if innovation funding was linked with the material efficiency agreements scheme.²⁸

On the subject of setting realistic Targets

The evaluation of the energy conservation schemes shows that there was considerable variation in how successful the energy conservation agreements were in different sectors. Companies and organizations joining the scheme can set their own energy conservation targets and specific goals themselves, which enables flexibility. However, some goals were set too high in comparison to what was realistic to achieve. Especially in municipalities it was often the case that a numeric goal for reducing relative energy consumption was set without analyzing the operational conditions in detail. As a result, the relative energy consumption in municipalities' buildings often increased despite the energy conservation measures taken.

On the subject of lack of "Business as Usual" scenarios

The evaluation of the Responsible Care programme shows that this VA is meeting its targets on continuous improvement of the environmental and safety performance of the companies. It is, however, a methodological problem that the evaluations do not distinguish whether the companies that have adopted the programme have reached better environmental performance than companies outside the scheme.

²⁷ King & Lenox 2000

²⁸ Lilja 2008

5.1.2 Danish Evaluations of VA

Three evaluations have been identified in Denmark. The evaluated programmes are:

- Voluntary Agreement on Recycling of Transport Packaging
- Voluntary Agreement on Industrial Energy Efficiency
- User restrictions (Voluntary Agreement between farmers and waterworks)

5.1.3 Main points derived are

On the subject of Policy Mix

In the evaluation of the Users Restriction Agreement it is concluded that there lies a problem in the tasks of enforcement and control. It is difficult and costly to control if the farmers comply. Thus, several waterworks combine the VA with other policy instruments.

On the subject of the need for a regulatory threat or other sanctions

The evaluation of Users Restrictions highlight that Voluntary Agreements are more likely to be made when threats of other types of regulation are at stake. Several waterworks combine the agreement with afforestation or set-aside in order to relieve the burden of control. Another method is to combine the agreement with the EFF measure or organic farming, as this shifts the control burden to the Ministry of Food, Agriculture and Fisheries.

On the subject of Efficiency

In the evaluation of the Transport Packaging Recycling Agreement there are references to an assessment by the Municipality of Copenhagen of “before-and-after costs” for companies in its waste-recycling scheme. The assessment concludes that a total of 70% of companies noticed no increase in costs/price paid for waste disposal, while 20% reported lower costs and 10% reported higher costs. On the whole, smaller companies found sorting systems a neutral or positive cost, whereas larger companies found them a positive benefit. According to the evaluation, these results could also be realistically applied to transport packaging.

The Danish Environmental Protection Agency carried out a comparative study of systems for packaging waste between the Danish agreement and the German DSD system, and estimated that implementing the same system in Denmark would be five times as costly. Also the Swedish tax-based producer responsibility system, Belgium eco-taxes and French “eco-emballage” systems were assessed as more costly on industry and consumers.

The evaluation of the VA on Transport Packaging concludes that the VA introduces burden sharing and thus aims to reduce the overall cost of complying with the EU Directive.

In the evaluation of the Industrial Energy Efficiency Agreement it is concluded that the administrative costs for the implementing authority can be significantly reduced over time as a result of learning by-doing, adjustments and systematisation of the administration. Moreover, the cost efficiency is concluded to be better for the collective VAs than the individual VAs. Collective agreements require an active business association and companies that are willing to co-operate.

It is concluded in the evaluation of the VA on User Restrictions that the use of a Voluntary Agreement in this case is not efficient; mostly due to the fact that the individual negotiations are drawn-out and often without an agreement as a result, unless threats of expropriation is used. Three of four negotiations do not result in an agreement in the case of User Restrictions. This causes high transactional costs. A solution to this problem is the use of standard agreements in the form of "Take-it-or-leave-it"-negotiations. This approach does, however, cause other problems and will most likely result in many farmers being unwilling to sign an agreement.

5.1.4 Norwegian Evaluations of VA

Two evaluations have been identified in Norway. The evaluated programmes are:

- Evaluation of sector agreements on waste recovery and recycling
- Voluntary forest conservation

5.1.5 Main points derived are

On the subject of Effectiveness

Sector agreements on waste recovery and recycling are considered to be effective by all partners, based on the interviews carried out in the evaluation.

The two evaluations of the VA instruments in Norway show both that the instruments have been cost effective with respect to achieve the "mid term related" targets and obligations that have been established. Also the other instruments on emission reductions seem to be cost-effective, although there has not been carried out any evaluations so far. Costs have been low for all partners in the process, and significantly lower than if more traditional instruments should have been implemented by the authorities. The fact that new VA instruments have been established on emission reductions and old instruments have been renegotiated between

the industry and environmental authorities, seems to be a good indicator for cost effectiveness of the VA instruments in action.

On the subject of Efficiency

In the evaluation of sector agreements on waste recovery and recycling, the VA instrument is considered to be very efficient compared to other types of conventional instruments, as the fees on packaging use are low compared to the assumed taxation levels.

On the subject of Flexibility

In the evaluation of sector agreements on waste recovery and recycling it is concluded that there is a high level of flexibility, as the VA partners in the sector agreements on waste recovery and recycling support a number of technologies and solutions to reach the targets for recycling and recovery of materials.

On the subject of Competition

According to the evaluation, there are no obvious influence on competition from the sector agreements on waste recovery and recycling, but there is a potential impact on selection of materials if one packaging material have too high targets and costs, relative to other materials.

5.1.6 Swedish Evaluations of VA

Two interesting Swedish VA initiatives were selected as examples. These two VA initiatives have been examined and evaluated in different ways. The VAs are:

- Five years with PFE
- Bygga-bo-dialogen

5.1.7 Main points derived are

On the subject of effectiveness:

The evaluation of PFE shows that the targets were met and exceeded. Additional benefits for both participating companies and the authority were detected. However, the exact contributions from the particular VA instrument are difficult to estimate. It is, though, considered a clear attribute of reported activities and following savings/gains to the programme. The important effectiveness aspects of the "PFE" programme were both the savings gained and the increased power generation. The kWh cost to avoid use was considerably lower than kWh cost for new installations. In addition, the qualitative effects were considered positive outcomes of the programme.

The evaluation of Bygga-Bo-Dialogen addressed the attribute of the instrument and found a clear correlation between the project and the achievements of the partners. The exact allocation to the dialogue project and other influences is less clear. However, the partners gave their views to how the project deviated the course from business-as-usual, even if such a level was not defined.

Bygga-Bo-Dialogen had a number of qualitative outcomes from networking, sharing good practise, education and training, establishing a classification scheme for high performance buildings.

On the subject of Efficiency

In the evaluation of the PFE there is no defined business-as-usual baseline, but it is considered evident that the “PFE” programme caused a momentum for energy efficiency in participating companies. Several of those companies had a self-image of being energy efficient prior to the implementation of the VA and gave the issue a rather low priority.

On the subject of Competition

The evaluation of PFE concludes that competition is not likely to be influenced by the “PFE” instrument. It addressed all energy-intensive companies and it was demonstrated that energy experts in competing companies could co-operate on energy issues that might be explained by international competition rather than domestic.

5.2 Evaluations of Eco-labels in the Nordic Countries

No evaluations of eco-labels have been identified in Norway or Iceland besides simple statistics on level of recognition.

A Nordic evaluation of the Swan (and also on the Flower) was carried through in 2009. It does not directly address the effectiveness, environmental impacts or economic efficiency of the schemes. Rather, it is an analysis of the current situation of the two eco-labelling schemes.

5.2.1 *Some of the main conclusions are*

On the subject of efficiency

Despite the fact that environmental effects have not been quantified, a comparison to financial contributions from the Norwegian and Swedish state budgets concluded that environmental effects were achieved at limited costs.

On the subject of Policy Mix

Both the Nordic Swan and the EU-flower have several links to other policy instruments, and synergy effects could be more widely utilised. There

are, however, inherent barriers for integration of the existing systems, due to e.g. different aims in regards to communication, different target groups for the information, principal differences in the systems, or producer/product specificity of the information.

Some sectors, in particular retail trade and print shops, have designed environmental management systems in accordance with the criteria of the Nordic Swan. Individual enterprises have also used certain criteria for similar purposes.

Professional purchasers have to some extent used eco-labelling both as means to identify product-related environmental performance aspects and indicators as well as market views of availability of environmentally benign products.

On the subject of Effectiveness

None of the labelling schemes have specified any environmental targets, and so far, no evaluation of the Nordic scheme has used business-as-usual scenarios in evaluations. There is an ongoing debate on *how* and *what* targets an eco-labelling scheme should address. Currently, no environmental targets have been explicit. It is concluded that there are environmental gains from the systems, though not quantified.

The eco-label has caused beneficial product modifications and shifted consumption patterns that imply environmental achievements. There are also cascading indirect effects leading towards reduced environmental stress.

5.2.2 Finnish Evaluations of Eco-labels

In Finland, the Nordic Swan and the EU Flower have been evaluated in 2010. The evaluation has shown that companies are generally satisfied with the use of eco-labels and perceived that they offered marketing benefits. However, the eco-labels were also criticized for bureaucratic administration, sometimes too tight product-specific criteria or, on the contrary, not taking into account the most essential environmental impacts for certain products.

It is concluded in the evaluation that GPP and the implementation of the Ecodesign directive can provide potential synergies for co-ordination with eco-labelling schemes. Use of eco-labelling criteria in public tenders would provide an incentive for the companies to apply for eco-labels and help to increase the share of eco-labelled products in the market.

5.2.3 Danish Evaluations of Eco-labels

In Denmark, numerous measurements of the level of recognition has been made for several labels. Actual in-depth evaluations have not been carried through for the Nordic Swan or the EU Flower.

The aim was to assess whether the energy label has an effect on energy consumption; a hypothesis being that the largest effect (if any) would be found on C-labelled houses as these are in worst condition and thus subject to most recommended improvements and related investments. The focus of the evaluation was energy consumption for heating.

The evaluation concluded that the labelling system has not provided significant energy savings. The author states that this might not be due to the fact that the energy label on housings has no effect; energy saving effects can be counteracted if the house owner uses the effect of implemented improvements to achieve a higher room temperature at the same price.

5.2.4 Swedish Evaluations of Eco-labels

In Sweden, two evaluations of eco-labelling schemes have been identified:

- Evaluation of the Energy Declarations, 2006
- Evaluation of Labelling of Print Shops

The evaluations do not provide results that are of high relevance to this study. The evaluation of the Energy Declarations does, however, conclude that more energy efficient household appliances are produced and sold thanks to the energy declarations.

5.3 Existing Studies on Policy Mix

A number of international studies of policy mix in environmental regulation have been carried through prior to this study. However, several of these do not conclude on the matter of policy mixes including soft regulatory instruments; e.g. TemaNord 2009:578.

In this section, we present the conclusions of relevant studies on environmental policy mixes including soft regulatory instruments. The aim is to bring perspective to what can be seen from the Nordic cases and evaluations, as well as to draw up existing knowledge against which the conclusions of this study can be viewed.

5.3.1 Instrument Mixes for Environmental Policy, OECD 2007

The report on “Instrument Mixes for Environmental Policy” was published in 2007. It offers a number of recommendations on how environmental instrument mixes should be assessed, and on how their design could be improved. It was written by Nils Axel Braathen and Ysé Serret

of OECD's Environment Directorate and published under the responsibility of the Secretary-General of the OECD.

The report seeks to answer six main questions:

1. What are the impacts on environmental effectiveness and economic efficiency of using an "instrument mix", rather than a single instrument, to address a given environmental problem?
2. Which are the main arguments for using such instrument mixes
3. Are the instrument mixes currently in use actually well designed in response to these arguments?
4. How should member countries assess the environmental effectiveness and economic efficiency of a given instrument mix?

What are the *additional* impacts (in terms of environmental effectiveness and economic efficiency) that appear because a given instrument is *used in combination* with one or more other instruments?

Which types of instrument mixes are likely to provide high environmental effectiveness and economic efficiency?

1a.

What are the impacts on environmental effectiveness and economic efficiency of using an "instrument mix", rather than a single instrument, to address a given environmental problem?

When answering this question it is pointed out that there is a vast data availability problem. It is, however, concluded that various labelling schemes and other information-instruments can enhance the environmental effectiveness of taxes, fees and charges – especially if they convey information on *private benefits*.

1b.

Are the mixes used at present economically efficient?

The short answer to this question is clearly "No" – but there are significant differences from case to case and the economical efficiency is considered very difficult to assess. A first criterion to judge economic efficiency is whether the targets set in the different cases reflect a *reasonable balance between the benefits and the costs* to society as a whole of reaching them. Several other criteria apply.

2.

Which are the main arguments for using instrument mixes?

It is pointed out that many environmental problems are of a "multi aspect" nature – in addition to the *total* amounts of releases of a certain pollutant, it can, for example, also matter *where* emissions take place, *when* they occur, *how* a polluting product is applied, etc.

Certain instruments can *mutually reinforce* each other – as when a labelling scheme enhances the responsiveness of firms and households to

an environmentally related tax, while the existence of the tax help draw attention to the labelling scheme.

A mix of instruments can be required in order to address other “failures” in the markets in which environmental policy instruments operate, such as lacking information, ill-defined property rights, market power, etc. Sometimes such mixes can also limit compliance-cost uncertainty, enhance enforcement possibilities and reduce administrative costs.

3.

Are the instrument mixes currently in use actually well designed in response to these arguments?

The fact that there often are valid arguments for applying several instruments to address an environmental problem does not mean that all existing instrument mixes have been designed primarily to take account of these arguments. In several cases, additional instruments could usefully have been included in the mix. In other cases, some applied instruments at present seem to have negative impacts on either the environmental effectiveness or the economic efficiency of the overall instrument mix – or both. There is a need to have a comprehensive view of the instruments that are required to address a given environmental problem.

When applying several policy instruments in a mix, there is a danger that one instrument will unnecessarily hamper the flexibility to find low-cost solutions to a problem that another instrument could have offered if it had been used on its own. In other cases, some of the instruments in a mix are simply redundant, contributing only to increase total administrative costs.

4.

How should member countries assess the environmental effectiveness and economic efficiency of a given instrument mix?

The benefits and costs of meeting current environmental targets should be carefully assessed and it is important to make in-depth *ex ante* assessments of any new instruments. Moreover, *ex post* assessments of *all* instruments impacting on an environmental area should regularly be made.

At the outset, it should be determined whether the issue at hand represents a “single-aspect” or “multi-aspect” problem, and focus in the assessments should be on “outcomes” rather than “outputs”. Impacts should be considered for the economy as a whole – rather than on impacts for individual firms or sectors and the environmental impacts of subsidies given to “other” sectors should be carefully assessed. It is also deemed important to regularly assess whether the design of other policy instruments have unintended negative environmental impacts, such as the agricultural policy of EU.

5.

What are the additional impacts (in terms of environmental effectiveness and economic efficiency) that appear because a given instrument is used in combination with one or more other instruments?

A majority of environmental problems have “multiple aspects”. It is not only the *total amount* of surplus nutrients in an area that is of relevance for environmental quality – it matters also *when* nutrients are applied to the fields, *where* they are applied, *how* they are applied, etc. Similarly, it is not only the total amount of household waste that is of importance – the composition of the waste matters at least as much, as does the way in which the waste is recycled or disposed of. To address these different aspects of the problem, the use of several instruments is often required.

6.

Which types of instrument mixes are likely to provide high environmental effectiveness and economic efficiency?

For “multi-aspect” environmental problems, policy-makers should supplement instruments that address *total amounts* of pollution with instruments that address *the way* a certain product is used, *when* it is used, *where* it is used, etc. In many cases, regulatory instruments, information instruments, training, etc., can be better suited to address these dimensions than *e.g.* a tax or a trading system. In order to exploit possibilities for various instruments to mutually underpin each other (so that the application of one instrument enhances the effectiveness and efficiency of another), instruments that *provide as much flexibility as possible* to the targeted groups should be used. Economic instruments will generally provide such flexibility – but *some types* of regulatory instruments can also do so. Various labelling schemes and other information instruments can enhance the environmental effectiveness of taxes, fees and charges – especially if they convey information on *private benefits*. Hence – while making sure that benefits exceed costs – such instrument combinations could usefully be applied. It is, however, important to make sure that any information instruments are well adapted to the “target group”, and to avoid a confusing multitude of labelling schemes.

On the basis of the conclusions, several recommendations are given in the OECD-report. They will not be listed here (the reader is referred to the report), but we find the following relevant to mention in relation to this study:

- Apply instruments that address the environmental problem as broadly as possible.
- Have a *comprehensive view* on which instruments are required to create an environmentally effective and economically efficient instrument mix.
- Supplement instruments that address total pollution level with instruments that address other aspects of “*multi-aspect*” problems: Where, when, how, etc.
- Enhance possibilities for instruments to mutually reinforce each other by applying instruments that provide flexibility.
- Use information instruments to enhance the environmental effectiveness of any taxes, fees or charges.
- *Avoid overlapping instruments*, except when they can mutually reinforce each other, or address different aspects of the environmental problem.
- Avoid a confusing multitude of labelling schemes within a specific environmental area.
- Put in place appropriate *monitoring and enforcement* mechanisms – to safeguard the environmental effectiveness of the instrument mix.

5.3.2 Voluntary Approaches for Environmental Policy in OECD Countries: An Assessment, CERNA 1998

The assessment of environmental VAs in OECD countries has a main focus on the VA as a solitary instrument, but does also provide conclusions on VAs in policy mix. The assessment is carried through by Peter Börkey, Matthieu Glachant and François Lévêque, CERNA, and was published in 1998.

On the issue of using “negotiated agreements and voluntary programmes” in a policy mix, the assessment concludes that it is straightforward route is to associate voluntary approaches with a traditional command- and control system. It is argued that substantial evidence in this regard exists as voluntary approaches (according to the study) improve flexibility and cost effectiveness of the policy mix, and allow for potential savings in administrative costs. It is also stated that the shadow of the hierarchy provides safeguard to the main shortcomings of voluntary approaches, being low expectations in their environmental targets, weak enforcement provisions, and lack of credible and efficient monitoring and reporting requirements.

The assessment puts forward that voluntary approaches could be mixed with economic instruments, but concludes that the performance of this type of policy mix remains unknown, due to the fact that only a few examples are available so far (1998).

5.3.3 *When soft regulation is not enough: The integrated pollution prevention and control directive of the European Union, 2010*

The article is written by Charalampos Koutalakis, University of Athens, Aron Buzogany, German Research Institute for Public Administration and Tanja A. Börzel, Freie Universität Berlin and published in *Regulation & Governance* (September 2010) 4, 329–344. The article presents an assessment of a number of normative claims regarding the effectiveness of soft regulation vis-à-vis uniformly binding legislation. It is based on an exploratory investigation of the implementation of the Integrated Pollution Prevention and Control Directive in four countries.

The assessment reveals that effectiveness in the implementation of soft policy instruments depends on strong capacities of the authorities and industrial actors involved in regulatory policymaking. It is acknowledged that administrative and political capacities are crucial determinants of the effectiveness of monitoring and enforcing “hard law”, but according to the study, they are even more necessary to make soft policy instruments work. In the absence of this, it is concluded that the implementation of soft regulatory instruments may lead to unwanted effects, such as non-compliance and weakening of the systems of environmental permits to industry. In order to avoid these consequences, non-hierarchical, private self-regulation or public-private co-regulation requires a strong shadow of hierarchy to be effective, which is a conclusion that underlines that hard and soft regulation reinforce rather than substitute for each other.

5.3.4 *Voluntary Approaches for Environmental Policy, OECD, 2003*

The study sets out to provide an updated discussion of the use of VAs; both as singular instruments and as a part of policy mixes. It seeks to answer a number of questions related to both environmental effectiveness and economic efficiency.

A conclusion is that a potential benefit of VAs is that they can require less preparation to put in place than regulatory approaches, which means that the environmental effort can be initiated at an earlier point. After implementation, there is, however, a connection between VAs with low administrative costs and poor environmental performances.

It is concluded that VAs cannot compete with e.g. taxes or emissions trading systems in terms of economic efficiency, but that they do have advantages by providing increased flexibility in the matter of how targets are met.

Other important conclusions are:

- Most VAs in the study meet their environmental targets, but the results are never the less close to a “business as usual” scenario. The effectiveness of VAs is thus questionable.
- The performance of most VAs would be improved if they were combined with a threat of regulation if targets are not met.
- The use of VAs in policy mix with taxes or tradable permits can enhance the administrative costs significantly and the environmental integrity of the hierarchic instruments may be weakened.

6. Conclusions

In this section, the main conclusions of the study are presented. The conclusions are based on the findings from the country studies and will, when relevant, be put into perspective by the conclusions from relevant, international studies.

At this point it is important to state that the study has revealed that not many *thorough* evaluations and analyses have been done in the area of Voluntary Agreements and Eco-labelling in the Nordic countries. The same is the case for the subject of policy mix. This does of course affect the possibilities for drawing up specific conclusions on themes as cost-effectiveness and needed prerequisites. It is also a relevant conclusion in itself as it reveals that the effects of these policy tools are not well documented and that it is an area that should be subject for a structured monitoring and evaluation effort.

6.1 Voluntary Agreements

6.1.1 *Prevalence of Voluntary Agreements in the Nordic Country*

The study reveals that Voluntary Agreements are in use in all the Nordic countries.

The prevalence of VAs is quite uneven. Denmark, Sweden and Norway have implemented several agreements, whereas Iceland and Finland have less tradition for the use of this policy tool. The use and effects of the VAs is not well documented in any of the countries; evaluations are few and data are quite poor.

6.1.2 *Are Voluntary Agreements Cost effective?*

Only few evaluations on the cost effectiveness of voluntary agreements have been identified, all stating that cost effectiveness is difficult to assess, not least from the following reasons:

- A general lack of data and lack of comparables.
- In many cases the indirect effects (giving secondary influences on both the main objectives of the policy measure and other similar objectives) are difficult to both identify and assess.

The Nordic evaluations that conclude on cost effectiveness state that the studied VAs are to be considered cost effective either in terms of “expected costs” or in comparison to other measures. It is revealed that cost effectiveness seems to be a built-in effect of negotiated agreements wherein the industry participates; simply due to the fact that the participating industrial organisations have an interest in seeking cost effective methodologies and solutions when co-designing of the VAs. Cost effectiveness seems to be a strong argument for drawing and entering the agreements.

This conclusion is in line with the conclusions of recent other studies, where it is stated that substantial evidence in this regard exists as voluntary approaches (according to the study) improve flexibility and cost effectiveness of the policy mix (and moreover allow for potential savings in administrative costs). (CERNA, 1998).

In several evaluations it is concluded that the administration of VAs is low cost; it is also seen that the costs are reduced during the years as the administration becomes more effective due to the changes that were implemented when learning on the administrative level was made during the duration of a VA. It is – on the other hand – argued that the monitoring and control of VAs can be costly.

Evaluations of the effects of VAs on society level are not seen.

6.1.3 *Are Voluntary Agreements implemented in a Policy mix?*

There are not many examples of the use of voluntary agreements with other policy instruments, and policy-mixing has not been thoroughly addressed in the existing evaluations. The interviewed stakeholders do, however, indicate that some policy-mixes are perceived successful. For example, in Finland, linking energy efficiency agreements with environmental permits has been useful from the point of view of environmental authorities and companies that have been able to use energy efficiency agreements as a way to prove that they have taken energy efficiency into account in their activities. But on the contrary, in some cases environmental permit authorities have required an energy efficiency agreement from the company, which makes it impossible for the company to receive economic support for its auditing activities as the state cannot support something that it officially requires.

In Norway, problems with policy mix is seen where the VA instruments have been combined with or influenced by other type of regulatory measures, e.g. in the packaging area. Waste treatment is regulated and influenced by policies and measures from several Ministries, e.g. by the Ministry of Environment (responsible for the VA discussed here), but also by the Ministry of Oil and Energy and Ministry of Finance that are responsible for environmental taxes on different energy resources and

carriers and tax policies in general. In an earlier report (Raadal et al) Ostfold Research has shown that the mix of VAs with other instruments can result in incentives and barriers which make the total result inefficient, as the best solutions are not what the actors in the market would end up with. This could especially be the situation where those instruments are operated by different Ministries, as was the case in the energy and waste area.

This issue of implementing VAs in policy mixes with economic instruments is an area that needs further focus when designing VAs in the future. More experience and analyses of the combination of policy tools are needed. It is generally perceived that VAs can benefit from supporting, economic tools, and this is an issue that must be tested and analysed further.

6.1.4 Eco-labelling

Prevalence of Eco-labelling Schemes in the Nordic Country

The study reveals that Eco-labelling Schemes are implemented in all the Nordic countries. Eco-labelling is a quite well developed policy tool and especially the Nordic Swan and the EU Flower are well known and are well established in the market. Other labels are present as well, and especially labels on organic food have increased in market share. Evaluations documenting the actual environmental effects of ecolabels have not been identified.

Are Eco-labels Cost effective?

The cost effectiveness of eco-labels has not been assessed in evaluations. It is difficult to carry through an assessment of the cost effectiveness of the schemes, not least from the following reasons:

- Eco-labels are often used for achieving changed attitudes and behaviours; effects that are difficult to capture in evaluations.
- Eco-labels may influence behaviour during longer periods of time, which makes assessment of cost effectiveness difficult.

Are Eco-labels Implemented in a Policy mix?

There are not many examples of eco-labelling used intentionally with other policy instruments, and policy-mixing has not been thoroughly addressed in the existing evaluations. It is considered that there exists a large potential in using the labelling criteria in public tenders. This is an often seen practice in the Nordic countries and there would be more potential for linking these instruments in the future. Policy-mixing between the implementation of the Ecodesign directive and the EU-flower and the Nordic Swan has also a clear potential.

6.1.5 In general

Which Type Environmental Impacts can be addressed with a policy mix?

The mappings show that little knowledge exists on the environmental effectiveness of policy mixes – and of VAs and Eco-labels in policy mixes. It is concluded in other studies that the use of policy mix is particularly relevant when aimed at environmental problems that are of a “multi aspect” nature.

Where are the weak points in the current setups?

- There is a lack of national strategies for the use of VAs
- There is a lack of national strategies for the use of policy mix
- Monitoring systems including relevant goals and indicators are not developed

Which Knowledge gaps have been identified?

The country studies have identified vast knowledge gaps; mainly due to the fact that only few evaluations exist and that the data available for these evaluations is often poor.

Specific knowledge gaps are:

- Not many VAs have been thoroughly evaluated and the issue of policy mix is not a central theme. There is a lack of well-researched data and assessments in the area.
- There is a lack of knowledge on how to monitor and evaluate VAs.
- We also lack comprehensive tools for the identification and (estimation of) quantifications of both direct and indirect outcomes from soft instruments as VAs and Eco-labelling schemes. Both in terms of environmental effects, and economic efficiency. As a consequence, there is a specific lack of knowledge on the effectiveness and efficiency of the eco-labelling schemes and VAs.
- There is a lack of understanding (or at least common knowledge) on which policy mixes that can provide synergistic effects. Thus, it is difficult to propose elaborated implementation strategies for suitable combinations of policy instruments.
- Data on the possible benefits of combining VAs with economic tools are not sufficient.
- There is a lack of knowledge of how VAs as an instrument is used in different EU-countries and what kind of experiences do different countries have on their use.
- There is a lack of knowledge of how VAs can be an interesting opportunity from the point of view of the industry.

7. Recommendations

In this section, recommendations based on the findings and conclusions are presented.

On an overall level it is recommended that further experiences with the implementation of *intended* policy mixes are made and monitored. It is considered difficult to propose elaborated implementation strategies for suitable combinations of policy instruments. It may be more effective to implement combinations of policy instruments and learn from structured monitoring and evaluation processes. The lack of measures is often even greater than the lack of knowledge. Reality might be too complex and multi-factorial to fully allow for calculations of which policy mixes that would work, and thus trial might be a more fruitful way of development.

7.1 Recommendations on the use of Voluntary Agreements

An important issue for the effectiveness of Voluntary Agreements is their monitoring and goal-setting. Areas where VAs can be improved may thus be in the setting of objectives, the monitoring processes and the possibilities of enforcement if objectives are not achieved. Vague objectives have been a major reason for criticizing Voluntary Agreements. Defining clear, measurable objectives, developing indicators for their monitoring and a transparent monitoring system is important from the point of view of developing Voluntary Agreements as a policy instrument, as well as their effectiveness and acceptability among different actors. Guidelines for monitoring processes of VAs can be of use; especially in order to enhance the possibility of benchmarking results on economic efficiency. It is thus recommended to develop systems for monitoring the results from the VAs through annual open reports, and as far as possible develop indicator systems that cover both activity based results and final effects. This should also include methods for evaluating VA systems with respect to cost effectiveness and results achieved, which could be done on a Nordic level. When designing of Voluntary Agreements, measurable objectives, baseline studies, monitoring programmes and planning of structured evaluations of effects must be included.

The general use of VA needs to be considered more strategically and in a larger context. Formulating common guidelines for Voluntary Agreements at national level would be useful to create a better under-

standing of what kind of role they should have as an environmental policy instrument and how they should be developed. At European level, some general recommendations have been formulated (EC 2002). The recommendations relate for example to target-setting and monitoring of the agreements as well as public participation.

Specific recommendations for Voluntary Agreements in use or under preparation include establishing a closer linkage between energy efficiency agreements and research and innovation activities. This would encourage cooperation with companies developing more energy-efficient technology and companies using it, such as industries joining the energy efficiency agreement scheme.

Opportunities for public participation should also be increased during the process of target formulation. So far, it seems that for example NGOs have not had a role in the development of voluntary agreements. There is a need to secure that the processes with defining goals and developing the VAs are open and include the most important stakeholders in the society.

The industry appears positive towards VAs and this favour of voluntary instruments and dialogue based approaches to the solving of environmental challenges should be utilized further.

The authorities seem to prefer the VAs in a policy mix with possibilities of enforcement and legal steps. This issue of implementing VAs in policy mixes with economic instruments is an area that needs further focus when designing VAs in the future. More experience and analyses of the combination of policy tools are needed. It is generally perceived that VAs can benefit from supporting, economic tools, and this is an issue that must be tested and analysed further. It is moreover recommended to carry through assessments of which policy mix that are relevant to pursue. This viewpoint is shared by organisations, and these may advantageously be involved in the drafting of agreements.

For the VAs to be effective, it is important to have a clear basis in regulations (e.g. a legal regulation that can be used if results are not achieved). However, authorities should be careful with developing mixes of policy instruments and regulations that can interfere with the intention of the VAs and make the system less predictable for the actors in the market.

7.2 Recommendations on the use of Eco-labelling

Regarding eco-labelling, a closer link with public procurement processes would add volume to the markets of eco-labelled products. Using the criteria of eco-labels more regularly in public tenders would function as an incentive for companies to apply for eco-labelling. This would also require that the criteria development for new product groups would

increasingly take into account the products and services that are commonly purchased in the public sector. Networking and training of purchasers should be encouraged and databases and tools helping the tender process should be established.

The Ecodesign directive mentions explicitly the European Flower as a way to prove that the product fulfils the requirements of the directive. However, also other similar eco-labels such as the Nordic Swan can be used for the same purpose, even if this requires more activity of the member countries. In order to create synergies between the Nordic Swan and the Ecodesign Directive, the Nordic countries should be more active in different phases of the process where the implementation measures of the directive are formulated. The Nordic eco-label has criteria for a broad set of product groups that could be utilized, especially as the Ecodesign directive has started to cover energy-related product groups and in the future might cover even a broader range of consumer products.

The role of retail shops could also be strengthened by encouraging them to apply for the Nordic Swan that has developed criteria for retail shops. In most Nordic countries the retail trade has generally not been very active in obtaining eco-labels, which is one factor that slows the growth of the market for eco-labelled products. Shifting the marketing activities of eco-labelling towards peer-networks and seeking cooperation with e.g. environmental and consumption related NGOs and their communication activities could be useful for promoting eco-labelling.

The role of communication related to eco-labelling is emphasised by the increasing amount of environmental product information. In this context, life-cycle based eco-labels that are awarded by an independent expert organization are seen as an important informative tool for consumers. In the communication of the Nordic and EU eco-labels, their special features compared with other environmental product information should be clearly brought up.

Eco-labelling and EPDs should be further developed to be instruments that promote competition and innovation as a basis for developing more sustainable products, services and consumption. EPD Type III and Eco-labelling Type I have often different roles, and they should be further developed to complement each other, and be promoted by governmental policies.

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9. Annex A

9.1 Interviewees listed by country

Finland:

Organisation	Position	Name
Ministry of the Environment	Environment Councillor	Antero Honkasalo
Motiva Oy	Consultant	Paula Eskola
University of Eastern Finland	Professor	Rauno Sairinen
Motiva Oy	Head of Unit	Hille Hyttiä
Finnish Environment Institute	Senior Advisor	Kenneth Holm
Finnish Oil and Gas Federation	Representative	Johanna Routio
Ministry of Employment and the Economy	Senior Engineer	Pentti Puhakka

Norway:

Organisation	Position	Name
Norsk Industri	Assistant Director	Marit Holtermann Foss
Norsk Industri	Director	Thoralf Thoresen
Byggenæringens Landsforbund	Special Advisor	Arne Slettebø
NHO	Senior Advisor	Helge Fredriksen
KLIF	Senior Advisor	Sigrun Øen
Direktoratet for Naturforvaltning	Senior Advisor	Asbjørn Tingstad

Iceland:

Organisation	Position	Name
Icelandic Recycling Fund	General Director	Ólafur Kjartansson
Environmental Protection Agency	General Director	Kristín Linda Árnadóttir
Ministry for the Environment	Specialist, Office of Legal and Administrative Affairs	Sigurbjörg Sæmundsdóttir
Environmental Protection Agency	Advisor, Dep. for Information and Communications	Sigurður Eyberg Jóhannesson
Tún Organic Certification	General Director	Gunnar Á. Gunnarsson

Sweden:

Organisation	Position	Name
Boverket	Communications Officer	Johnny Åberg
Energimyndigheten	Programme Responsible	Thomas Björkman
Miljömärkningen i Sverige	Director	Ragnar Unge
Naturvårdsverket	Head of Section	Ylva Reinhardt
Miljöstyvningsrådet	Director	Sven-Olof Ryding

Denmark:

Organisation	Position	Name
Danish Environmental Agency	Advisor	Søren Mørch Andersen
Danish Environmental Agency	Special Advisor	Signe Krarup (only through email on the subject of mapping Danish VAs)
Eco-labelling Denmark	Director	Lisbeth Engel Hansen
Confederation of Danish Industries	Advisor, Environment	Tina Sternest
Institute of Food and Resource Economics	Senior Researcher	Jørgen Dejgaard Jensen
The Danish Consumer Council	Advisor, Traffic and Environment	Claus Jørgensen

9.2 Central Study Questions

The country studies have been structured through a series of study questions comprising an analytical framework.

Study questions related to national studies of Voluntary Agreements and Eco-labelling Schemes are:

Question	Aim
Voluntary Agreements	
How is the term “voluntary agreement” interpreted in the national environmental regulation?	Ensure that terms are perceived uniformly, and, if not, that this is considered in the analysis
What are the main arguments for implementing voluntary agreements in the national regulation? Environmental effectiveness Cost effectiveness Dynamic effects on technical change Conformity with prevailing institutional framework Soft effects Wider economic effects	Obtain insight on the expected outcomes
In which environmental policy/regulation areas have voluntary agreements been implemented?	Map the implicated policy/regulation areas and identify non-implicated areas/potentials
In which economic sectors?	Map the implicated economic sectors and identify non-implicated sectors/potentials
Which environmental issues are addressed?	Map the implicated environmental issues and identify non-implicated issues/potentials
When were voluntary agreements introduced in the national regulation?	Gain historic perspective
What is the anticipated future role of voluntary agreements in the country?	Gain an impression of the future development in the use of voluntary agreements
Are voluntary agreements considered an effective regulatory instrument?	Gain an impression of the political/regulatory views on the instrument
Which voluntary agreements have been drafted and implemented? Please describe for each: - Title of agreement - Economic sector - Regulation area - Environmental issue - Specific definition of terms - Period - Partners (main signatories)	Provide a map of the characteristics of the implemented voluntary agreements

Question	Aim
<ul style="list-style-type: none"> - Aim of agreement - Are goals set? Which? - Are there sanctions? - Policy background - Legal nature of agreement - Design features, how does the voluntary agreement work? <p>Is the voluntary agreement used in a policy mix? Which?</p> <ul style="list-style-type: none"> - Implementation practice - Has the voluntary agreement been monitored? Evaluated? <p>Other relevant observations?</p>	<p>The Analytical Framework as well as the reporting format must not hinder that all relevant information and observations are included in the country studies.</p>
Eco-labelling (European Flower and Nordic Swan)	
<p>How is the term "eco-labelling" interpreted in the national environmental regulation?</p> <p>What are the main arguments for implementing eco-labelling schemes?</p> <p>Environmental effectiveness Cost effectiveness Dynamic effects on technical change Conformity with prevailing institutional framework Soft effects Wider economic effects</p>	<p>Ensure that terms are perceived uniformly, and, if not, that this is considered in the analysis. Obtain insights on the expected outcomes</p>
<p>When was eco-labelling introduced as a regulatory instrument?</p>	<p>Gain historic perspective</p>
<p>What are the future anticipations for the labelling schemes? Increase/decrease?</p>	<p>Gain an impression of the future development in the use of eco-labelling schemes</p>
<p>Are eco-labelling schemes considered an effective regulatory instrument?</p>	<p>Gain an impression of the political/regulatory views on the instrument</p>
<p>How many consumer product categories are covered by an eco-labelling scheme?</p>	<p>Gain an impression of the extent of the instrument</p>
<p>Please describe for each eco-labelling scheme:</p> <ul style="list-style-type: none"> - Title of labelling scheme - Responsible national body - Type of responsible body (governmental, NGO, private, international?) - Year of implementation in country - Number of product groups covered in country - Is there an independent accreditation/verification? - Has the scheme been adopted/endorsed by governmental or other public sector bodies as official requirement? - Are goals set? Which? - Policy background - Describe the method of financing - Is the labelling scheme used in a policy mix? Which? - Implementation practice - Has the eco-labelling scheme been monitored? Evaluated? <p>Other relevant observations?</p>	<p>Provide a map of the implemented schemes and their characteristics</p> <p>The Analytical Framework as well as the reporting format must not hinder that all relevant information and observations are included in the country studies.</p>

Study questions related to the assessment of identified evaluations are:

Question	Aim
Subject for evaluation Focus/foci of the evaluation Year Evaluators	Provide a map of the characteristics of the evaluations
Have the environmental targets been met?	Assess the success of the instrument and its implementation
Have environmental targets been set at an appropriate level? How has this been measured and is the methodology suitable?	Ensure that the foundation and offset of the evaluation are reasonable
To what extent have achievements been due to the instrument in question?	Ensure that other, unrelated efforts do not affect the results
Has a "business as usual"-scenario been considered? What is the conclusion on this issue?	Assess the reliability of the claimed effects
What is concluded on effectiveness of the instrument? What is concluded on economic efficiency of the instrument?	Map effects
Which additional impacts are seen when(if) the instrument is part of a policy mix?	Assess the effects of policy mix
What is concluded on whether influenced actors are given flexibility to find less expensive alternatives?	Assess whether firms are given increased flexibility to meet demands than under existing regulation
Does the voluntary instrument in question impact on competition?	Assess derived effects
Other relevant observations?	The Analytical Framework as well as the reporting format must not hinder that all relevant information and observations are included in the country studies.

The research questions main function has been *inspirational* and *guiding*, as all questions cannot be answered in all cases. This is both due to national conditions as well as the very different quality, focus and data availability of the identified evaluations.

10. Annex B.

Country Study Finland

10.1 Voluntary Agreements and Environmental Labelling in Finland

10.1.1 Introduction

The Finnish country study has been undertaken by Researcher Hanna Mela and Senior Researcher Petrus Kautto, Finnish Environment Institute.

10.1.2 Methodology

This study is based on a literature review and interviews with key experts and stakeholders regarding voluntary environmental agreements and eco-labelling. Assessment of future conditions for voluntary agreements in Finland draws largely on the outcomes of the interviews, as the issue has not been studied previously.

The interviews made cover mainly voluntary agreements. Several interviews regarding eco-labelling in Finland were carried through in a previous study (Mela et al. 2010), and their results have been utilised also in this study.

List of interviewees

Date and theme	Organisation	Position	Name
2.7.2010 VAs in general	Ministry of the Environment	Environment councillor	Antero Honkasalo
1.7.2010 Material efficiency	Motiva Oy	Consultant	Paula Eskola
19.8.2010 VAs in general	University of Eastern Finland	Professor	Rauno Sairinen
1.7. Energy Efficiency Agreements	Motiva Oy	Head of Unit	Hille Hyytiä
31.8.2010 SOILI-agreement	Finnish Environment Institute	Senior Advisor	Kenneth Holm
1.9. 2010 SOILI-agreement	Finnish Oil and Gas Federation	Representative	Johanna Routio
1.9.2010 Energy Efficiency Agreements	Ministry of Employment and the Economy	Senior Engineer	Pentti Puhakka

10.1.3 Definition of terms

Finnish environmental legislation does not specifically refer to voluntary agreements, nor are they defined in other national legislation. However, energy efficiency agreements are linked with environmental permits in Finnish environmental legislation (86/2000).

In general, voluntary agreements have been used in Finland typically as ad hoc –practices and in individual cases, not on strategic decisions at ministerial or governmental level (Sairinen, 2000).

10.2 The use of Voluntary Agreements in Finland

10.2.1 Historic view of the use of VAs in Finland

Voluntary agreements are a relatively new and undeveloped instrument in Finnish environmental policy. During their history, voluntary agreements between public authorities and industry have been used in relation to four environmental issues: the reduction of the use of CFCs, reduction of packaging waste, promotion of energy conservation and remediation of contaminated soil. In the first two cases, agreements were replaced by legislation within approximately two years of their introduction in 1987 and 1995, respectively (Sairinen, 2000). Thus, their life span is out of the focus of this study that concentrates on VAs that have been used since 2005.

In addition to the VAs mentioned above, agreements related to material efficiency and waste water nutrients are currently under development. There is also a unilateral commitment in place in Finland, the Responsible Care programme within the chemical industry. Also the EcoManagement and Audit Scheme (EMAS) has been in place in Finland since 1995.

10.2.2 Role of VAs in Finland

Voluntary agreements have never had an important role in Finnish environmental policy. Rather, they have been used in ad hoc practices and individual cases. There is also a rather strong legalistic tradition in Finland, emphasizing the role of state control and legislation as primary instruments of public power. It has also been argued that a negotiative and consensual policy culture is very strong in Finland, which has probably hindered a more active development of VAs in the country. Finnish environmental policy, especially pollution policy, has traditionally been based on consensual policy style, involving the participation of various actors ranging from industry to environmental organizations (Sairinen, 2000). A negotiative kind of approach is somewhat contradictory to the process of making voluntary agreements between government bodies and industry,

in a way that is not as open towards third parties' participation. In general, the industry has regarded the negotiating style of policy-making successful. Thus, there has not been a great need for voluntary agreements from the industry's point of view. According to the industry, the existing regulative system also prevents freeridership, which can sometimes become a problem in voluntary approaches (Sairinen, 2000).

The current situation and development of VAs in Finland does not suggest a major increase in their importance as environmental policy instruments in the future, at least when it comes to voluntary agreements between industries and government bodies. Voluntary agreements in nature conservation are, however, gaining more importance in protection of forests and their biodiversity. In this sector, they can be considered as mainstream and there is a strong political will to increase their importance.

Even if voluntary agreements between industry and the government are not widely used in Finnish environmental policy, their role can become more important in certain environmental issues such as improving material efficiency and mitigation of climate change. Some interviewees pointed out, that tightening climate policy goals may leave more room for voluntary agreements in the future, as not all the requirements will necessarily be taken into legislation. Voluntary agreements such as the energy efficiency agreements are seen as a complementary instrument that can support economic instruments and normative regulation aiming at reducing climate impacts. According to an interviewee, the energy efficiency agreements have also had a role in developing new practices of climate change mitigation. In a situation where climate policy measures need to be taken in almost all policy fields simultaneously, energy efficiency agreements are one tool among several others that contribute to the mitigation of climate change. Their role is recognised in various policy documents and is expected to grow in the future.

10.2.3 Types of VA in Finland

The different types of VAs defined by the OECD are all represented in Finland. The early initiatives that were soon replaced by legislation (CFC and packaging waste agreements) as well as the SOILI-programme are examples of negotiated agreements, while energy efficiency agreements and the EMAS-scheme can be regarded as public voluntary programmes.

There is currently only one example of a unilateral commitment (Responsible Care programme of the chemical industry).

10.2.4 Overview of implemented (since 2005) or planned VAs

The table below provides an overview of Finnish VAs that have been in function in the period 2005-2010 or are planned to be implemented.

Title of VA	Type*	Economic sector	Regulation Area	Partners	Environmental issue addressed
Energy conservation agreements (until 2007) and Energy efficiency agreements (2008-2016)	Public voluntary programme	Business and industry, municipalities, distribution of heating and transport fuels, real estate management and investors (negotiation phase)	Energy efficiency	Ministry of Trade and Industry (until 2007), Ministry of Employment and the Economy (from 2008), the Confederation of Finnish Industries and industrial associations, Motiva Oy	Energy consumption, greenhouse gas emissions
Material efficiency audits and agreements (under development)	Negotiated agreement	Industry	Material use in relation to production	Motiva Oy (Material efficiency unit), industrial companies	Use of non-renewable and renewable resources
Responsible Care programme	Unilateral commitment	Chemical industry	Environment, health and safety	The programme's 107 companies cover over 80% of the chemical industry production in Finland. The Chemical Industry Federation is responsible for coordinating the programme in Finland.	Emissions to air and water, waste generation, energy consumption.
EcoManagement and Auditing Scheme (EMAS)	Public voluntary programme	Environmental management of companies and public sector organisations	Environmental management	22 companies in Finland, Finnish Environment Institute	Environmental impacts of companies/Organisations
SOILI programme	Negotiated agreement	Oil industry	Management of contaminated land sites	Ministry of the Environment, Finnish Petroleum Federation, the Association of Finnish Local Authorities, oil companies.	Remediation of contaminated soil
Agreement on the management of waste water (under development)	Negotiated agreement (under development)	Waste water treatment plants	Emissions of nutrients (N, P) to water	Ministry of the Environment, Finnish Water and Waste Water Works Association, Association of Finnish Local and Regional Authorities	Eutrophication

*Public voluntary programme/negotiated agreements/unilateral commitments

The VAs that have been implemented or planned in Finland represent a wide range of economic sectors and environmental issues, and there is no clear emphasis on certain sectors.

10.2.5 VAs in policy mix

Policy-mixing between voluntary agreements and other policy instruments in Finland can to some extent be characterised as unintended. Use of voluntary agreements in general has been characterized as ad hoc – based, which does not enable well planned policy-mixing. Thus, on the policy level the mixing has not been very conscious.

Especially voluntary agreements concerning energy efficiency have had a supportive function with other policy instruments. In the sphere of energy and climate issues, there are several policy instruments that simultaneously aim at improving energy efficiency and reducing greenhouse gas emissions. However, these are not a coherent system but rather a collection of different tools such as energy and CO₂ taxation, emissions trading, investment support, regulations on buildings and different informative instruments (Sairinen, 2000).

10.2.6 Three cases of VA in Finland

When selecting cases to be studied more in detail, it was seen important that the cases are unique for Finland, in order to bring added value to the Nordic study. Thus, international VA schemes that are implemented in several countries and do not have Finnish origin (EMAS scheme, Responsible Care programme) are not chosen as cases to be presented in detail in this study.

The agreement between the Ministry of the Environment, Finnish Water and Waste Water Works Association and the Association of Finnish Local and Regional Authorities are not chosen as case as it is currently at a very early negotiation stage and thus cannot be described in detail yet.

Case 1: Energy Efficiency Agreements and Audits

Energy efficiency agreements and audits cover several economic sectors and activities. Agreements are made within private and public service sectors, different types of industry, energy production, distribution of heating and transport fuels and real estate management. The agreements aim at improving the energy efficiency and thus reducing greenhouse gas emissions of the companies.

The instrument is two-fold, consisting of an energy audit and the actual agreement. Energy audits are comprehensive studies of energy consumption in a company or organization, looking for potential measures to improve energy efficiency. The actual agreements then implement a number of measures identified in the energy audit.

Initiative for the agreements came primarily from the Ministry of Trade and Industry. Since the oil crisis in 1973, public authorities have promoted different energy conservation activities with the help of information and training as well as through economic support and legislation. In the beginning of the 1990s, the Ministry of Trade and Industry

launched an energy conservation project targeted towards industry. It undertook a preliminary study on the industry's potential to conserve energy, which revealed a lot of hidden possibilities for saving energy. The project helped to create a positive atmosphere for improving energy efficiency within industry (Sairinen, 2000), and the first energy conservation agreements were signed in 1992.

During the agreement period 1997–2007, the agreements were called energy conservation agreements. The current agreement period began in 2008 and will continue until 2016. For this period, the name of the scheme was changed to energy efficiency agreements and the name of the responsible ministry changed to the Ministry of Employment and Economy.

Separate framework agreements have been made for each main sector. Business and industry comprises the largest of the agreement sectors, including the whole industrial sector, the service sector, energy production and district heating, as well as the transmission, distribution and retail of electricity. The framework agreement is signed between the Ministry of Employment and Economy, the Confederation of Finnish Industries, and industrial associations. The framework agreement specifies the mutual obligations of the signatories as well as measures targeted at companies that join the agreement. By signing an accession document, a company joins the agreement scheme and commits itself to implementing measures included in specific action programmes prepared for each business sector.

The Ministry of Employment and the Economy, the Confederation of Finnish Industries, and Motiva Oy²⁹ have participated in co-operation with industrial associations and company representatives in the preparation of the energy efficiency agreement in business and industry.

There is also a separate energy efficiency agreement scheme for the municipal sector, consisting of two alternative models. Large and medium-sized municipalities can make a bilateral agreement with the Ministry of Employment and Economy, while small municipalities can join an energy programme administrated by Motiva Oy. The model for energy efficiency agreements was drafted by the experts of the Ministry of Employment and the Economy, Motiva Oy and the six biggest municipalities of Finland. The municipal energy programme was prepared by the Ministry of Employment and Economy, the Association of Finnish Local and Regional Authorities, and Motiva Oy. Other two sectors that have their own agreements within the energy efficiency agreement scheme are the distribution of heating and transport fuels and the real estate management sector.

²⁹ Motiva Oy is a Finnish state-owned expert company promoting efficient and sustainable use of energy and materials.

The agreements are not legally binding and there are no specific sanctions to the committed parties. However, both partners have the right to end the contract before the end of the agreement period if the other party does not fulfil its obligations.

The energy conservation agreements (1997–2007) and later on energy efficiency agreements (2008–2016) have been considered as an important policy instrument in the national climate and energy strategy (Pitkän aikavälin ilmasto- ja energiastrategia 2008). The aim of the agreement scheme is to contribute, in accordance with the national energy and climate strategy, to the fulfilment of Finland's international commitments for mitigation of climate change. Energy efficiency agreements are also mentioned in the Council of State's Decision in Principle on Energy Efficiency measures (VNP 4.2.2010). It is planned that the agreements will be made more comprehensive and that their requirements will be tightened. The agreements will also be closely linked with research and innovation activities.

When preparing agreements for the second period (2008 – 2016), changes in the operational environment have been taken into account. Some of the companies that have joined the current energy efficiency agreement are also regulated within the emissions trading scheme, while the Energy Services Directive (32/2006/EC) that entered into force in May 2006 applies to almost all energy use outside the emissions trading. The Energy Services Directive set a 9 pct. energy conservation target upon Finland for the period 2008–2016, and this has also been set as a quantitative target for the energy efficiency agreement scheme as a whole, which is reflected in the objectives of the sectoral agreements (e.g. PUSO 18/804/2007). The energy efficiency agreements commit companies to increase the share of renewable energy when technically and economically feasible. As a result of negotiations related to the implementation of the Energy Services Directive, the energy efficiency agreements were accepted as an alternative for regulatory steering in Finland. Thus, energy efficiency agreements and reporting their results form an essential part of the implementation of the directive at national level.

Energy efficiency agreements are used in policy-mix with environmental permits. Finnish environmental legislation (86/2000) states that when deciding on environmental permits, energy efficiency of the activity should be taken into account when relevant. If the company applying for an environmental permit has joined an energy efficiency agreement, this can be regarded as a way to demonstrate that the company is taking energy efficiency into account in its activities. In this case, there is often no need for a separate clarification of energy efficiency within the permit application process (NEEAP 2008–2010).

The energy efficiency agreement scheme is also closely linked with economic incentives. Companies joining the agreement can apply for an investment support from the Ministry of Employment and Economy to

fund energy saving investments. Even if the agreement does not automatically guarantee the investment support, it is generally regarded as an advantage for the company applying the investment support. Applying for the economic support for energy efficiency investments has been rather popular among companies joining the agreement.

Companies joining the energy efficiency agreement commit themselves to yearly reporting about their energy use and measures they have taken to improve energy efficiency. Motiva Oy is responsible for monitoring the results of the agreement scheme and producing yearly reports based on the data provided by the companies. Yearly reporting is seen as essential in monitoring the achievement of the quantitative objectives set for the whole energy efficiency agreement scheme. In addition, a comprehensive external evaluation was commissioned by the Ministry of Trade and Industry of the first agreement period in 2005 (Heikkilä et al., 2005).

Case 2: Material Efficiency Audits and Agreements

Material efficiency audits and agreements are an instrument that is currently under development and in its initial phase. The audits target the use of renewable and non-renewable materials in companies and aim to identify potential for reducing material use and improving material efficiency of the production chain. It has been proposed that material efficiency agreements would be developed based on the experiences gained from the energy efficiency audits and agreements. However, the development of the agreements has not yet been initiated.

Initiative for starting the development of material efficiency agreements derives from the National Programme on Sustainable Consumption and Production (KULTU). It emphasized the importance of a dialogue between authorities and industry to improve both energy and material efficiency. Voluntary agreements were seen as an important tool for promoting material efficiency within industry. As a consequence, material efficiency agreements were brought up in the Proposal for the Finnish National Waste Plan until 2016 (MoE 2007) as an instrument to prevent waste generation in industry and later on in the actual Finnish National Waste Plan until 2016 (MoE 2008). The first material efficiency audits have now been made with pilot companies, identifying potential measures to improve material efficiency.

It has been proposed in different contexts that the two tools, energy efficiency agreements and material efficiency agreements, should be joined in the long run to make use of their potential synergies (e.g. Lilja 2009). Promoting both at the same time may bring synergy effects; for example in the spheres of mitigation of climate change, sustainable use of natural resources, renewable energy, communication, auditing tool development and promoting industrial ecology.

Other potential synergies between material efficiency agreements and other policy instruments include using agreements in the environ-

mental permit process as energy efficiency agreements are currently used. This can replace other types of reporting and prove that material/energy efficiency issues have been taken into account. Also sector-oriented work on BAT and integrated product policy as well as with product panels has been identified as a potential synergy with material efficiency agreements. The criteria of Nordic and EU eco-labels could also be useful when setting material efficiency targets in the sectoral agreements (Lilja, 2008). However, it remains to be seen which synergies will realise and whether some new ones will appear as the instrument develops.

The material efficiency audits and agreements are administrated by a material efficiency unit within Motiva Oy, which receives funding from the Ministry of Employment and Economy. The unit would also be responsible for administrating the agreements and signing them with the companies when the auditing tools and measures of material efficiency have been developed far enough to sign the first agreements. The proposed material efficiency agreements are planned to be a voluntary tool for continuous improvement and would not bear any sanctions. Public support for technological innovations related to material efficiency would be crucial especially in promoting innovations that require cooperation between several actors. A company that joins the agreement scheme will commit itself to undertake a material efficiency audit and to implement the identified material efficiency measures that are economically feasible. In a material efficiency agreement, the industrial sector will be of a greater importance than in an energy efficiency agreement, because with material efficiency the targets and indicators will have to be tailored more specifically to each sector due to large variation concerning what kind of materials are used within each industry. In addition to quantitative material efficiency objectives, the agreements could also include qualitative targets to develop certain characteristics within a product group's life cycle (Lilja, 2008).

The aim has been to develop and test the material efficiency audit scheme first, after which the development of material efficiency agreement schemes could be started. As the instrument is still in its pilot phase and has not been fully developed, a proper evaluation cannot be made about its impacts. However, a pre-feasibility study commissioned by the Ministry of the Environment (Lilja, 2008) has been made regarding the instrument and its potential to prevent waste generation in the industrial companies joining the material efficiency agreement scheme.

Case 3: SOILI-Agreement

The SOILI-agreement was set up for the remediation of land areas that were contaminated by oil. By the time of its initiation, several old petrol stations had been closed down in Finland and it was known that some of the sites were contaminated by oil. These sites composed a potential risk to the environment and human health, and assessing their risks was

important before taking the site into other use. The Finnish oil industry followed the example of Denmark and took initiative to set up a similar remediation programme for contaminated soil in old petrol stations (Sairinen, 2000).

The preparation of the agreement was done almost entirely by the Finnish Petroleum Federation (FPF). The programme agreement was signed in 1996 and it extended originally until 2006. Signatory parties were the Ministry of the Environment, FPF, the Association of Finnish Local Authorities and individual oil companies (Sairinen, 2000). Later on, the programme period was extended, and the last remediation projects will be finished by the end of 2014 (Routio, 2010).

Aim of the SOILI-agreement is to create a joint remediation programme that assesses and prioritises land sites contaminated by petroleum products and undertakes their remediation measures. The agreements provide owners of former petrol stations an opportunity to solve an environmental and legal problem that could otherwise be more difficult. Purpose of the SOILI-agreement is to avoid complex legal issues related to responsibility. The agreement is juridical binding for the oil companies and the Finnish Petroleum Federation (Sairinen, 2000, Sairinen and Teittinen, 2000).

The instrument has not been evaluated as such, but two Finnish research studies on voluntary environmental agreements (Sairinen, 2000; Sairinen and Teittinen, 2000) assess also to some extent the process and results of the SOILI-agreement. Introduction of the agreement replaced public regulation and the aim was that it would become a more efficient and economical tool than other policy instruments. According to the interviewees, experiences of the programme have been generally positive and it is regarded as a cost-effective way of managing contaminated land sites. The programme has also enabled a more frequent and cost-effective use of in situ –methods, by enabling a co-ordinated planning with less time constraints that would prevent the use of in situ –methods. However, the cost-effectiveness of the programme has not been evaluated.

10.3 The prevalence of Eco-labelling in Finland

Historic view of the use of Eco-labelling in Finland

Finland joined the Nordic eco-labelling scheme, the Swan label in 1990 and adopted the EU-flower in 1992. Of the two eco-labels, the Swan label has become much more prominent in Finland. It is well appreciated among licence holders and the general public, while the EU-flower is not as well known (Aalto et al., 2008, Mela et al., 2010).

Number of licences for both eco-labels has grown in Finland since their establishment. However, the growth rate of licences is relatively low compared with other Nordic countries. In addition to the Nordic and EU eco-labels, there are several other eco-labels and certificates in use in Finland. These are listed and described in chapter 3.3.

10.3.1 Role of Eco-labelling Schemes in Finland

Different stakeholders consider eco-labels in general as an important informative tool for consumers. The volume and visibility of eco-labels is expected to increase in the future, alongside with the environmental awareness of companies and consumers. It is also expected that the number of producers' own eco-labels will increase, which is seen somewhat problematic from the point of view of reliability and comparability.

There is a strong will to preserve and promote the Swan label in Finland also in the future, and the label is very appreciated among different actors. However, also the importance of the EU-flower may grow in the future and if the label becomes more known among Finnish consumers, companies might increasingly opt for the EU-flower instead of the Swan in the future. There are, however, several uncertainties related to the development of the EU-flower and whether the two eco-labels can co-exist in the same markets in the long run. EU-flower is dependent on public funding and its development is largely affected by how much countries are willing to allocate resources for its administration and criteria development (Mela et al., 2010).

Overview of Eco-labelling Schemes in Finland

Nordic Swan	Responsible body	SFS Eco-labelling (an independent unit within The Finnish Standards Association SFS) until 31.12.2010. From 01.01.2011: Motiva Services Oy
	Type of responsible body	Non-profit organization
	Year of implementation	1990
	Number of product groups covered	65
European Flower	Responsible body	SFS Eco-labelling (an independent unit within The Finnish Standards Association SFS) until 31.12.2010. From 01.01.2011: Motiva Services Oy
	Type of responsible body	Non-profit organization
	Year of implementation	1992
	Number of product groups covered	26
EKO Energia	Responsible body	The Finnish Association for Nature Conservation
	Type of responsible body	NGO
	Year of implementation	1998 (name was changed into EKO Energia in 2009, previously Norppaenergia)
	Number of product groups covered	One (electricity)
	Short description of scheme	Companies providing or selling electricity that has been produced with renewable energy sources, according to the sustainability criteria set by the Finnish Association for Nature Conservation, can apply for the EKO Energia -label.

Green Office	Responsible body	WWF Finland
	Type of responsible body	NGO
	Year of implementation	2002
	Number of product groups covered	One (offices of public/private organizations or NGOs)
	Short description of scheme	Green Office is an environmental programme that aims to reduce the environmental impacts of offices. WWF Finland awards the Green Office designation and label to offices fulfilling the criteria of the Green Office programme.
Label for organic production	Responsible body	Finnish Food Safety Authority (Evira)
	Type of responsible body	Public authority
	Year of implementation	1991
	Number of product groups covered	Not documented. Covers almost all consumer product groups containing agricultural products.
	Short description of scheme	Organic production label can be given to agricultural products, feed, food products and alcohol beverages, if at least 95 % of their ingredients have been organically produced, according to the EU regulation on organic farming.
Fairtrade label	Responsible body	Fairtrade Finland
	Type of responsible body	NGO
	Year of implementation	1999
	Number of product groups covered	Approximately 20
	Short description of scheme	Fair trade certificate can be used in products that have been certified according to the international fair trade criteria set by Fairtrade Labelling Organizations International (FLO). Both environmental and social sustainability criteria are included.

All the eco-labelling schemes, with the exception of the label for organic production, are administrated by organisations that are non-governmental. However, two of the schemes, the Nordic Swan and the EU-flower, are closely linked with the Ministry of Employment and the Economy and the Ministry of the Environment, as the ministries provide funding for the SFS-Eco-labelling to cover some of the administration costs of the two schemes. In 2008, public funding covered approximately 23 per cent of the total funding of the Swan and the EU-flower, licence fees covering a major part. The EU-flower is more dependent on public funding than the Nordic Swan (Table 1).

	Nordic Swan	%	EU-flower	%
Licence fees (Euros)	834 000 €	81%	57 000 €	44%
Public funding	200 000 €	19%	74 000 €	56%
Total	1 034 000 €	100%	131 000 €	100%

Table 1. Funding of the Nordic and EU eco-labelling schemes in Finland in 2008. Source: SFS-Eco-labelling.

Consumer studies assessing how well eco-labels are known and what kind of attitudes different actors have regarding them have been repeatedly made for the Nordic Swan. The most recent study shows that for 82 % of Finnish consumers, the Nordic Swan was the most known eco-label (Reflect, 2009).

Different eco-labelling schemes that are in use in Finland cover a wide range of products and services used by consumers and companies. The different schemes and their criteria are not comparable with each other. However, criteria of the two eco-labels, the Nordic Swan and the EU-flower, have been harmonised to some extent (Aalto et al., 2008).

Of all the eco-labelling schemes, the Nordic Swan and the EU-flower base their criteria most clearly on life-cycle considerations. It has also

been suggested that life-cycle assessment (LCA) should be used within eco-labelling schemes, and the secretariats of the Nordic Swan and the EU-flower have used LCAs in criteria development when relevant studies have been available. However, they have not taken initiative to produce full LCA studies for this objective. Taking into account hazardous substances is an important aspect within the Swan eco-label, which is, on the other hand, a weak point in LCA. Limited access to relevant LCA studies has also been recognized as a barrier for using LCA in eco-labelling (Aalto et al., 2010).

10.3.2 Eco-labelling Schemes in policy mix

Eco-labelling has potential for policy-mixing with several product policy instruments. However, synergies with public procurement provide currently the largest potential for synchronising with eco-labelling. Environmental issues are more systematically taken into account in some, often large or middle sized municipalities and centralised public procurement units. Stakeholders recognise a clear need for developing expertise and sharing experiences between public purchasers on using environmental criteria in public tenders (Mela et al., 2010).

The Finnish Council of State has made a decision in principle (VNP 8.4.2009) on promoting sustainability in public procurement. It is required that by 2010 at least 70% of all purchases within the governmental sector take into account environmental aspects, and by 2015 all governmental purchases should do the same. The Council of State also recommended that at least 25% of the purchases made in the municipal administration should consider environmental aspects by 2010 and at least 50% by year 2015. Even if it is not allowed to set eco-labelling as a requirement in public tenders, in practice the criteria of eco-labels are nowadays often used when preparing tenders of public procurement. As an example, the central procurement unit of the Finnish government, Hansel Ltd, systematically uses the criteria of the Nordic Swan in its tenders when relevant.

Also the implementation of the Ecodesign directive (2005/32/EC) provides potential for policy-mixing with eco-labelling, especially with the EU-flower.

10.3.3 The European Flower in Finland

The EU Eco-labelling Scheme, the EU-flower, was adopted in 1992, based on an EU-regulation. A renewed and modified regulation (2010/66/EC) on the EU eco-labelling scheme came into operation in early 2010.

The scheme is administrated in by SFS-Eco-labelling, an independent unit within the Finnish Standards Association (SFS) (until 31.12.2010. From 01.01.2011: Motiva Services Oy). The Ministry of the Environment

and the Finnish Standards Association have made an agreement regarding the national tasks related to EU-eco-labelling. Within SFS-Eco-labelling, one staff member is specifically appointed to EU-eco-labelling issues. The national eco-labelling board that consists of various experts and stakeholders addresses issues related both to the Nordic Swan and the EU-flower. The EU-flower is more dependent on public funding than the Nordic Swan which covers most of its budget by licence fees (see Table 1).

The volume of products labelled with EU-flower is rather low in Finland. Currently 11 companies have been awarded the label by the Finnish eco-labelling body. Also some products that have been labelled by the EU-flower in another member country are available on the Finnish market. Compared with the Nordic Swan, the EU-flower is not very visible on the Finnish market and not very familiar among Finnish consumers. Finnish companies using the EU-flower are mainly export-oriented and have their markets in other European countries where the EU-flower is better known. In the future, more Finnish companies may increasingly consider applying for the EU-flower if it becomes more known among the Finnish consumers. However, the Nordic Swan has a strong position in Finland and it is uncertain whether the EU-flower will challenge the Swan in the future in the Finnish market (Mela et al., 2010).

The EU eco-labelling scheme has been evaluated at the European level (EVER, 2005). At the national level there has not been an evaluation has not been undertaken until 2010 (Mela et al., 2010), when the Ministry of Employment and Economy and Ministry of the Environment commissioned an evaluation study on the future prospects of the Nordic and the EU eco-labelling schemes in Finland.

10.3.4 The Nordic Swan in Finland

The Nordic Eco-labelling Scheme, the Swan label, was adopted in 1989 by the Nordic Council of Ministers. Finland joined the scheme in 1990. It is administrated in by SFS-Eco-labelling (until 31.12.2010. From 01.01.2011: Motiva Services Oy), an independent unit within the Finnish Standards Association (SFS). The Ministry of Employment and the Economy and the Finnish Standards Association have made an agreement regarding the national tasks related to Nordic eco-labelling. As part of the agreement, the ministry allocates yearly approximately 200,000 Euros to the Finnish Standards Association.

The Nordic Swan covers currently 65 product groups. The aim of the eco-labelling scheme is to award an eco-label to products and services with reduced environmental impacts, to communicate to consumers that the product or service has been carefully assessed and has a smaller impact on the environment than products in the same product category

in average. The scheme aims at stimulating environmentally more sustainable product development.

A number of Nordic-level evaluations has been made regarding the Swan-label, of which the evaluation of Aalto et al., (2008) is the most recent. At the national level there have not been comprehensive evaluations of the Nordic Swan until 2010 (Mela et al., 2010), when the Ministry of Employment and Economy and Ministry of the Environment commissioned an evaluation study on the future prospects of the Nordic and the EU eco-labelling schemes in Finland.

10.3.5 Evaluations of Voluntary Agreements and Eco-labelling Schemes

Overview of evaluations of Voluntary Agreements

Evaluation of Sector-specific Material Efficiency Agreements

Sector-specific material efficiency agreements - A pre-feasibility study	Title of VA evaluated	Material efficiency audits and agreements
	Year of evaluation	2008
	Evaluator	Raimo Lilja, Eco-label Partnership
	Contracting Authority	Funded by Ministry of the Environment, commissioned by Finnish Environment Institute
	Primary focus of evaluation (economic/environmental/other)	Feasibility study on the possibilities and challenges related to material efficiency agreements
	Addresses policy mix (yes/no)	Yes

The development of material efficiency audits and agreements is currently at an initial phase. Two audits have been made with pilot companies and are to be initiated with a few others. As the instrument is not yet in use, its effectiveness and results cannot be evaluated. However, a pre-feasibility study has been made regarding the possibilities of the instrument to prevent waste generation in industry. According to the interviews made for the evaluation, material efficiency agreements have several links to other policy instruments and potential for using them in a policy-mix. For example, material efficiency audits that precede the agreements could be used in cases where environmental permits require the company to give a report about its potential for improving material efficiency. The audits could be accepted as a way of reporting, as is currently the case for energy efficiency audits. Potential synergy was also found with the implementation of Finland's National Programme on Sustainable Consumption and Production (KULTU). The programme encourages a dialogue between authorities and industry to improve both energy and material efficiency. Voluntary agreements were seen as an example of a tool for encouraging the dialogue. Other potential synergies with material efficiency agreements can be found within sector-oriented work on BAT and integrated product policy. The

material efficiency agreement scheme could also be utilised in product panels that have been in use in Finland within furniture industry. The product group based criteria of the Nordic Swan eco-label could also potentially be used when setting the material efficiency targets in the sectoral agreements (Lilja, 2008).

In general, the stakeholders have positive attitudes towards material efficiency agreements and their potential. However, among the representatives of environmental administration there is a concern that the target levels would be set too low, which would not encourage companies to make considerable improvements in material efficiency. Economic instruments promoting material efficiency would be considered more efficient than voluntary agreements. However, their political acceptability is questionable, which makes them unrealistic in the current situation. Another concern among environmental administration is that the industry would not participate in the agreements if there are no other, more pressing policy instruments in sight. In a material efficiency agreement, the industrial sector itself will be of greater importance than in an energy efficiency agreement, because with material efficiency the targets and indicators will have to be tailored more specific to the sector (Lilja, 2008).

Concerning competition, material efficiency agreements could become an advantage for companies, especially if innovation funding was linked with the material efficiency agreements scheme. However, it should be made sure that the economic benefits given to the companies by the state are in accordance with competition legislation (Lilja, 2008).

Evaluation of Energy Conservation Agreements 1997–2005

Energy conservation agreements 1997-2005, results of an expert evaluation	Title of VA evaluated	Energy Conservation Agreements
	Year of evaluation	2005
	Evaluator	Engineering Office Olof Granlund Oy
	Contracting Authority	Ministry of Trade and Industry (currently Ministry of Employment and the Economy)
	Primary focus of evaluation (economic/environmental/other)	Environmental (effectiveness of the agreements), economic (cost-efficiency), other (coverage of agreements)
	Addresses policy mix (yes/no)	No

The energy conservation agreement scheme has been considered efficient in meeting its objectives. When the scheme was initiated in 1997, it was estimated that the overall potential for energy conservation within the covered sectors would be 11 TWh in the end of 2005 and that half of this potential would be achieved by 2010. However, the energy savings reported in the agreement period 1997–2005 were 7,1 TWh. Thus, energy savings achieved during the agreement period 1997–2005 were considerably higher than was estimated in the beginning of the scheme

(ESS 1997–2005). Based on the results of the evaluation, the scheme was continued after the end of the first agreement period in 2007 as energy efficiency agreements. The new scheme has not yet been evaluated. Within the new agreement scheme, target levels are generally set higher than in the old scheme and they are a combination of climate policy goals and companies' own interests and objectives.

In the evaluated agreement period 1997–2005 there was considerable variation in how successful the agreements were in different sectors. Companies and organizations joining the scheme can set their energy conservation targets and numeric goals themselves, which enables flexibility. However, some of the goals were set too high in comparison to what was realistic to achieve. Especially in municipalities it was often the case that a numeric goal for reducing relative energy consumption was set without analyzing the operational environment well enough. As a result, the relative consumption in municipalities' buildings often increased instead of the energy conservation measures taken (Heikkilä et al., 2005).

According to the interviewees, the agreement scheme has provided a clear economic incentive for the companies, as joining the scheme has resulted in economic savings and provided the opportunity to apply for investment support for energy efficiency investments. The evaluation report concludes that the amount of public funding invested in the scheme is moderate compared to the results achieved. One euro of public funding has produced an energy saving equivalent to five Euros (Heikkilä et al., 2005).

Evaluation of the Responsible Care Programme

Responsible Care Progress Report 2010	Title of VA evaluated	Responsible Care programme
	Year of evaluation	2010
	Evaluator	Chemical Industry Federation of Finland
	Contracting Authority	-
	Primary focus of evaluation (economic/environmental/other)	Environmental issues and occupational safety
	Addresses policy mix (yes/no)	No

The evaluation of the Responsible Care programme (CIFF, 2010) is a self-evaluation based on yearly reporting done by companies that have adopted the programme. Companies collect and report data on key indicators related to emissions to air, water as well as indicators on occupational health and safety. Monitoring is continuous, and similar reports are produced each year. Targets are set individually in each company. Indicators related to key emissions to air and water as well as indicators on occupational health and safety show generally positive trends. The programme is thus meeting its targets on continuous improvement of the environmental and safety performance of the companies. However, the evaluations do not distinguish to what extent this has been achieved

because of the programme itself or present a business as usual –scenario or whether the companies that have adopted the programme have reached better environmental performance than companies outside the scheme.

The companies joining the Responsible Care programme are able to choose the measures to improve their environmental and safety performance, which enables flexibility. The economic efficiency of the programme or its impacts on competition has not been evaluated.

Problems in the effectiveness of industrial self-regulation schemes that do not include sanctions have been brought up in several studies. According to King and Lenox (2000), the environmental performance of companies joining the Responsible Care programme did not improve more than in companies outside the programme. It is argued that the programme may produce a threat of opportunism, providing a framework within which some companies can hide their poor performance (King & Lenox 2000).

10.3.6 Overview of evaluations of Eco-labelling Schemes

Evaluation on the Future of Eco-labelling in Finland

Study on the future of eco-labelling in Finland	Title of scheme evaluated	Nordic Swan and EU-flower
	Year of evaluation	2010
	Evaluator	Hanna Mela, Petrus Kautto and Ari Nissinen, Finnish Environment Institute
	Contracting Authority	Ministry of Employment and Economy and Ministry of the Environment
	Primary focus of evaluation (economic/environmental/other)	Other: Future conditions of the two eco-labelling schemes in Finland (impacts of new EU-regulation on EU-flower), synergies with other product policy instruments and organizational arrangements.
	Addresses policy mix (yes/no)	Yes

The evaluation does not address direct environmental targets of the eco-labelling schemes. Rather, the focus is on the stakeholders' perceptions and experiences regarding eco-labels and their future in Finland, as well as potential synergies between eco-labelling schemes and other product policy instruments.

Companies interviewed for the evaluation were generally satisfied with the use of eco-labels and perceived that they offered marketing benefits. However, the eco-labels were also criticized for bureaucratic administration, sometimes too tight product-specific criteria or, on the contrary, not taking into account the most essential environmental impacts for certain products (Mela et al., 2010).

Of other product policy instruments, public procurement and the implementation of the Ecodesign directive provide most potential synergies for co-ordination with eco-labelling schemes. Use of eco-labelling

criteria in public tenders would provide an incentive for the companies to apply for eco-labels and help to increase the share of eco-labelled products in the market (Mela et al., 2010).

10.3.7 Learnings from evaluations

Cost effectiveness

Cost-effectiveness of the voluntary agreements and eco-labelling in Finland has not been specifically evaluated. However, the interviewed stakeholders considered that especially the SOILI-programme and the energy efficiency agreements had produced environmental benefits in a cost-effective way. In the SOILI-programme, large units and centralized expertise enabled more economical solutions when coordinating the management of soil remediation sites. Energy efficiency agreements were, on the other hand, considered cost-effective for the companies that joined the agreements, as the repayment period of their energy efficiency investments has been in many cases only two years. It is more challenging to evaluate their cost-effectiveness for the society as a whole, and it may be difficult to attribute certain benefits or results to a specific programme.

Policy mix

There are not many examples of using voluntary agreements and eco-labelling with other policy instruments in Finland, and policy-mixing has not been thoroughly addressed in the existing evaluations. Experiences of the interviewed stakeholders indicate, however, that some policy-mixes are perceived successful. For example, linking energy efficiency agreements with environmental permits has been useful from the point of view of environmental authorities and companies that have been able to use energy efficiency agreements as a way to prove that they have taken energy efficiency into account in their activities. However, in some cases environmental permit authorities have required an energy efficiency agreement from the company, which makes it impossible for the company to receive economic support for its auditing activities as the state cannot support something that it officially requires. This has sometimes led to unclear situations from the companies' point of view.

Concerning eco-labelling and especially the Nordic Swan, a previous study (Mela et al., 2010) indicates that there are good examples of using its criteria in public tenders. This has been regarded as a good practice and there would be more potential for linking these instruments in the future. This would, however, require a more co-ordinated effort of networking and sharing experiences between public purchasers in Finland. Policy-mixing between the implementation of the Ecodesign directive and the EU-flower and the Nordic Swan has also a clear potential.

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11. Annex C – Country Study Denmark

11.1 Voluntary Agreements and Environmental Labelling in Denmark

11.1.1 Introduction

The Danish country study is carried through by Bjørn Bauer and Rikke Fischer-Bogason, PlanMiljø.

The country study presents three cases of voluntary agreements:

- Voluntary Agreement on Recycling of Transport Packaging
- Voluntary Agreement on Industrial Energy Efficiency
- Voluntary Agreement on the Oil Industry Environmental Fund

Moreover, eco-labelling schemes in Denmark are covered by the study with focus on the EU Flower and the Nordic Swan.

11.1.2 Methodology

The country study is based on desk studies of relevant literature and expert interviews with stakeholders and experts. The interviews have been carried through during summer 2010.

List of interviewees

Subject	Organisation	Position	Name
Eco-labelling	Danish Environmental Agency	Advisor	Søren Mørch Andersen
Voluntary Agreements	Danish Environmental Agency	Advisor	Signe Krarup (only through email on the subject of mapping Danish VAs)
Eco-labelling	Eco-labelling Denmark	Director	Lisbeth Engel Hansen
Voluntary Agreements and eco-labelling	Confederation of Danish Industries	Advisor, Environment	Tina Sternest
Eco-labelling	Institute of Food and Resource Economics	Professor	Lars Gårn Hansen

Subject	Organisation	Position	Name
Voluntary Agreements and eco-labelling	The Danish Consumer Council	Advisor, Traffic and Environment	Claus Jørgensen

11.1.3 Definition of terms

In the Danish environmental regulation, voluntary agreements are used in several contexts and on the basis of different definitions. A crucial point is how “voluntary” an agreement is. In the environmental sector, the most important definition can be found in the Environmental Protection Law §10 and §11. The full text can be viewed in the text box below. A short version of the text is that the Minister of Environment can sign agreements with enterprises and industrial organisations covering a number of environmental improvements that must be reached, and through which means they must be reached. The agreement must ensure that the binding goals on the use, emissions and/or removal of specified products are reached.

This definition shows that voluntary agreements implemented in the environmental sector can be based on law and cover a penalty, but de facto, the Danish agreements signed by the industry and the Danish environmental authorities are considered voluntary. This is mainly due to §11 shown in the text box above; here it is stated that all relevant parties are invited to the negotiations of the agreement.

Another example of a definition of VAs is found at the Danish Environmental Protection Agency. Here it is stated that (our translation):

“A voluntary agreement on limitation of pollution is made between enterprises, typically on the level of trade organisations, and authorities. Through the agreement, the enterprises are committed to reduce a particular emission to a certain level within an agreed period of time or to achieve an objective/goal on recycling. Agreements are typically an alternative to direct regulation or the use of economic instruments. The use of voluntary agreements can also be used as a supplement to taxation, meaning that enterprises that maintain the agreement are subject to a reduced environmental tax.”

It is thus quite clear that the official VAs, meaning those that have an authority as a co-signer, are intended to involve the possible use of sanctions.

No explicit, official Danish definition of eco-labels has been identified.

From the Danish Environmental Protection Law:

10.-(1) With a view to reducing overall pollution, including generation of waste, the Minister can lay down binding targets for limiting the use, discharge or disposal of specified products, substances or materials.

(2) To achieve the aims set under subsection (1) above, the Minister can make agreements, also on quotas, on the objectives for environmental improvements, and on the instruments to be used to implement the agreement. Such agreements can be made with enterprises or associations thereof. The Minister can lay down rules on the basis on which agreements are made, and on general agreement terms, including:

- 1) designation of the person(s) responsible for the implementation of the agreement, and on his/their powers with respect to the enterprises covered by the agreement,
- 2) rules to secure enforcement of the agreement, including the obligation of the enterprises involved to supply information to the person responsible for the agreement, or to the Minister,
- 3) payment of a penalty for delaying or otherwise violating the agreement, including security in respect of payment; further, the Minister can lay down rules on settlement of disputes on the contents of the agreement by arbitration, and on the composition of the arbitration tribunal.

(3) Before implementing an agreement under subsection (2) above, it shall be negotiated with the authorities and organizations specified in section 11 below.

(4) Where under subsection (2) above an agreement has been made with enterprises or associations of enterprises using, discharging or disposing of a significant share of the products, substances or materials involved, the Minister can lay down similar requirements to limit the use, discharge or disposal of such products, substances or materials for enterprises not covered by the agreement.

(5) In connection with the implementation of agreements under subsection (2) or under rules laid down under subsection (4) above, the Minister can decide that decisions made under this Act or rules issued under this Act shall be changed in accordance with the requirements stipulated in the agreement or the rules. In agreements under subsection (2) or rules under subsection (4) above, information shall be given on the terms of and the extent to which the requirements can be supplemented or strengthened by the supervision authority to make allowance for aspects relating to recipients or other local aspects.

11.-(1) Before laying down rules under this Act, the Minister shall negotiate with the most relevant national business and environment organizations, organizations of local authorities, and with other state authorities involved, including the Minister of Labour.

11.2 The use of Voluntary Agreements in Denmark

11.2.1 Historic view of the use of VAs in Denmark

Voluntary Agreements have been used in Denmark since the signing of the first VA in 1987 and were incorporated in the Danish Environmental Protection Act in 1994. As mentioned earlier, the Act empowers the Minister to make binding agreements and implement related instruments.

Within the recent 15 years, numerous agreements have been made within the regulation areas of nature, environment and energy. In 2004, a mapping showed that 15 environmental VAs were in function. The agreements mainly covered chemicals and waste management. Moreover, a number of VAs exist within the regulation area of nature conservation.

Typically, the agreement is signed by major organisations as the Confederation of Danish Industry or large trade organisations and the agreements are based on negotiations. By not imposing the agreements on the industry, the organisations do, in turn, help gaining member acceptance.

An interesting case is the VA between the authorities and energy intensive companies. This particular VA is covered in the case description later in this country study. It has been the foundation of almost 100 individual- and trade association agreements covering approximately half of the energy use in the Danish industry.

11.2.2 Role of VA in Denmark

Voluntary Agreements are typically constructed as an alternative to actual regulation through legislation. Most of the agreements are only politically binding and the parties can withdraw.

The tradition in Denmark tends to be that new environmental requirements are negotiated with affected organisations. The government does not intervene politically in the actual implementation of the VA, if the agreement partner works towards specific environmental goals.

Compliance with the agreements cannot be enforced through the courts, and each of the parties can withdraw from the agreement at any time. The agreements are solely politically binding in character.

VAs have seemingly become an integrated tool in the Danish environmental regulation. Both the industry and the authorities seem to consider it an effective and well functioning tool.

An advantage for the industry seems to be that the VAs provide an extended time horizon in the process of reducing environmental impacts compared to other instruments such as taxes. Moreover, the industry has a saying in how to obtain the objectives; both in terms of effective and efficient methods.

Advantages for the authorities are that the industry is sworn in and has both economic interests (to avoid other regulation) and interests related to public relations invested in the agreement. A disadvantage from the authority's point of view may be that both the negotiation process and the following control and enforcement can be costly.

The Confederation of Danish Industries are positive towards VAs, whereas organisations such as the Danish Consumer Council state that VAs must not stand alone, but must be enforced through other types of regulation.

11.2.3 Types of VA in Denmark

Most VAs in Denmark are either negotiated or Public Voluntary Programmes. The partners are typically the Ministry of Environment on one side and the industry (primarily sector organisations) on the other side, but also local authorities and individual companies/farmers can be partners in the agreement.

11.2.4 Overview of implemented VAs in function from 2005

The table below provides an overview of Danish VAs that have been in function in the period 2005–2010.

Title of VA	Type*	Economic sector	Regulation Area	Partners	Environmental issue addressed
Agreement on Recycling of Transport Packaging	Negotiated	Industry and transport	Waste	Danish Ministry of Environment and Energy with Danish Confederation of Industries, acceded to by Plastindustrien (Plastic Industry Federation) and Emballageindustrien (Paper and Board Federation).	The recycling and/or re-use of transport packaging.
Agreement on Industrial Energy Efficiency	Public voluntary programme	Industry and energy	Energy	Danish Energy Agency and either individual company or a collective of several companies within a sector	Energy efficiency
The Agreement of Breaking the Curve ("Kurveknækker-aftalen")	Public Voluntary Programme	Both public and private sector	Energy	The Danish Energy Saving Trust and all interested parties within public administrations, organisations and private companies	Energy efficiency
VA on users restriction	Public Voluntary Programme	Farming	Ground water conservation	Municipalities/water-works and individual farmers	Pollution of ground-water

Title of VA	Type*	Economic sector	Regulation Area	Partners	Environmental issue addressed
EMAS	Public Voluntary Programme	Environmental management of industries/organisations	Environmental management	Danish Environmental Agency and private companies	Several
Agreement on collection of lead accumulators	Negotiated	Industry	Waste management	Ministry of Environment and ReturBat (organisation for collection of lead accumulators)	Emissions of lead
Oil Industry Environmental Fund	Negotiated	Oil industry	Soil contamination	Oil Industry Common Council, Local Government Denmark, Danish Association of County Councils, Copenhagen and Frederiksberg Municipalities, Danish Environmental Agency	Soil contamination from petrol stations
Agreement on selective demolition	Negotiated	Building sector	Waste management	Danish Environmental Agency, Demolition Industry	Recycling of waste from demolition
Agreement on disposal of refrigerators etc. containing CFC (terminated 2007)	Negotiated	Industry	Waste management	Danish Environmental Agency,	Ozone depleting substances
Agreement on Volatile Organic Compounds (VOC)	Negotiated	Industry	Emissions to air	Confederation of Danish Industry, Common Council, Local Government Denmark, Danish Association of County Councils, Copenhagen and Frederiksberg Municipalities, Danish Environmental Agency	Emissions of VOC
Green taxis	Public voluntary	Transport	Emissions to air/climate	Ministry of Environment and Danish Taxi Council	Emissions from transport
EFF measure (Environmental Friendly Farming) – cancelled	Public Voluntary	Farming	Emissions from cultivation	Danish Food Industry Agency, individual farmers	Emissions from cultivation to air and water etc.

*Public voluntary programme/negotiated agreements/unilateral commitments

Additional to the above mentioned VAs, there is currently only one example of a unilateral commitment in Denmark; the Responsible Care programme of the chemical industry.

Many different economic sectors, regulation areas and environmental problems are addressed. This supports that VAs have become an integrated part of Danish environmental regulation.

The designs of the agreements are very diverse, which will also be shown in the three cases that are presented below. Most of the agreements have been drawn in order to avoid traditional regulation and gain influence on how to meet the objectives.

11.2.5 VAs in policy mix

In Denmark, the case of the Agreement on Industrial Energy Efficiency is a case of policy mix. As described in the case study below, the voluntary agreement is combined with SO₂- and CO₂-taxes and subsidies for energy efficiency counselling and investments. This design is self-perpetuating as the companies are given an incentive to join the agreement by offering them reduced CO₂-taxes.

The regulation area of energy efficiency is in general an area that is subject to policy mixes in Denmark. Besides the above mentioned measures, information, and energy management/accounting are implemented as supporting measures in this particular area.

Also the case of recycling of transport packaging is a VA implemented in a policy mix. Information campaigns and an economic tool (deposits) have been implemented.

Other agreements are not as clearly placed in a policy mix; most are clearly entered in order to avoid other regulation.

11.2.6 Three cases of VA in Denmark

Three cases of Danish voluntary agreements are presented below. The three cases are:

- The Voluntary Agreement on Industrial Energy
- The Voluntary Agreement on Transport Packaging
- The Voluntary Agreement on The Oil Industry Environmental Fund

The three cases are chosen as they are well documented, ongoing (or recently terminated) and are examples of policy mix and non-policy mix. They represent both examples of agreements on sector-level and single company-level.

Case 1 – The agreement on Industrial Energy Efficiency

The agreement on Industrial Energy Efficiency was implemented as part of the Danish Green Tax Package in 1996. The background for the agreement is the need of coping with the problem of distortion of competitiveness when energy intensive companies are subjects to green tax.

Through the agreement, money made on the tax is channelled back to the companies through CO₂ tax reductions and free counselling.

The target group is energy intensive companies. The agreement is made between Danish Energy Agency and either an individual company or a collective of several companies within a sector. The expected goal was a 4.4 pct. CO₂- reduction in 2005 (1988 level).

By entering the agreement, a company can obtain reductions in relation to CO₂ tax. The company must, in turn, implement a verified energy management system and thus prepare an energy policy and energy related objectives as well as a defined organisation and related routines. Typically, an energy audit is carried through by a consultant certified by the Danish Energy Agency. 50 pct. of the costs of the audit are subsidised. On the basis of the audit report, an action programme is made for the plant. Normally any proposed energy efficiency project that has a payback period of less than four years must be implemented.

The agreement is monitored through an annual report that must be delivered by the company. The report must account for the fulfilment of the agreed measures. Also, a status for the energy management must be integrated in the report. If a company fails to meet the requirements in the agreement, the reduction in green taxes will be cancelled.

Agreements can be either individual or collective (covering several companies within a subsector). Collective agreements are advantageous as they provide a reduced administrative cost of entering an agreement. However, individual agreements are most common.

Collective agreements are not based on single-plant energy audits. Analyses of sectoral energy consumption and production processes are made, and derived from this is the general potentials for improving energy efficiency in the companies.

The VA on Industrial Energy Efficiency is part of a policy mix with CO₂ and SO₂ taxes and subsidies for energy efficiency counselling and investments.

Case 2 – Voluntary Agreement on transport packaging

The agreement on recycling of transport packaging took more than two years to negotiate and was signed in 1994. Main partners are the Ministry of Environment and the Confederation of Danish Industries. The subject of the agreement is recycling and/or re-use of transport packaging. This is packaging typically used to transport raw materials, semi-manufactured goods and some finished goods.

The background for the agreement was a wish from the industry to act proactive in relation to a new EU directive on packaging waste that was expected. The industry wished to prove that they could manage the problem and thus get the chance to define methods and time schedules for obtaining the goals.

The directive was completed before the agreement was signed. This was handled by implementing an objective to fulfil the directive require-

ments. The directive goal is that at least 22,5 % of all plastic transport packaging must be recycled by 2008. Recycling, according to the agreement, is the re-use of packaging and recovery/recycling of materials.

According to the agreement, the packaging industry must document the development in recycling and returns. The original goal for 1998 was 80 pct. recycling by the year 2000, but it must be emphasized that there were no specific goals for the division between recycling and returns. There were staged targets for the different types of materials for 1996, 1997 and 1998.

In 1998, the agreement was adjusted in order to fit the packaging directive definitions. New goals only addressed recycling.

The expected benefits of the VA were:

Industry

- Total packaging chain coverage
- Distribution of obligations over sector, among different branches, and over time
- Responsibility spread across all industry
- Self determined cost allocation
- Flexibility in cost allocation, e.g. importer/exporter obligations.
- Pragmatic approach to capacity and capability
- Generally cost effective (profitability can depend on market prices)
- Cost neutral implementation on average
- Advocates only cost-effective recycling/recovery technology
- Long term agreement allows for investment plans
- Representation of interests directly to EPA over future obligations
- Improved co-operation
- Increased influence of industry on measures to achieve goals.

Regulators

- Promotion of a greater understanding of industry
- Positive scope for discussion with all parties
- Securing of compliance with basic measures and beyond legal requirements
- Targeting of a new area e.g. materials previously unrecovered/recycled
- Increased level of dialogue among regulators, authorities and industry
- Provision of a Framework Agreement for national implementation by industry and municipalities.

Monitoring is coordinated by the Agreement Group members. A report was made by the end of the initial 18-month period. Afterwards, reports were produced annually. The issues monitored are:

- Volumes of waste recycled
- Waste supplied (i.e. sent to the market)
- Material type (paper, plastics, metal, textiles, wood)
- Proportion of imported/home-produced waste.

The agreement does not include explicit sanctions. Implicit sanctions were however imposed through the threat of either regulation or tax. It is a politically binding agreement, but it has no legal basis.

The agreement expires in 2010, but most likely the parties will continue to form a working group and share knowledge, but according to the Federation of Danish Industries, it is unlikely that new goals will be set.

The VA on transport packaging has been subject to policy mix. Two types of policy instruments are identified:

- Information: There has been carried through information campaigns (2007) toward the relevant companies
- Economic: Deposits on bottles

The VA has been monitored and officially evaluated (the evaluation is presented later in the country study report). The monitoring comprises of analyses of packaging waste statistics. This was latest carried through in 2007 and is again carried through while this country study was in progress (fall 2010).

Case 3 – The Oil Industry Environmental Fund

The Oil Industry Environmental Fund is a voluntary agreement between the Oil Industry Common Council, Local Government Denmark, Danish Association of County Councils, Copenhagen and Frederiksberg Municipalities, and Danish Environmental Agency. The agreement was signed in 1992.

The objective of the Fund is to carry through assessments and decontaminations of properties from where petrol has been stored sold. Approximately, 700 properties are decontaminated each year. The fund is financed by depositing DKK 0.02 for each litre sold petrol. The rate is frequently revised.

The background of the agreement is the fact that heavy reductions in petrol stations occurred in the 70's and 80's. Up till 1990, 8 000 petrol stations closed down, causing the environmental authorities to demand decontamination of the properties, among which many were heavy polluted. The Oil Industry Common Council decided to act proactive, foreseeing numerous complicated lawsuits against property owners, and proposed the establishment of an environmental fund in order to finance the decontaminations and avoid legal struggles on matters related to liability.

Through a negotiation process, an agreement was made between the Oil Industry Common Council, the Danish Environmental Agency and other relevant parties mentioned above.

The agreement covers:

- A mapping of which properties are included
- Conditions related to the establishment of a Environmental Fund Council
- Conditions related to the establishment of a secretariat for the Council; the secretariat is placed in the Danish Environmental Agency
- Detailed protocol for the establishment, organisation, operation and financing of the Fund

The agreement has a potential problem embedded; when the Fund takes on the obligations of the property owner, the possibility for the authorities to place an injunction is complicated since the requirement cannot be placed at the Fund. As a consequence, the authorities have no possibilities of enforcement towards the Fund.

There has not been carried through an official evaluation of the agreement. A paper from Aarhus University concludes on the fulfilment of objectives: The original agreement stated that the decontamination of properties should be concluded by the year 2002. This objective was not met. It is now foreseen that the work will be concluded by 2010.

11.3 The prevalence of Eco-labelling in Denmark

11.3.1 Historic view of the use of Eco-labelling in Denmark

Two major eco-labelling schemes are dominant in Danish environmental regulation of non-food; the EU Flower and the Nordic Swan. The Danish organic label, "Ø-mærket" is dominant within the food market.

Other notable schemes in the Danish market are:

- The Energy Saving Label
- The Green Key ("Den Grønne Nøgle")
- FSC Sustainable Wood
- The EU Organic Labelling Scheme

The Danish Ø-mærke was introduced in 1989. The first non-food scheme to be implemented was the EU Flower which Denmark joined from the beginning of the scheme in 1992. In 1997, Denmark also formally joined the Nordic Swan Scheme. The reason for not joining the Nordic Swan from the beginning of the scheme (the Nordic Swan was developed prior to the EU Flower) was most likely that Denmark wished to focus on a

label that targeted the European market and not primarily a region (Scandinavia) as the Swan.

The number of licenses and products labelled with the Swan and the Flower has grown nearly exponential since the introduction. The same is the case for Ø-mærket. This is further described below.

Labels such as the Green Key and FSC are more recent initiatives and have not obtained a market penetration or a general level of recognition among the public that can match the three major labels.

11.3.2 Role of Eco-labelling Schemes in Denmark

The major labelling schemes, the Flower and the Swan, are considered important additions to the governmental regulation. The authorities invest resources in the development, policy work and promotion of the schemes and are in general very supportive. Other stakeholders such as industry and NGOs are likewise positive towards the schemes and consider them useful for both manufacturers and consumers.

The arguments for implementing eco-labelling schemes in Danish regulation are based on the belief that the consumers are willing to / interested in purchasing items that are manufactured through a more environmental friendly production than the environmental regulation can ensure. Thus, the consumers are provided with easy comprehensible information on the environmental effects of a product by introducing a label.

Moreover, the manufacturers are provided an instrument that on one side enables them to communicate their environmental profile to the consumer and on the other side encourages them to act more environmental friendly than the regulation can ensure.

Today, more than 2 300 products on the Danish market are labelled with either the Swan or the Flower. Both labels are well-known in the Danish population. Around 90 pct. recognise the Swan and 60 pct. recognise the Flower. Consumers are not advised by the labelling authorities to distinguish between the labels as both are considered trustworthy and will guarantee a certain level of environmental protection. Manufacturers should, however, distinguish depending on whether they aim towards a European or a Nordic market.

Denmark is one of the top countries in terms of number of licenses and products from both the Swan and the Flower. When considering the size of the Danish population, Denmark is the country with the highest number of labelled products; nearly 500 licenses covering almost 5 000 products. 4.500 products are labelled with the Swan, 500 are labelled with the EU Flower.

Overview of Eco-labelling Schemes in Denmark

Nordic Swan	Responsible body	Eco-labelling Denmark in cooperation with The Eco-labelling Board and the Danish Environmental Protection Agency
	Type of responsible body	Eco-labelling Denmark: Private The Eco-labelling Board: Representatives from government, private and NGOs
	Year of implementation	1997
	Number of product groups covered	75
European Flower	Responsible body	Eco-labelling Denmark in cooperation with The Eco-labelling Board and the Danish Environmental Protection Agency
	Type of responsible body	Eco-labelling Denmark: Private The Eco-labelling Board: Representatives from government, private and NGOs
	Year of implementation	1992
	Number of product groups covered	33
Ø-mærket	Responsible body	The Danish Food Industry Agency
	Type of responsible body	Governmental
	Year of implementation	1989
	Number of product groups covered	Primary products from farming and food produced from organic farming products
	Short description of scheme	"Ø-mærket" is the Danish label on organic food. Non-food products can in principal not be labelled with Ø-mærket; exceptions are food for animals, hay, potted plants and Christmas trees. It was introduced in 1989 and is now a very well-known label. Surveys show that up to 99 pct. of the Danish population (18+) recognise the label. The label is proof of ecological production under regular control from governmental authorities. Ø-mærket is a voluntary scheme.
Green Key	Responsible body	HORESTA
	Type of responsible body	Business association
	Year of implementation	1994
	Number of product groups covered	9
	Short description of scheme	The Green Key Scheme is a labelling scheme for the tourism industry; primarily hotels, hostels, leisure facilities etc. It is a Danish scheme, but has now become international (16 countries). A hotel etc. can obtain the Green Key by meeting certain environmental criteria. The requirements cover production, use of resources, demands on policy, action plans, education and communication. The Green Key is awarded for 12 months. A national steering group with representation from authorities, NGO's and business associations are responsible for national Green Key activities and approves labelling applications. An awarded business is subject to control from HORESTA.
FSC	Responsible body	FSC Denmark
	Type of responsible body	Independent organisation
	Year of implementation	
	Number of product groups covered	Wood and paper
	Short description of scheme	FSC is short for Forrest Stewardship Council. It is an international non-profit labelling scheme for wood and paper. FSC guarantees that the wood is from a sustainable forest meaning that the forest can reproduce what is cut down. Moreover, protection of animals and plants is in focus as well as education, safety equipment and fair pay for the workers is ensured.

The Energy Saving Label	Responsible body	The Danish Energy Saving Trust
	Type of responsible body	Independent organisation
	Year of implementation	2006
	Number of product groups covered	14
	Short description of scheme	The Energy Saving Label was introduced in 2006 and is continuously developed in cooperation between producers and stores. Both parties can obtain the label. The Energy Saving Trust is the competent body that ensures that requirements are fulfilled. Monitoring is carried through as well as random tests of products. The label can be obtained by Denmark's top 20% most energy efficient products in any given product category. This is the only requirement given unless in the case of A-rated energy saving bulbs.

As the table above shows, the labelling schemes are very different in several aspects. The Nordic Swan and the European Flower cover multiple (non-food) product groups, have similar focus and are administrated by the same body. The other labelling schemes cover very different areas such as service and wood and are mainly addressing one specific sector.

It is notable that only Ø-mærket is under direct governmental administration. The Swan and the Flower are, however, governed by a board that has representatives from the Ministry of Environment, and the labelling schemes receive governmental funding.

The Flower and the Swan are the schemes that cover broadest and are the most comprehensive. These and the Ø-mærke are considered important supplements to the Danish environmental regulation. These three schemes cover numerous products that are manufactured in Denmark and are responsible for a reduction of the environmental impact from these productions. A scheme as the FSC label does not to the same degree focus on national production and the derived environmental impacts; most FSC certified wood is raised abroad. National forests and additional three private forests in Denmark are certified.

The organic label, the "Ø-mærke" is the most well known in the Danish public (+90 pct. recognizes the label), closely followed by the Nordic Swan (+90 pct.). Also, the EU Flower is well known (+60 pct.).

None of the labels are based on full life-cycle assessments. The Flower and the Swan are approaching an LCA methodology and do try to incorporate the mindset in the development of criteria, but full LCAs are not considered feasible to carry through; especially since many chemicals are difficult to assess.

11.3.3 Eco-labelling Schemes in policy mix

In Danish regulation, the most obvious policy instrument to support the eco labelling tool is green public procurement. Other instruments such as general environmental regulation (law, inspections, permits) and green taxes can inspire the companies to turn to labelling schemes such as the Flower or the Swan in order to reduce environmental impacts, but adoptions of the eco-labels are primarily motivated by consumer de-

mands and marketing advantages. Thus, policy instruments that focus on consumer demand are advantageous.

Green public procurement is an area of focus in the EU Commission, and also in Denmark, green public procurement is a national adopted strategy. The Danish Environmental Agency presents the following focus areas for 2010:

- The need for a strengthened effort within the sectors of transport, construction and foods
- A continued focus from the municipalities, where 2/3 of all public procurement is located
- There is a vast environmental potential in strengthening efforts of green procurement within the private sector
- There is a need of dissemination of knowledge about existing tools and benefits related to green procurement.

Danish initiatives are:

- Governmental agreements
- Partnering within Green Public Procurement
- Adoption of the EU 50 pct. objective
- Environmental innovative procurement
- Voluntary agreements with the Danish regions

Among the tools are:

- Web site containing information and advice on green public procurement (ww.groentindkoeb.dk)
- Environmental guidance for professional buyers (www.miljoevejledninger.dk)

An important step will be the implementation of the EU Ecodesign directive which will enhance the EU Flower. The directive aims to include environmental issues and a life-cycle based methodology and mindset in development of new products. The Ecodesign directive will allow the Flower to act as proof of fulfilment of the directive requirements.

It is not legal to mention eco-labelling as a criteria in tendering documents, but the labelling criteria are often used as foundation for the environmental requirements.

Another instrument that is used in a policy mix is the EMAS and ISO 14001 schemes; certified companies are subject to a reduced fee on the EU Flower.

In the case of The Energy Label, green taxes can be considered a relevant tool for policy mix. The Energy Label guides the consumer to products with low energy consumption.

11.3.4 The European Flower in Denmark

As mentioned earlier, the European Flower was implemented in Denmark in 1992. This was from the beginning of the European scheme.

In Denmark, the scheme is administered from a joint platform with the Nordic Swan. The administration is placed by the competent body, the eco-labelling secretariat Eco-labelling Denmark at Danish Standard Foundation. This is an independent non-profit organisation. The placement of the Eco-label Secretariat here is permanent; originally the secretariat was subject to regular tendering, but this procedure has been abandoned due to the high costs of carrying through a re-placement procedure.

The Danish Environmental Agency is also competent body and negotiates the Danish case in the European Union Eco-labelling Board. The Danish administration of the scheme is subject to the Danish Eco-labelling Board.

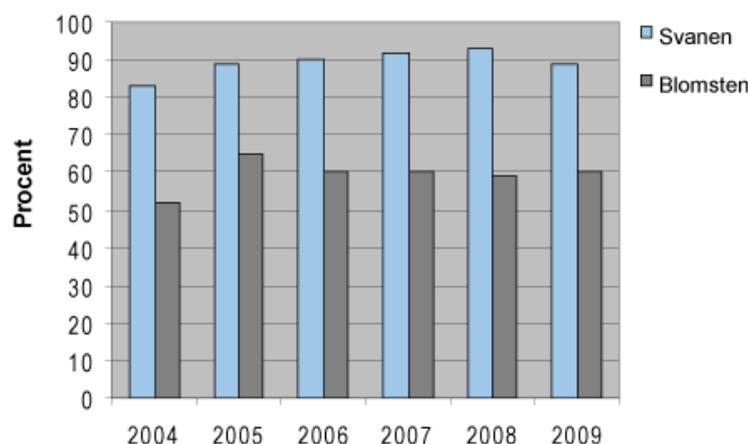
The Danish market offers 431 Flower labelled products in 14 different product groups. There are 37 Danish licenses. The growth in new licenses and products in Denmark has been rapid; since 2003 there has been an increase of 75 pct. in number of Flower licenses. The growth is especially seen within clothes, paint and cleaning products.

The EU Flower is not adopted as official requirements, but the criteria can be seen reflected in tendering documents when environmental requirements are listed.

The overall EU objective for the EU Flower is that no more than 1/3 of the products available on market can fulfil the labelling criteria.

The application fee for the EU Flower varies according to size of the enterprise and ranges from €350–1,200. Renewal fees vary from €200–600. The annual fee ranges from €350–1,500. The fee is reduced for EMAS and ISO 14001 certified companies.

Every year the recognition and knowledge of the Flower among the public is evaluated.



Kendskab

The figure shows the level of recognition among the public (18+) in percentage. The dark grey columns show the results for the Flower.

The eco-labelling secretariat, Eco-labelling Denmark, was evaluated in 2004. The evaluation primarily focused on the organisation of the secretariat and the level of stakeholder satisfaction. The EU Flower label was not a key subject.

The Flower was evaluated on EU level in 2005, but no specific country level evaluation has been identified.

There is an ongoing study on the environmental and socioeconomic benefits from “green products”. The study is commenced by the Danish Environmental Agency, but it is not public yet (fall 2010).

11.3.5 The Nordic Swan in Denmark

The Nordic Swan was implemented in Denmark in 1998. Denmark did not join the scheme from the beginning due to a political prioritization of the EU Flower.

The Nordic Swan in Denmark is administered from a joint platform with the EU Flower. The administration is, as mentioned in the section on the EU Flower, placed by the competent body, the eco-labelling secretariat Eco-labelling Denmark at Danish Standard Foundation. This is an independent non-profit organisation. The placement of the Eco-labelling Secretariat here is permanent; originally the secretariat was subject to regular tendering, but this procedure has been abandoned due to the high costs of carrying through a re-placement procedure.

The Danish Environmental Agency is also competent body and negotiates the Danish case in the Nordic Eco-labelling Board. The Danish administration of the scheme is subject to the Danish Eco-labelling Board.

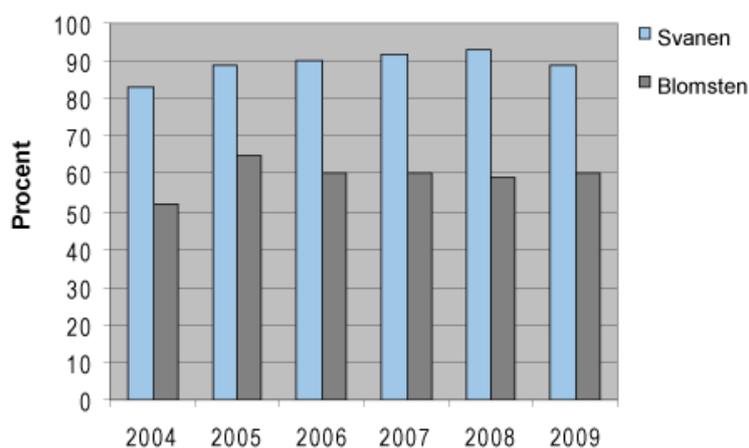
The Danish market offers 5.244 Flower labelled products in 53 different product groups. There are 443 Danish licenses.

The Nordic Swan is not adopted as official requirements, but the criteria can be seen reflected in tendering documents when environmental requirements are listed.

The application fee for the Nordic eco-label is euro 2 000. The annual fee for using the Nordic eco-label in Denmark is 0.3% of the license-holder's or registration-holder's turnover in Denmark, but minimum euro 1 500 per year. The annual fee cannot exceed euro 33 350. Expenses in connection with eco-labelled semi-manufactures shall be deducted at the calculation of the annual turnover, if the enterprise documents the expense.

Certain product groups have special fixed fees. The fee is calculated per license-holder/registration-holder and product group.

Every year the recognition and knowledge of the Swan among the public is evaluated.



Kendskab

The figure shows the level of recognition among the public (18+) in percentage. The light grey columns show the results for the Swan.

The Nordic Swan has not been subject of a specific evaluation in Denmark. Nordic evaluations were carried through in 2001 and 2008.

The Danish eco-labelling secretariat, Eco-labelling Denmark, was evaluated in 2004. The evaluation primarily focused on the organisation of the secretariat and the level of stakeholder satisfaction. The Nordic Swan was not a key subject.

There is an ongoing study on the environmental and socioeconomic benefits from "green products". The study is commenced by the Danish Environmental Agency, but it is not public yet (fall 2010).

11.4 Evaluations of Voluntary Agreements and Eco-labelling Schemes

11.4.1 Overview of evaluations of Voluntary Agreements

Evaluation of Voluntary Agreement on Recycling of Transport Packaging

Title of evaluation	Title of VA evaluated	Voluntary Agreement on Recycling of Transport Packaging
	Year of evaluation	1997
	Evaluator	ECOTEC Research and Consulting
	Contracting Authority	European Environment Agency
	Primary focus of evaluation (economic/environmental/other)	Environmental and economic
	Addresses policy mix (yes/no)	No

The evaluation was carried through early in the lifetime of the agreement and has thus only focus on the first 3 years. The evaluation is a case study as part of a larger project on Environmental Agreements.

The evaluation concludes that few data are available or calculated on the costs of implementing the agreement. According to the evaluation, The Danish Confederation of Industries suggests that one possible way of calculation is on the basis of a proportion of normal operating costs/wages of the parties involved in the agreement, but this was not done, nor thought necessary. According to the evaluation, the costs of implementation are spread across the Environmental Protection Agency for negotiating and monitoring; The Danish Confederation of Industries and the trade associations for the Working Group's administration and research; individual companies for sorting and disposal costs; and Municipalities and Common Council for introducing the necessary schemes and increasing capacity. As the agreement is being implemented through municipal regulations, this makes it complicated to distinguish the effects of the agreement from the effects of the Executive Order and difficult if not impossible to measure the costs of implementing the agreement.

The evaluation states that the Municipality of Copenhagen has carried out an assessment of "before-and-after costs" for companies in its waste-recycling scheme and this illustrates the effects of a general scheme on industry. The evaluation concludes that a total of 70% of companies noticed no increase in costs/price paid for waste disposal, while 20% reported lower costs and 10% reported higher costs. On the whole, smaller companies found sorting systems a neutral or positive cost, whereas larger companies found them a positive benefit. According to the evaluation, these results could also be realistically applied to transport packaging.

The evaluation states that the Danish Environmental Protection Agency carried out a comparative study of systems for packaging waste between the Danish agreement and the German DSD system, and esti-

mated that implementing the same system in Denmark would be five times as costly as the system in the agreement. Also the Swedish tax-based producer responsibility system, Belgium eco-taxes and French “eco-emballage” systems were assessed as more costly on industry and consumers.

The evaluation concludes on cost effectiveness that the VA introduces burden sharing and thus aims to reduce the overall cost of complying with the EU Directive.

The evaluation does not conclude on the fulfilment of objectives due to lack of data (notice the year of the evaluation). Due to lack of baseline, the environmental effectiveness was not assessed.

Evaluation of the Voluntary Agreement on Industrial Energy Efficiency

	Title of VA evaluated	Voluntary Agreement on Industrial Energy Efficiency
	Year of evaluation	2006
	Evaluator	ECOFYS, Science Centre North Rhine-Westphalia, Wuppertal Institute for Climate, Environment and Energy, Lund University, e ERG
Title of evaluation	Contracting Authority	Project executed within the framework of the Energy Intelligence for Europe Program
	Primary focus of evaluation (economic/environmental/other)	Several
	Addresses policy mix (yes/no)	No

The evaluation concludes that the VA most likely has reduced the energy use in the participating companies, but emphasizes that there are no reliable estimates of the net impact available. It is put forward that an often cited estimate is a CO2 emission reduction of 6 pct. in participating companies for 1996–2005, resulting in a decrease of the CO2 emissions by 400,000 tonnes by 2005. It is moreover stated that 60 pct. of the CO2 emission reduction is assumed to result from the implementation and maintenance of an EMS in participating companies and that the EMS was cautiously estimated to improve energy efficiency by 0.44 pct. per year in the evaluation in 1998 and by 0.4 pct. in the evaluation in 2000. Further on it is assessed that if assuming that the EMS accounts for 60 pct. of the energy efficiency improvements, the VA has overall improved energy efficiency by about 0.7% per year.

The evaluation concludes that the VA scheme has attracted the companies it was expected to. It is concluded that an important factor that has led to a successful implementation of the core issue of the agreement, the EMS, is that it is based on the structure and terminology of the environmental and quality management systems. Moreover, an important factor has been the ongoing dialogue and relationship between the Environmental Protection Agency and trade and industry.

No data are available to assess the effectiveness of the VA with certainty. According to the evaluation, the initial expectations on effective-

ness are assumed to have been achieved according to the Environmental Protection Agency.

Overall lessons learned are that the administrative costs for the implementing authority can be significantly reduced over time as a result of learning by-doing, adjustments and systematisation of the administration.

The cost efficiency is concluded to be better for the collective VAs than the individual VAs. Collective agreements require an active industry branch organisation and companies that are willing to co-operate.

The subject of policy mix is not addressed in the evaluation.

Evaluation on Voluntary Agreements on land use between farmers and waterworks

Evaluation on Voluntary Agreements on land use between farmers and waterworks	Title of VA evaluated	User restrictions (Voluntary Agreement between farmers and waterworks)
	Year of evaluation	2009
	Evaluator	Institute of Food and Resource Economics (University of Copenhagen); Jens Abildtrup, Frank Jensen and Alex Dubgaard
	Contracting Authority	Copenhagen Energy
	Primary focus of evaluation (economic/environmental/other)	Efficiency
	Addresses policy mix (yes/no)	Yes

The evaluation seeks to assess the efficiency of voluntary agreements between farmers and waterworks on the issue of land use near water catchment.

The evaluation is mainly based on interviews with waterworks

No environmental targets are set in relation to this VA and the fulfilment of targets is thus not an area of focus.

It is concluded that the use of VA in this area is less effective; mostly due to the fact that the individual negotiations are drawn-out and often without an agreement as a result, unless threats of expropriation is used.

A problem is enforcement and control. It is difficult and costly to control that the farmers comply. Thus, several waterworks combine with other policy instruments; see more information below.

Three of four negotiations do not result in an agreement. This causes high transactional costs. A solution to this problem is the use of standard agreements in the form of "Take-it-or-leave-it"-negotiations. This approach does, however, cause other problems and will most likely also result in many farmers being unwilling to sign an agreement.

The evaluation does not focus on the efficiency of agreements made.

The evaluation concludes that agreements are more likely to be made when threats of other types of regulation is put at stake. Several waterworks combine the agreement with afforestation or set-aside in order to relieve the burden of control. Another method is to combine the agreement with the EFF measure or organic farming, as this shifts the control burden to the Ministry of Food, Agriculture and Fisheries.

The farmers are given different possibilities, but conclusions in this subject are only related to the negotiation process.

11.4.2 Overview of evaluations of Eco-labelling Schemes

An evaluation of energy labelling on residential housing was carried through in 2008. The aim was to assess whether the energy label has an effect on energy consumption; a hypothesis being that the largest effect (if any) would be found on C-labelled houses as these are in worst condition and thus subject to most recommended improvements and related investments. The focus of the evaluation was energy consumption for heating.

The evaluation concluded that the labelling system has not provided significant energy savings. The author states that this might not be due to the fact that the energy label on housings has no effect; energy saving effects can be counteracted if the house owner uses the effect of implemented improvements to achieve a higher room temperature at the same price.

11.5 Learnings from evaluations

The identified evaluations are quite “uneven” in relation to focus, extent, data and methodology. Conclusions can hardly be drawn between the evaluations. Some points can, however, be derived.

11.5.1 Cost effectiveness

Cost effectiveness is often difficult to assess, according to the evaluations. This is mainly due to lack of data and lack of comparables.

In the case of VA on Recycling of Transport Packaging, 20 pct. of the companies in a survey reported lower waste related costs after implementation of the agreement; 10 pct. reported higher costs. A comparative study with international experiences assessed that the Danish VA was less costly than the models implemented in Germany, Sweden, Belgium and France.

The case of VAs on Industrial Energy Efficiency concluded that cost effectiveness increased over time due to the changes that were implemented when learning on the administrative level was made. Moreover, the cost effectiveness on company level must presumably be notable due to the fact that the implemented energy efficiency related projects had a pay back-time of four years or less.

It can be assumed that the participating industrial organisations have an interest in seeking cost effective methodologies and solutions when

participating in the designing of the VAs. Cost effectiveness seems to be a strong argument for drawing and entering the agreements.

When viewing the eco-labelling schemes, no conclusions are seen in terms of cost effectiveness.

11.5.2 Policy mix

The only identified evaluation of VAs that deals directly with the issue of policy mix is the evaluation of the VA on User Restrictions on Land Use. Here it is seen that a policy mix is relevant when the agreement is implemented in order to lessen the costs of enforcement and control. The farmers are encouraged/requested to implement set-aside measures or EFF measures in order to lessen the need to control that for example less or no pesticides are used on the areas covered by the agreement.

The evaluation of the VA on Industrial Energy Efficiency does not directly address policy mix, but is implicit concluded by both evaluation and the interviewed experts that the policy mix with green taxes (possibility of reductions) is a crucial point for motivating the companies to join.

In the case of eco-labelling it is primarily the use of green public procurement that can act as policy mix tool. This is anticipated as a major advantage henceforth, especially in relation to the implementation of the Ecodesign Directive.

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12. Annex D – Country Study

Norway

12.1 Voluntary Agreements and Environmental Labelling in Norway

12.1.1 Introduction

The report has been written by Dr. techn. Ole Jørgen Hanssen, Ostfold Research, in cooperation with Erik Svanes, also from Ostfold Research.

12.1.2 Methodology

The study of Voluntary Agreements in Norway has been carried out during July-September 2010. Key persons in the Norwegian Business Organisations and Environmental Authorities have been contacted by e-mails, and asked about overview of VAs that are or have been in function within their respective regulatory areas. They were also asked if the VAs had been evaluated and if there were reports available from the evaluations.

This overview has been written based on the written material about the most important VAs in Norway, and has been quality checked by the informants in the business organisations and environmental authorities.

List of contact persons

Date	Organisation	Position	Name
18.08 and 13.09 10	Norsk Industri	Assistant Director	Marit Holtermann Foss
24.08 and 17.09 10	Norsk Industri	Director	Thoralf Thoresen
18.08 10	Byggenæringens Landsforbund		Arne Slettebø
24.08 10	NHO	Senior Advisor	Helge Fredriksen
20.08 and 27.08 10	KLIF	Senior Advisor	Sigrun Øen
19.8 10	Direktoratet for Naturforvaltning	Senior Advisor	Asbjørn Tingstad

12.1.3 Definition of terms

There is no specific definitions given for VAs nor for Eco-labelling in the Norwegian Environmental Regulations, and there has not been defined country specific “terms of use” of the systems.

12.2 The use of Voluntary Agreements in Norway

12.2.1 Historic view of the use of VAs in Norway

VAs were established as a new way of working to reach specific environmental goals in Norway in 1995, with the first generation of Packaging Covenants between the Packaging Sector and the Ministry of Environment. This started with establishment of companies being responsible for development of systems for material recycling and recovery from used packaging, e.g. plastic, metal, drinking cartons, corrugated board etc. Those companies are owned by the packaging producers and users, and are responsible for using the funding resources from the fees being paid for packaging use as effective as possible, to reach the goals of recycling and recovery of used packaging materials. A specific organization has also been established to work for packaging optimization, i.e. to minimise environmental and resource burden in relation to the total functionality of packaging (Næringslivets Emballasjeoptimeringskomite).

VAs have also been established within other waste sectors based on experiences from the packaging sector. Battery recycling, electronic and electrical equipments and PCB window glass are three other areas where VAs have been established since 1995.

Since 1997, there has also been VAs established to reach the goals for reduction of SO_x, NO_x and climate gas emissions by the Norwegian industry, transport and service sector. Also here, the VAs have been established through funding organizations, where bodies managed by the industry are responsible for collecting emission fees from companies to the funds, which in the next hand are used to support investments in new technology or new options for emission reduction in companies.

The last example of a VA in Norway is within protection of biological production and diversity of forest habitats, where the environmental authorities and local land owners establish agreements about protection of specific areas with high biological values, and with compensation for loss of income from the protected areas.

12.2.2 Role of VA in Norway

VAs seem to have been established as an integrated part of environmental regulation in Norway for the last 15 years, based on experiences from the VAs established in the packaging sector. It seems to be a common

understanding between environmental authorities and the Norwegian Business Sector (Næringslivets Hovedorganisasjon and Norsk Industri) that this type of agreements, based on the Producer Responsibility Principles, are an effective way to reach environmental goals.

The Norwegian Industry has clearly stated in their hearing paper to the white paper about environmental taxes, that VAs are more effective and preferred by the industry. The reason is that it gives the industry more freedom to find the best options for emission reductions, and that the resources from the emission fees are used directly to support new investments in the industry (NHO 2007).

Both the authorities and the business sector seem thus to agree that voluntary agreements is a strategy should be continued also for the future, and it seems also to be a clear tendency that they are used in new areas.

12.2.3 Types of VA in Norway

The main types of VAs in Norway are negotiated agreements between the Ministry of Environment and different economic sectors. In all cases there are general laws that regulate the area of concern as a basis, e.g. the Pollution and Waste Act or the Act for Biological Diversity and Production and regulations concerning Extended Producer Responsibility. However, those regulations are not used to regulate emissions or waste treatment in a detailed manner, nor to use taxes or fees on emissions and waste. In most cases it is thus not a real mix of different regulatory systems, but more a general “basic regulation” that can function as a “whip” if the obligations in the VAs are not achieved.

12.2.4 Overview of implemented VAs

The VAs that have been implemented in Norway so far have been in the following economic sectors:

- The Packaging Sector (producers and users of packaging)
- The Electronic industry and producers of electric equipments
- Forest land owners
- Process industry, building industry, maritime sector, fisheries etc
- Chemical Industry

An overview of the VAs in function in Norway at present is shown below.

Subject	Packaging waste (except glass)	Packaging waste from glass	Batteries, PCB window glass, electronics and tires	Protection of forest areas with high environmental value	Agreements for NOx, SOx,	Greenhouse gases and energy efficiency
Title	Sector agreements on packaging waste	Sector system for glass waste	Sector agreements for product take-back (7 agreements)	Voluntary protection of forest bio diversity	Voluntary agreement between Norsk Industri and Ministry of Environment on SOx, Voluntary agreement between 14 sectors and Ministry of Environment on NOx	Voluntary agreements between Federation of Norwegian Industry, Aluminium industry, Pulp Paper Industry and Ministry of Environment/Enova
Economic sector	Packaging producers and users	Packaging users, window glass producers	Battery producers, window glass producers, electronic sector and auto industry	Forestry sector in Norway	Process industry (SOx) building industry, shipping, fishery, tourism sectors (NOx).	Process industry in Norway, Aluminium industry, Pulp Paper Industry
Regulation area	Recycling of waste, packaging optimisation	Recycling of waste, packaging optimization	Take back systems for products for safe waste treatment and recycling of materials	Protecting forest areas with high environmental value from forestry	Reduce emissions of SOx from industrial processes, building industry, shipping, fishery, tourism sectors (NOx).	Reduce emissions of climate gases and increased energy efficiency
Environmental issue addressed	Resource depletion and all environmental issues related to waste treatment and processing of virgin materials	Resource depletion and all environmental issues related to waste treatment and processing of virgin materials	Resource depletion and all environmental issues related to waste treatment and processing of virgin materials. Prevention of spreading of toxic compounds	Protect natural diversity in forests	Acidification, eutrophication and smog formation	Climate effects and resource depletion (energy)
Period	First established Sept 1995. Renewed March 2003	First established 1991	Lead batteries (1993) Portable batteries (2000) Dekk EE-waste (1998) PCB isolating glass (2002)	Started in 2003	SOx : Establish 2001, renewed in 2010 NOx: Established 2008	Aluminium industry: From 1997–2005 Greenhouse gas agreement (quota and non-quota) 2004, with target for 2007, renewed only for non-quota in 2009 for the period 2008–2012 Energy efficiency pulp paper: 2004–2009; renewed for 2009–2014. Enova: 2007–2010
Partners (main signatories)	Ministry of Environment, with packaging producers and users through material companies	Ministry of Environment, Norsk Glassgjenvinning	Ministry of Environment and the different branches through material companies	Norwegian Forest Owners Organisation and Ministry of Environment	SOx: Ministry of Environment and Federation of Norwegian Industry. NOx: 13 additional branch organizations (building industry, shipping, fishery, tourism sectors)	Ministry of Environment and Norsk Industry, Aluminium Industry and Pulp Paper Industry

Subject	Packaging waste (except glass)	Packaging waste from glass	Batteries, PCB window glass, electronics and tires	Protection of forest areas with high environmental value	Agreements for NOx, SOx,	Greenhouse gases and energy efficiency
Aim of agreement	Recycle packaging waste and optimize packaging solutions	Recycle packaging waste and optimize packaging solutions	Establish product take-back systems to prevent spreading of toxic compounds and recycle as much materials as possible	Establish protected areas in natural forests in Norway, as a supplement to the formal protection according to Law	Reduce total emissions of SOx and NOx from the Norwegian business sector	Reduce climate gas emissions from process industry. Increase energy efficiency and renewable energy use in industrial processes.
Are goals set? Which?	Specific goals for each material type with regard total recovery and material recycling. No specific goals for packaging optimization.	There are no specific goals set in the existing agreement	Specific goals are set for -Lead batteries (95%) - Portable batteries - EE-waste (80%)	A specific goal of protection of 200 km2 of productive forest before 2009	Specific goals are established based in obligations: SOx: 5000 tons reduction from 2001–2010 NOx: 30 000 tons reduction before 2011	There are specific obligations to be met in the climate gas emissions agreements regarding total emissions and emissions per ton aluminium. No specific goals set for the energy efficiency agreements, but the companies are obliged implement standardized energy management systems, to analyse their energy reduction potential and carry out projects with a pay-back of less than 3 years.
Are there sanctions?	Regulations and taxes can be introduced if the goals are not achieved	No sanctions	No sanctions	No sanctions	There are no sanctions as such, but more strict taxes can be introduced if the obligations are not met by the industry.	For the greenhouse gas agreements the industry will have to buy quotas to cover emissions above the targets set.
Policy background	Waste policy in Norway connected to Packaging Regulations in the EU	Waste policy in Norway connected to Packaging Regulations in the EU	Extended producer responsibility introduced in White Paper to Parliament 44.	White papers to the Parliament about protection of biodiversity in forests in general, and about this special agreement	White papers to the Parliament about emission reduction from Norwegian industry	White paper 34(2006–07) to the Parliament about climate gas emission reductions to be achieved by the industry.
Legal nature of agreement	Negotiated agreements between the parties	Voluntary system	Agreements based in regulation	Negotiated general agreement. Contract for each area part of property regulations	Negotiated agreements between authorities and industrial organizations regarding obligation for emission reductions	Negotiated agreements between authorities and industrial organizations regarding obligation for emission reductions
Design features, how does the voluntary agreement work?	All users of materials pay a fee per kg to the system. The fee is used to promote collection and recycling of materials through financial support the establishment and operate systems, and to carry out information campaigns.	All users of materials pay a fee per kg to the system. The fee is used to promote collection and recycling of materials through financial support the establishment and operate systems, and to carry out information campaigns.	All users of materials pay a fee per kg to the system. The fee is used to promote collection and recycling of materials through financial support the establishment and operate systems, and to carry out information campaigns.	Areas are proposed by the forest owners, whereas the biological quality of the areas are evaluated according to same criteria as conventional protection	All member companies pay a fee per emitted ton, which is the basis for a common fund where all members can ask for support to emission-reducing options. The fee is relatively low compared to conventional taxes.	For all the agreements there are targets for specific emissions, emissions or energy efficiency, the industry/sectors choose how to reach the targets. This has been done by collecting funds and using this to reduce emissions from one or more companies or by individual abatement measures.

Subject	Packaging waste (except glass)	Packaging waste from glass	Batteries, PCB window glass, electronics and tires	Protection of forest areas with high environmental value	Agreements for NOx, SOx,	Greenhouse gases and energy efficiency
Is the voluntary agreement used in a policy mix? Which?	There is a common basic fee on all types of non-reusable packaging for beverages, except for milk products.	In combination with a basic tax for all types of non-reusable packaging, and a tax that is differentiated according to collection levels.	Not a real mixture, but an agreement based in regulations	Yes, areas are still protected within the framework of the Law of Biodiversity	The agreements are combined with systems for emission regulations through permits, and general charges on oil with high sulphur content etc.	The agreements are combined with systems for emission regulations through permits, and general charges on fossil energy and climate quotas
Implementation practice	The agreement is implemented through the Norwegian Green Dot system, with membership and payment of fees per ton of materials used	The agreement is implemented directly between NG and the users of glass packaging and window glass	The agreements are implemented in most cases through material companies that are responsible on behalf of each sector.	The agreements are implemented on a regional basis, between regional authorities and the local forest owners.	There have been established specific funding organizations that operate the economic part of the agreements	The agreements and any economic part are handled by Federation of Norwegian Industry, not an independent organisation.
Has the voluntary agreement been monitored? Evaluated?	The agreement is monitored annually be a report to the authorities by 1 June. The agreements have been evaluated two times in the period, last time in 2008.	The system is monitored annually together with the negotiated agreements for other packaging materials. The system has been evaluated twice in the period.	The results from the work are monitored every year. The agreements have been evaluated in 2008.	There is no annual monitoring (???). The agreement has been evaluated on a formal and natural scientific basis in 2009–10.	For SO2 there are quarterly payments from the companies to the fund, from which emission levels are calculated. Main report on emissions every year from companies. Every year three companies are picked by the fund, and a third party (usually SINTEF) carries out a verification of the emissions.	All companies involved measure their emissions according to guiding principles and emission levels are reported annually to the Environmental Protection Agency (KLF). No independent evaluation has been carried out so far.

Additional to the above mentioned VAs, there is currently only one example of a unilateral commitment in Norway; the Responsible Care programme of the chemical industry.

The main environmental areas covered by the VAs are all aspects related to waste and resource management, protection of biological values in forests and GHG-emissions, acidification, eutrophication, smog formation, and toxicity. From the beginning of the early 1990s where waste from used packaging was the only sector involved in VAs, the mechanisms have been further spread to many business sectors, to solve several types of environmental problems.

12.2.5 VAs in policy mix

The voluntary agreements established in Norway are all, with one possible exception (glass recycling), functioning in combination with other regulatory measures. Those measures are in the cases with VAs more of a general character, being a regulatory basis for all sorts of activities within the VAs areas. This means that more specific regulations or taxes are not used in areas where there are established VAs, making it easier for the industry to have a long term planning horizon for achieving their environmental goals. Both in the waste sectors and in the air emission sectors, there are or have been some basic taxes on packaging and fossil energy consumption. Companies do also have their specific permissions to air and water emissions from production, which can all be seen as minimum requirements to the environmental performance of companies and sectors. More specific and strict regulations or taxes are however not established, as far as the industry fulfil their obligations according to the VAs in the sectors.

For the VA on protection of areas with high biological value in forests, there is still a combination of regulatory measures, where the environmental authorities protect specific areas according to the Law for protecting Biological Diversity. It seems, however, that this is done more seldom today than before the VA system was established a few years ago, and that both environmental authorities and land owners see VA as a more efficient system for protecting areas (Skjeggedal et al. 2010).

12.2.6 Two cases of VA in Norway

Case 1: Sector agreement on packaging waste management

The VA is a producer responsibilities agreement on waste management within packaging. It covers packaging producers and all types of packaging users, where the food and drink industry dominates with about 70% of the market.

There are two main regulatory areas:

- Recycling and recovery of materials from used packaging, to achieve certain goals for material recycling and total recovery
- Packaging optimization, where the main goal is to reduce total environmental and resource burdens as much as possible, without compromising with the function of packaging.

The agreement covers waste treatment and optimal resource use, with focus on all impacts related to those areas. It was implemented in 1995 and has been prolonged once in 2005 for a period of 10 years. The main signatories are packaging producers and users and the Norwegian Federation of Business (NHO), organised under the umbrella of Green Dot Norway (Grønt Punkt).

The aim of the agreement is to reach the goals set for recycling and recovery of used packaging materials in Norway, namely plastic, metal, drinking cartons, corrugated board and “emballasjekartong”. There have been defined specific goals for each type of material involved in the VA. The goals were first set for a 10 year period from 1995–2005, and then revised and made stricter from 2005. The following goals are now defined as:

- Plastic: Minimum 30% material recycling and 50% energy utilization per year for conventional plastic packaging. Minimum 60% recovery of EPS materials, including at least 50% material recycling.
- Fibre packaging: At least 60% of packaging materials shall be recovered each year, including at least 50% material recycling and the rest to energy utilization.
- Drinking cartons: At least 60% (by weight) of the packaging material shall be material recycled each year
- Corrugated board: At least 80% of materials shall be recovered each year, preferably with material recycling. Up to 15% of materials can be recovered with energy utilisation
- Metal packaging: At least 60% of all packaging metal materials shall be material recycled each year.

There are no specific sanctions in the policy framework as such, but the authorities could eventually introduce environmental taxes if the obligations are not fulfilled by the packaging sector. With regards to the results that have been achieved so far, this seems to be a necessary action to be taken in the near future.

The policy background for the VA in the packaging sector is the EU regulations on packaging EU 62/94 and the more operational CEN standards 13027–32. The Producer Responsibility Principles in the EU regulations are also an important policy basis for the VA.

Nationally, the Pollution and Waste Law of 13 March 1981 no 6 is the regulatory basis for the voluntary agreements in the waste sectors

(§33).The VA system is described in several white papers to the Parliament, last in the Budget proposition from 2008.

The VA is made operational through a number of Material Recycling Companies, established by the industrial sectors and companies being the most important users of the different materials. All companies pay fees for use of packaging materials (defined by each company in their annual budgets), which is invoiced through the Norwegian Green Dot company. All funding minus administrative costs for operation of the Green Dot system are allocated back to the different sectors, and used to support establishment, operation and further development of recycling systems in Norway.

As mentioned earlier, the VA is a negotiated agreement between the environmental authorities and the packaging sectors in Norway, within the framework of Producer Responsibility Principles and the Pollution Act. The VA has been combined with general tax systems for packaging (Grunnavgift), which is a basis tax all packaging users have to pay per unit beverage packaging (except for milk products). This system has been much debated both nationally and by the ESA authority (see letter of 16 April 2008).

The VA has been monitored by the Packaging Sector each year since the establishment in 1995, both with regard to recycling levels reached for each material type (Annual Reports from each Material Company), and with regard to packaging optimization (annual reports from Næringslivets Emballasjeoptimeringskomite). The annual monitoring have shown that the goals and obligations have been achieved for most material types since 1995, and that there also are made good progress with respect to packaging optimization.

The VAs have been evaluated twice in the period since 1995, both times by the consulting company Hjellnes Cowi (Hovde et al. 2008). The evaluation report concludes that all parties are satisfied with the VA system, and that the goals are achieved with much lower costs than if environmental taxes should have been used by the authorities. The administrative costs are low, and most of the funding is used directly to “lubricate” and develop the systems for material recycling. The administrative costs for the authorities are also quite low, as it is estimated that 2,0 man years are used to follow up the work being done by the Material Companies (Hovde et al. 2008).

Case 2: VA in protection of forest areas with high biological value

The economic sector involved in the VA is forest land owners directly and in the next hand customers in the value chain of forest materials and resources, e.g. pulp and paper companies, bio energy companies, saw mills and users of tree materials.

The aim is to protect the habitats of fauna and flora in forest areas with high biological value against all types of damages to the landscape, the forest ecosystems and wild animals and plants. Protection according

to VAs are of the same strict level as with protection according to Law for Conservation of biodiversity, but the process is carried out in close cooperation with involved land owners. An important aim is to carry out the process with lower resource use and with lower conflict levels than in traditional conservation processes. The main environmental impacts that are considered are conservation of natural habitats, biodiversity and biological protection, landscape etc. Core values to protect are vulnerable forest species, representative natural habitats of high biological values and core areas for wildlife and flora over the whole country.

VA in forest conservation started as a pilot project in 2003, and has been continued since then. The main signatories are the local forest land owners and environmental authorities (Directorate for Nature Conservation). The pilot project is a collaboration between the forest land owner organization and Ministry of Environment.

The goal of the pilot project with VA from the Ministry of Environment has been to establish processes with conservation of at least 200 km² with productive forest areas before 2009.

The obvious sanction is that if not enough areas of the relevant biological value is conserved through the VA work, environmental authorities can use the instruments with protection according to the Law of Biological Diversity to establish conservation areas. It is also possible to establish preliminary conservation immediately if there are direct threats against the biological values of the areas.

The policy background has been to test alternative approaches to conservation of biological values in forests, based on principles for cooperation between the public and private sector. The aim has been to make the process for conservation most effective, with less conflicts with the land owners and with more efficient processes. The policy background was discussed in a white paper to the Parliament (St.meld. 42 (2001–02)), and where the majority in the Parliament Committee agreed to use the VA instrument actively to make the conservation process more effective (Instilling S:206 (2001–02:14)).

The legal basis for the VA instrument is the Nature Diversity Law established in 2009, based on the earlier Nature Conservation Act. This law has been the legal basis for survey and mapping of areas with biological values in forest areas in Norway, and for the conventional work with protection of areas.

The VA is designed to establish specific agreements between local land owners and environmental authorities, where the land owners accept to withdraw from all types of actions that can damage the biological values in the areas defined in the agreement. The land owners gets a certain compensation for the protection status, which is formalized in public documents related to the properties.

As mentioned earlier, the VA for protection of forest areas is used in a mix with conventional conservation according to the Nature Diversity

Law. However, since the pilot project was established in 2002, most of the areas that have been protected have been according to the VA instrument. There have been different views in the Parliament to which extent the conventional conservation work should be more or less substituted by VA protection, which is reflected in the discussions of White Paper about Environmental Status in Norway (Innst. S. nr 46 (2003–04:11)). However, in the last discussion of a White Paper in 2008, the majority of the Environmental Committee in the Parliament agreed upon the importance of using the VA instrument as a major strategy to conserve biological values in forest areas (Inst. S. (2007–08: 27)); see Skjeggedal et al. 2010 for further details.

The VA process follows a different approach to conventional conservation, especially in the initial phases of the process. Whereas the conventional process is an open process, the VA process is much more closed in the initial phase. It starts normally with an initiative from a forest land owner who contacts the regional environmental authority to discuss VA status for a given forest area. The area has to be classified with high biological values, often registered in the surveys that also are the basis for conventional conservation. After this initial contact, all elements in the agreement are normally sorted out and agreed upon before the process is public known, including boundaries for the area and compensation to the land owner. This has been criticised by NGOs as they are not part in the process in the same manner as in conventional conservation processes (Skjeggedal et al. 2010). However, as the VA instrument has been a success (see below), this has not been a very highly debated question with regard to the process.

The progress according to the VA is monitored annually and has recently been evaluated.

12.3 The prevalence of Eco-labelling in Norway

12.3.1 Historic view of the use of Eco-labelling in Norway

The history of Eco-labelling in Norway started in 1990 with the establishment of the White Swan, and has from this early beginning been further developed into several other labelling systems. The importance of the labelling systems has increased over the past 10 years, due to among others increased focus on public procurement with environmental and resource criteria.

12.3.2 Role of Eco-labelling Schemes in Norway

The Eco-labelling Schemes are considered to be an important instrument in development of more sustainable consumption and in development of more eco-friendly products in Norway (St.Prop 01 (2010–11) from the Ministry of Children, Equality and Social Inclusion. There are goals set to increase the number of product groups with eco-labelling criteria (3) and for new licenses (60), showing clear ambitions for increased use by companies in Norway. The net increase in the number of new licenses in Norway in 2009 was 92.

Overview of Eco-labelling Schemes in Norway

Nordic Swan	Responsible body	Stiftelsen Miljømerking
	Type of responsible body	Foundation responsible for the official White Swan Eco-labelling in Norway
	Year of implementation	1990; Established by the Ministry of Environment and Ministry of Children, Equality and Social Inclusion, together with NHO and LO.
	Number of product groups covered	70 product groups with 477 licences issued at the end of 2009, with a high number of products verified according to the Nordic Swan. 9 product groups are represented with the EU Flower in Norway.
	Short description of scheme	Stiftelsen Miljømerking is the official organization for Eco-labelling in Norway, operated according to ISO 14020 and 14021. It is part of the Nordic Eco-labelling Scheme, and establishes criteria for eco-labelling and verifies if products fulfil the criteria and can use the White Swan label in marketing and sales of products.
European Flower	Responsible body	EPD Norge
	Type of responsible body	Foundation responsible for the official Type III EPD program in Norway, operated according to ISO 14025
	Year of implementation	2002, Established as a foundation by NHO and BNL in Norway
	Number of product groups covered	Main product groups covered: Building materials (50 products) Energy (2 products) Packaging, paper and chemicals (7 products) Furniture (24 products).
	Short description of scheme	EPD Norge is responsible for operating the Type III program for Environmental Product Declarations in Norway. It is a foundation, where companies can pay a membership fee to have their products certified with standardized EPD data according to ISO 14025.
Debio	Responsible body	Debio
	Type of responsible body	Member organization with three main types of members: Primary producers organizations (6) Processing, importers and retail (10) Environmental and animal welfare organisations (6)
	Year of implementation	-
	Number of product groups covered	Debio covers both organizations and products, related to primary production, processing, import and grocery of food and agriculture products. In total 2851 primary producers and 803 institutions from processing, import and groceries were certified in 2009.
	Short description of scheme	Debio is an organization accredited to certify organisations and products in relation to organic farming, aquaculture and forestry in Norway.

	Responsible body	Fair Trade Norway
Fairtrade	Type of responsible body	Ideal Foundation, established by 12 nongovernmental organizations (environmental organizations, aid organisations and business organizations).
	Year of implementation	Established in 1997
	Number of product groups covered	In 2008, 16 product groups were included in the FairTrade labelling system in Norway, with a total turnover of 250 mill NOK for all products. Flowers, coffee, bananas and wine are the most important product groups.
	Short description of scheme	-
	Responsible body	Stiftelsen Miljøfyrtårn (Eco-lighthouses)
Eco Lighthouse	Type of responsible body	Foundation, established to operate a program for environmental management in small companies, with low capacity.
	Year of implementation	2003 – Established as a foundation with support from Ministry of Environment.
	Number of product groups covered	The EcoLighthouse program do not focus on products, as organizations are the target groups for the program. The number of certified organizations was 1422 in December 2008.
	Short description of scheme	The Foundation has developed a system for environmental management of smaller organizations that needs significantly less resources to implement than ISO 14001 and EMAS. The system is operated through local municipalities who are responsible for the program and who normally certify organizations within in their own region.

None of the Eco-labelling schemes have been evaluated on a full scale, with focus on results, cost-effectiveness etc. There has been done an evaluation of the effects on GHG emissions by the White Swan on a Nordic Level (Haltbrekken 2005), but without an evaluation of cost-effectiveness of the system nor a comparison with other instruments. The Eco Lighthouse system in Norway has been evaluated in 2008 as part of a student project at NTNU (Iglebæk 2009). The main focus in that work was on what results that have been achieved by the participating organizations, compared with other comparable organizations in Norway. The reports have thus not evaluated the systems and instruments as such.

The Eco-labelling systems have all shown growing importance in Norway over the past 5 years, both in economic importance and in the diversity of products and sectors included in the systems. The EPD Type III system and the Eco Lighthouse system are first of all related to “business to business” relationships, involving both private and public sectors as customers. The White Swan, the Fair Trade system and the Debio system is more oriented towards the private consumer as target groups, but are also used in business to business relationships.

The White Swan is the most official eco-labelling system with a broad platform in the economy, with financial support from the Ministry of Children, Equity and Social Integration. The political platform for the White Swan has been discussed in several White Papers to the Parliament, last time in relation to the National Budget in 2009 (St.Prop 1 (2008–09)), and with a clear platform to contribute in

- Improvement of the environmental performance of consumer products and industrial products through relevant criteria

- Increasing the environmental consciousness of consumers through information campaigns.

The EPD Type III system is first of all a system for communicating environmental performance of products and services in a business to business relationship, based in Life Cycle Assessment data. It has been a growing interest for this type of information over the past five years, both nationally and internationally, and especially in the building sector. Type III EPDs should be regarded as an important supplement to the other labels, giving more detailed information about products, and with high transparency and independent verification. Data from EPDs can be used both as a basis for setting criteria in the other systems, and as a basis for certification of products according to the White Swan, as both systems are based on LCA data. The other systems are more specialized either to food products (Debio and Fair Trade), to specific types of criteria like social equity (Fair Trade) or organic farming (Debio) or to SMB organisations (Eco Lighthouses).

The White Swan is the most well recognized Eco-Label in the Norwegian market in studies carried out (Annual report from the Eco-Labeling organisation 2008), where 94% of the consumers recognize the label.

12.3.3 Eco-labelling Schemes in policy mix

The Eco-labelling Schemes are first of all used in a mix with Green Procurement, as an instrument for selecting the right suppliers and the right products in Public procurement. In this context, all types of Eco-labels are used, within the limits set by Laws regulating fair competition. The status for green purchasing in Norway was discussed by Hanssen et al (2009), recognising that it is a big potential for improvements in how Green Procurement is operated by the Public sector in Norway.

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12.4 Evaluations of Voluntary Agreements and Eco-labelling Schemes

12.4.1 Overview of evaluations of Voluntary Agreements

Evaluation of Recycling and recovery of used packaging, electronic and electric products, batteries and tyres

Evaluation of Recycling and recovery	Title of VA evaluated	Evaluation of sector agreements on waste recovery and recycling
	Year of evaluation	2008
	Evaluator	Hjelnes
	Contracting Authority	SFT (now KLIF) – Norwegian State Pollution Control Authorities
	Primary focus of evaluation (economic/environmental/other)	Primary focus areas were whether the agreements had been fulfilled and if the work was considered to be cost-effective
	Addresses policy mix (yes/no)	To some extent

The evaluation shows that for most of the materials, the goals related to waste recovery and recycling levels have been met. There has not been defined more specific goals regarding what types of environmental impacts that should be reduced in the next hand, e.g. GHG emissions, toxicity etc.

As only “mid-term” effects of the VAs like recycling and recovery levels have been defined, there has been no focus on what should be achieved concerning environmental impacts, which could have been an appropriate goal for the VAs in the future. A number of LCA studies of different waste management solutions in Norway have been carried through over the last years, which could be used as a basis for such types of goals.

In the evaluation, collection rates with focus on recycling and recovery is measured through partnerships with those institutions and companies that are responsible for collection. There have been several discussions concerning the denominator in the equations, concerning the level of materials being used in Norway.

There is a very close connection between the achievements related to targets and the instruments being established and operated through the VA system in this area in Norway.

There has not been considered a hypothetical Business as usual scenario in the evaluation – however, it is quite obvious that this is hypothetical as other, more conventional instruments like environmental taxes and regulations would have been considered as the main alternatives.

The instruments are considered to be effective by all partners, based in the interviews carried out in the evaluation. The VA instrument is moreover considered to be very efficient compared to other types of

conventional instruments, as the fees on packaging use are low compared to the assumed taxation levels.

There is seen no direct influence on other sectors, but establishment of recycling systems in households and in the business sector is often considered to be a motivation also for other types of environmental options.

There is a high level of flexibility, as the VA partners support a number of technologies and solutions to reach the targets for recycling and recovery of materials. There is no obvious influence on competition, but there is a potential impact on selection of materials if one packaging material has too high targets and costs, relative to other materials.

Evaluation of Protection of Forest Areas with High Biological Values

Evaluation of Protection of Forest Areas	Title of VA evaluated	Voluntary forest conservation – Approach evaluation
	Year of evaluation	2010
	Evaluator	Norsk Institutt for By- og Regionforskning in collaboration with Norsk Institutt for Naturforskning
	Contracting Authority	Direktoratet for Naturforvaltning
	Primary focus of evaluation (economic/environmental/other)	Effectiveness of the approach with voluntary protection of forest areas
	Addresses policy mix (yes/no)	Yes

According to the evaluation, the target related to how big areas that should be involved in processes with voluntary conservation has been more than fulfilled since the pilot project started in 2003. However, this is only a mid term effect and might not be a relevant measure for which types of biological values that have been addressed and protected in the processes.

Targets in the VA are defined on the mid term level, focusing on how big areas of productive forests with high biological value that are protected through voluntary agreements. It is discussed in the evaluation if the achievements have a representative geographical distribution, so different types of forest habitats are included. More specific targets for which types of values that should be protected (threatened species, habitats etc) could advantageously have been set, but this has not been the case so far.

The area that is conserved or that are in process to be conserved is easy to measure and to register on an overall and geographical level. It is however not considered in the evaluation how to measure more specific values that are conserved in the VA instruments. The evaluation report does not consider if the VA instrument has favoured some types of areas and values, relative to a representative total area.

12.4.2 Overview of evaluations of Eco-labelling Schemes

As mentioned earlier in the report, no real evaluations have so far been carried out of the different Eco-labelling schemes in Norway, where the cost-effectiveness of the instruments have been discussed in relation to results achieved.

12.5 Learnings from evaluations

12.5.1 Cost effectiveness

The two evaluations of the VA instruments in Norway both show that the instruments have been cost effective with respect to achieve the “mid term related” targets and obligations that have been established. Also the other instruments on emission reductions seem to be cost-effective, although there has not been carried out any evaluations so far. Costs have been low for all partners in the process, and significantly lower than if more traditional instruments should have been implemented by the authorities. The fact that new VA instruments have been established on emission reductions and old instruments have been renegotiated between the industry and environmental authorities seems to be a good indicator for cost effectiveness of the VA instruments in action.

Both evaluations that have been carried out on VA areas in Norway points out that there have been few conflicts and low administrative costs related to operation of the VA, both by authorities and the business sector. The VA on conservation of forest areas points especially on the fact that the VA approach has reduced the conflict level significantly in forest protection in Norway, that the processes are much less time consuming and take shorter time, and that much larger areas now are in the process of being protected than with the traditional approach.

12.5.2 Policy mix

Policy mix might be related to two different properties of the VA instruments;

- If the instruments are used in a mix with other policy measures and regulations
- If the instruments have a main focus on one area, and also influences positively or eventually negatively on other areas of concern.

With respect to mix of instruments, there has been some problems in Norway where the VA instruments have been combined with or influenced by other type of regulatory measures, e.g. in the packaging area.

Waste treatment is regulated and influenced by policies and measures from several Ministries, e.g. by the Ministry of Environment (responsible for the VA discussed here), but also by the Ministry of Oil and Energy and Ministry of Finance that are responsible for environmental taxes on different energy resources and carriers and tax policies in general. In an earlier report (Raadal et al 2003), Ostfold Research has shown that the mix of VAs with other financial instruments can result in a situation with economic funding and taxations which not give the right incentives to actors in the market, to manage waste in the most sustainable way.

13. Annex E – Country Study Sweden

13.1 Voluntary Agreements and Environmental Labelling in Sweden

13.1.1 Introduction

This country study has been carried through by Åke Thidell and Carl Dalhammar, Institute for International Industrial Environmental Economics (IIIEE), Lund University.

13.1.2 Methodology

The study of Voluntary Agreements and eco-labels in Sweden has been carried out during August – October 2010. Information has been derived from the vast literature issued by the Swedish EPA and other relevant agencies and authorities as well as from the authors' own research. In addition, information has been collected from persons in Swedish agencies, authorities, trade and industry either by telephone or e-mail. In these contacts, the interviewees have been asked for their specific experiences of VA, eco-labels and informative policy instruments, and evaluations or other effectiveness studies thereof.

List of contact persons

Organisation	Position	Name
Boverket	Communications Officer	Johnny Åberg
Energimyndigheten	Programme Responsible	Thomas Björkman
Miljömärkningen i Sverige	Director	Ragnar Unge
Naturvårdsverket	Head of Section	Ylva Reinhardt
Miljöstyvningsrådet	Director	Sven-Olof Ryding

13.1.3 Definition of terms

In the study, we have not found any definition of voluntary agreements used within the framework of the Swedish environmental legislation. It's only mentioned that voluntary agreements is a way to implement real changes as a supplement to laws and subsidies.

The Swedish constitution (Regeringsformen) sets some limits for the use of agreements without legal ground (see Naturvårdsverket 2002).

Therefore, many “agreements” have been commitments from industry rather than contractual agreements.

The PFE program is regulated through law (Lag (2004:1196) om program för energieffektivisering) as it is used to implement parts of EU Directive 2003/96/EC on taxation of energy products and electricity. However, it does not contain any definitions in relation to VAs.

The term environmental agreement is often used as an umbrella for the concepts of voluntary agreement and negotiated agreements since the level of voluntariness of some agreements can be questioned. Also the term agreement is used in different ways; sometimes as legally binding civil right agreement, sometimes more like a “gentlemen’s” agreement.

In some occasions, voluntary instruments are mentioned as a subgroup to economic instruments (Naturvårdsverket 2005), which indicates that voluntary agreements are found in between informative instruments and economic instruments or used in combination with pure economic instruments. Basically, it is a matter of finding cost efficient paths to reach the overarching environmental objectives.

Closest to a definition or specific use of the concept is “Environmental agreements are voluntary by nature and comprise commitments on measured of individual enterprises or business associations as results of negotiations with public authorities and/or gained recognition by them. The concept includes everything from voluntary commitments, agreements to legally binding agreements.” (author’s translation) (Naturvårdsverket 2000/2003 from EEA, 1997, Environmental agreements-Environmental effectiveness).

Moreover, an additional interpretation is “an agreement or self-regulating measure of voluntary character, involving actors whereof the state is one, that either replace or is a tool for the implementation of or reach further than environmental legislation/law or a policy aiming for sustainable development.” (ELNI, 1998, Environmental agreements The Role and Effect of Environmental Agreements in Environmental Policies).

13.2 The use of Voluntary Agreements in Sweden

13.2.1 Historic view of the use of VAs in Sweden

The Swedish EPA provides a thorough overview of the use of environmental agreements in a Swedish context in the report “Miljööverenskommelser” (Naturvårdsverket 2000/2003).

Laws and economic instruments have gradually been supplemented with various (voluntary) agreements. The first voluntary agreements as policy instruments were introduced in the 1970s. These agreements included substitution of surfactants in detergents (1973), installation of amalgam separators in dental clinics (1979) and decreased fuel con-

sumption in cars (1980). But it was not until the end of the 1980s, the use of voluntary agreements increased and included phasing out of some hazardous substances from paints, reduced use of PVC packages and introduction of a collection scheme for PET bottles. Later on, in the 1990s, other soft policy instruments, such as eco-labels, environmental declarations, were added to the policy palette. A mapping study from 1999 identified 17 voluntary agreements as policy instruments and several other soft instruments (Naturvårdsverket 2000/2003, annex 2). In many cases, the agreements were reached after stakeholder consultations on binding legal requirements. The sectors found it preferable to commit themselves to reach the objectives in agreements as alternatives. Voluntary agreements have also been used in combination with other policy instruments or economic instruments.

The introduction of the *environmental quality objectives* (www.miljomal.nu) in the late 1990s also proposed a wider use of soft instruments beside the environmental code to stimulate the achievements of set objectives.

In later years, there have been some interesting developments. The most interesting example is perhaps Framtida Handel, which involved an agreement with the retailers (most previous agreements were with producers). This is a more strategic approach as retailers are expected to push requirement through the supply chain. Bygga-bo-dialogen is also interesting as it involves a large number of actors.

13.2.2 Role of VA in Sweden

From the side of the authorities, one main argument for the use of voluntary agreements is that they may lower public administrative costs.

Lower costs due to efficiency gains in package material collection and collaboration for water-course protection have been mentioned by the sectors. Voluntary agreements have in some cases, for instance in recycling, formed new institutional solutions and fee systems. The sectors have, however, also mentioned negative impact on competition and the free-riders as drawbacks.

Reduced administrative burdens and less bureaucracy are the main arguments for the authorities to make use of VAs (Naturvårdsverket 2002). In the case of antibacterial products, several Swedish authorities asked retailers not to market or use such products; the commitments from Swedish retailers were so effective – even in the absence of any formal agreement – that legal measures were not necessary (Kemikalieinspektionen)³⁰. When it comes to the life cycle performance

³⁰ Legal measures on the national level may not have been possible in any case due to EU law.

of products, it is also said that the issues are so complex that cooperation and dialogue is necessary (Naturvårdsverket 2002).

VA as a regulatory instrument is rather considered efficient than effective, but few evaluations exist. The case of antibacterial products (above) indicates that voluntary approaches can be effective.

The impression gained through the completion of this study is that VAs will not play a major part in the future environmental policy, except in a few areas, but a useful complement to other policies. The harmonisation of product regulations and standards in the EU probably means that more agreements will be moved to the EU level as well, and that the scope for national measures will shrink.

Some initiatives with high potential (e.g. Framtida Handel) were run like a one-off event instead of a ongoing process; this limits the potential to use VAs in a more long-term, strategic way.

13.2.3 Types of VA in Sweden

The Swedish regimes of voluntary agreements include all the different types of VAs according to the OECD definitions. The Environmental Code does not specify any particular arrangements, but rather give space for separate solutions, for instance voluntary agreements that can be designed to fit the purposes. Negotiated agreement between authorities and enterprises or industry/business sectors is the most common arrangement. But there are also examples of unilateral commitments (for instance in the building sector) and public voluntary schemes. Many of the voluntary agreements are then laid down as laws but there are also civil law agreements and “gentlemen’s” agreements. Some of the VAs are connected to some kinds of special economic arrangements.

13.2.4 Overview of implemented VAs

Some of the early attempt of voluntary agreements in Sweden was mentioned in the previous section. The few examples rather bring a scattered picture than a systematic use or strategy for the use of voluntary agreements. Later on, these agreements have addressed:

- Transport sector
- Industrial processes and soil remediation
- Products, waste and recycling
- Water utility sector
- Agriculture
- Forestry and nature preservation.

Below is a table presenting Swedish VAs that have been functioning or implemented in the period from 2005–2010.

Title of VA	Type*	Economic sector	Regulation Area	Partners	Environmental issue addressed
Differentiated fees for shipping and ports	Negotiated agreement	Shipping and ports	Air emissions	Swedish Maritime Administration, Swedish ship owners' Association, Swedish Ports' and Stevedores' Association	Reduction of NOx and SO2 by 75% from 1996 to the first years of the 2000s.
Introduction of cleaner and lead-freer petrol (MK 2)	Negotiation in combined with economic instrument.	Car and oil sectors	Air emissions	EPA and the car and oil sectors/The Swedish Petroleum Institute	Introduction of petrol with better environmental properties. Phase out of leaded petrol in 1994. (reached objectives)
Introduction of cleaner and lead-freer petrol (MK 1)	Negotiation in combined with economic instrument.	Car and oil sectors	Air emissions	EPA and the Swedish Petroleum Institute	Replacement of the MK 2 petrol with MK 1 (adjustments to EU classification), in 1998. (reached objectives)
EKO Energy	Negotiated agreements	Industry and energy	Energy efficiency	NUTEK, later the Swedish Energy Agency and 24 individual enterprises	Reduced/efficient use of energy through cost efficient measures and implementation of environmental management systems. (evaluated)
Remediation of closed petrol stations	Negotiated agreement	Private and public	Contaminated soil	EPA, Swedish association of local authorities, and the Swedish Petroleum Institute	Remediation of the sites of about 6 000 closed petrol stations
Program för energi-effektivisering (programme for energy efficiency) PFE	Negotiated agreement	Energy intensive manufacturing industry	Energy	Swedish Energy Agency, Swedish Tax Authority and the individual enterprises.	Energy efficiency (electricity and heat), renewable energy, electricity generation
Program för energi-effektivisering (programme for energy efficiency) PFE	Negotiated agreement	Energy intensive manufacturing industry	Energy	Swedish Energy Agency, Swedish Tax Authority and the individual enterprises.	Energy efficiency (electricity and heat), renewable energy, electricity generation
Bygga-bo-dialogen	Written and signed obligation	Building and real estate sector	Holistic, with focus on energy and resources	Ministry, authorities and forerunners of the sector	Leading the path towards a sustainable sector
Åtagande från näringslivet ang insamling av ut-tjänta batterier resp. framtagning av mer miljövänlig batterier	Voluntary agreement	Trade	Toxic substances	Trade actors	Heavy metals in batteries

Title of VA	Type*	Economic sector	Regulation Area	Partners	Environmental issue addressed
Framtida handel – a dialogue project, focused on retailers, with written commitments from industry	Written and signed obligation	Food supply chain. Retail including retail, industry, transport	Holistic with focus on several issues, incl. energy and transport, environment friendly products, toxic substances, air emissions	Ministry (three governmental departments, forerunners of the sector, regions, municipalities, retailers and retail chains, and logistic companies	Commitments concerning green criteria in procurement, more eco-friendly products, better information to consumers, specific requirements on energy use and transport

Additional to the above mentioned VAs, there is currently only one example of a unilateral commitment in Denmark; the Responsible Care programme of the chemical industry.

The PFE has been surprisingly effective; this is however an indication that the legal requirements put on these firms could have been stricter.

Framtida Handel was an incredibly interesting project with huge potential, not least because it involved the retailing sector, but it was not handled optimally, and most importantly: it was put to an end, when it could have become a continuous dialogue.

No specific pattern can be discerned regarding sectors and issues included. There is a lack of a coherent Swedish strategy for VAs, and how VAs can interact with other instruments.

13.2.5 VAs in policy mix

There is no apparent general strategy for combining voluntary agreements in a policy mix in Sweden. The implementation, just like the introduction, of voluntary agreements appears to be more opportunity driven with a few sector specific exceptions. It is hard to discern any strategic use of VAs within a broader policy mix.

There are probably some interesting developments in relation to public procurement, but there is found no documented cases in relation to this study. Some agreements are combined with reduced costs (economic instruments).

When viewing the implementation of VAs, a picture emerge of voluntary agreements as supplement to legally binding requirements and economic instruments in order to either find solutions to problems that are more cost-effective for the actors. There is also an element of “including”, as voluntary agreements distribute the responsibility for the goal achievement to those actors that can or are willing to act in order to reach the objectives and targets. If there is a strategy, it could be viewed as pragmatism; voluntary agreements and soft instruments are used

when found more suitable than other solutions or when the actors demonstrate willingness to take the responsibility.

The EcoCycle Commission investigated opportunities for a more far-reaching producer responsibility in the late 1990s and generated a number of suggestions. Voluntary agreements, negotiated agreements and self-regulation were then proposed policy instruments and tools for reaching the objectives and could be seen as the most strategic and consistent employment of the ideas. Later on, some of these agreements have been formalized and legally binding. This should, however, not necessarily be seen as a failure of voluntary agreements as concept, rather as means to gain acceptance for the measures to reach objectives and targets and then build in financial security for implemented systems and to avoid free-riders. This is in particular valid for the introduction of extended producer responsibility for materials and products.

One policy area where VAs has been commonly used in Sweden is within nature conservation and protection of biodiversity in forestry and agriculture. In case of protection of nature, water-courses, wet lands, etc., voluntary agreements have been established between authorities, local actors or land-owners. This has been seen as an alternative to a more costly and complicated process of formation of reserves or to maintain certain production methods or to engage those actors that influence the environmental qualities of the areas.

When it comes to protection of forests, which is one of the national environmental objectives (see www.miljomal.nu), there is a strategic use of voluntary agreements as one out of three means of protection. Long-term voluntary civil law agreements between the authorities and the land-owners give them economic compensation for production restrictions (Naturvårdsverket & Skogsstyrelsen 2005). Similar arrangements are also used for the protection of other kinds of biotopes or (re)creation of wet lands.

The water utility sector is surrounded by a number of legal requirements, but employs voluntary agreements and certification for specific issues, for instance recycling of sludge. The EPA formed an agreement with the Federation of Swedish Farmers (LRF) and Swedish Water on collaboration for the improvement of the sludge quality and for its use as fertilizer on farmlands. One aim was to prevent certain substances from entering the wastewater treatment plants, another was hygiene. The agreement has later on been replaced by a sludge certification scheme – REVAQ – with similar aims. The scheme was developed in a stakeholder consultation process including Swedish Water, farmers' associations, the food industry, retail trade, NGOs, and authorities. SP Technical Research Institute of Sweden serves as the independent certification body.

13.2.6 Three cases of VA in Sweden

In the following section, three examples of voluntary agreements in the Swedish context are presented and analysed. The examples demonstrate different connections to other policy instruments.

Case :1 Programme for Energy Efficiency in Energy Intensive Industry (PFE)

The PFE programme is aimed at energy intensive manufacturing industry in Sweden. The objective is to contribute to increased energy efficiency in the enterprises and thus also contribute to the environmental objective of reduced climate impact.

In total, 110 enterprises (250 sites) participate in the programme, whereof 98 joined from start. Typically they represent the Swedish heavy industry sectors; pulp and paper, mining, iron and steel, chemicals, etc. Together they consume (purchased and internally generated) more than 30 TWh electricity annually. That equals about 20% of the total Swedish consumption and about half of what is used by all industry sectors. The participating enterprises annually produce 6 TWh of electricity.

The PFE started in 2004 and its first round ended in 2009, but was prolonged for a second period active to 2014. The partners are the Swedish Energy Agency (SEA), the Swedish Tax Agency and the individual enterprises.

The aim of the programme is to contribute to economic and ecological sustainable energy systems in Sweden. It has several soft objectives such as increase of the awareness of industrial energy conservation and efficiency potentials, structured energy management, creation of networks among practitioners, etc. Beside these objectives, the programme was expected to achieve electricity efficiency gains of 0.6 TWh.

The policy background to the PFE programme was a tax increase of process related electricity from 0 to 0.005 SEK/kWh in 2004 in compliance with a European energy tax directive. The programme was implemented as a law (2004:1196). The Swedish Energy Agency administers and monitor the programme, the Tax Agency handles the tax reduction in relation to the programme.

Participating enterprises get a tax reduction of 0.005 SEK/kWh on process related electricity consumption. The total state tax loss due to the programme is estimated to 150 MSEK. In return, they commit themselves to structured energy management and implementation of energy-efficient measures. The structures work is mostly built on the introduction of Energy Management Systems. From start, a national system was in use but it was later on replaced by the European standard EN 16001.

The programme has no specific sanctions and all participating enterprises are fulfilling the first phase.

The relatively small tax reduction on process electricity served as a carrot for participation. To gain that tax reduction, the enterprises agree to work systematically in doing energy mapping, regularly reporting activities, findings and measures both to the company management and the authority.

A third component of the policy mix was the creation of peer networks between energy engineers in the enterprises. These networks facilitate information exchange on large and specific projects, very few have practical experiences from and thus help others in for instance project risk assessments. The authority has also gained new interfaces to the energy intensive industry that can be used for other purposes.

The participating companies are continuously monitored by the SEA through periodic reports and other joint activities. SEA has compiled results and experiences from the first five years. A process of evaluation of the material is underway. In addition, academic evaluations are conducted by researchers at Lund Institute of Technology (Christian Stenqvist). This work will be reported in 2010.

The SEA evaluation for the first five years found that 87 enterprises have achieved electricity efficiency gains of 1.4 TWh. The enterprises have invested 636 MSEK for the implementation of 1 066 measures, such as energy efficiency measures and internal efficiency programmes, better projecting/planning of investments and routines for energy efficient purchases. The above-mentioned investments are estimated to bring about savings of almost 429 MSEK, implying an average pay-back period on investments of 1.5 years.

In addition, 223 other kinds of energy related measures have been undertaken, such as more efficient use of heat and increasing the share of renewable energy. During the first phase of the programme, the participating enterprises have increased their own electricity generation by 15% (equal to 0.8 TWh) through improved steam processes and efficient turbines.

SEA concluded that participating enterprises have reduced their energy expenses, increased knowledge on energy efficiency among the employees of the enterprises and more. The tax served as incentive and raised the attractiveness of the programme. Many of the implemented investments and changes would have been sound anyway.

SEA has collected comments and impressions on the programme from participating enterprises. They point out several advantages, such as the focus and priority on energy issues. The fact that SEA stands behind the programme contributes to giving energy efficiency measures higher priority both among employees and the management. The continuous reporting and follow up implies a momentum that keeps the activities going. It was however considered a bit complicated to fill in the reports. The networks and learning from peers in similar situations in other companies was also reported as gains from programme participation.

For the society at large it was found that the reduced electricity consumption as outcome from the efficiency gains through PFE activities cost about 1/10th of an equal investment in new electricity generation capacity.

Several enterprises from the first round of the programme have signed up for the second period.

The SEA apparently views the programme as successful, or “currently the most enjoyable we do” as the Director General Tomas Kåberger phrased it.

Case 2: Building- Living Dialogue – Bygga-Bo-dialogen in the building and real-estate sector

Building-Living and Property Management for the future, called the “Building- Living Dialogue”

The project gathered most actors in the building sector, such as contractors, technical consultants and architects, developers, land-owners, real-estate.

The project addressed future sustainable buildings and city development. The environmental issues are several and complex and should be addressed in a holistic perspective. There is a certain focus on indoor air quality, energy use and climate issues, and resource efficiency.

The project was initiated in the autumn of 1998 and dialogue process started in 1999. The project ended in 2009. Different kinds of agreements have been signed and updated reflecting the different phases of the project.

The project has gathered environmentally advanced enterprises from the sector, municipalities, national and local authorities, and the government. All actors are committed by top management level signatures. There is about 40 participating actors from the sector in the project. A few have left and some have joined later.

The common goal is a sustainable building and property sector before 2025, primarily in three prioritised areas: the indoor environment, the use of energy, and the use of natural resources.

After the initial phases, the following goals were set for 2025:

- The environmental stress caused by the amount of energy consumed in housing and non-residential buildings will be reduced and by no later than 2025, only a limited amount of fossil fuels will be used to supply heating and warm water. By 2015 at the latest, more than half of the energy required annually will come from renewable sources.
- The use of purchased energy within the sector will be cut by at least 30% by year 2025 compared to year 2000. Energy consumption will be lower year 2010 than year 1995.
- By 2005 at the latest, sector specific information will be available, making it possible to choose construction materials/constructional

designs which do not contain or give rise to substances known to be detrimental to health or the environment.

- By 2009 at the latest, all new buildings and 30% of the existing stock will be surveyed and classified with regard to building related effects on health and the environment.
- The building and property sector will phase out the use of those substances and metals included in the Government's guidelines for chemical substances; this will be achieved no later than the timelines given in the Government's bill 2000/01:65 "A chemicals strategy for a non-toxic environment".
- The amount of deposited waste (all waste, including domestic refuse) mining waste excluded, will be reduced by at least 50% by 2005, calculated from the level reached in 1994. At the same time, there will be no increase in the total amount of waste produced. By 2010 at the latest, a maximum of 25% of the waste from new stock and refurbishment, property management and demolition, calculated in tons from the level reached in 1994, will be deposited. A maximum of 10% will be deposited in 2025.
- In 2010 the extraction of natural gravel will not exceed 12 million tons per annum and at least 15% of the material used for ballast will consist of recycled materials.

The participants commit themselves to participate in the dialogues and to take measures according to their commitments. These measures are however not specified in detail. By signing the agreement, the participants undertake to:

- Commit themselves to work towards sustainable development within the building and property sector
- Work to achieve the goals outlined in the dialogue project
- Contribute to the development and monitoring of the goals within the dialogue project
- Contribute to the follow-up of the dialogue project.

The dialogue project is built on shared views and willingness to participate; there are no sanctions attached to the project. Instead, the partners are publicly acknowledged as forefront companies.

The work was initiated in 1999 with a Government directive to the Environmental Advisory Council. The project was financed by the government. The first committing voluntary agreements were signed in 2003 by 31 companies, 4 municipalities, the EPA and the Government. In May 2007, new agreements were signed including earlier participants and some new players. The project has received funding from different public sources of about 10 MSEK annually, and the partners have paid their own participation.

The vision, strategies, tasks and commitments were negotiated in the dialogues. In the voluntary agreements, the actor signed up individually for the tasks and commitments they considered they could and should influence and agreed to commit themselves to implementation.

The project was designed in a back casting manner in three phases. The first phase of the dialogue process was used to build sustainability visions, setting goals for the sector and identifying commitments for reaching the goals. These commitments were elaborated in the second phase as negotiations between governmental bodies and the actors of the sector in order to identify who should do what. In 2003, the commitments were laid down in voluntary agreements between the actors. This was the start of the implementation phase. A secretariat for the administration and follow up was established at The Swedish National Board of Housing, Building and Planning in 2004. In parallel, other activities were initiated, for instance a national competency development programme, an environmental declaration system for houses and dissemination of results. The secretariat function was considered crucial for the facilitation of the project.

The dialogue project is entirely built on negotiated voluntary agreements. There are elements, such as rewarding certification schemes, education, information, networks, which could be considered as other policy measures. However, these measures rather unfold from the process than being intended as a wider policy context.

The outputs from the VAs have continuously been monitored and reported since 2004. The project partners should present their results on the website of the project. The monitoring and evaluation processes reported both outcomes from the implemented projects and participants' perceptions of the dialogue project and its processes as such. The secretariat issues annual evaluation reports.

A comprehensive evaluation was conducted and reported at the end of project in 2009. It covered the different areas of activities (individual projects "good examples", environmental classification of buildings, programme for education and training, etc) and reported the outputs. For instance, a train the trainer programme reached more than 2 000 participants, which may have reached about 30 000 persons within the sector.

The evaluation reported uncertainties regarding the consistency in project reporting from the partners. Despite their commitments to follow ups and feedback of results as well as after recurring reminders, less than half of the partners reported their implemented measures after 3 years and. Only $\frac{1}{4}$ of the partners gave complete reports. However, in interviews most partners claimed more measures than they actually had reported into the system.

Interviews with participating organisations clearly found a positive attitude towards the dialogue process as a complement to legislation and other instruments for furthering sustainable development within

the sector. It was, however, concluded that it is difficult to evaluate the goal achievement of the project. The actors point at increased awareness of the issues, the value of defining the agenda, faster changes, and the competence building programme. It was thus concluded that the project has contributed to move the sector towards the set goals but it was not possible to quantify that contribution.

About half of the participating actors evaluated that their own contributions was equal to their benefits and the other half claimed that the benefits exceeded their contributions. Only one actor found it not worth its contribution.

The public benefits were, as mentioned above, difficult to evaluate in quantitative terms. Nevertheless, a qualitative estimation of the outputs concluded benefits exceeding the state contribution to the project. In addition, the project is expected to give positive contributions also in the future.

Case : Voluntary Collection of NiCd-batteries

The agreement on the commitment was set in February 1993 and terminated in 1997. The agreement involved the main partners of the retail trade including the three main retail chains, the Swedish Trade Federation (Svensk Handel), Mobil Tele leverandörerna, Sveriges Köpman-naförbund (now a part of the Swedish Trade Federation) and Sveriges Livsmedelshandlarförbund.

The main topic of the agreement is collection of rechargeable batteries containing nickel and cadmium and gradually replacing them with environmentally preferable alternatives.

The voluntary agreement had specific goals:

- To collect at least 90 per cent of the all nickel-cadmium batteries used in the country from the second half of 1994, and reach 60 per cent during the first year.
- To facilitate an introduction of environmentally benign batteries.

There were no sanctions – the collection scheme was entirely an initiative from the side of the trade. However, the state decided to find other means for the collection.

The background to the voluntary agreement was a perceived political pressure for a refund system for batteries. Such a system was considered complicated and inconvenient by the trade. In addition, the political system preferred initiatives without legislation. The agreement was a commitment by the trade and not a formal agreement.

The voluntary agreement/commitment only regarded batteries containing nickel and cadmium. There was however other legal requirements (SFS 1989:97) for collection of all environmentally hazardous batteries including lead, mercury, etc. It stipulated that used batteries could be returned to the shop or to a place assigned by the municipality.

The municipalities had organised collections schemes for the batteries and public information campaigns promoting people to sort out and dispose the batteries were organised by Waste Management Sweden.

A condition for the collection scheme voluntarily organised by the trade was financial contribution from the EPA administrated battery fund (input from battery fees) for information campaigns and that the EPA collected and presented statistics on sales and collection volumes for the monitoring and evaluation. The agreement also included a commitment of information and experience exchange in case the goals wouldn't be reached.

The collection scheme was devised in a way that used NiCd batteries could be returned to the selling points (not necessarily the same shop as were the battery was purchased). The shops sorted and sent the batteries with a certain delivery service for material recovery. The scheme should also organise information campaigns.

As mentioned above, the voluntary agreement was a reaction to a perceived deposit system. There were also legally binding requirements on substitution, labelling and collection of environmentally hazardous batteries. The voluntary agreement addressed a part of those batteries. Moreover, it should be mentioned that batteries had been an issue for several proposals and policy interventions since 1983.

A certain body, SIMBA (Stiftelsen Insamling av Miljöfarliga Batterier), was established to administrate the collection scheme. The shops collected the batteries and sent sorted batteries in certain boxes for recycling. However, the municipal battery collection schemes kept working in parallel to the voluntary agreement.

The two schemes implied difficulties in defining the collection rate since it was not clear if batteries following the municipal route should be included in the collection statistics.

The SIMBA scheme required sorted batteries and had some costs attached to sending the batteries while the municipal scheme accepted unsorted batteries free of charge.

Rather early it was found that the collection goal was unrealistic, and it was acknowledged by the sector that they never were analysed from that perspective. The goals were rather a compromise in order to meet perceived political targets. The sector tried different means for increasing the collection rate and to re-negotiate the agreement, which failed due to the unilateral nature of the agreement. SIMBA also tried different arrangements to increase its funding for more extensive campaigning etc. but the efforts failed.

The collection system was continuously monitored and also evaluated when in operation. A general analysis and evaluation was conducted by Lundén & Carlsson-Kanyama in 2005. The collection rate for the first period reached 31 per cent, which was far below the goal of 60 per cent. The reported collection rate for the scheme never reached higher than

35 per cent. But it was also concluded that the method for calculating collection statistics was insufficiently developed.

A evaluation from 1994 found that some shops disposed collected batteries in the municipal systems since it was free of charge and more convenient (no sorting requirement).

13.3 The prevalence of Eco-labelling in Sweden

13.3.1 Historic view of the use of Eco-labelling in Sweden

Consumer guiding initiatives emerged in the 1980s. A number of claims and quasi-labels occurred as well as more serious information systems. The Nordic Swan was the first independent and third-party eco-label for positive information on the environmental performance of products. It was launched in Sweden and Norway in 1989. Other eco-labels and eco-labelling like schemes have been added since then. Among the most prominent are the “Good Environmental Choice/The Falcon” (early 1990s), the EU-Flower (1993), the organic label KRAV (1985), and the FSC label.

Currently, there are many different labels on the Swedish market. And more may be added as outputs from the on-going discussion on climate/carbon footprint labelling, social labelling, etc. The increasing number of labels triggers the question if labelling as concept is considered effective or just considered a cheap and reasonable measure to address a complex problem.

13.3.2 Role of Eco-labelling Schemes in Sweden

The main arguments for implementing eco-labelling in Sweden are further outlined below. It was launched when there was an increasing demand for reliable information on products’ environmental performance. In Sweden, an NGO, the Society for Nature Conservation, successfully launched a similar scheme the Good Environmental Choice/The Falcon. The two schemes still operate in parallel and are considered equally recognised among consumers.

Eco-labelling is often supported and mentioned as policy instrument, though not explicitly mentioned as “an effective regulatory instrument”. Other kinds of eco-labelling like solutions are often proposed (climate labelling for food, buildings, cars, etc) could be seen as an acknowledgement of a well-working policy instrument. Currently, there are a growing number of such schemes on the market.

Today, the eco-labels have a clear and strong position on the market and it is expected to further increase both in terms of product groups, labelled products, and market shares. There is also a discussion on, new

however far from clear, roles of eco-labelling. These discussions regard inclusion of social and health aspects, grading of products, support for green life-styles, integration in policy-mixes, etc.

Overview of Eco-labelling Schemes in Sweden

	Responsible body	Miljömärkning Sverige AB
Nordic Swan	Type of responsible body	non-profit state-owned company
	Year of implementation	1989
	Number of product groups covered	67
		several product groups include sub-groups
European Flower	Responsible body	Miljömärkning Sverige AB
	Type of responsible body	non-profit state-owned company
	Year of implementation	1992
	Number of product groups covered	26 Somewhat different product group definitions in relation to the Nordic Swan.
EU Organic agriculture	Responsible body	European Commission
	Type of responsible body	In Sweden, the system is administrated by National Food Administration, Ministry of Agriculture, and a number of certification bodies conduct the control.
	Year of implementation	2007. However, organic production has been an issue in the European CAP since 1995.
	Number of product groups covered	n.a. There is wide range of fresh and processed foodstuff certified by the system.
	Short description of scheme	Farming practices meeting EU Council Regulation (EC) No 834/2007, Council Regulation (EC) No 967/2008, and Commission Regulation (EC) No 889/2008 on organic production fall under the definition of organic production and may use the EU organic label.
KRAV label for organic production	Responsible body	KRAV
	Type of responsible body	Incorporated association with, at present, 27 members. They represent farmers, processors, trade and also consumer, environmental and animal welfare interests
	Year of implementation	1985
	Number of product groups covered	n.a. There is wide range of fresh and processed foodstuff as well as cotton certified by the system. The KRAV scheme also certify shops and malls.
	Short description of scheme	Independent organisation appointed certification body for organic production by the Swedish parliament. criteria for organic production according to IFOAM standards.
EU Energy declaration for household appliances	Responsible body	Swedish Energy Agency
	Type of responsible body	Governmental
	Year of implementation	1995. The first law on compulsory energy declarations of household appliances was introduced in 1994. In 1995, the EU directive (92/75/EEG) on energy declaration laid down as Swedish law.
	Number of product groups covered	The number of product groups has increased over the years. Currently it is compulsory for refrigerators and freezers, ovens and stoves, dishwashers, washing machines, tumble dryers, light sources, air conditioners and heat pumps.
	Short description of scheme	This is the compulsory declarations common for all EU countries.

In addition, there are independent NGO operated eco-labels and eco-label-like schemes in particular for production methods and raw materials. The most prominent examples are Marine Stewardship Council

(MSC), Forest Stewardship Council (FSC), and the Good Environmental Choice (the Falcon).

Thus, there is a mix of private and public schemes. They cover “typical” consumer products, but the number of product groups is growing. The schemes are quite well-known among the general public. Eco-labelling of shops and malls is a rather new phenomenon.

13.3.3 Eco-labelling Schemes in policy mix

There is not clear tradition of combining eco-labelling with other policy instruments. There are, on the other hand, a few examples of apparently unintended de-facto combinations.

The most obvious example is the use of eco-labelling criteria and related information used in public and private procurement. The information has been used for the development of early purchasers’ manuals, as guides for purchasers, etc. Eco-labelling Sweden has initiated a network for professional purchasers and help them finding eco-labelled products. Hence, the eco-labels are embedded both in actor networks creation and green professional procurement.

Various actors provide information (as instrument) on green consumption and behaviours. The most prominent eco-labels are often displayed and explained in these contexts and serve as visible and clear measures that consumer can take. Such information can include information from municipalities.

Eco-labelling is in some cases combined with industrial environmental management. To some extent, the printing sector built general environmental management systems to fit the print shop criteria of the Nordic Swan. More recently, some retailers chose to eco-label shops and malls. In doing so, they plug in structured environmental management according to the eco-labelling criteria.

Other policy-mixes have been proposed but not realised.

13.3.4 The European Flower in Sweden

The EU Flower was implemented in Sweden in 1994 when the precursor to Miljömärkningen i Sverige AB was assigned as competent body. The EU Flower has had a somewhat slow start in Sweden, but has gradually gained market acceptance and recognition. It was introduced later than the three major eco-labels, which could be one reason out of several reasons for the somewhat slow progress. Today, it is given similar attention as the others in information material directed to the public and it is also more visible on products.

The EU Flower is administrated by Miljömärkningen i Sverige AB (share competent body with the Nordic Swan). For further details, see section below.

The EU Flower scheme has all product groups common for all Member States. Thus, all product groups with issued licenses are covered in Sweden. The licensee pays the fee in the registering country. Hence, there is no domestic statistics on actual sale of EU Flower labelled products from certain product groups.

The policy idea of eco-labelling is to guide consumers to environmentally preferable products within a defined product group with trustworthy and relevant information. The scheme owner is the European Commission, which through the European Eco-labelling Board is the trustworthy guarantee for high level and relevant product requirements. Through increased consumer market demands for environmentally sounder products, producers will be stimulated to improve the environmental performance of their products in order to meet the criteria of the eco-labelling scheme.

A joint European eco-label has the attempt of harmonising the requirements and offers the label to a larger market than national/regional labels can do.

The EU label has same status and position as the Nordic Swan. This means that it is recognised, but formal labelling is not allowed in public procurement.

No further goals than those set by the Commission and the European Eco-labelling Board.

The bulk of funding for the EU Flower is paid by the EU Commission. License-holders pay an annual fee to the competent body in country of registration. The fee is related to the turnover of the licensed products in EU. In Sweden is 20 per cent of the annual budget for the EU Flower covered by fees. The remaining 80 per cent is state contribution.

The criteria development is connected to environmental product requirements in other policy instruments, such as professional procurement and eco-design.

There is no isolated evaluation of the EU Flower in Sweden apart from the evaluation of the Nordic Swan from 2008 regarding the EU Flower.

13.3.5 The Nordic Swan in Sweden

The Nordic Swan was initiated as a joint project first between Norway and Sweden as a reaction to many and often misleading environmental claims on products and an idea of co-operation beyond national borders. There was a growing movement of individual consumers willing to search for environmentally preferable alternatives, which requires an instrument heading further than legal requirements can do. The eco-label should be the independent market communication tool that can establish requirements for environmentally superior products in stakeholder consultation processes and safeguard trustworthiness.

The Nordic Swan has, together with the Good Environmental Choice and KRAV labels, a solid position on the Swedish market. It has gained a wide recognition among consumers and is known and trusted by most. It is often displayed in consumer education contexts in school books, public information folders and various campaigns. Also producers use the Swan for market and stakeholder communications, internal environmental work and brand building.

Miljömärkningen i Sverige AB, an independent non-profit company serving as the necessary third-party, however partly owned by the state, administers the Nordic Swan. The national competent body was established in 1989 at the Swedish Standards and has then evolved to an independent company. The competent body is also in charge of the licensing verification process.

A public sector organisation may not (public procurement restrictions) use the eco-label as official requirement but can ask for products meeting the criteria of the official eco-labelling scheme.

The Nordic Swan has some general goals, such as support environmentally sound product development, consumer guidance to environmentally benign products and contribute to sustainable consumption.

The Swedish branch of the scheme is primarily financed by license fees from producers using the eco-label. A minor part aimed for criteria development is covered by the state budget.

There is no explicit or systematised organisation for including the Nordic Swan in a policy mix. Different synergies with other instruments has been analysed and discussed over the years and clear connections have been demonstrated.

The Nordic Swan scheme has been evaluated three times by the Nordic Council of Ministers. A number of separate evaluations and analyses (individual criteria documents, product groups, market impacts, etc.) have been carried out since it was implemented.

13.4 Evaluations of Voluntary Agreements and Eco-labelling Schemes

13.4.1 Overview of evaluations of Voluntary Agreements

Evaluation of Recycling and Recovery of Used Packaging, Electronic and Electric Products, Batteries and Tyres

Evaluation of Five years with PFE	Title of VA evaluated	Five years with PFE
	Year of evaluation	2009/10
	Evaluator	SEA and academia
	Contracting Authority	Swedish Energy Agency
	Primary focus of evaluation (economic/environmental/other)	Energy efficiency, savings, measures, indirect effects, networks
	Addresses policy mix (yes/no)	No (but address the economic gains)

The evaluation shows that the targets were met and exceeded. Additional benefits for both participating companies and the authority were detected. It is difficult to judge both ex-ante and ex-post if the targets were set on an appropriate level. A project like PFE discovers a number of potentials not previous known and there is a development going on in parallel with the project.

Monitoring and measuring results is rather straight forward when it comes to energy efficiency. The obvious difficulty is to find appropriate attribution to the programme and allocation to certain measures. In general, the methodology of the evaluation appears to appropriate for its purpose.

In this case, like in many similar, the exact contribution from the particular instrument is difficult to estimate. It is, however, considered a clear attribute of reported activities and following savings/gains to the programme. There is no defined business-as-usual baseline, but the signals show that the programme caused a momentum for energy efficiency in participating companies. Several of those companies had a self-image of being energy efficient and gave the issue a rather low priority.

The important effectiveness aspects of the programme were both the savings gained and the increased power generation. The kWh cost to avoid use was considerably lower than kWh cost for new installations. In addition, the qualitative effects were considered positive outcomes of the programme.

The competition is not likely to be influenced by the instrument. It addressed all energy-intensive companies. It was demonstrated that energy experts in competing companies could co-operate on energy issues that might be explained by international competition rather than domestic.

The dialogue as instrument for voluntary agreements was new and proved to work. Actors of the otherwise fragmented building and real-estate sectors could work out their own sustainability vision, with the governmental bodies as supportive partners. The involving approach was considered fruitful.

Evaluation of Bygga-bo-dialogen

Evaluation of Bygga-bo-dialogen	Title of VA evaluated	Bygga-bo-dialogen – samlad slutbedömning 2007-2009, annual evaluations
	Year of evaluation	2009
	Evaluator	Åke Dahlberg
	Contracting Authority	Boverket (The National Board of Housing, Building and Planning)
	Primary focus of evaluation (economic/environmental/other)	Quantified outputs in terms of achieved commitments, training programmes, etc. Qualitative outcomes and public benefits from interviews and estimations.
	Addresses policy mix (yes/no)	No

In the evaluation it was concluded that the project contributed to both the national environmental objectives and the targets set by the project.

Both the national environmental objectives and most project targets are to be reached after the termination of the project. These targets were also elaborated in a back casting dialogue. Thus, it could be said that there is a trade-off between appropriate project targets and the overarching sustainability targets. There is an apparent lack of suitable measurement methods for this kind of targets.

The evaluation addressed the attribute of the instrument and found a clear correlation between the project and the achievements of the partners. The exact allocation to the dialogue project and other influences is less clear. However, the partners gave their views to how the project deviated the course from business-as-usual, even if such a level wasn't defined.

The evaluation concluded that the project had a number of qualitative outcomes from networking, sharing good practise, education and training, establishing a classification scheme for high performance buildings.

It was acknowledged that the societal benefits are difficult to calculate. Estimations indicate that the dialogue project still was economically beneficial, not least the long term knowledge and awareness building, networks, etc.

The project built from actors' perceptions of reasonable activities in relation to goal attainment and flexibility in order to reach them.

The aspect of impact on competition was not addressed. Since competing actors actually collaborated in experience exchange, is it reasonable to conclude that impact on competition was not the main concern. However, there are also indications of hiding good solutions, as that was one of the arguments for not reporting progress in the project web.

13.4.2 Overview of evaluations of Eco-labelling Schemes

Evaluation of The Nordic Swan; From past experiences to future possibilities

Evaluation of the Nordic Swan	Title of Scheme evaluated	The Nordic Swan; From past experiences to future possibilities
	Year of evaluation	2008
	Evaluator	Kristiina Aalto, Eva Heiskanen, Charlotte Leire and Åke Thidell
	Contracting Authority	Nordic Council of Ministers
	Primary focus of evaluation (economic/environmental/other)	Relation between the Nordic Swan and the EU Flower*: principles, product groups, criteria, market reception, public awareness. Co-ordination and harmonisation and synergies with other environmental information systems.
	Addresses policy mix (yes/no)	Yes, partly.

*) the evaluation partly also covered the position of the EU Flower label on the Nordic market.

None of the labelling schemes have specified any environmental targets. There is an ongoing debate on *how* and *what* targets an eco-labelling scheme should address. Currently, no environmental targets have been explicit. A previous evaluation concluded that there are environmental gains from the systems, though not quantified. This evaluation pointed in the same direction.

An analysis of “influences, effects and changes from interventions by eco-labelling schemes” (Thidell 2009) concluded that several environmental achievements can be attributed to the instrument. So far, no evaluation of the Nordic scheme has used business-as-usual scenarios in evaluations. An evaluation of the Good Environmental Choice label’s influences on selected product groups used that concept ex-post.

The eco-label has caused beneficial product modifications and shifted consumption patterns that imply environmental achievements. There are also cascading indirect effects leading towards reduced environmental stress.

In case of the Nordic Swan, the question of economic efficiency has only been discussed in previous evaluations and in Thidell (2009). Despite the fact that environmental effects have not been quantified, a comparison to financial contributions from the Norwegian and Swedish state budgets concluded that environmental effects were achieved at limited costs.

When searching for the use of the Nordic Swans in policy mix, it is seen that some sectors, in particular retail trade and print shops, have designed environmental management systems in accordance with the criteria of the Nordic Swan. Individual enterprises have also used certain criterion(ia) for similar purposes. Professional purchasers have to some extent used eco-labelling both as means to identify product-related environmental performance aspects and indicators as well as market views of availability of environmentally benign products. Producers not aiming

to label products use the criteria as support for product re-design. Producers aiming for the eco-label have reported eased supply chain communication and understanding for specific information requests.

The Nordic Swan and the EU-flower have several links to other policy instruments, and there are synergy effects that could be more widely utilised. There are, however, inherent barriers for integration of the existing systems, due to e.g. different aims in regards to communication, different target groups for the information, principal differences in the systems, or producer/product specificity of the information.

Utilising synergies with other product policy instruments or environmental management systems provides an incentive for increasing the share of eco-labelled products in the market. The eco-labelling schemes may also give licence-holders competitive advantages in public tenders, even if it is not allowed to set the use of an eco-label as a requirement in a tender. In practice, public purchasers can refer to the criteria of an eco-label in a tender, which makes it easier for a licence-holding company to participate without having to provide detailed description of the environmental characteristics of the product. In addition, in previous surveys among Finnish licence-holders of the Nordic Swan, companies have reported having gained marketing advantages of the label, which is in accordance with the objectives of the scheme (Aalto, 2008).

According to Aalto et al. (2008), the Nordic Swan can also benefit from the current attention to climate issues, and thus, the development of climate-related criteria within the label should be supported.

Eco-labelling aims at impacting competition and promotion of environmentally benign products and product development. Impacts on international trade and distorted competition as result of eco-protectionism is discussed; there is, however, no evidence in practice on such effects.

Evaluation of Energy Declarations

Evaluation of Energy Declarations	Title of VA evaluated	Energy Declarations
	Year of evaluation	2006
	Evaluator	The Swedish Energy Agency and the Swedish Consumer Agency
	Contracting Authority	Same as above
	Primary focus of evaluation (economic/environmental/other)	Presence of declarations.
	Addresses policy mix (yes/no)	No

The evaluation was carried out when the responsibility of declaration system was transferred from the Consumer Agency to the Energy Agency. It was a summary of the first ten years of the system in Sweden. The evaluation primarily addressed the implementation of the compulsory declarations in shops and correctness of declared energy consumption.

The declaration system is a compulsory information instrument. The declaration must be attached to the appliances, but only serve as guidance for consumers.

The evaluation report concludes that more energy efficient household appliances are produced and sold thanks to the energy declarations. There is for instance a clear increase of number of sold units of white goods (refrigerators, freezers, ovens, dishwashers, washing machines) of the best energy class (A and later A+) from 2000 to 2005. The conclusions of the evaluation were based on measured actual marked shares of different models. Moreover, a number of models were tested against the declared energy consumption and other performance indicators.

There were no targets mentioned for energy reduction or market shares, but the trend was clearly going in the intended direction of more energy efficient household appliances. No explicit targets were however given in the report. The evaluation attributed the improved performance to the declaration system, but did not consider other influential factors on product development, which may be seen as a business-as-usual scenario.

Since the system is compulsory, the evaluators concluded that enforcement of declaration the products in the shops should be monitored as well as compliance with the declared energy standards. This should be conducted through regular inspections and laboratory tests.

Evaluation of Miljövinst med miljömärkning av tryckerier

Evaluation of Miljövinst med miljömärkning av tryckerier	Title	Miljövinst med miljömärkning av tryckerier
	Year of evaluation	2006
	Evaluator	Jaromir Korostenski/PALAB AB
	Contracting Authority	Nordic Eco-labelling
	Primary focus of evaluation (economic/environmental/other)	Environmental achievements from eco-labelling of print shops
	Addresses policy mix (yes/no)	No

The evaluation scope was print shops in Sweden in relation to proposed new eco-labelling criteria.

The criteria document has a number of environmentally related goals, but no defined targets. They are phrased as conservation of resources, raw materials, use of renewable energy, emission reductions, chemicals, recycling, etc. The set of criteria was expected to lower environmental impacts from eco-labelled print shops in relation to a base level defined by meeting legal requirements.

In general, the evaluation concludes that the new set of criteria will contribute to an improved environmental performance of print shops that decide to go for eco-labelling.

In general, the environmental requirements in the new set of criteria are seen as appropriate.

The method of evaluation builds on a comparison between the previous version of the printed matter criteria with the revised criteria defined for print shops relevant policies, qualitative estimations, and mass flow data from print shops. There are currently no standardised methods for this kind of measurements and the applied method appears to match most uncertainties. The reference points are levels defined by previous set of criteria and data from selected print shops.

Instrument effectiveness, economic efficiency, additional impacts from policy mix are not addressed in the evaluation.

13.5 Learnings from evaluations

13.5.1 Cost effectiveness

We learn that cost effectiveness is difficult to capture. The reasons are several. The most important may be that soft instruments have a tendency to have cascading effects and outcomes often symbiotic with other instruments. Thus, it is difficult to isolate the effect from single instruments. Secondly, in many cases the indirect effects (giving secondary influences on both the main objectives of the policy measure and other similar objectives) are difficult to both identify and estimate the strength of. Thirdly, soft instruments are often used for achieving changed attitudes and behaviours, building knowledge and justifications; effects difficult to capture in evaluations. Fourthly, they are supposed to influence under longer periods of time, which make cost effectiveness calculations and estimations difficult.

However, we realize that most soft instruments are of low-cost character for the public body. Thus, even modest outcomes/effects could be seen as cost effective.

13.5.2 Policy mix

The exposure of eco-labels in information/advice on eco-friendly consumption and sustainable life-styles provided by different actors (such as consumer agencies and NGOs, news articles, books) is a way to reinforce the eco-labels and make them attractive and eventually used by private consumers. And vice versa, the messages in the general information on consumption and life-styles would be difficult to convey without using the eco-labels as vehicles for the broader context information.

There are also examples of combinations of voluntary agreements (e.g. the PFE programme) and small contributions from economic instruments make the agreements substantially more appealing for the actors.

The recurrently mentioned synergy between eco-labelling and green public procurement has in some instances been counterproductive. Public purchasing agents are not allowed to request eco-labelled products and other synergies are poorly explored (yet existing in certain applications). Purchasing agents may find it discouraging to search for environmentally benign products (that often are more expensive) and the suggested instruments cannot be readily used. Such a situation could easily ruin the idea of green procurement and the reputation for the eco-labelling schemes.

Sometimes eco-labels are built on criteria that make it hard for new solutions to be labelled even if they are sustainable; this means that other instruments must be used in combination with eco-labelling schemes to advance the developments.

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14. Annex F – Country Study Iceland

14.1 Voluntary Agreements and Environmental Labelling in Iceland

14.1.1 Introduction

The Icelandic country study was carried out by Stefán Gíslason, Environice.

The country study presents two cases of voluntary agreements:

- Voluntary Agreement on Collection of Waste Heavy Fuel Oil
- Voluntary Agreement on Collection of fishing gear made of synthetics

Moreover, eco-labelling schemes in Iceland are covered by the study with focus on the Nordic Swan and the EU-Eco-label.

14.1.2 Methodology

The country study is based on expert interviews with stakeholders, supported by screening of relevant legislation and written agreements. The interviews were carried out in August 2010. The issue has not been studied previously in Iceland.

List of interviewees

Date	Organisation	Position	Name
17.8.2010	Icelandic Recycling Fund (Úrvinnslusjóður)	General Director	Ólafur Kjartansson
17.8.2010	Environmental Protection Agency (Umhverfisstofnun)	General Director	Kristín Linda Árnadóttir
17.8.2010	Ministry for the Environment (Umhverfisstofnun)	Specialist, Office of Legal and Administrative Affairs	Sigurbjörg Sæmundsdóttir
25.8.2010	Environmental Protection Agency (Umhverfisstofnun)	Advisor, Department for Information and Communications	Sigurður Eyberg Jóhannesson
25.8.2010	Tún Organic Certification	General Director	Gunnar Á. Gunnarsson

14.1.3 Definition of terms

Neither Voluntary Agreements (VAs) or Eco-labels are specifically defined in national regulation/legislation. Thus it is assumed that these terms are defined in the same way in Iceland as in other Nordic countries.

The existing VAs do not provide any independent or specific interpretation of the term. However, the frame for VAs is outlined in the Processing Charge Act No. 162/2002. According to Article 8, such agreements do have to serve their purposes, in this case *“to ensure the processing of waste ... etc. ..., provided that this serves the goals of the act”*. To enter into force, these agreements have to be confirmed by the Board of Directors of The Icelandic Recycling Fund, and presented to the Directorate of Customs. Each agreement shall *“state a project specification, including information about the collection, transport, handling of waste, its disposition, supervision and management, gathering of information and reporting”*. Furthermore, information shall be available on the *“quantity of waste, how the system will be financed, the access of waste holders to the system and payment of an administrative charge to The Icelandic Recycling Fund”*.

14.2 The use of Voluntary Agreements in Iceland

14.2.1 Historic view of the use of VAs in Iceland

The first Voluntary Agreement linked to environmental legislation in Iceland was signed in December 1998. This was an agreement between three oil companies importing heavy fuel oil to Iceland, on actions to ensure a proper treatment of waste oil in accordance with the national Hazardous Waste Act, later to be replaced by the existing Processing Charge Act, No. 162/2002. In addition to this agreement, only one other VA seems to have been formally adopted, also linked to the Processing Charge Act.

14.2.2 Role of VA in Iceland

VAs do not seem to have been implemented in national regulation/legislation in Iceland as a part of an overall policy, but rather as an effective way to solve a number of specific problems arising when implementing an existing legislation. The decision to use VAs has thus most likely not been negotiated in the parliament or in ministries as the legislation was being developed, but basically introduced ad-hoc on institutional level later on.

In Iceland, VAs are generally considered as an effective regulatory instrument when the goals or targets of any particular national regulation/legislation cannot easily be reached in the more conventional

“command and control” way. Attention is also increasingly being paid to the potential use of VAs as precautionary measures, such as in waste management where VAs can be used to support waste prevention instead of focusing only on specific targets for recycling.

According to the interviews, VAs will most likely play an increasing role in the environmental legislation of Iceland. Furthermore it is anticipated that the tool will gradually be more frequently employed in a different way, moving the emphasis from a proper treatment at the end of the pipe towards a more precautionary approach, focusing on processes, education and technological development.

14.2.3 Types of VA in Iceland

In this study, only two formal VAs were identified in Iceland. Both are categorised as “Negotiated agreement” according to the OECD-definition. However, one of these was originally developed as a “Unilateral commitment”.

Overview of implemented VAs

Title of VA	Type*	Economic sector	Regulation Area	Partners	Environmental issue addressed
VA on a collection programme for waste heavy fuel oil	Negotiated agreement	Oil companies	Waste management	The Icelandic Recycling Fund and Icelandic oil companies	Recycling
VA on a collection programme for fishing gear made of synthetics	Negotiated agreement	Fisheries	Waste management	The Icelandic Recycling Fund and The Federation of Icelandic Fishing Vessel Owners (LÍÚ)	Recycling

*Public voluntary programme/negotiated agreements/unilateral commitments

The VA on a collection programme for waste heavy fuel oil was originally a unilateral statement of three oil companies importing this type of oil, mainly for use in ships. Since the Processing Charge Act entered into force in 2002, this agreement has been considered as an agreement between the oil companies and The Icelandic Recycling Fund, which was established in accordance with the act.

Both the above mentioned VAs are based on article 8 of the Processing Charge Act No. 162/2002 (paragraph 3). Companies and industrial sectors can, according to this article, “*enter into agreements with The Icelandic Recycling Fund on measures to ensure the processing of waste from heavy fuel oil and fishing gear made of synthetic materials, provided that this serves the aims of the act. Heavy fuel oil and fishing gear made of synthetic materials are then exempt from the collection of charges under this act, provided that the Board of Directors of the Icelandic Recy-*

cling Fund has confirmed the agreement [...] and notified the Directorate of Customs of this. The Minister of the Environment shall also confirm the agreement”.

The wording of article 8 implies that VAs on other product categories cannot be implemented without first amending the act, as paragraph 3 specifically defines heavy fuel oil and fishing gear made of synthetic materials as the only allowed categories for such an agreement under the act.

A couple of less formal voluntary agreements have been identified in addition to the ones accounted for in the table above. The core elements of these are mentioned below.

Prevention of waste from printing chemicals

The Icelandic Recycling Fund has entered into specific agreements with two of the largest printing companies in Iceland in line with an exemption described in paragraph 4 of article 15 of the Processing Charge Act. According to this, the Fund is “*authorised to enter into agreements with companies on refunding of the processing charge linked to the reuse of their own waste, as further prescribed in regulation*”. In these cases, the printing companies purchase and import large amounts of printing colours from one supplier. Since much of the printing work is done in large badges, a relatively small amount of wasted colours is created, compared to the imported amount which builds the base for the processing charge. As the companies and their suppliers have agreed upon a functional take-back system, there is basically no waste left from the activity in question. The same is not applicable to smaller printing companies with less continuous material flow. In the cases of the two largest printing companies, the refunding is based on obligatory reporting from the companies. The same approach could be used in other cases where waste is created within the same company as is invoiced for the processing charge, but not at diffuse sources as it normally is. In such cases where waste is also a low percentage of the incoming material, this type of agreement has a much higher potential for waste reduction than the common process in accordance with the Processing Charge Act, where the incentive for waste minimisation is basically missing.

ETS for aviation companies

Iceland participates in the EU Emissions Trading Scheme (ETS) for aviation in accordance with Directive 2008/101/EC that was published in the Official Journal on 13 January 2009. However, the directive has not been implemented in national legislation yet. To bridge this gap, the Icelandic Environmental Protection Agency has drafted an agreement with national aviation companies regarding their inclusion into the ETS. This can be seen as a VA, yet only temporary. Similar approach might have been employed in other cases where there is a consensus on certain requirements prior to adaptation of the relevant legislation.

14.2.4 VAs in policy mix

There does not seem to be any strong tradition for policy mix in Iceland.

14.2.5 Two cases of VA in Iceland

The cases below are the only “full-size” cases identified in Iceland.

Case 1: Collection of Waste Heavy Fuel Oil

The VA on collection of waste heavy fuel oil is a formal agreement between three oil companies importing heavy fuel oil and The Icelandic Recycling Fund, regarding a collection programme for waste heavy fuel oil. The agreement is based on article 8 of the Processing Charge Act No. 162/2002. The aim of the Processing Charge Act is to “*create economic conditions for the reuse and recycling of waste for the purpose of reducing the quantity of waste sent for final disposal and ensuring appropriate disposal of noxious substances*”. Voluntary agreements can be used according to Article 8 of the act, provided that it serves the aims of the act, i.e. in cases where VAs are meant to lead to better results than the mainstream approach according to the act, where a processing charge is levied on certain products to cover the cost of collection, transport and treatment of waste originated from these products.

The regulation area is waste management, and the environmental issue addressed is recycling. The agreement does not specify a definition of VA as a term.

The agreement covers an indeterminate duration. The main signatories are The Icelandic Recycling Fund, Olúfúlagið hf, Olúverslun Íslands hf and Skeljungur hf.

The purpose of the VA is to ensure a proper treatment of waste heavy fuel oil in accordance with the national Processing Charge Act. Goals are not specifically defined, except from service oriented goals to ensure the functionality of the agreement. The main mission is that all waste heavy fuel oil should be collected and treated in line with the agreement. There are no sanctions, but the Icelandic Recycling Fund may terminate the agreement in case of breaches, having obtained a statement from the Environmental Protection Agency.

The design of the agreement is based on the oil companies operating facilities to take back waste heavy oil from Icelandic ships and being responsible for the transport, treatment and disposal of this waste. Heavy fuel oil is instead exempt from charges under the Processing Charge Act. The agreement has been implemented in line with the content of it. However, The Icelandic Competition Authority has made an objection regarding the agreement, as the three oil companies have been allowed to act as one united partner of it, instead of opening up the system for competitors.

The VA is not used in a policy mix. No formal evaluation has been carried out, but results are presented in annual reports.

Case 2: Collection of fishing gear made of synthetics

The VA on collection of fishing gear made of synthetics is a formal agreement between The Federation of Icelandic Fishing Vessel Owners (LÍÚ) and The Icelandic Recycling Fund, regarding a collection programme for waste from fishing gear made of synthetics, based on article 8 of the Processing Charge Act No. 162/2002. The aim of the Processing Charge Act is to *“create economic conditions for the reuse and recycling of waste for the purpose of reducing the quantity of waste sent for final disposal and ensuring appropriate disposal of noxious substances”*. Voluntary agreements can be used according to Article 8 of the act, provided that it serves the aims of the act, i.e. in cases where VAs are meant to lead to better results than the mainstream approach according to the act, where a processing charge is levied on certain products to cover the cost of collection, transport and treatment of waste originated from these products.

The regulation area of the VA is waste management and the environmental issue addressed is recycling. The agreement does not provide a definition of VA as a term.

The VA was signed 1. September 2005 and is still in function. The main signatories are The Icelandic Recycling Fund and The Federation of Icelandic Fishing Vessel Owners (LÍÚ).

The aim of the agreement is to ensure a proper collection and recycling of waste from fishing gear made of synthetics in accordance with the national Processing Charge Act, i.e. to prevent pollution from this waste category through measures to increase take-back, to reduce the amount for final disposal, and to stimulate increased re-use to the extent economically feasible.

The Federation of Icelandic Fishing Vessel Owners (LÍÚ) operates or contracts a third party to operate a reception facility for waste from fishing gear made of synthetics, serving all possessors of this waste category. Fishing gear made of synthetics is instead exempt from charges under the Processing Charge Act. The agreement has been implemented in line with the content of it. However it has been hard to estimate the total amount of waste created from fishing gear made of synthetics, as a part of this fishing gear is purchased abroad for immediate use and not brought through custom, thus missing from the statistics of imports, used as a base for any processing charge. This has led to some uncertainty regarding whether the goals of the agreement have been met or not. This absence of the fishing gear from the custom reports is, on the other hand, one of the main arguments for this particular VA, as the average processing charge would otherwise be higher for domestic producers than for importers, leading to biased competitiveness in favour of imports.

At least 45% of the waste created should be recycled in 2006, min. 50% 2007 and min. 60% 2008. There are no sanctions, but the Icelandic Recy-

cling Fund may terminate the agreement in case of breaches, having obtained a statement from the Environmental Protection Agency.

The Federation of Icelandic Fishing Vessel Owners (LÍÚ) hands in an annual mandatory report to The Icelandic Recycling Fund. Apart from this, no formal evaluation has been made. The LÍÚ is now collecting information through interviews etc. to be better able to estimate the total amount of waste created each year.

The agreement is not part of a policy mix.

14.3 The prevalence of Eco-labelling in Iceland

14.3.1 Historic view of the use of Eco-labelling in Iceland

The history of eco-labelling in Iceland started in 1989 when the Nordic Council of Ministers introduced the Nordic Swan as a common and official environmental label in the Nordic countries. However, the real beginning in Iceland occurred in 1991, when Iceland formally joined the scheme. The EU-eco-label was introduced in Iceland with a regulation issued in 1997. At that time, an Icelandic scheme for organic certification had also been established.

The interest in Iceland for the Nordic Swan eco-label has been growing slowly since its introduction. In 2005, 7 licenses had been issued for domestic products and services, but after that the producers' interest dropped, apparently because of a lack of promotion and co-ordination on behalf the responsible body. In 2009 the scheme got a new boost through administrative changes, and at present the Swan seems to be heading for new heights in Iceland, presumably lifting the country to the same level in this respect as the leading partners of the scheme.

The EU-eco-label (The EU-Flower) has not got any particular attention in Iceland, in spite of its 13 years of existence. No licenses have been issued so far, and there are no clear signs of growing interest.

Tún Organic Certification has certified organic production in Iceland since 1996 in accordance with Icelandic and EU-regulation. This sector has been slowly growing, and now the label is well established in the Icelandic marketplace.

14.3.2 Role of Eco-labelling Schemes in Iceland

In Iceland, eco-labelling is considered an effective regulatory instrument, to the extent possible due to its voluntary nature. At present, there is obviously a rapidly growing interest for eco-labels in the country. In line with this, eco-labels are expected to play a significantly increased role in the coming months and year, both in terms of market share and number of eco-labelled products.

Overview of Eco-labelling Schemes in Iceland

	Responsible body	Umhverfisstofnun (Icelandic EPA)
Nordic Swan	Type of responsible body	Agency
	Year of implementation	1991
	Number of product groups covered	5
	Responsible body	Umhverfisstofnun (Icelandic EPA)
European Flower	Type of responsible body	Agency
	Year of implementation	1997
	Number of product groups covered	0
	Responsible body	Vottunarsstofan Tún (Tún Organic Certification)
Tún Organic Certification	Type of responsible body	Private
	Year of implementation	1996
	Number of product groups covered	3 (depending on definition)
	Short description of scheme	Independent inspection and certification of organic and sustainable production and resource utilisation in accordance with Council Regulation (EC) No 834/2007 of 28 June 2007

The Nordic Swan and the European Flower are “Type-1” eco-labels, which means that they are LCA-based or at least based on life cycle thinking. The Tún label is a typical organic certification that is mostly focused on agricultural practices, such as the use of fertilizers, animal welfare, the absence of GMOs and transparency and control through processing.

The Nordic Swan is regularly evaluated by the Nordic Eco-labelling Board, including an evaluation of how well the label is known among the public.

14.3.3 Eco-labelling Schemes in policy mix

There does not seem to be any strong tradition for policy mix in Iceland.

14.3.4 The European Flower in Iceland

The EU-eco-label (The European Flower) was introduced in Iceland with a regulation issued in 1997 in relation to Iceland’s membership of the EEA (European Economic Area). The formal regulatory framework is defined in regulation no. 535/2006 on Environmental Labels. The goal of the regulation is to contribute to sustainable development through enhancing the design, production, marketing and use of environmentally friendly products and services, taking the life cycle into account. Since then it has not got any particular attention in Iceland. No licenses have been issued so far, and there are no clear signs of growing interest.

The responsible body is the Umhverfisstofnun (Icelandic EPA), which is a governmental institution. There is no funding, but administration of

the scheme is theoretically done parallel to the administration of the Nordic Swan and by the same officials.

There has not been carried through an evaluation of the EU Flower in Iceland. The labelling scheme is not part of a policy mix.

14.3.5 The Nordic Swan in Iceland

The Nordic Council of Ministers introduced the Nordic Swan as a common and official environmental label in the Nordic countries in 1989. However, the real beginning in Iceland occurred in 1991 when Iceland formally joined the scheme. The Nordic Swan was originally introduced in Iceland in relation to Iceland's co-operation with the other Nordic countries under the Nordic Council of Ministers. The formal regulatory framework is defined in regulation no. 535/2006 on Environmental Labels. The goal of the regulation is to contribute to sustainable development through enhancing the design, production, marketing and use of environmentally friendly products and services, taking the life cycle into account.

The interest for the Nordic Swan has been growing slowly since its introduction. In 2005 7 licenses had been issued for domestic products and services, but after that the producers' interest dropped, apparently because of a lack of promotion and co-ordination on behalf the responsible body. In 2009, the scheme got a new boost through administrative changes, and at present the Swan seems to be heading for new heights in Iceland, presumable lifting the country to the same level in this respect as the leading partners of the scheme.

The responsible national body is the Umhverfisstofnun (Icelandic EPA), which is a governmental agency. Audits are performed by representatives from the Swan organisations in the other Nordic countries.

The scheme has not directly been adopted as an official requirement, but there are examples from public tenders, where the Nordic Swan is referred to in an indirect way, such as through requiring that the offered products or services fulfil the Swan criteria.

The goal is that the Nordic Swan reaches the same level in Iceland as in the other Nordic countries in terms of the relative number of licensees and the public awareness about the label.

The financial structure of the Nordic Swan in Iceland is basically in line with the structure in the other Nordic countries, while the fees are a bit lower. The application fee is 110,000–220,000 ISK (730–1,460 EUR) depending on the size of the applying company. When certification is achieved, producers pay from 0.15% (for services) to 0.30% (for products) of annual turnover as a license fee, with a minimum and maximum of 15,000 and 500,000 ISK (100 and 3,300 EUR) respectively. In addition to this, more specific tariffs apply to certain sectors, such as the printing industry. Fees in accordance with this count for approximately 20–40%

of the operation costs of the label, while 60–80% are covered from the state budget through the annual budget of Umhverfisstofnun (The Icelandic EPA).

There is no direct evidence of the scheme being used in a policy mix.

The Nordic Swan has not been evaluated in Iceland except from the regular Nordic evaluation.

Sammendrag

Rapporten har til formål at kortlægge brugen og udbredelsen af miljømærker og miljømæssige frivillige aftaler i de nordiske lande samt anvendelsen af disse specifikke værktøjer i policy mix. Undersøgelsen er baseret på eksisterende evalueringer af frivillige aftaler og miljømærkeordninger, hvorfra konklusioner om omkostningseffektivitet og eksempler på implementerede policy mix er hentet. Undersøgelsen omfatter et bredt udvalg af frivillige aftaler og miljømærker, der har været i anvendelse i perioden 2005–2010, samt evalueringer gennemført siden 2005.

Undersøgelsen viser, at frivillige aftaler og miljømærkeordningerne er i brug i alle de nordiske lande. Især Danmark, Sverige og Norge har gjort mange erfaringer i brugen af disse bløde reguleringsinstrumenter. Brugen og effekten af de frivillige aftaler ikke veldokumenteret i nogen af landene; evalueringer er få og datagrundlaget er dårligt. Miljømærkeordninger bliver evalueret på forskellige niveauer, men egentlige miljømæssige effekter af ordningerne er ikke dokumenteret.

Hvor udvikling og gennemførelse af frivillige aftaler er ad hoc-baseret, er miljømærkning et veludviklet policy værktøj, og især det nordiske Svane-mærke er velkendt i de nordiske markeder og har øget antallet af licenser i de seneste år.

Kun få evalueringer af omkostningseffektiviteten af frivillige aftaler er blevet identificeret, og alle angiver, at omkostningseffektivitet er vanskeligt at vurdere, ikke mindst som følge af en generel mangel på data, sammenlignelighed og baselines. Desuden er det vanskeligt at isolere virkningerne af aftalerne. De konklusioner, der er draget, udtrykker, at de undersøgte aftaler betragtes omkostningseffektive enten i forhold til „forventede omkostninger“ eller i forhold til andre mål. Omkostningseffektivitet synes at være et stærkt argument for at udvikle og indgå aftalerne. Evalueringerne af effekterne af frivillige aftaler på samfundsniveau er ikke set. Ingen analyser er blevet identificeret på omkostningseffektiviteten af den nordiske Svane eller EU Blomsten.

Der er ikke mange eksempler på strategisk anvendelse af frivillige aftaler eller miljømærkning i kombination med andre politiske instrumenter, og policy mix er ikke blevet grundigt behandlet i de eksisterende evalueringer. Vellykkede tilfælde af policy mix findes hovedsageligt inden for energieffektivitet, hvor energieffektivitetsaftaler kombineres med miljøtilladelser, grønne afgifter og informationskampagner. Implementering af frivillige aftaler i kombination med økonomiske instrumenter er et emne, der bør fokuseres på ved planlægning og udvikling af nye

frivillige aftaler i fremtiden, og flere erfaringer og analyser af kombinationer af politiske redskaber er nødvendige.

I relation til miljømærkningsordninger er der gode eksempler på og et stort potentiale i at bruge ordningernes kriterier i offentlige udbud. Dette er i nogle tilfælde praktiseret i de nordiske lande, og der vil være yderligere potentiale i at anvende miljømærkerne i grønne indkøb i fremtiden. Især er der store muligheder i at inddrage Blomsten og Svanen i implementeringen af ecodesign-direktivet.

Kortlægningen viser, at der ikke eksisterer megen viden om miljømæssig effektivitet af policy mix eller af frivillige aftaler og miljømærker i policy mix. Det konkluderes dog i andre undersøgelser, at brugen af policy mix er særlig relevant, når det anvendes i forhold til komplekse miljøproblemer.

En hovedkonklusion i undersøgelsen er, at alle de nordiske lande mangler en national strategi for brugen af frivillige aftaler og for brugen af både frivillige aftaler og miljømærkeordninger i policy mix. Mere erfaring med brug af instrumenterne er nødvendig, og der er et tydeligt behov for en systematisk overvågning og evaluering af resultaterne, herunder analyser af „business as usual“ scenarier. På et overordnet niveau anbefales det, at yderligere erfaringer med implementering af tilsigtede policy mix indhentes, og at forløbene monitoreres. Kombination af frivillige aftaler og økonomiske instrumenter anses for relevante at gennemføre og analysere. Det anses for vanskeligt at foreslå detaljerede implementeringsstrategier og egnede kombinationer af policy instrumenter. Det vil formentlig være mere effektivt at implementere forskellige kombinationer af policy instrumenter og lære af strukturerede monitorerings- og evalueringsforløb. Den virkelige kontekst, instrumenterne implementeres i, kan være for kompleks til fuldt ud at give mulighed for modellering af hvilke kombinationer af instrumenter, der vil være effektive, og dermed kan egentlige implementeringsforløb give mere viden.

En anden hovedkonklusion er, at det anses for yderst vigtigt, at udformningen af frivillige aftaler indeholder målbare målsætninger, baseline studier, overvågningsprogrammer og planlægning af strukturerede effektevalueringer.

Rapporten er hovedsagelig baseret på litteraturstudier og interviews med relevante eksperter og interessenter. Konklusioner fra evalueringer, artikler og tematiske rapporter udgivet af myndigheder og forskere har været kombineret med indsigt og viden hos holdet bag rapporten. For at få viden om den seneste udvikling, forventninger til fremtiden og interessenters indsigt, har teamet gennemført interviews med repræsentanter for organisationer, myndigheder, handel og industrien enten via telefon eller e-mail. De vigtigste temaer i interviewene har været erfaringer med frivillige aftaler og miljømærkeordninger samt henvisninger til relevante undersøgelser og evalueringer.

Rapporten består af en hovedrapport og fem individuelle landestudier i bilag.