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Competition Policy and Green Growth

Interactions and challenges

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– A joint report by the Nordic competition authorities –

October 2010

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Preface

There is a strong and growing policy emphasis on the development of a new and fresh economic and social framework that would enable low-carbon economic growth and development, prevent environmental degradation and enhance quality of life. Reflecting this, Ministers of 34 countries at the OECD Ministerial Council Meeting of June 2009 endorsed a mandate for the OECD to develop a Green Growth Strategy.

In their semi-annual meeting in the Faroe Islands in March 2010, the Directors General of the Nordic competition authorities discussed some of the challenges the competition authorities face in respect of the shift towards green growth.

The Directors emphasised the importance of competition, cost efficiency and coherent policies in a successful shift towards green growth. A crucial element in the shift towards a green growth economy is to remove or reform policies that undermine the transition. The Directors emphasised that assessment of environmental policies must take into account *inter alia* barriers to entry and limitation of opportunities for effective competition.

In order to establish a common background for addressing future challenges in this context, it was agreed to produce a joint Nordic report which would focus on the relationship between environmental and competition policy.

This is the background to this report. The mandate outlined by the Directors-General calls for a discussion on the relationship between environmental and competition policy, followed up by an overview of environment-related cases faced by the Nordic competition authorities in the last few years and what can be learnt from them in relation to future enforcement, advocacy focus and the development of a green growth strategy.

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We hope the report will contribute positively to the development of green growth strategies and establish a useful underpinning for the competition authorities' work on environment-related competition cases in the future.

Bergen/Copenhagen/Helsinki/Nuuk/Reykjavik/Stockholm/Thorshamn

1 Þorbergur Þórsson of the Icelandic Competition Authority made a valuable contribution to the report in the early stages of the work. Andreas Kryger Jensen and Christian Ølgaard of the Danish Competition Authority provided constructive comments throughout.

1. Executive Summary

Green growth is a concept that involves rethinking economic growth. It is mainly concerned with how economies can grow in a more sustainable way. It evolved out of a strong and increasing policy emphasis on the development of a new economic and social framework designed to enable economic growth and development while preventing environmental degradation and enhancing quality of life. Thus, it has been argued that together with innovation, going green can be a long-term driver of economic growth through, for example, investment in renewable energy and improved efficiency in the use of energy and materials. Reflecting this new policy focus, the OECD has been given a mandate to develop a Green Growth Strategy.[2]

A successful shift towards the ambitions underlying the green growth strategy can only be achieved through cost efficient and coherent policies. Competition policy has an important role in this context. It is up to the competition authorities to ensure that this relationship receives due attention.

Economic theory and empirical evidence support the view that competition is desirable as it contributes to efficiency in economic activity, thereby increasing the welfare of consumers and society. Healthy rivalry between competing firms ensures that only the most efficient and innovative firms develop and stay in the market. While it is difficult to measure the degree to which effective competition affects productivity and the economy more generally, a number of extensive studies have found a link between stronger competition and higher productivity growth. So competition contributes to economic growth.

There are also important links between competition and environmental policy. Using market mechanisms is important in green growth strategies as it allows appropriate prices to be determined. Price signals reflecting environmental externalities ensure that the correct incentives are in place for pollution abatement and innovation in green technology. Ensuring effective competition is important in this context, since otherwise the price signals cannot be effectively transmitted.

Effective competition and low barriers to entry are also crucial to innovation and market dynamics, which again play an important role in achieving environmental goals at a lower cost. Thus, given a well designed environmental policy, competition supports the achievement of environmental goals in a cost-efficient way.

Environmental regulations, practices or enforcement may affect competition negatively. This in turn may increase the social costs of achieving environmental goals. However, pro-competitive legislation is becoming stronger and is being more effectively enforced in many countries. Thus, one of the challenges the competition authorities face in this regard is helping to ensure that green legislation will not affect competition negatively and that pro-competitive legislation is employed instead. Various advocacy channels can be used to achieve this aim.

Perhaps the most important conclusion to be drawn from the report is that competition policy has an important role to play in the development and implementation of a green growth strategy and in facilitating a successful shift to green growth.

The report is composed of three main chapters. In Chapter 3, the relationship between competition policy and environmental policy is explored. In the remaining parts of the report we have made a distinction between the application of policy instruments and practices. The former refers to tools and means as applied in policies in the

2 OECD (2009) "A Proposal for Developing a Green Growth Strategy", (2009)147/REV1.

environmental sphere. The latter refers to the behaviour and practices of companies in the markets. In some cases, these practices are endorsed by the authorities. Accordingly, in Chapter 4, a closer look is taken at certain aspects of environmental policies and some of the conflicts that have arisen or might arise between these and competition policy. In Chapter 5 an account is given of how environmental policies are reflected by the practices of market participants through different green schemes. The report concludes with some forward looking perspectives in Chapter 6.

THE RELATIONSHIP BETWEEN COMPETITION POLICY AND ENVIRONMENTAL POLICY

As highlighted in Chapter 3, environmental and competition policy share the common objective of safeguarding and promoting social welfare.

Effective competition can support environmental policy by allowing price signals that reflect environmental externalities to be effectively transmitted. Competition also reinforces environmental policy in that competition-induced innovation efforts and efficiency improvements may be considered important components in a successful environmental policy.

However, environmental policy may harm competition by for instance increasing barriers to market entry. Thus, the OECD recommends that environmental regulatory agencies routinely undertake competition impact assessments of their environmental proposals. The national competition authorities can assist in such assessments, and they must be vigilant in pointing out the restrictive effects on competition of various regulations in the environmental area.

Environmental benefits might be adduced as a defence of horizontal practices or arrangements otherwise deemed restrictive under competition law. However, there are strict requirements to be fulfilled in this regard. The measure in question must be proportional to its aims. There must also be net economic benefits in terms of reduced environmental pressure resulting from the practices or arrangements concerned – compared to a baseline where no action is taken – and the expected economic benefits must outweigh the costs. Such costs include the effects of reduced competition, along with compliance costs for economic operators and effects on third parties.[3]

ENVIRONMENTAL POLICY INSTRUMENTS AND COMPETITION IMPLICATIONS

Governments can choose between two broad categories of policy tools in seeking to respond to and correct for negative environmental externalities: economic and administrative policy tools. Economic tools, such as taxes and subsidies, work indirectly via the price mechanism while tradable permits work through regulated quantities traded in a market. Regulations of a more administrative character are those which for example include specifications of maximum permitted emissions or detailed requirements for products, production processes or technologies. Such approaches are often referred to as command and control approaches.

Chapter 4 focuses on the workings and competitive ramifications of the main environmental policy tools. In addition to competition aspects of taxes, subsidies and tradable emission permits, the section also focuses on green public procurement as a green policy tool. Finally, the chapter points out the important advocacy role that competition authorities have in demonstrating potential conflicts when they arise, both to ensure that competition concerns are taken into consideration by the appropriate authorities

3 See European Commission notice: "Guidelines on the applicability of Article 81 of the EC treaty to horizontal cooperation agreements" (2001/C 3/02).

and to propose how to alleviate the conflict – or even align objectives. Below is a further summary of the contents of the chapter.

Taxes and subsidies

Environmental taxes are an important tool for solving the environmental externality problem, not least because direct taxes on emissions are considered economically efficient. Environmental taxes give polluters an incentive to reduce their pollution to the point where further reduction would cost more than paying the tax. There are, however, important challenges. One is to determine the correct tax level. Another relates to the fact that efficiency requires all polluters to face the same tax level at the margin. Tradable emission permits can resolve the problem of how to determine the correct price of emissions, provided that certain requirements are met.

Subsidies can refer to a variety of transfers, payments, supports (such as tax exemptions) and protections associated with government policies. When considering the introduction of subsidies as a means of achieving environmental goals, it is important to conduct a broad analysis of the net effects on welfare before reaching a decision. Conversely, environmental policies that involve the elimination of environmentally harmful subsidies are generally in line with competition policy.

Tradable emission permits

The EU Emission Trading Scheme (ETS) is regarded as one of the cornerstones of EU climate policy. The price of tradable emission permits plays a role similar to that of a tax. In the ETS, the total number of permits issued and the marginal abatement costs together determine the price for emissions. Thus, for a given total quota, the actual emissions price is determined by the market. The Nordic competition authorities have on several occasions argued that emission permits in general should be auctioned and should cover as many emission sources as possible, and also that incumbents should have no preferential treatment compared to newcomers.

For an emission trading scheme to function properly, competition in the permit market must be effective. When auctioning emission permits, auction design is important to ensure efficient pricing and avoid collusion. Thus, the competition authorities must seek to deter and detect collusive practices before, during and after the auction process.

Green public procurement

Public procurement is in itself a powerful tool, given its size in relation to GDP in the respective Nordic countries. Green public procurement (GPP) can hasten the development of markets for green goods. But a certain amount of caution should be exercised before it is used.

GPP should only be used if the external effect is not internalised by other regulatory instruments. If other regulatory instruments fulfil the object of internalising an external effect, adding further regulatory instruments – for instance by imposing environmental criteria in public procurement – may lead to inefficiencies from a socio-economic point of view. If the external effect is partly internalised by other regulatory instruments, GPP could be used and be designed to complement the policy tool in place.

It is also important to be aware that GPP can have a negative impact on competition if the restrictions imposed lead to significantly fewer firms being able to submit bids. This may increase costs for the procuring entities. GPP can also lead to higher prices due to investment being required to enable actors to submit bids. Finally, if the use of GPP is to have a real impact on the environment, it is important that the procuring entity iden-

tifies the product groups for which there is substantial procurement and that the product will be used in sufficient volumes to have a significant impact on the environment.

More fundamentally, the criteria and procurement process must comply with the basic principles of European Community law on public procurement, including non-discrimination, equal treatment, transparency, proportionality and mutual recognition.

Restrictive effects of green measures and the importance of advocacy

The transition to green growth implies that a host of green instruments will be implemented in many different areas. Promoting correct pricing of environmental goods is crucial to a cost-efficient environmental policy and proper innovation incentives. This can best be achieved through effective competition, since otherwise price signals reflecting environmental externalities cannot be effectively transmitted. Thus competition authorities have the essential task of advocating market based instruments in environmental policy.

Competition authorities also have an important role in identifying and analysing regulations that may unduly distort or restrict competition. When assessing the competitive impact of specific regulatory green measures, the OECD Competition Assessment Toolkit offers valuable guidance, both to the competition authorities and the relevant sector authorities. In many instances, green measures can be restructured to minimise harm to competition.

Competition authorities should also seek to advocate green measures that are less distorting to competition and endeavour to promote an efficient compromise between competition and environmental policy where appropriate. This function may also contribute significantly to the task of improving regulatory quality in the environmental area.

To succeed, initiatives must be timely, and political support should be sought. In addition, it is clear that changes take time and therefore perseverance may be required.

BUSINESS PRACTICES IN GREEN MARKETS

Environmental policies can be reflected in business practices related to various green schemes, for instance recycling or waste management or through different certification arrangements.

An important point in Chapter 5 is that many of the schemes have given rise to concern from a competition policy standpoint. An equally important point is that many of the schemes can be designed in such a way that competition in fact supports environmental goals more cost efficiently. The chapter starts with a brief account of specificities of antitrust efforts in ‘green markets’.

Antitrust and green markets

In the European Commission’s guidelines,[4] the section focusing on horizontal environmental agreements, it is stated that by nature, such agreements should be considered to be in breach of Article 101(1) TFEU if the cooperation is not genuinely concerned with environmental objectives but serves to conceal anti-competitive practices. And even where a particular environmental scheme may be endorsed by the authorities, this may not be used as an excuse for practices involving abuse of dominance.

4 See European Commission notice: “Guidelines on the applicability of Article 81 of the EC treaty to horizontal cooperation agreements” (2001/C 3/02).

Although some cases may be relatively clear-cut, there may be a host of borderline cases. Moreover, it is possible that even though a particular environmental agreement may raise concerns from a competition point of view, i.e. since the agreement falls under Article 101(1) TFEU or the national equivalents, the agreement may also bring economic benefits. These benefits, even at individual or aggregate consumer level, may outweigh the negative effect on competition. For this to be the case, it must be clear that the measure cannot be achieved through less restrictive means, i.e. that it is proportionate to the aim. To pass the test in Article 101(3) TFEU, the economic benefits should moreover stem from reduced environmental pressure resulting from the agreement, as compared to a baseline where no action is taken, i.e. the expected economic benefits must outweigh the costs in terms of reduced competition.

Restrictive practices in recycling and waste management

Recycling and waste management are booming industries in many countries. Industry-wide arrangements, e.g. through branch organisations or industry-owned schemes have become quite common and are in many cases endorsed by environmental authorities. This applies in particular to recycling and waste management. Most environment-related cases encountered by the Nordic competition authorities in recent years have involved recycling and waste management.

As the cases reviewed clearly show, even though there may be good arguments in favour of industry-wide arrangements, including economies of scale, operational efficiency and avoidance of non-participating producers getting a 'free ride', various aspects of these schemes may also cause serious competition concerns through:

- risk of spillover effects,
- bundling of demand, and
- pricing and fee structure.

The cases also show that in many instances, there are alternative approaches based on competition, or at least approaches involving a less restrictive impact on competition through which environmental authorities can achieve their objectives in a more cost efficient way. The competition authorities have important roles, both in terms of applying competition law to cases where the anti-competitive effects outweigh the economic benefits and of advocating competition-based solutions more widely.

It is also worth noting that a significant share of the cases considered by Nordic competition authorities related to green schemes have been closed through the application of 'soft enforcement', where the elements in the schemes causing concern were changed voluntarily in response to views expressed by the competition authorities.

Certification arrangements and competition concerns

Product certification highlights the specific characteristics of a product. Certification is primarily used to signify that a product has one or more credence attributes, i.e. characteristics that are invisible and difficult to judge. For that reason, certification can significantly reduce the transaction costs associated with information gathering. As buyers get more information it becomes easier for them to adapt their consumption choices in accordance with their preferences. More information can also enhance consumer mobility and thereby improve market performance.

Certification has become increasingly important, also in green markets. It has for instance become a key element in marketing organic food products. It has also been receiving growing attention in sectors like construction and taxi services. When certification is introduced, producers have a greater incentive to develop product qualities that consumers demand.

There may however be incentives for businesses to influence the certification criteria so that their own products are favoured over competing products. Furthermore, attempts may be made to increase costs to rivals, e.g. by lobbying for a narrow product category definition or monitoring mechanisms that disfavour competitors. In cases where the certification standard places foreign producers at a disadvantage, this may have a negative impact on international trade flows and international competition.

The effect of certification on welfare depends on how well the certification standard is designed (it needs to be non-discriminatory) and whether effective competition prevails. The competition authorities have an important role in this context through advocacy and, where appropriate, enforcement.

Forward-looking perspectives

Competition has a significant impact on the efficiency of environmental policy. Consequently, competition policy and the efficient enforcement of competition law should form an integral part of any green growth strategy. As environmental and competition policies share the common objective of safeguarding and promoting social welfare, we must strive to make execution of environmental policy and competition policy mutually supportive.

Experience has shown that existing environmental policies or schemes may restrict competition by raising barriers to entry and limiting incentives or opportunities for effective competition. The Nordic competition authorities have been active in pointing out these restrictive effects.

The Nordic competition authorities have also been firm and outspoken advocates of market-based approaches in environmental policy. When designing market based policy instruments, it is important to consider how well the 'newly created' markets will function. If it appears likely that price formation in a newly formed market will be strongly affected by market power, a different design should be considered.

Competition advocacy and competition enforcement focusing on the restrictive effects of various green schemes on competition will remain an important task for the competition authorities in the future and constitute an important contribution to the overall success of green growth strategies.

Advocacy efforts on the part of competition authorities will lend important support to the OECD Ministers' aim of "establishing appropriate regulations and policies to ensure clear and long-term price signals encouraging efficient environmental outcomes".

2. Background and Structure of the Report

Green growth is a concept that involves rethinking economic growth. Mainly it is about how economies can grow in a more sustainable way. It has evolved out of a strong and increasing policy emphasis on the development of a new economic and social framework capable of promoting economic growth and development while preventing environmental degradation and enhancing quality of life. Thus it has been argued that together with innovation, the greening process can be a long-term driver of economic growth, for instance through investment in renewable energy and improved efficiency in the use of energy and materials. Reflecting this new policy focus, the OECD has adopted a mandate to develop a Green Growth Strategy.[5]

A successful shift towards the ambitions underlying the green growth strategy can only be achieved through cost efficient and coherent policies. Competition policy has an important role to play in this context.

The main goal of this report is to further explore the linkages between competition and environmental policy, especially the role of competition in a green growth context – both conceptually and through specific enforcement cases encountered by the Nordic competition authorities.

The conceptual aspects of the linkages between environmental and competition policy are explained and explored in Chapter 3. Included is a summary of the main aspects of environmental policy and the benefits of competition.

A distinction has been made in the rest of the report between the application of policy instruments and business practices. The former refers to the framework and execution as it is determined by policies in the environmental sphere. The latter refer to the practices of the companies in green markets, for instance involving recycling or waste management. In quite a few areas, these practices are endorsed by the authorities. In line with this distinction, we first take a look at environmental policies and the extent to which these might raise concerns from a competition standpoint. We then present advocacy cases which relate to concerns from a competition standpoint.

The main concerns of competition authorities with respect to green markets – namely the obligation of competition authorities to deter and detect collusive practices and abuse of dominance – are presented in Chapter 5. We then focus on business practices in the waste and recycling industry. This is the area where most of the environment-related Nordic case experience has been gained; relevant cases are presented in blue fact boxes summarising the background, reason and conclusion of each case.

The last section of Chapter 5 contains an account of certification arrangements. Such schemes have become quite common in green markets. These arrangements are explained and cases identified where these arrangements may raise concerns – or be beneficial – from a competition and general welfare standpoint.

Finally, in Chapter 6, some forward-looking perspectives are presented.

5 OECD (2009). "A Proposal for Developing a Green Growth Strategy", (2009)147/REV1.

3. Competition Policy and Environmental Policy

Environmental and competition policy share the common objective of safeguarding and promoting social welfare. Furthermore, it may be said that both are constructed by the state to correct market failures.

However, each of these policies addresses a different aspect of welfare. While environmental policy promotes social welfare by seeking to correct for environmental externalities, competition policy contributes to economic efficiency, thereby increasing the welfare of consumers and society.

There are, however, important links between competition and environmental policy. Making use of the market mechanism can be highly supportive in green growth strategies since it facilitates the formation of correct price signals. These price signals ensure that the correct incentives are in place for pollution abatement and innovation in green technology. Ensuring effective competition is important in this context, since otherwise price signals reflecting environmental externalities can not be effectively transmitted. Effective competition and low barriers to entry are also crucial to innovation and market dynamics, which again play an important role in achieving environmental goals at a lower cost. Thus, given a well designed environmental policy, competition supports the achievement of environmental goals in a cost efficient way.

However, the links between environmental policy and competition policy are not solely of an advantageous nature. They may in some cases involve counterproductive effects. Environmental regulations, practices and/or enforcement may impair competition and thus increase the social costs of achieving environmental goals.

Before we proceed to explore the relationship further, however, we will first give a brief introduction to environmental policy.

3.1 Brief Introduction to Environmental Policy

Typically, the main goal of environmental policy is to limit the harmful effects of production or consumption on the environment. These effects fall into a category known in economics as externalities. These can be either positive or negative. A negative externality occurs when the activity of one entity adversely affects the utility and welfare of others without the effect being transmitted through market prices. In reality, these negative effects are costs of production that neither the producer nor his customers need to carry directly because they are imposed on others. These others could be contemporary inhabitants or later generations in the home country or abroad. In some cases, the environmental policy goal of correcting for externalities is fulfilled simply by imposing pollution limits or restrictions on the production causing the negative externalities.[6] More commonly, however, the goal of environmental policy is met by steering producers or consumers towards more environment friendly practices by making the acts causing the externality more costly for them.[7]

Generally, it may be said that the most important expedient used in environmental

6 For simplicity, we will hereafter mostly speak of production and producers as the cause of externalities. This is due to the fact that the focus of competition authorities is naturally more on production than consumption.

7 In Chapter 4, some of the key policy instruments of environmental policy are presented and explored in the context of competition policy.

policy is to constrain firms to internalise the external costs which their production process imposes upon others, or in other words, to compel firms to take all the production costs into account, including the costs associated with the externalities resulting from their activities.

Various policy instruments can be applied in the enforcement of environmental policy. The types of instruments may be divided into two broad categories: market based instruments and non-market based instruments. Market based instruments are intended to work through price signals. The most common tools in this category are environmentally-related taxes, charges and fees, tradable permits, and removal of environmentally harmful subsidies. The application of non-market instruments involves influencing the behaviour of firms, households or individuals through means other than price signals. These include command-and-control regulations, policies to support green technologies and innovation, and voluntary approaches based on the dissemination of information and negotiated agreements between government and specific industrial sectors in order to address a specific environmental concern.[8]

Successful environmental policy leads to correct or adequate pricing of externalities that have not previously been priced or have been inadequately priced. Hence, a more efficient allocation of the factors of production, including natural resources, is promoted. Moreover, the policy affects the competitiveness both of firms that have relied on the inadequately priced resources and their rivals in the market. The effect of the policy on economic efficiency can be compared to the impact of the abolishment of a distortive subsidy.

Environmental policy is generally formulated and implemented on a national basis. This is the case even though many of the externalities affecting the environment are by no means confined within national borders but are international in character. In recent years, however, there has been a growing willingness among nations to cooperate in this area and international institutions such as the OECD have played a key role in this regard.

As less developed countries are typically less able to afford environmental protection, they have a stronger incentive to set lax environmental standards. The firms that operate in poorer countries may therefore sometimes be expected to enjoy a comparative advantage in this respect over the firms that operate in richer countries which have set stricter standards. This is mainly because stricter environmental regulation normally imposes extra costs on companies.

Since environmental policy entails costs for companies, it is evident that environmental regulations can and do have effect on markets – and hence on market competition. Thus, as comparative prices and production costs of various goods and services change, competition-related problems may arise. These are discussed in Chapter 3.3.1.

3.2 The Benefits of Competition

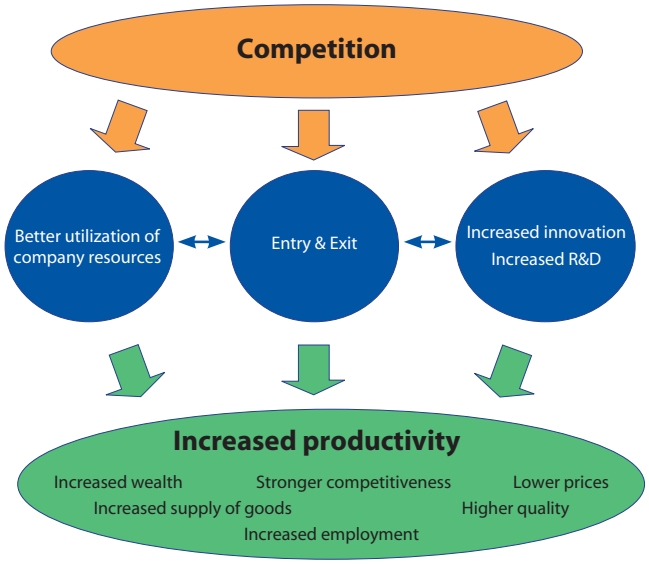
The purpose of competition law is to further competition and thereby promote efficient utilisation of society's resources, i.e. economic efficiency. Competition policy can be thought of as a combination of competition advocacy, competition law and its enforcement. The importance of competition policy can only be properly understood by finding out what exactly the benefits of competition are, and how they are created. In economic theory, competition is desirable because it increases the welfare of consumers by contributing to efficiency in economic activity. Rivalry between individual firms ensures that only the most efficient and innovative firms stay in the market.[9]

8 OECD (2010), Green Growth Strategy Interim Report: Implementing Our Commitment For a Sustainable Future, C/MIN(2010)5, p. 20.

9 See, for example Stigler, G. J. (1987), Competition, in Eatwell, J., M. Milgate, and P. Newman, The New Palgrave, London, Macmillan.

Moreover, competition is a continuous process that works through efficient utilisation of companies' resources, free entry and exit from the market, and ample incentives to innovate. This is graphically depicted in Figure 1.

Figure 1. Competition increases productivity



Source: The chart is from the publication "Konkurrence – vækst og velstand" available at www.ks.dk.

Competition improves *utilisation of companies' resources*. This is because the relative gain to businesses from increased efficiency is comparatively greater in competitive markets than non-competitive markets. Therefore, managers have greater incentive to implement efficiency measures where competition is strong. Thus competition does tend to minimise inefficient practices in companies and lead to increased productivity.[10]

Free entry to the market is one of the main prerequisites of effective competition. Companies that cannot keep up with development in the market will gradually exit the market. This enables more efficient companies to gradually replace the less efficient companies and leads to higher productivity in the economy as a whole.[11]

The incentive to *innovate* is generally stronger where competition is vibrant. Innovation creates new products and services that benefit consumers and other companies. However, the link between innovation and competition is complex.

Substantial empirical analytical work has been done to analyse the link between competition and innovation. In general a stronger competitive environment leads to more innovation.[12] The reason is that companies innovate to escape competition, (the "escape competition" effect). However, some researchers have identified an inverted U-shaped

10 See, for instance Bloom, N. and Van Reenen, J. (2007), *Measuring and Explaining Management Practices across Firms and Countries*, The Quarterly Journal of Economics, Vol. 72(4) pp. 1351–1408 and Green, A. and Mayes, D. (1991), *Technical Inefficiency in Manufacturing Industries*, The Economic Journal, Vol. 101(406), pp. 523–538.

11 The share of total productivity growth due to entry and exit vary from country to country. An OECD analysis shows that firm turnover accounted for 10–40 per cent of productivity growth in manufacturing industries in 6 OECD countries during the period 1987 to 1999. See: Scarpetta, S., Hemmings, P., Tressel, T. and Woo, J. (2002), The role of policy and institutions for productivity and firm dynamics: Evidence from micro and industry, OECD Economics Department Working Paper No. 329.

12 See, for instance, Blundell, R.., Griffith, R. and van Reenen, J. (1999), Market Share, Market Value and Innovation in a Panel of British Manufacturing Firms, Review of Economic Studies nr. 66, pp. 529–554. and Geroski, P. A. (1990), Innovation, Technological Opportunity, and Market Structure, Oxford Economic Papers, Vol. 42(3), pp. 586–602.

relationship between innovation and competition, where the level of innovation is low when competition in the market is very weak and also, surprisingly, when competition is very strong.[13] It is possible that contrasting empirical findings regarding the source of innovation can, depending on the level of competition, be attributed to some particulars of the institutional environments (such as law and regulations) in the respective markets.

It is difficult to quantify how much effective competition affects productivity and the economy more generally, but a number of extensive studies have found that stronger competition is associated with higher productivity.[14]

Thus, there is a link between competition and productivity and competition and innovation respectively. These links may lend support to the notion that effective competition reinforces environmental policy as increased innovation and increased efficiency can be considered important parts of a successful environmental policy. This is based on the fact that increased costs for companies resulting from compliance with environmental policy requirements and the pricing of environmental externalities make greater innovation and higher productivity even more meaningful.

Further, it follows from the discussion above that ensuring effective competition is very important to the success of environmental policy in ensuring that price signals reflecting environmental externalities are effectively transmitted. Effective competition is also crucial to ensure the efficiency of markets for tradable emission permits, as explained in Chapter 4.

In the following sections the links between competition and environmental policy will be explored.

3.3 The Relationship between Competition Policy and Environmental Policy

Both environmental policy and competition policy are devised by the state to correct market failures.[15] Such failures arise for instance due to lack of incentives to preserve the natural or physical environment and frequently ample incentives for companies to engage in anti-competitive practices.

Thus, environmental and competition policies share the common objective of defending and maximising some measure of social welfare as other government policies generally do. However, each of these policies addresses an entirely different aspect of welfare. While environmental policy promotes social welfare by seeking to correct for environmental externalities, competition policy promotes consumer welfare and economic efficiency by seeking to fight anti-competitive practices and regulations.

Since environmental and competition policies share a common objective of maximising social welfare, it goes without saying that it is important that the construction and execution of these two policies do not prevent, or in other ways hamper, each other's effectiveness – but instead, ideally, reinforce each other's effectiveness. Unfortunately, there are various situations where the means used to attain the ends of each policy disrupt the other's effectiveness, and their harmonisation and concordant execution are therefore required to promote and maximise social welfare.

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13 See, for instance, Aghion, P., Bloom, N., Blundell, R., Griffith, R,. and Howitt, P. (2005),*Competition and innovation: An inverted-u relationship,* The Quarterly Journal of Economics, pp. 701–728. and Kilponen J. and Santavirta T. (2007), When do R&D subsidies boost innovation? Revisiting the inverted U-shape. Bank of Finland Research Discussion Papers 10.

14 The 2009 Nordic report, Competition policy and financial crisis, covers this issue in greater depth and refers to a number of studies.

15 Market failures refer to situations where markets cannot fulfil their function of allocating resources optimally. Apart from externalities, market failures may arise through the presence of market power, public goods and asymmetric information. The last concept is further discussed in Section 5.3.

We can identify three broad issues that would need to be taken into account and explored in relation to the link between competition policy and environmental policy:

- Environmental impacts in the assessment of restrictive practices under competition law
- How various environmental policy-based law, regulations or regulatory measures affect competition, including the capacity of competition to fulfil its societal functions
- How competition and competition policy affect various environmental policy based law, regulations or regulatory measures; thereby influencing the effectiveness of environmental policy

The first bullet point concerns the extent to which competition authorities can take environmental impacts into account in their assessment of alleged restrictive practices. The second bullet point concerns the competition implications of environmental policy. The third bullet point is beyond the scope of this report as it concerns the environmental implications of competition and competition policy.[16] Instead, the focus here is on the issues in the first and second bullet points.

3.3.1. The Impact of Environmental Policy on Competition

Environmental policy and competition policy share the common objective of preserving and increasing social welfare as mentioned earlier. In some cases there would appear to be almost perfect harmony between the two policies. Arguably, this perfect harmony exists primarily in the case of harmful subsidies, e.g. to agriculture, fisheries and fossil fuels, which may not only cause harm to the environment but also distort competition.[17] The two policies also share the common objective of promoting efficient use of resources since the reinforcement of economic efficiency is an important goal of common competition law in the EEA.

However, environmental policy may harm competition and lead to social costs which may outweigh the environmental benefits it is intended to provide. These potential negative instances and situations are explained below.

The obligations the firms must adhere to under environmental regulations are normally costly from the standpoint of individual firms since they usually raise the costs of production. Thus, it is evident that environmental regulations can and do have effect on the market and hence market competition. One of the consequences of environmental policies may for instance be to change the comparative prices and production costs of the various goods and services that are exchanged in the marketplace, e.g. due to a requirement imposed on firms by the regulator to change their production methods. Environmental regulation tends to have different effects on firms depending on their size. Although some environmental regulations seem to favour smaller firms, large firms generally seem to face lower per-unit costs of compliance to a given regulation.[18] This means that environmental regulation tends to affect smaller firms comparatively more than big firms. This can easily be understood in the light of the effect of increased fixed costs on average production costs. Often, there are substantial fixed costs associated with compliance, i.e. costs that are the same whether output is large or small.[19] This means that the fixed costs of compliance will lead to a smaller increase in average

16 The importance of effective competition to determine the correct environmental tax level via tradable permit systems can be seen as a positive environmental implication of competition policy.

17 Basic economic theory holds that subsidies distort domestic resource allocation processes in general and can adversely affect international trade. Regarding discussion concerning agricultural subsidies, see e.g. p. 37 in Green Growth Strategy Interim Report: Implementing Our Commitment For a Sustainable Future, C/MIN(2010)5 issued by the OECD.

18 OECD (2006), Environmental regulation and competition, DAF/COMP(2006)30, p. 19. This source cites various studies in support of this contention.

19 A rise in fixed costs can stem from changes in production processes or machinery, and from the increased administrative tasks associated with compliance with the regulation, including dealings with public agencies. In the same way, environmental regulation may also lead to disproportional profit impact in cases where there are some companies that enjoy economies of scope and some that do not.

production costs for a producer who produces a large quantity of a product than for one who produces a small quantity.[20]

Where environmental regulation tends to place a proportionally smaller burden on large firms, it is conducive to more concentrated markets because it has the effect of enlarging the minimum efficient scale of the firm. Where this applies, it will almost inevitably lead to decreased competition. It is therefore possible that the resulting increase in market concentration will lead to significant welfare costs due to lack of competition. There is also another risk to competition associated with the introduction of environmental policy. It is the risk that incumbent firms, i.e. firms that are already established in the market, will use environmental concerns for predatory purposes and lobby for stricter environmental standards than are efficient – in order to raise the entry barriers to the market. This can lead to greater production costs for the incumbent firms – but if they are secure in the market this can nevertheless be a profitable option for them as it leads to increased market power.

Furthermore, firms that are already in the market tend to face less stringent standards than firms that are starting production.[21] There are various reasons for this but one of the most important ones is that it tends to be more expensive to improve the environmental characteristics of production facilities afterwards than it is to build them up to standard in the beginning. This sometimes leads to a form of regulation often referred to as 'grandfathering', which recognises this difference in costs and places stricter environmental demands on the new entrants to the market than on incumbent and other already established firms. This may create a barrier to entry to the market as newcomers face higher production costs as a result of the more stringent standards they have to comply with than the incumbents.

The time spent on procedural matters and red-tape is sunk cost, i.e. irrecoverable investment expenditure which can slow down the speed at which entry can occur and be costly in itself. When regulatory requirements lead to greater sunk costs, they also tend to lead to higher barriers to entry since sunk costs generally have the effect of raising barriers to entry. Thus, an increase in sunk costs related to market entry makes markets less contestable than before, which in turn tends to lead to deteriorating market performance. It should be noted in this context that a rise in exit costs, which may arise due to more stringent requirements in environmental policies, also tends to raise the barriers to entry since such costs are sunk.

3.3.2. The Environmental Impacts of Restrictive Practices

As explained earlier, environmental benefits enhance social welfare.[22] In principle, these benefits constitute efficiency gains as defined in competition law. Therefore, environmental benefits could be used to defend horizontal practices or arrangements otherwise deemed restrictive under competition law. In order to turn this notion into an integral part of the enforcement procedures under competition law it would be necessary to evaluate the environmental economic benefits and compare them to the estimated social costs of potentially diminished competition resulting from the practices or arrangements in question.

To defend restrictive practices merely because they bring some unspecified and unquantified social good is not sufficient. To accept such vague arguments would render competition law and competition policy ineffective, turn it into a part of some general social policy. If environmental impact is translated into clear costs or cost savings to society, the requirement of efficiencies as defined in competition law is taken

20 OECD (2006), Environmental regulation and competition, DAF/COMP(2006)30, p. 20.

21 OECD (2006), Environmental regulation and competition, DAF/COMP(2006)30, p. 26.

22 Note that in this report environmental benefits stand for improved quality and safety of the natural environment or preservation of existing quality and safety of the natural environment.

fully into account and competition policy preserves its cutting edge.[23] Implicit here is a clear recommendation for policy makers on how to make competition and environmental policy compatible and increase overall economic efficiency.

Incidentally, just as there could be potential positive environmental effects associated with restrictive practices, there could be potential negative environmental effects associated with unrestrictive practices, or the attainment of competitive efficiencies which could call for similar balancing, as described above.

However, instances such as those described above, which would call for some kind of compromise in the enforcement of competition law, are probably relatively rare. Indeed, increased rather than diminished competition is generally likely to help attain environmental benefits, especially where tradable permit systems are in place since it is clear that such arrangements require effective competition to ensure efficient pricing of permits.

3.4 Concluding Remarks

Environmental policy does go hand in hand with competition law in some important areas. Most importantly, environmental and competition policy share the common objective of promoting efficient use of economic resources. Environmental benefits enhance social welfare and in principle these benefits comprise efficiency gains as defined in competition law. Another common ground can be identified in the case of environmentally harmful subsidies, which are also distortive of competition.[24] Moreover, effective competition can be instrumental in determining the correct emission price to correct for externalities. Thus, competition policy may be regarded as highly supportive of environmental policy.[25]

In principle, environmental benefits can be seen as efficiency gains as defined in competition law. Environmental benefits could therefore be used to defend practices or arrangements otherwise deemed restrictive under competition law. In order to turn this notion into an integral part of the enforcement procedures under competition law it would be necessary to evaluate the environmental economic benefits and compare them to the estimated social costs of potentially diminished competition resulting from the practices or arrangements in question.

However, it is clear from the foregoing discussion that environmental policy may also harm competition by leading to increased fixed costs and sunk costs which may in turn result in increased concentration and raise barriers to entry to the market, i.e. lead to reduced competition.[26] In addition to this, incumbent firms may attempt to exclude or disadvantage rivals, e.g. by lobbying.[27]

It would appear, based on the foregoing discussion, that in order to maximise social welfare with respect to both competition and environmental policy it may be necessary

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23 See e.g. European Commission's guidelines on horizontal agreements, which also focus on environmental agreements. European Commission notice: Guidelines on the applicability of Article 81 of the EC treaty to horizontal cooperation agreements (2001/C 3/02).

24 Agricultural subsidies may for instance increase or maintain production levels above those that would occur in the absence of such support and in the process require greater amounts of inputs that have harmful environmental effects – such as water pollution (from greater use of fertilisers and pesticides), soil erosion, and increased greenhouse gas emissions.

25 This applies especially in the case of tradable permit systems.

26 Note that in the OECD policy roundtable paper DAF/COMP(2006)30 Environmental Regulation and Competition, it is further stated that: "…shifts in the cost of entry can lead to markets with fewer firms and lower output. The resulting increase in market concentration can have far-reaching welfare effects beyond the initial, direct cost of compliance. Thus, environmental regulatory agencies should routinely conduct competition impact assessments of their environmental proposals. Competition authorities could assist in such assessments."

27 Thus, environmental policies could give rise to anticompetitive practices.

to reach an optimal or efficient compromise between competition and environmental policies in terms of their execution.[28] In some situations a cost-benefit analysis would be needed to determine the optimum result, i.e. an analysis of the potential costs of reduced competition versus the environmental economic benefits.

It should be emphasised that although a compromise may be required in certain cases between competition policy and environmental policy, restrictive practices must not be allowed to be defended by reference to some unspecified, unquantified social good they are supposed to bring. It is vital that the environmental impact is translated into clear costs or cost savings to society. Thus, the requirement of efficiencies as defined in competition law can be taken fully into account without competition policy losing its cutting edge.

Assuming that green taxes pave the way for a reduction in other less efficient taxes, economic activity and thus competition are likely to benefit. Also, recognising the environment as a factor of production, the correct pricing of externalities should generally lead to a more efficient allocation of the factors of production in a dynamic context. In an inter-generational perspective, this will also lead to more sustainable growth and prosperity in the longer term.

Box 1. Main Points and Recommendations – Competition Policy and Environmental Policy

- Environmental and competition policy share the common objective of safeguarding and promoting enhanced social welfare
- Effective competition facilitates the transmission of relevant price signals that reflect environmental externalities.
- Environmental policy involving the elimination of environmentally harmful subsidies is generally in harmony with competition policy
- Environmental benefits may be cited as justification of horizontal agreements otherwise deemed restrictive under competition law
  - To be accepted, such arguments must show that the measure is proportional to its aim
  - The net economic benefits in terms of reduced environmental pressure resulting from the practices or the arrangements must be clear
- Environmental regulation may harm competition, for instance by raising barriers to market entry
  - The OECD recommends that environmental regulatory agencies routinely conduct competition impact assessments of their environmental proposals. The competition authorities can assist in such assessments
- In order to maximise social welfare with respect to both competition and environmental policy, we must strive to make the execution of environmental policy and competition policy mutually supportive

28 Some would argue that this involves determining a second-best solution to the problem.

4. Environmental Policy Instruments and Competition Implications

As discussed in Chapter three, a negative externality occurs when the activity of one entity affects the utility and welfare of others adversely without being transmitted by market prices.

The Government can choose between two broad categories of policy tools to respond to and correct for negative environmental externalities: economic and administrative policy tools. Economic instruments such as taxes and subsidies work indirectly via the price mechanism while tradable permits work in terms of regulated quantities traded in a market. Regulations of more administrative character are those which, for example, include specifications of maximum allowed emissions or detailed requirements for products, production processes or technologies. Such approaches are often referred to as command and control (CAC).

The workings and competitive ramifications of the main environmental policy instruments are explored in the following sections.

4.1 Taxes and Subsidies

4.1.1 Taxes

Currently, revenues from environment-related taxes amount to about 1.7 per cent of GDP in the OECD countries, ranging from about 0.7 per cent in North America to about 2.5 per cent in Europe. Over 90 per cent of these revenues stem from taxes on fuels and motor vehicles. Although these taxes have been growing in revenue terms, they have fallen slightly in relation to GDP in recent years.[29]

In practice, green taxes are in most cases excise taxes on environmental pollutants or on goods whose use produces such pollutants. Such taxes comprise the 'standard solution' of economists to the externality problem. The central issue for regulators then becomes one of obtaining sufficient empirical information so that the correct tax can be imposed directly on the polluting firm (assuming that the externality is caused by a business enterprise). This means that the marginal cost of manufacturing the externality-causing product needs to be brought into line with the social marginal cost of the product. As the corrective tax is added to the price of the product, demand falls and the profit-maximising level of output for the firm is reduced to a socially optimal level.[30]

Direct taxes on emissions are considered economically efficient because they give polluters an incentive to reduce their pollution to the point where further reduction would cost more than paying the tax, and to do so in the least costly way. Indirect taxes, such as taxes on related goods, or alternative policies, such as mandated technology standards, may not reduce pollution in the least costly way. For example, imposing a higher gasoline tax to reduce the environmental damage from automobile emissions gives drivers no incentive to maintain their cars' pollution control equipment.

29 OECD (2010), Green Growth Strategy Interim Report: Implementing Our Commitment For a Sustainable Future, C/MIN(2010)5, p. 38

30 Arguably, it is impossible to determine the 'correct tax' in practice due to uncertainty and scarcity of information. To put this into perspective: the range of estimates of the external costs associated with fossil fuels is extremely wide, with a median incremental damage estimate of $14 per ton of carbon while a handful of estimates have implied incremental damage estimate of above $350 a ton (based on a recent review of 28 published studies).

Furthermore, mandating pollution control equipment provides no incentive to drive less.

Direct emission taxes are also considered cost-effective because they ensure that pollution reductions are undertaken by those who can do so most cheaply. Firms that find pollution abatement costly will choose to continue to pollute and pay more tax, while those who find it less costly will cut their pollution rather than pay more tax. However, this could pose a threat to competition as it can be expected that this will make life comparatively more difficult for companies – mainly small companies, whose fixed costs are already high in relation to sales. Companies that enjoy the greatest economies of scale should be able to place themselves in a comparatively more advantageous position in competition against smaller companies by investing in pollution reducing equipment and paying less tax. Thus, direct emission taxes can lead to market concentration and reduced competition.

Indirect emission taxes on the other hand, where users of the product causing externalities carry the lion's share of the tax burden, should not have the same effect since the comparative position of the competing companies should not be affected in the same way as in the case of direct emission taxes.[31]

International cooperation is arguably of significant importance in the introduction of green taxes. This is mainly because of appreciative discrepancies in green tax levels between states. This tax differential gives rise to variable competitiveness between companies depending on where the company is located. Therefore, differences in environmental taxes between countries can distort international competition. Furthermore, the differential could render environmental policy less effective as polluting companies attempt to avoid the taxes by moving around. Such conduct could also impact the level of competition in different countries, leaving some countries with less competition and others with greater competition (as well as greater pollution). However, the effect on competition of such moves is mitigated by the fact that in most cases such companies would presumably continue to sell their products in the same markets as before while their manufacturing facilities moved. In fact, it is likely that in many cases companies opting to move around are global players. Yet, in view of all the arguments presented here, a satisfactory international harmonisation is desirable in this respect from an environmental and competition point of view.[32]

4.1.2 Subsidies

The term 'subsidy' can refer to a variety of transfers, payments, supports (such as tax exemptions) and protections associated with government policies. Often, the more generic term 'support measures' is therefore used instead.

Basic economic theory holds that subsidies distort domestic resource allocation processes in general and can adversely affect international trade. This notion is based on subsidies being narrowly defined as targeted payments made by the Government in order to redistribute income to benefit lower income groups or for the purpose of enabling declining firms and industries to remain in business. However, if subsidies are being used to correct for externalities, broader analysis is required to capture the net effects of subsidies on welfare. Assume, for instance, that both green and 'dirty' companies are operating within the same industry. If it wishes to reduce pollution, the Government has a choice between subsidising the green sector or taxing the dirty sector. In such a scenario, and given a wide range of moderate policy targets (i.e. soft green targets), subsidies might prove superior in terms of maximising welfare (from

31 Taxing negative externalities usually entails exerting a burden on consumption, and since the poor consume more and save/invest less as a share of their income, any shift towards consumption taxes can be regressive (a tax with a marginal rate that decreases as the taxpayer's income increases). This has been criticized.

32 A satisfactory harmonisation should not prevent policies and approaches for promoting green growth from being carefully tailored to fit specific national circumstances.

an environmental point of view), as long as consumers initially have strong preference for dirty goods.[33] However, if the impact of the subsidies on competition is taken into account the result might be different.

As mentioned in Chapter 3, there is perfect harmony between competition policy and environmental policy when implementation of environmental policy involves the abolition of environmentally harmful subsidies, especially if these subsidies distort competition, which tends to be the rule rather than the exception.

More generally, exemptions from environmental taxes and regulatory exemptions can lead to substantial economic inefficiencies. Thus, indirect subsidies in the form of less stringent emission regulation/requirements in the case of some but not all companies/sectors/countries, may lead to unfair or reduced competition between companies in the same sector, competing sectors of the same country or between countries.

Another competition-related concern may arise in respect of subsidies for emissions reduction. In principle, taxes on emissions are equivalent to subsidies (negative taxes) on emissions abatement. However, subsidies increase the benefits of belonging to the subsidised group and may result in more polluters, each polluting less, but with no net decrease in emissions. This could also clearly distort competition between the polluting companies, depending on how the subsidy was determined. It would also harm economic efficiency generally and thus undermine the competition policy goal of boosting economic efficiency.

Generally, subsidies may be described as a riskier means of correcting for the externality problem than taxes. This is because subsidies must be monitored to ensure they are used in accordance with the aims of the regulator. Moreover, rent-seeking behaviour, including lobbyism, could become an even more common problem than in the case of taxes.

Subsidies normally also involve cash outlays or reduction in revenue to the state. Budgeting restraints make this solution to the externalities problem more difficult to implement in practice. In a recent report, the OECD advises against subsidising green activities due to the potentially large budgetary costs involved, their limited impact in terms of incentivising reductions in the environmentally harmful activities and potentially distortive effects of competition and trade. Further, the OECD proposes that when they are used, subsidy programmes should be temporary and closely monitored.[34]

A case concerning potentially harmful subsidies is presented in fact box below. In the case, which is from Iceland, the complainant argued that the subsidy scheme restricted his business opportunities. However, the Icelandic Competition Authority's conclusion was that the overall effect of the geographical subsidy scheme was positive for the forestry market and that there were therefore no grounds for action by the ICA.

33 See: S. Dröge & P.J.H. Schröder (2005), *How to Turn and Industry Green: Taxes vs Subsidies*, Journal of Regulatory Economics; 27:2 177-202. It should be noted that the authors did not evaluate the impact on competition.

34 OECD (2010), Green Growth Strategy Interim Report: Implementing Our Commitment For a Sustainable Future, C/MIN(2010)5, pp. 21-22.

Box 2. Forestry projects (dnr 12/2006) – Iceland

Background. The ICA received a complaint from a forestry engineer who thought he had little chance of finding work in his professional field because the Ministry of Agriculture had set up a subsidy scheme which limited his business opportunities.

The complainant pointed out that in order to qualify for a forestry subsidy one had to be a member of certain geographical/regional forestry projects. Since the law granted participants in the projects priority with regard to all work to be carried out, his business was excluded. Furthermore, as landlords were reimbursed for up to 97% of their project-related costs, it created a strong incentive for them to participate in the forestry projects.

On examination of the case it became clear that participants in the projects had been granted priority with regard to all the main labour tasks associated with forestry projects.

The infringement. The ICA acknowledged that it could be argued that the aforementioned priority could involve a degree of discrimination, leading to fewer opportunities for those who were trained in forestry but were not involved in projects based on the subsidy scheme. However, two aspects had to be taken into consideration in respect of the possible negative effects on competition.
First: The work participants had priority in only covered the vocational part of the process.
Second: A considerable number of opportunities were being created because of miscellaneous professional tasks that also needed to be carried out, for which no restrictions applied. It was therefore possible to argue that business related to forestry had gained substantially from the subsidy scheme and new jobs had been created.

The ICA's decision. The ICA concluded that the overall effect of the geographical subsidy scheme was positive for the forestry market and that there were therefore no grounds for action by the authority.[1]

1 Environmental policy aspects were not considered by the ICA in this case.

Box 3. Main Points and Recommendations – Taxes and Subsidies

TAXES:

- Environmental taxes constitute an important tool for solving the environmental externality problem
- Direct taxes on emissions are considered economically efficient because they give polluters an incentive to reduce their pollution to the point where further reduction would cost more than paying the tax
- There are, however, important challenges:
  - One problem is to determine the correct tax level. Another is that efficiency requires that all polluters be liable to the same tax at the margin
  - Tradable emission permits provide a way of resolving this

SUBSIDIES:

- Subsidies can refer to a variety of transfers, payments, supports (such as tax exemptions) and protections associated with government policies
- When subsidies are considered in order to achieve environmental goals, a broad analysis of the net effects on welfare, including the effects on competition, is required before they are implemented
- In general, environmental policy involving the abolition of environmentally harmful subsidies is in harmony with competition policy

4.2 Tradable Emission Permits

Tradable emission permit schemes are an alternative to environmental taxes and can be just as cost-effective equating marginal emission costs across emission sources. These schemes may for instance limit the quantity of allowable emissions by issuing a fixed quantity of emissions permits, which polluters may then trade among themselves. The permit price plays a role analogous to an environmental tax.

The EU Emission Trading Scheme (ETS), which Norway and Iceland are also a part of, is regarded as one of the cornerstones of EU climate policy. The market for tradable emission permits includes the primary allocation (grandfathering or auctioning) and the subsequent trading of Greenhouse Gas (GHG) Emissions Permits within the ETS. Getting this market to work competitively is crucial to getting emission prices right. This will provide the correct price signals in order to reduce emissions and boost incentives to innovate.

During Phase I, most allowances in each country were given freely (known as 'grand-fathering'). Arguably, grandfathered tradable pollution permits are among the least distortive forms of 'subsidies' since the opportunity costs of polluting are exactly the same as if the permits had been auctioned.[35] This (surprising) conclusion is based on the fact that the marginal price of emissions faced by every polluter remains the market price of a permit. It would, for instance, be more distortive to competition to apply different abatement requirements or environmental taxes across jurisdictions since these impact the cost of production at the margin, and therefore affect output and pricing decisions.[36] However, auctioned emission permits are better than grandfathered permits, since all sources, old and new, compete on an equal footing for emission rights.

From the start of Phase III (January 2013) GHG emissions permits will to a gradually increasing degree be auctioned by Member States. ETS sectors must start by purchasing 20 per cent of their emissions permits at auctions in 2013. That rate will rise gradually to 70 per cent in 2020, with a view to reaching 100 per cent in 2027. Power producers, on the other hand, are obliged to acquire all of their emission allowances at auctions in order to prevent windfall profits. To facilitate the energy transition for countries with high dependence on fossil fuels or insufficient connection to the European electricity network, a derogation is available.[37]

4.2.1 ETS and the Importance of Effective Competition

In an ETS, the total number of permits issued (either auctioned or grandfathered), together with marginal abatement costs, determines in principle the price of carbon emissions. Thus, for a given total quota, the actual carbon emissions price is determined by the market.

Potential issues to be discussed in this context concern both the primary allocation (auction) as well as following trading of permits.

35 Many tradable permit schemes 'grandfather' – distribute permits to firms according to some formula based on past pollution levels – whilst good practice would involve auctioning.

36 OECD (2006), Environmental regulation and competition, [DAF/COMP(2006)30] p. 36.

37 See http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/misc/107136.pdf

Regarding the primary allocation, emission permits should in general be auctioned and incumbents should not be given preferential treatment over newcomers.

A well functioning, competitive market for GHG emission permits is crucial to determining the appropriate price for emissions. Low prices – due for example to collusive practices – compared to the equilibrium price at a competitive level, would among other things lead to lower incentives for innovation. Thus, it is important that the auction market as well as the markets for trading permits function efficiently.

In the auction market, correct prices are vital in generating auction revenue for the Government that reflects the real economic value of the emission permits. However, not achieving this objective is more a distribution issue than an efficiency issue, as prices will adjust to market value, and hence real economic value, through trading in the secondary market, e.g. the ETS market, provided of course, that this market is competitive.

Achieving the objective of attaining market prices at the auction will depend on how the auction is designed. Different designs can deter or facilitate collusion. In the latter case, this might undermine the policy objective of competitive prices and correct price signals, in addition to transferring the economic rent of emission quotas from the authorities to industry.

Experience with auctioning and trading of emission permits has been gained both in the US and in the EU. When allocating multiple units of a homogenous good, like emission permits, different auction formats have been used in practice. One example is sealed bid auctions, where the bidders submit demand schedules. These are added to form the aggregate demand curve. The point at which the aggregate demand curve crosses the (vertical) supply curve defines the clearing price. The price paid for each item can either be the bid price or the clearing price. The former case is typically referred to as discriminatory or pay-your-bid pricing, whereas the latter is referred to as uniform pricing. Both auction formats have been used to sell e.g. treasury bills in different countries. Another auction format is the simultaneous ascending auction, used *inter alia,* by the Federal Communications Commission (FCC) in the US. Yet another format is the clock auction, used in the UK to sell emission permits.

Paul Milgrom discusses these formats from a theoretical point of view in his book Putting auction theory to work.[38] He points out that the bidders (buyers) have a very general incentive to reduce demand to keep prices low. The most unfavourable results, i.e. prices far below the corresponding competitive prices, apply when the supply of goods for sale is fixed (p. 294). When the authorities sell emission permits in an auction, the supply of goods for sale (permits) is typically fixed.

Much effort should be put into designing emission permit auctions; the design in itself should contribute to competitive price-setting and prevent collusive practices.

The competition authorities have an important task to detect and deter collusive practices before, during and after the auction process.

38 Milgrom, P. (2004), Putting auction theory to work, Cambridge: Cambridge University Press.

Box 4. Auctioning import quotas in Norway[1]

Background. Norway has no experience of auctioning emission rights. However, the Norwegian Agricultural Authority (NAA) has for several years auctioned import quotas using an internet auction. Import quotas are in principle the same product as emission rights, i.e. a fixed supply of exclusive rights, and the NAA auction experience might be of some relevance.

The auction. NAA employs the ascending multi-round type of discriminatory pricing format. The import quota auction for each good takes place once a year, with some exceptions, and the import license is valid for the subsequent year. Unused import licenses are tradable in the secondary market. An upper limit on how much of the available quota each bidder can acquire can be imposed if necessary. The main purpose of this option in the regulations would be to reduce the possibility of acquiring a dominant position and prevent short shipping by importers. For the time being, the limit is 100 per cent as these problems are currently not importunate. However, bidders using nominee companies might be a more serious problem.

The auctions were implemented on the Internet from 2001. The Norwegian Agricultural Authority is the current auctioneer of import quotas. Bidders can log into the auction 24 hours before the auction opens, and place their opening bid, i.e. an initial sealed bid specifying how much of the quota they want, and a corresponding bid in Norwegian kroner (NOK) per kilo at least 30 minutes before the auction opens. Bids are not published before the auction opens. For many quotas, the minimum opening bid is 0.01 NOK/kg. The auction proceeds in a continuous ascending format, where the initial bid can be increased and the volume or quota requested reduced. After each new bid, the resulting allocation is made public, but the competing bidders' identity is withheld. Competing bidders are represented by an alias. In principle, the bids are aggregated to form a demand curve as they are subsequently registered by the system. The clearing price, where the demand curve intersects the supply curve, defines the tentative split between the winning and losing bids. The screen giving information on the current allocation is updated every minute. If a bidder finds him/herself without a quota, his/her bid can be improved. The screen also informs the bidder with respect to total quota, how much of the total quota is currently allocated, and the total time remaining in the auction. It is important to note, however, that with a new bid, the remaining time is extended by a interval decided by the auctioneer.

The auction ends when none of the bidders are willing to improve their bids. In that case, bids above the clearing price are filled, those at the clearing price pro-rationed, and those below are rejected. The final allocation, together with the respective bidder's identity and volume allocated, is made public. It is also important to note that bidders pay their bid based on a discriminatory price format. The distinction between uniform and discriminatory pricing is much less important in an ascending auction than in sealed bid auctions. The reason is that a bidder has little incentive to raise the bid much more than one bid increment above the clearing price. Hence, discriminatory pricing shares the main advantages of uniform pricing.

1 See http://www.lovdata.no/for/sf/ld/xd-20081010-1132.html#13 for the regulations on import quotas (in Norwegian)

Box 5. Main Points and Recommendations – Tradable Emission Permits

- The price of tradable emission permits plays a role analogous to an environmental tax
  - The EU Emission Trading Scheme (ETS) is regarded as one of the cornerstones of EU climate policy
- The Nordic competition authorities have actively advocated that
  - Emission permits should in general be auctioned
  - The scheme must cover as many emission sources as possible
  - Incumbents should have no preferential treatment over newcomers
- Auction design is important to promote efficient pricing and avoid collusion
- The competition authorities have an important task to detect and deter collusive practices before, during and after the auction process

4.3 Green Public Procurement[39]

Public procurement is generally regarded as an important tool for securing growth and employment. Increased competition in public procurement can lower costs for the procuring entity, improve the quality of the goods and services procured and expand the market for private firms. If correctly implemented, public procurement can improve conditions for small and medium sized entities (SME). It is important that criteria and procurement process follow the fundamental principles of European Community law with regard to public procurement which includes the principles of non-discrimination, equal treatment, transparency (openness and predictability), proportionality and mutual recognition. Moreover it is important that the criteria or requirements are conditional on *effects* of technology, not on the technology itself.

According to a report by the Nordic Council[40], public procurement accounts for 16 per cent of GNP in the Nordic countries; for certain product groups, public bodies are the most significant buyers. Because of their considerable purchasing power, public authorities are often considered to have the power to promote sustainable development by demanding and stimulating the use of environment-friendly technologies. Thus, public procurement can be seen as a tool for public bodies to implement green policy alongside traditional economic and legal policy tools. When public bodies introduce environmental criteria in public procurement, it is called green public procurement (GPP).

GPP has attracted growing attention in recent years. About 20 EU Member States have adopted a National Action Plan (NAP) or an equivalent document regarding green public procurement and more states are in the process of adopting or preparing an NAP. The European Commission has also published a legal guidance and voluntary criteria for GPP, for use by Member States.

There are a number of reasons for the growing popularity of GPP. For instance GPP, at first glance, seems easy to implement. It also encourages local commitment to environmental politics and action. Further, GPP has the potential to boost demand by public bodies for 'greener' goods that will create or enlarge markets for environmentally friendly goods and services.

However, when implementing GPP it is important to realise and take into account that environmental criteria can act as barriers to entry and thereby reduce competition, and perhaps result in higher prices.

4.3.1 GPP as an Environmental Policy Tool

GPP should be considered an administrative policy tool. Administrative policy tools can be implemented by command and control approaches, which in the context of GPP can embrace a range of specifications concerning particular production techniques or maximum levels of hazardous emissions. However, administrative policy tools like GPP are usually not cost-efficient since among other things the procuring entity does not have complete information on all potential supplier and all available production technologies. Furthermore, the command and control approach has the drawback that it does not ensure that producers who could abate pollution at the lowest cost actually do so.[41]

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39 This part of the report is based on Benefits of Green Public Procurement by the Nordic Council (TemaNord 2009:953), Assessment of Green Public Procurement as a Policy Tool: Cost-efficiency and Competition Considerations produced by Sofia Lundberg, Per-Olov Marklund and Runar Brännlund and the report *Miljöhänsyn i offentlig upphandling – Samhällsekonomisk effektivitet och konkurrensbegränsande överväganden*, produced by Sofia Lundberg, Per-Olov Marklund and Runar Brännlund,. The report *Miljöhänsyn i offentlig upphandling – Samhällsekonomisk effektivitet och konkurrensbegränsande överväganden* was commissioned by the Swedish Competition Authority.

40 Nordic council (2009), Benefits of green public procurement.

41 Lundberg et al., (2009), Assessment of green public procurement as a policy tool: cost-efficiency and competition considerations, p. 7.

For administrative policy tools to be cost-effective all actors involved in the procurement process need to have full information on the marginal cost of reduction and the production technology of individual firms. They must also know about other technologies. However, when there is a lack of information, environmental criteria in public procurement cannot be formulated in such a way that cost-efficiency is achieved.[42] Apart from the issue of cost-efficiency, the procuring entity should try to determine whether the environmental problem it wants to address is internalised by other environmental policy tools. As can be seen in Table 1 the decision as to whether environmental criteria should be used in public procurement depends on the extent to which the environmental problems that the criteria aim to correct are internalised by other environmental policy tools.

Table 1. Conditions when GPP should be used as an environmental policy tool

To what extent is the externality internalised by other policy tools	Not internalised (1)	Partly internalised (2)	Fully internalised (3)
Should GPP be used as a policy tool?	Yes, adapted to relevant environmental quality objectives.	Yes, as in (1), but adapted to complement policy tools in force.	No

Source: Lundberg et al., (2009), Assessment of Green Public Procurement as a Policy Tool: Cost-efficiency and Competition Considerations, p. 25.

If the externality not is internalised by other policy tools and GPP is the best policy tool, GPP should be implemented. GPP is in this case a substitute for other policy tools. If the externality is partly internalised by other policy tools, GPP could be used to complement the already existing policy tool. It is, however, important that GPP is evaluated and compared with other policy tools and that it matches the required environmental objectives. If the externality stemming from the public purchase is fully internalised by other policy tools, GPP should not be applied because this is not justifiable from a welfare perspective given optimal and internalised environmental quality objectives.[43]

A roadmap for implementation of efficient GPP is included in a report by the Nordic Council.[44] According to the roadmap, which is based on analyses made of GPP instruments in four different sectors[45], the following six steps should be reviewed before applying GPP:

42 Lundberg et al., (2009), Miljöhänsyn i offentlig upphandling – samhällsekonomisk effektivitet och konkurrensbegränsande överväganden, p. 30.

43 Lundberg et al. (2009), Miljöhänsyn i offentlig upphandling – samhällsekonomisk effektivitet och konkurrensbegränsande överväganden, p. 53.

44 Nordic Council, (2009), Benefits of green public procurement, TemaNord 2009:953, p. 51.

45 The sectors included in the analysis were coach services, taxi operations, computer and related services and cleaning products/services.

Box 6. Six Steps Before Applying Green Public Procurement

1. Identify product groups normally procured on a significant scale – the larger the volume, the larger the impact on environment through GPP.
2. Assess the environmental impact of the product group – focus on products that have a considerable impact on the environment; otherwise resources may be more efficiently used elsewhere.
3. Assess the potential for reduction through legal or economic instruments – GPP is especially interesting in areas where other regulations are not suitable and criteria for GPP are met. However, GPP could play a role even where other instruments are implemented.
4. Assess the potential for reduction through GPP – consider whether the product group has a significant environmental impact and whether it has a realistic option for realising considerable impact reductions through GPP.
5. Consider the possibility of setting environmental criteria – Effective GPP is based on qualified criteria requiring an understanding of both environmental criteria in general, procurement practices and the products' environmental impact.
6. Consider the potential market effect and innovative effects of GPP – consider the effect on the market for instance if GPP were to target more than one supplier and spur innovation.

Source: Nordic Council (2009), Benefits of Green public Procurement, p. 51.

The report presents an assessment model based on these steps, in which GPP is held to be a relevant instrument if, for example, the product will be procured in significant volumes and/or have a significant impact on the environment, and no other effective regulation exists.

The general conclusion presented in the 2009 report by the Nordic Council concerning GPP as a regulatory instrument is that GPP should be regarded as a supplementary tool and used to complement traditional regulatory mechanisms such as legislation and economic instruments. The report also concludes that GPP may in some cases be the only regulatory tool. It states that the strengths of GPP are: GPP represents a soft and more flexible introduction to and promotion of better environmental standards and improvements; it impacts markets in a dynamic way by including local context requirements and encouraging local commitment in environmental politics and actions. The weaknesses of GPP are the fact that the scale of public procurement is often too small to have a significant environmental impact, the comparatively slow pace of environmental improvement, and the fact that that leadership and vision are required at all levels.[46]

4.3.2 GPP in a Competition Policy Perspective

As mentioned in the introduction, GPP can influence competition. Introducing new requirements in public procurement can lead to higher barriers for firms to enter markets and may lead to higher prices for the procuring entity. GPP could therefore be seen as a barrier to potential entrants. It is important to realise this when evaluating the impact of GPP on social welfare.

If we assume that firms are homogenous in terms of production technology, an entry restriction will result in the procuring entity paying higher prices. However, firms are not normally homogenous in terms of production technology.

If firms have different production technologies, i.e. firms are heterogeneous, the effect on competition will vary due to the fact that the environmental criteria will attract some firms but restrict entry in the case of other firms. Lundberg et al (2009) exemplifies this

46 Nordic Council, (2009), "Benefits of green public procurement", TemaNord 2009:953, p. 61

by assuming that there are two types of firms: those which have invested in the technology required to fulfil the environmental criteria and those which have not invested in environmentally friendly technology. The investment made by the firms that have environmentally friendly technology has been driven by factors other than procurement criteria. Further, Brännlund et al make the assumption that investment in environmentally friendly technology increase both costs and bid prices.

Assuming the above, and that environmental criteria are not applied in the procurement process, firms that have not invested in environmentally friendly technology will typically submit lower bids than firms which have done so.. The former will thereby have a higher probability of winning the procurement. Typically, firms that have invested in environmentally friendly technology will not submit bids.

If the procuring entity applies environmental criteria in the procurement, firms that have invested in technology will submit bids since they know that their investment will be valued and they will therefore have a higher probability of winning the procurement. In this case, firms that have not invested in environmentally friendly technology will either stay out of the procurement process or invest in the technology. How firms act, i.e. invest or not invest, depends on the potential pay-off from making the investment. If expected benefits from investing exceed investment costs the firm will invest in the environmental technology and submit a bid.

This scenario leads to the conclusion that GPP can affect the degree of competition in three ways. GPP will have a positive effect on competition if the number of firms that have invested in technology in order to enter the market and the auction exceeds the number of firms that exit the market due unwillingness to invest. GPP will have a negative effect on competition if the number of firms that exit the auction because they have not invested in technology exceeds the number of firms that have invested in technology and enter the auction. There will be no effect on competition if the number of firms that enters the market is the same as the number of firms that exits the market. It should be noted that the effect on prices is not the same as the effect on competition. The outcome when using GPP could be that even though more bids are submitted the price may be higher due to environmental criteria which may require investment, which in turn will lead to costs for firms that submit bids.[47]

Besides contributing to environmental improvement, GPP can have other potential benefits. GPP can act as a driver for market development and facilitate the development of green products and services. By introducing environmental criteria in public procurement procuring entities can influence and motivate firms to develop greener products. These new greener products may become the new standard on the market and act as a springboard for more demand for green products. In this way, GPP in general has a more dynamic effect on the market than legislative intervention, which often only helps to remove the least green products from the market. GPP can also promote innovation by boosting demand and thus help close the 'innovation gap'. An innovation gap occurs when a developing company is waiting for demand to build while buyers are simultaneously waiting for the product to be introduced. GPP can close this gap because public demand is substantial and public intuition may accept higher prices for green products, within reasonable limits. This makes it easier for enterprises to get new products out on the market than under normal circumstances. Further, GPP has the potential to support (local) commitment to the implementation of environmental policies, and it can be used to promote environmental changes in other countries. The latter are something that legal or economic policy tools are often unable to accomplish since these policy tools often regulate conditions in specific countries.

When implemented, GPP does not require the same process and procedures as economic or regulatory instruments. However, it can be hard for procuring entities to

47 Lundberg et al., (2009), Assessment of green public procurement as a policy tool: cost-efficiency and competition considerations, pp. 14-16.

set relevant criteria in procurement tenders to address the environmental issue the GPP is aimed at.

In sum, implementing GPP is not without its challenges. The scale of public procurement is often too small for GPP to be used as a regulatory instrument. The frequently higher procurement costs of green products are in themselves a barrier to green products. At the institutional level, it is important to encourage leadership, vision and special expertise on the part of public procurement officers, and ensure that knowledge is passed on to the industry[48], in contrast to legislation and taxes.

4.3.3 Case Material

Although the quantity of material available in the Nordic countries on legal practice with regard to environmental criteria in public procurement, a number of cases will be described below where environmental or ethical issues in public procurement have been handled by administrative courts in Sweden. In addition, one case from Finland is presented.

The case material covers areas as diverse as air filters, purification equipment and food products. However it underscores the more general point that the criteria and procurement process must follow the fundamental principles of European Community law with regard to public procurement which includes the principles of non-discrimination, equal treatment, transparency (openness and predictability), proportionality and mutual recognition.

Box 7. Air filters and frames in Västerås - Sweden (Administrative Court of Appeal in Stockholm, case nr 3627-06)

Background. Västerås municipality procured air filters for the ventilation system in the offices of the Västerås City Property Management Department. The technical specifications in the tender required that the material in the frames belonging to the air filter should be environmentally friendly and not be made from a finite resource. In the awarding process the contracting authority didn't examine one of the bids since the tender submitted by the company concerned had not fulfilled the requirement that the filter frames be made from an infinite resource. The frame proposed by the company was made of PP plastic. It contained no metal and was made of combustible components, which when combusted formed carbon dioxide and water. The company appealed the contracting authority's decision and demanded that the procurement process should be concluded after rectification had been made.

Västerås municipality stated that it had an environmental policy and that in addition to procuring a well-functioning air filter the aim was to apply environmental criteria. The requirements regarding the material in the frames were based on environmental criteria formulated with a view to reducing the dependence on petroleum products. The municipality regarded the environmental criteria consistent with the fundamental principles of European Community law regarding public procurement. In the technical specification, the contracting authority didn't apply this criterion to frames made of wood or pressed paper.

The decision. The Administrative Court of Appeal reached the same decision as the Administrative Court on the question of whether the criteria set in the procurement process was consistent with the principles of transparency and proportionality. The Administrative Court had concluded that the company's submitted tender wasn't processed since the company's frames were made of plastic and not from an infinite natural resource. However, the technical specifications in the tender document made no mention of the type of material the tree or paper frames could be treated with. The administrative court concluded that a supplier with a more hazardous product could be awarded the contract and that the requirements set out in the tender were therefore not appropriate to the contracting authority's environmental policies. The requirement that the frames should be made of environmentally friendly material was open to subjective interpretation and could thereby conflict with the principles of proportionality and transparency.

48 Nordic Council, (2009), Benefits of green public procurement, TemaNord 2009:953, pp. 38-42.

Box 8. Procurement of sutures and surgical staplers (Administrative Court of Appeal in Sundsvall, case nr 2437-09)

Background. The County Council of Jämtland procured medical sutures and surgical staplers. An environmental criterion was that the product should be free from triclosan, an anti-bacterial substance. One company appealed and demanded that the procurement process be re-started on the grounds that the County Council had breached the fundamental principles of proportionality and non-discrimination when implementing the environmental criterion.

The County Council of Jämtland argued that according to the Swedish Chemicals Agency, triclosan was harmful to the environment and had been prioritised as a candidate substance for risk reduction measures. The County Council further argued that triclosan should be avoided as a matter of caution and that the utility of using triclosan did not outweigh the harm triclosan caused to the environment. The company maintained that the county council hadn't shown that the environmental criterion was suitable, efficient or necessary from an environmental perspective. However the Administrative Court found that the company hadn't shown that the environmental criterion was disproportionate and dismissed the company's appeal.

The company appealed to the Administrative Court of Appeal, claiming that procurement process initiated by the County Council of Jämtland should be re-started. The company stated that the County Council had breached the principles of proportionality and equal treatment. The company further claimed that that the products didn't harm the environment, and that since it was the sole supplier of anti-bacterial products it had lost the opportunity to win the contract and the company was thereby excluded from the market. The company stated that the latter was not in accordance with the principle of equal treatment. The County Council contested approval of the appeal stating that the criterion was suitable, efficient, necessary and proportional and that there were perfectly satisfactory alternatives to sutures made with triclosan. The County Council further argued that it had followed the Swedish Environmental Protection Act, which states that if it is possible to change a product harmful to the environment one should do so.

The decision. The administrative Court of Appeal concluded that a contracting authority has a large degree of freedom to set criteria in a procurement process, including setting environmental criteria. However, the criteria must follow the fundamental principles of European Community law with regard to public procurement. Under the existing criterion, a product that functions in a similar way is excluded. If the criterion is to be acknowledged as conforming to the principle of proportionality it needs to be suitable and effective in terms of its objectives, there must not be a less intrusive alternative, and the ensuing environmental benefit must be proportional to the effect on competition and the damage suffered by the supplier.

After taking into consideration both the County Council´s and the company´s arguments, the Administrative Court of appeal concluded that it was uncertain – assuming the environmental criterion led to any environmental benefits – that the criterion violated the principle of proportionality.

However, as the Supreme Administrative Court has granted leave to appeal, a final verdict has not been reached in the case.

Box 9. Ramboll Finland Oy – Finland

Background. The case concerns water purification equipment. According to the complaint, Ramboll, in a consultative role, had persuaded Nastola, a relatively large municipality in Southern Finland, to acquire only equipment supplied by Huber, the largest provider of such equipment in the Finnish market (the complainant, Oy Slamex Ab being the second largest) while renovating its water purification plant. In public tender, renovators were obliged to base their bids on Huber equipment only.

The FCA closed the file without further measures. It is not unusual for planning and consulting enterprises to favor only certain brands of technical equipment although it does hinder the entry and expansion of other, usually minor, brands in the relevant market. In addition, Nastola was under no obligation to acquire such consultative services, and there were other potential providers of such services, too. The FCA also noted that the complainant is a major market actor on the equipment market and that its business had developed favorably. Ramboll did not have any affiliation with any equipment manufacturer either.

The FCA did not find any violation of antitrust rules but public tender rules were not considered, being out of the FCA's jurisdiction.

4.3.4 Concluding Remarks

Whether GPP should be used to correct for externalities depends on to the extent to which the external effect is internalised through other regulatory instruments (legal or economic instruments). When the external effect is fully internalised by other regulatory policy tools it is not justified from a welfare perspective to implement GPP. If the externality is partly internalised by other regulatory instruments GPP may be adopted and designed to complement the other policy tools in force.

GPP also has to be seen in a wider perspective. For example, the effect on competition must be taken into account as environmental criteria may raise barriers to entry, reduce the number of competing firms and ultimately lead to higher prices. For GPP to have a substantial effect on environmental problems it is important that GPP targets product groups that have a large impact on the environment and where public procurement is considerable. For the procuring entities it is important to take all this into consideration when implementing GPP. Officials must have the relevant knowledge and skills.. It is also important to recognise that the effect of GPP on competition and prices may differ. Prices may rise despite increased competition due to investment by bidding companies in order to meet green criteria set by a contracting authority.

Moreover, GPP has the ability to spur overall societal demand for green goods by diverting demand towards green goods. GPP can also give firms greater incentive to develop green products since they would know there was an initial demand for green products, thereby closing the 'innovation gap'.

Box 10. Main Points and Recommendations – Green Public Procurement

- GPP can be used to promote markets for green goods
  - It is important that the procuring entity identifies product groups for which there is substantial public procurement
  - …and that the product actually has a significant impact on the environment
- GPP can also have a negative effect on competition by setting higher barriers to entry, with fewer firms submitting bids as a result
  - This may raise costs for the procuring entities
- GPP should not be used if the external effect already is internalised by other regulatory instruments
- Criteria and procurement processes must follow the fundamental principles of European Community law on public procurement, including for instance the principles of transparency and non-discrimination

4.4 Restrictive Effects of Green Measures and the Importance of Advocacy.

As envisaged in the Interim report on the OECD green growth strategy, the green toolbox consists of a host of instruments, such as environmental taxes, tradable permit systems, different kinds of regulations, subsidies and other policies to support green technologies and innovation, green public procurement as well as information-based approaches such as efficiency rating and eco-labelling.

However, all of the instruments in the toolbox have potentially distortive effects on competition if implemented or applied in the wrong way.

A specific tool in the toolbox may, for instance limit the range of suppliers or their ability or incentives to compete, for instance by raising barriers to entry or treating newcomers in a discriminatory way. Eco-labelling schemes may work in discriminatory or exclusionary ways. Green public procurement can be applied in ways that are

discriminatory or non-transparent, or without objective criteria, thus raising barriers to entry or distorting competition. A scheme where the incumbent industry directly or indirectly defines standards is another potential potential reason for concern.

In the International Competition Network (ICN) report Advocacy and Competition Policy[49], competition advocacy is defined as:

> *Competition advocacy refers to those activities conducted by the competition authority related to the promotion of a competitive environment for economic activities by means of non-enforcement mechanisms, mainly through its relationships with other governmental entities and by increasing public awareness of the benefits of competition.*

Two important tasks related to green competition advocacy can be identified. The first is to assure that for the instruments applied, an appropriate balance is determined between competition and environmental goals. The second is to advocate the use of market based instruments in environmental policy. We will initially focus on the former task. The subsequent section will discuss the latter.

4.4.1 Competition Assessment of Green Measures

The transition to green growth implies that a host of green instruments will be implemented in many areas. Some of these may distort competition.

The competition authorities have an important role in identifying and analysing regulations that may unduly distort or restrict competition. This is an important contribution to improving the quality of regulation in the environmental sphere.

Green instruments should be chosen and designed to allow competition to play an important role, thus helping to achieve environmental goals cost efficiently. In many instances, green measures can be re-structured to minimise harm to competition. Competition authorities have an important role in explaining and advocating these options.

In cases where an alternative, less anti-competitive regulatory approach to achieving the identified green policy objective cannot be found, the OECD Competition Assessment Toolkit states that:

> *The benefits and costs of such a regulatory approach should be weighed against each other. The analysis should conclude the regulation is justified only if the benefits from the adoption of the anti-competitive regulation exceed the costs, including the costs of the anti-competitive impact.*

When there are conflicts of goals, competition authorities have an important role in promoting an efficient compromise between competition and environmental policy.

When assessing the impact on competition of specific regulatory green measures, the OECD Competition Assessment Toolkit, will provide valuable assessment guidance for the competition authorities – as well as for the regulatory authority responsible for the measures. The Toolkit states that a competition assessment should be conducted if the proposal has effects that limit the number or range of suppliers, their ability or their incentives to compete. The box below lists the main points to consider in the assessment.

49 Report prepared by the Advocacy Working Group to the ICN's Conference, Naples, Italy, 2002

Box 11. Competition assessment of public measures - The OECD Toolkit

Negative effects on competition are likely if the proposed or existing policy measure:

1. Limits the number or range of suppliers

This is likely to be the case if the proposal:

- Grants exclusive rights for a supplier to provide goods or services
- Establishes a license, permit or authorisation process as a requirement of operation
- Limits the ability of some types of suppliers to provide a good or service
- Significantly raises cost of entry or exit by a supplier
- Creates a geographical barrier to the ability of companies to supply goods or services, invest capital or supply labour

2. Limits the ability of suppliers to compete

This is likely to be the case if the proposal:

- Controls or substantially influences the prices of goods or services
- Limits freedom of suppliers to advertise or market their goods or services
- Sets standards for product quality that provide an advantage to some suppliers over others or that are above the level that many well-informed customers would choose
- Significantly raises costs of production for some suppliers relative to others (especially by treating incumbents differently from new entrants)

3. Reduces the incentive of suppliers to compete vigorously

This may be the case if the proposal:

- Creates a self-regulatory or co-regulatory regime
- Requires or encourages information on supplier outputs, prices, sales or costs to be published
- Exempts the activity of a particular industry or group of suppliers from the operation of general competition law
- Reduces mobility of customers between suppliers of goods or services by increasing the explicit or implicit costs of changing suppliers

If distortions to competition are unavoidable, it is important that the approach chosen is the one least distortive to competition.

In the first section below a few recent cases are presented where the competition authorities in the Nordic countries have used the non-enforcement mechanism for assessing proposed or existing public measures in the environmental sphere. Any green competition advocacy initiatives in this regard will often be based on a thorough assessment from a competition policy perspective, for instance of the extent to which proposed and existing environmental measures limit the range of suppliers or their ability or incentives to compete. Below, an overview of cases in different categories and their background, will be presented.

The first text box presents an advocacy case relating to recycling schemes. The NCA had in the preceding years received many complaints concerning various recycling companies. As these complaints related to competition issues arising from a regulatory framework designed and enforced by the environmental authorities, the NCA decided not to use resources to handle the cases individually, but instead send a letter to the Norwegian Pollution Control Authority (SFT, now the Climate and Pollution Agency), pointing out the potentially negative effects on competition of the regulatory framework for recycling schemes and suggesting solutions allowing competition to play a more significant role. The views expressed in the letter of concern were based on a report prepared a few years before, in which the Norwegian Competition Authority presented an analysis of government regulations and competition in the recycling markets. The main conclusions and recommendations set out in this report are presented in the Fact Box 13.

Box 12. Letter of concern related to recycling in Norway (2008)

Background. According to Section 9 of the Norwegian Competition Act, the NCA shall supervise competition in the various markets. The Authority frequently uses its powers granted in Section 9 to point out anti-competitive effects of public measures and proposals.

The NCA had in the preceding years received complaints concerning various recycling companies. As these complaints related to competition issues arising from the building up of a reserve fund that to a large extent followed from a regulatory framework designed and enforced by the environmental authorities, the NCA decided not to use resources to handle the cases individually, but instead send a letter to the Norwegian Pollution Control Authority (SFT, now the Climate and Pollution Agency), pointing out the potentially negative effects on competition of the regulatory framework for recycling schemes.

The concerns and the recommendations. In the letter of concern, the NCA begins by emphasising that facilitating competition is vital to achieving maximum impact of environmental policy measures. Market players exposed to competition will have a strong focus on cost efficiency in addition to stronger incentives to develop and use efficient technology. In other words, effective competition contributes to a more efficient environmental policy.

Moreover, the NCA basically points out four different reasons for concerns related to the recycling schemes.

First of all, it is pointed out that building up reserve funds in recycling schemes can give rise to competition concerns. One side of the problem is that significant funds can lock members into the scheme, as the relevant portion of the reserves cannot be sliced off should some members want to quit and start competing schemes. Another side of the problem is that reducing funds can make it difficult for competitors as environmental fees relating to the scheme during the reduction period will have to be artificially low.

The NCA recommended that consideration be given to imposing maximum limits on the size of the funds. The fund should be as small as possible. To ensure effective competition, frequent building up and subsequent reduction of the funds – implying that the environmental fees did not reflect the actual costs of operating the systems – should be avoided. In the letter it is underlined that the environmental fees should ideally reflect the running costs of operating the schemes.

Secondly, the NCA recommends that recycling companies use an open and transparent tender processes to ensure competition between subcontractors. Recycling companies will inevitably secure a privileged position through the approval and certifications requirements. This raises the barriers to entry for competing enterprises. The NCA asks the Norwegian Pollution Control Authority to consider imposing similar requirements on the recycling companies as those pertaining to public companies and public procurement.

Thirdly, it is pointed out that very long-term contracts between the recycling companies and their subcontractors can limit competition. The combination of very long-term contracts and closed tendering procedures can be particularly harmful to competition. The consequences of choosing a less efficient contractor increase with the length of the contract. In the letter, the NCA asks the Norwegian Pollution Control Authority to consider requiring that contracts have a limited time frame.

As a final point, the NCA notes that quite a few systems for collection and recycling of different types of waste have been created. However, to achieve the objective of the most environmentally sound disposal of waste it is not sufficient to just facilitate the creation and existence of return systems. Such environmental policy measures are not effective unless the systems are organised in a way that motivates existing and potential participants and suppliers to the schemes to develop and use more environment-friendly production processes and inputs. By making it possible for existing recycling companies to be challenged by competing schemes, the environmental benefits, which are the main objective behind green schemes, would be realised to a higher degree.

To companies that are subcontractors to the schemes, which perform the actual collection and recycling of waste competition, competition is similarly essential to achieving the best solutions. This will ensure that systems are operated by the most competitive players, create incentives to operate efficiently and provide the basis for the development of more environment-friendly solutions in waste management.

Box 13. Report by the Norwegian Competition Authority: an analysis of governmental regulations and competition in the recycling markets (2004)[1]

Background. Since the early 1990s, Norway's environmental authorities implemented a pro-active policy aimed at reducing the volume of waste. An important principle of this policy has been that those who pollute must pay for the environmental costs incurred. The pragmatic solutions adopted entail industry-organised collection, in which responsibility for handling waste rested with the producer (so-called producer responsibility). From paper packaging to CFC refrigeration gases and batteries with environmentally harmful contents, producers of various types of products have been charged with the responsibility for providing the means by which the goods they produce are collected and recycled at the end of their lifecycles. As a result of this policy, recycling companies have been established via cooperation among participants in a given industry.

Since many of these schemes gave rise to competition concerns, the Norwegian Competition Authority set out to analyse governmental regulations pertaining to the various product recycling markets and competition within these markets. The analysis was presented in the report, "Evaluation of competition in Norway's systems for product collection and recycling". The report identifies competition-related problems associated with the current recycling schemes, and proposed some remedies to improve the situation. An alternative approach to resolving waste problems, featuring greater use of markets and competition, was also presented.

Competition concerns. Products that are included in recycling systems go through a series of markets during their lifecycle. Initially, the product is added to the product market, where it is sold, following production, to consumers, typically via wholesalers and/or retailers. Under the extended producer responsibility, producers and importers are obliged to handle collection of waste after consumers have finished using the products in question. In many instances, it may be difficult or impractical for each market participant to fulfill this obligation unassisted. Thus, a market arises for taking on and fulfilling participants' obligations with regard to waste handling, the so-called recycling market.

Although the system in place in Norway often results in a single entity that takes care of the waste in question throughout the entire recycling process, the recycling market comprises multiple sub markets. Thus, it is more appropriate to talk about a waste management system encompassing a market for waste collection and sorting; a market providing recycling services; and, in some cases, a market for recycled materials.

The report points out that systems that rely on industry-organised recycling companies limit the potential for effective competition both in the value chain for discarded products and in the sale of products before they are discarded. This situation does not contribute to optimal use of the resources of society, and makes the recycling systems expensive for Norwegian society and the consumers. The main reasons for this are:

- Firstly, most recycling companies have, for practical purposes, a monopoly in the recycling market. Such monopolies will often lead to inadequate incentives for cost control, and the risk that the services of recycling companies are too expensive. Because there is no real market competition, recycling companies need not operate at the lowest possible cost, and there is consequently an obvious risk that recycling companies' services are over-priced. That the product's "environmental fee" is set at a level that allows recycling companies to cover their expenses, enhances the problem. Moreover, when the "environmental fee", for all practical purposes, is the same for all competitors, the surcharge does not affect consumers' product choices.
- Secondly, it is highly problematic that the schemes rely to such a great extent on cooperation among competitors, as this entails the risk that competition is also restricted in product markets in which these market participants compete. The organisation of industry-wide recycling companies may, e.g, facilitate the exchange of information among participants, which can be detrimental to product market competition.
- Thirdly, effective competition depends on the existence of few or low barriers to market entry. Comprehensive cooperation within an industry combined with economies of scale may make it difficult for new participants to enter the market.

1 An English summary of the report is available at: http://www.konkurransetilsynet.no/iKnowBase/Content/416007/COMPETITION%20CONCERNS%20RELATED%20TO%20RECYCLING%20IN%20NORWAY.PDF

Some recommendations. The report questions the method selected by public authorities to reach the goals set for product returns and recycling. Facilitating competitive market mechanisms can be a means of achieving the desired goals at the lowest cost. Once environmental requirements have been determined, markets can be allowed to determine how to organise collection and recycling; rivalry among competitors will ensure that the costs associated with such systems are as low as possible.

The introduction of environmental taxes as payment for avoiding anticipated pollution should be considered. Market participants able to document that a discarded product has been recycled or processed in accordance with environmental rules and regulations could have a "deposit" refunded to them. Such a solution would provide market participants with an incentive to compete for obtaining or purchasing discarded products, and end users would have a stronger incentive to return products covered by such systems.

The two next cases, one from Norway and one from Finland presents competition concerns related to regulations concerning policy and regulations for establishing shopping centers or retail outlets, and how these concerns were expressed through advocacy efforts. On the one hand, the regulations are based on a need for sustainable and robust development of cities and urban areas that also would limit emissions of greenhouse gases. On the other hand, the regulations will also raise barriers to entry, not least since the availability of suitable sites is substantially restricted in many urban areas. Thus, in some areas of environmental policy, an appropriate balancing of environmental and competition concerns may be necessary. However, both cases show that there is little sympathy for this perspective among environmental authorities.

Box 14. National policy and regulations governing shopping centres in Norway

Background. In 2008, the Ministry of the Environment presented a proposal for a national policy and regulations pertaining to shopping centres. The background for the proposed regulations was a White Paper report to the Parliament (St.meld nr. 26 (2006-07)), in which the government announced that it would consider revitalising and adopting new legal instruments to ensure implementation of national and regional policy in this area.

The purpose of the proposed regulations was to facilitate stronger regional policy coordination for the establishment and expansion of major shopping malls. The expressed long-term goal was to achieve more sustainable and robust city and village development and limit greenhouse gas emissions.

The NCA's concerns. In its hearing statement, the NCA appreciated the need for sustainable and robust development of cities and urban areas that also would limit emissions of greenhouse gases. However, the NCA also expressed concerns that the proposed regulations would increase barriers to entry in the grocery sector, not least since the availability of suitable sites is substantially restricted in many urban areas. In the proposal, there appears to be some leeway for the County Governor to allow municipalities exemption from certain regulations, provided thus was considered to be in accordance with the purpose of the regulations. In the NCA's opinion, competition concerns should also be allowed to form part of the county governor's discretion in such matters.

In December 2009 the NCA sent a letter to the County Governor in Hedmark regarding a pending application for an exemption from the above mentioned regulations. The actual case concerned the establishment of a hypermarket in the county.

The NCA asked the County Governor to give an account of how competition concerns would be safeguarded in his assessment, thus giving consumers a better choice. Before replying, the Governor asked the Ministry of Environment to give a statement on whether competition concerns could be included in the assessment. In its reply, the Ministry of Environment stated that competition concerns were not part of the purpose of the regulations and should therefore not be included in the assessment. Based on this, the County Governor's answer to the NCA was negative with respect to the inclusion of competition concerns in the assessment.

Without taking a stand on the statement from the Ministry of Environment, the NCA decided not to pursue the issue further in this concrete case.

Box 15. Regulation of location of large (exceeding 2000 m2) retail outlets in Finland

Background. Finland has an extensive, hierarchically regulated zoning system. The aim of land use planning is to create preconditions for a favourable living environment and to promote ecologically, economically, socially and culturally sustainable development. In Finland, municipalities (365) are responsible for land use planning in their territories. Right from the first years of its activity, the FCA has received complaints about the zoning system unduly restricting and distorting competition between comparable, rival economic operators. The FCA has actively investigated the zoning, made representations to competent authorities and participated in several official working groups entrusted with considering zoning reforms.

The case in point is the legislation governing the location of retail outlets exceeding 2,000 m² of floor space, entered into force in March 1999, after extensive political debate. The FCA opposed to the new law. The Land Use and Building Act provides that commercial property of more than 2,000 m² will only receive planning approval if the site is specially designated for this purpose in the local plan. Local authorities have power to make independent decisions in land-use planning matters. The Act has subsequently been tightened so that any major extensions of retail outlets, in which the said limits are exceeded, are now covered by the Act.

Competitive concerns. Both on the national level and on the Nordic level the FCA has called attention to the importance of considering competition in zoning decisions. The FCA's position reflects its experience. For example, the FCA had received a complaint from a company which found itself unjustly supplanted in the allocation of market sites, where the city reserved space for two companies in a situation where three companies were interested of the said business site. While never trying to identify an optimal zoning system in detail, the FCA has always stressed that the methods and criteria should be known by the parties and they should be clear. They should also be primarily related to the realisation of the project. Additionally, they should be applied in a fair, consistent and open manner.

Recommendations of the 2007 Working Group. The effects of zoning and land use policy e.g. on competition were discussed in the Trade and Competition working group by the Ministry of the Environment which published its report in November 2007. The FCA had representation in this group as well. The task of the working group was e.g. to assess the impacts of current legislation on the development of the retail outlet network, the availability of services and the competitive scene between different types of stores. The working group recommended that:

- Efforts should be made to determine the feasibility of including a provision on the promotion of competition in the Land Use and Building Act. As national Land Use Guidelines are reviewed, an assessment should be made of a possibility to include the promotion of favourable conditions for business as one of the goals stated in the Guidelines.
- The means and feasibility of zoning to promote competition be examined using pilot projects.
- The Ministry of the Environment prepare materials on the effects of zoning on competition for use by the zoning authorities, in cooperation with the FCA and the Association of Finnish Local and Regional Authorities.
- In the context of the reform of regional administration in Finland, it is assessed whether there should be a regional authority entrusted with calling attention to competition concerns as land use plans are prepared.
- The Ministry of Environment shall commission an investigation into the appropriateness of the current threshold size of a retail outlet (2000 square metres) falling under this special regulation in view of its impact on competition and the localisation of trade outlets.

The Draft Bill and FCA's comments. The recommendations seemed to embody the competition arguments but climate change was already on the horizon. The recent draft bill for law reform commented on by the FCA in June this year promises little success for competition-related arguments.

The draft bill does not mention workable competition as one of its goals, which was regarded as a shortcoming by the FCA. The FCA noted the concern about maintaining a healthy supply of services in city centers but it stressed that it is impossible to assess unequivocally the impact of regulation on such services, as other factors impacting the preconditions for business in such areas were not analysed.

Under the draft bill, the zoning decision makers must avoid inflicting damage on current and future commercial services in town centres when locating large retail units. The FCA criticised this as it opens up opportunities for strategic complaints by rival firms.

Unlike the daily goods retail trade, special trade requiring large premises is not liable to regulation under current law. This exemption was subject to conceptual difficulties and unevenly applied in various parts of the country. In the draft bill this exemption would be deleted and special trade requiring large premises would be subject to the same regulations. The FCA does admit that this would put an end to a competitive neutrality problem but, at the same time, it will appreciably exacerbate scarcity of potential sites which, in the end will be paid for by the consumers in the form of product prices. The effects of this amendment should have been carefully assessed.

Under the draft bill, the minimum size of a regionally significant retail unit must be stipulated in provincial land use plans. Bearing in mind the need to maintain possibilities for new sites for new market entrants as well, the FCA regarded the strengthening of the regional viewpoint as reasonable.

Finally, the FCA emphasised the need to take account of all relevant policies affecting the location of retail trade while considering the impact of zoning policies. In that sense, the FCA found the draft bill seriously wanting. The FCA pointed out that the draft bill is dissonant with the Government's decision to cut companies' administrative burdens by ¼ by the end of 2012.

The fact box below presents a case from Finland, in which the FCA advocated a delay of the entry into force of regulations which in the FCA's view would act in a discriminatory way. In addition to illustrating that the competition authorities indeed have an important role in analysing new rules and regulations in the environmental area, the case also illustrates the importance of not succeeding too late.

Box 16. Cadmium content of fertilisers (Dnro 97/61/07) – Finland

Background. In the spring of 2006, a new company, Lannox, was established to produce a new type of fertiliser, based on ash from burned timber. Production was to be based on a new and innovative production method which granulates the ash so that it can be incorporated in the fertiliser product. Lannox' products were intended to be used mainly as forest fertilisers. The new production method required substantial investment. The fertiliser business was dominated by two firms, Kemira, producing chemical fertilisers, and Nordkalk, producing calcareous preparates for soil improvement.

Soon after the entry of the firm, a new decree on fertiliser preparates was issued, entering into force in the spring of 2007. The decree included a maximum for cadmium content of fertilisers, covering all spheres of fertiliser utilisation. These requirements (different for each use) were both stiffer and more extensive than that based on earlier legislation with more limited applicability. The requirement entered into force in 2009. In Finland's accession treaty to the EU, Finland had been granted a special right to maintain a low maximum cadmium content requirement because Finland's soil is especially sensitive to such poisonous substances, and this exemption is still valid.

Competitive concerns. These new requirements obstructed Lannox' production almost totally (its product could have been used for golf courses only) but not that of Kemira nor of Nordkalk which raised doubts that the new requirement had been made with a view to blocking the new entrant's business right from the beginning. No compelling reason why the requirement had to be further stiffened was ever clarified although there were general inquiries into the environmental and health risks posed by heavy metals in such substances. Existing inquiries into this issue had brought contradictory findings.

FCA's recommendations and the final settlement. The FCA proposed that entry into force of the new requirement be delayed by ten years and, in the meantime, further inquiries into the maximum cadmium content of ash would be made in view of the high calcium content and neutralising property of soil on ash. After the FCA had closed the file, the Ministry of Agriculture and Forestry abolished the lower cadmium content requirement, the latter returning to the earlier level. However, this was too late for Lannox, which had already gone out of business.

The two next cases present advocacy activities of the FCA relating to laws on waste management and waste disposal. Basically, the FCA stressed the importance of maintaining competitive neutrality among different operators, and that the institutional set-up of waste management and disposal must provide a healthy impetus for new technological opportunities by both private and public economic operators.

Box 17. FCA and laws on waste disposal – Finland

Background. Under Finnish law, municipalities have traditionally had the duty to organise waste disposal of community waste and similar waste from industry and trade. In practice, the duty to organise is tantamount to a municipal monopoly. Under the law, municipalities have the choice to take care of collection of such waste by themselves or to authorise real estate owners to conclude agreements with waste collecting firms. The former is being increasingly adopted. Industrial waste has been subject to the principle of producer responsibility. Dumps in Finland are mostly municipal, but private dumps, related to the owner's business, do exist, too. Municipalities insist that the waste they are obliged to dispose of stays under their control but the current status tends to retard introduction of waste disposal innovations. Over the last decade, the FCA's most significant Green Growth-related role has been to propose reforms of the law on waste disposal. As recycling and other technological novelties were in increasing evidence, the FCA has proposed that the de facto monopoly right by municipalities to certain waste categories be limited. Over the last five years, national law has been amended at the initiative of the FCA, but its most recent proposal for reform seems dubious.

The FCA position. There are two key issues on which the FCA has largely focused in the course of this period:

- curbing municipal monopoly to open up the market for new technological opportunities by both private and public economic operators
- maintaining competitive neutrality among different operators

Box 18. FCA and waste management law – Finland

Reforms of waste management law and FCA's concerns. An official working group was appointed to consider the initiative, and the FCA was represented. The working group unanimously proposed that all waste from industry and trade be excluded from municipal responsibility while municipal actors would still have to deliver such services if there were a demand for them. Other actors would be free to supply services to waste owners. The proposal was adopted into law in 2007, leaving, however, a competitive neutrality problem.

Delivery of waste to municipal dumps is subject to garbage tax, but waste transported to a private industrial dump is not subject to this tax if the waste comes from the company or group that owns the dump. It is sufficient that the reprocessing unit and the dump belong to the same company or group. At the initiative of the FCA, an official working group was appointed to consider amending the tax law. This is still an unsolved competitive neutrality issue. In July 2010 the Ministry of Finance submitted a new draft proposal on garbage tax to the FCA for comment. Under the proposal, garbage tax would be imposed on all waste that was terminally placed on any dump (municipal or private) for which economic and technological possibilities exist for further utilisation. The waste categories liable to tax and the tax brackets would be defined by a decree issued by the Ministry of Environment. The general tax level would appreciably increase, increasing tax revenue markedly. Waste to be placed on dumps would not be liable to garbage tax provided there were no economically and/or technologically sound or environmentally sustainable possibilities for their further utilisation. The proposal gives a characterisation of the kind of waste exempted from garbage tax. It recognises that classification of waste as utilisable or non-utilisable is contingent on the current state of technology. The development of technology and legislation may change the way wastes are classified, Therefore the tax basis would be periodically reassessed (because of the exemption from tax, domestic incentives to develop new ways of utilisation would be weakened). The FCA mainly supported the draft proposal but proposed that the garbage tax also be imposed in case where polluted soil is placed on dumps, as other ways of decontaminating such soil already exist.

Characteristic of the waste management business today is that there are new technologies for improving waste recycling and energy-creating waste utilisation. These require substantial investment. In Finland's case, the estimate for 2007–2017 is EUR 700 million. What is important is that the new technologies need a very large and steady throughput in view of Finland's current volumes and that energy creation and recycling are largely alternative avenues of progress, one excluding the other. In Finland, the municipalities would rather go for energy creation while the private sector favours recycling. Lobbying for control of waste has made relations between the public sector operators (i.e. municipal waste management companies) and the private ones very hostile, not promising in view of the industrial collaboration that is going to be necessary to realise the progress that is attainable.

It is against this background that an official working group has attempted to work out a total reform of waste management law. Not surprisingly, the draft proposal has been found wanting.

The draft put forward by the official working group tends to reflect the municipalities' views. As for the definition of community waste that falls under municipal organising responsibility, the group proposed that waste produced by private health and social services and education services should also fall under this definition. The working group estimated that this amendment would move 1–2% of all community waste to the municipal sphere but this estimate has been contested by the private sector. The FCA questioned the proposal and argued that the opposite movement might be warranted.

The working group also presented an option that would even further attenuate the ability of property owners to conclude deals directly with waste collectors and to further broaden municipal organising of waste collection. The FCA was opposed to the introduction of such a provision.

Box 19. FCA and waste management law, cont.

The working group also proposed prohibiting outside operators from interfering with the presence and operation of producers' organisations. The problem with producers' organisations is that they tend to become market-dominating actors that may take business away from other market-based actors that can operate in an environmentally satisfactory manner in an unhindered market. The FCA urged the Ministry to consider these possibilities rather than create additional barriers to market-based actors. This position was informed by the experience the FCA gained of the competitive conditions in the waste-paper market, which is dominated by a producers' organisation, creating problems for independent operators which the FCA has had to deal with.

The proposals in the draft proposal would substantially increase the reporting and surveillance-related duties of private operators. The FCA called attention to competitive neutrality; municipal companies must have similar obligations. Municipal companies must not take advantage of the information about competing actors which the latter would be obliged to give to waste disposal authorities. In other respects, the FCA noted that the draft paid sufficient attention to making a clear distinction between municipal waste disposal authorities – with public decision-making powers – and municipal waste management companies running productive operations, i.e. waste management businesses.

Under the proposal, municipalities would be required to dispose of waste for which they not normally responsible if so requested and if possible to do so within the municipal waste management system. This obligation already exists in effect under competition law. The working group noted the possible competition law ramifications, the FCA only correcting some inaccuracies.

The working group also outlined a guarantee to be provided by private operators in order to be licensed to operate on environment-protecting business. The FCA urged the Ministry to consider the inherently undesirable consequence of raising entry barriers to such businesses, while not denying that there may be other grounds for requiring such a guarantee.

Finally, the working group noted a potential conflict between the draft proposal and competition rules. The FCA agreed, with reference to Article 106 of the Treaty, that this might require application of Art. 106(2) by the FCA. Extensive discussion of this issue will be necessary.

In mid-October 2010, the Finnish Government finally submitted its bill to the Finnish Diet. The bill, in essence, corresponds to the draft proposal. Because of its economic importance and its contentious nature, the waste management issue is likely to remain high on the FCA agenda for many years to come.

The FCA's recommendations – core issues. There are a few key issues on which the FCA has largely focused in the course of its activities concerning waste management:

- the institutional set-up of waste management must provide a healthy impetus for new technological opportunities by both private and public economic operators; municipal monopoly is increasingly problematic in light of this goal
- new markets with healthy competition are increasingly feasible
- it is essential to maintain competitive neutrality among different operators

The last two cases presented concern the Finnish and Norwegian competition authorities' advocacy activities in connection with the European Emission Trading Scheme (ETS) and National Allocation Plans. At the public hearing, the NCA emphasised the importance of cost-effectiveness as a guiding principle in environmental policy, whereas the FCA pointed out that if incumbents receive emission rights for free, while new entrants must acquire their rights, entry barriers – which are likely to be high anyway – are raised, making abuse of market power more likely.

Box 20. Second National Allocation Plan – Finland

Background. The FCA participated in two official working groups that outlined the first and second Finnish NAP which were later adopted into law by the Finnish Diet. Allocation was based on historical emissions, favouring export industries with limited opportunities to curb emissions. In practice, allocation was influenced by heavy industry lobbying. The FCA focused on a few important aspects, with some success.

The FCA's concerns and recommendations. Legislative outcomes in italics

- Some emission rights must be reserved for new entrants. If incumbents have received emission rights for free while new entrants must acquire their rights, entry barriers – which are likely to be high anyway – will be raised even higher, making abuse of market power more likely. *A relatively small quota was reserved in both NAPs.*
- Effective procedures to remove blatant over- and under-allocations should be available. *Possibility to relieve under-allocation exists, but only in very exceptional circumstances. The provision on relief of under-allocation has been invoked only a few times. The possibility of over-allocation is inevitable with the historical method. However, the method also rewards early action.*
- Combined applications for allocations by several emission rights holders are likely to come under competition law even if not necessarily prohibited.
  In an industrial site there may be several installations which are owned by different operators. For the purposes of emission rights allocation, the site may be regarded as a whole; all the allocation applications from the various installations in the site van be collected together. The outputs of the various operators are typically not in competition with one another.

Box 21. Advocacy in Norway: Public hearings on changes in law and regulations on emission quotas and trade with quotas in the period 2007-2010, changes in EU directives and measures and proposed tools to achieve Norwegian environmental goals towards 2020

Background. In the period 2007–2010 the Ministry of the Environment and the Climate and Pollution Agency held several public hearings on environmental policy, the Norwegian quota system from 2008 till 2012, and related EU directives.

Main points. In its replies at the hearings, the NCA has emphasized the importance of cost-effectiveness as a guiding principle in environmental policy. Thus, the NCA has urged the use of 'market-based' instruments such as emissions trading to address environmental problems in the climate area, and advocated that all sources of emissions be included in the scheme. In

this connection, it may be mentioned that the NCA expressed support at a recent hearing for the Commission's proposal to change the quota directive to include the air transport sector (2003/87/EF).

Moreover, the NCA expressed support for the Government's objective regarding the design of the EU quota system after 2012, i.e. that the Government will work to achieve support for the view that quota allocations not should be grandfathered but allocated free of charge. However, the NCA is sceptical about a Norwegian environmental policy being stricter than that of the rest of the EU countries, for instance with regard to the principle for allocating quotas from the quota reserve for new industry. At several of the hearings, the NCA has expressed concerns that a relatively strict national policy within the quota system might involve distortions to competition. The NCA has also stated that an environmental tax imposed on emissions from industries already part of the quota system – a scheme that applies to some industries in Norway – would involve a departure from the principle of cost effectiveness in environmental policy since different sources of emissions will face different emission costs at the margin.

4.4.2 Advocacy of Market Based Instruments in Environmental Policy

Promoting correct pricing of environmental goods is crucial to a cost-efficient environmental policy and proper innovation incentives. This can best be achieved through effective competition – otherwise price signals reflecting environmental externalities cannot be effectively transmitted. The competition authorities thus have the important task of promoting effective competition.

Green competition advocacy involves promoting the application of marketbased instruments in as many sectors and to as many pollution sources as possible in a non-discriminatory fashion. This is in accordance with competition policy. The Nordic competition authorities have been firm and visible advocates of market based approaches in environmental policies.

An important point, however, is that in the design of market based policy instruments it is important to consider how well the 'newly created' markets will function. If price formation in a newly formed market, for example, is likely to be strongly affected by market power, different design may be required. An example of advocacy initiative of a more general character, the background for the initiative and the points made are presented below.

Box 22. General advocacy in Norway: Effective competition supports environmental goals

Background. Speeches presented at the European Competition Day in Paris, November 2008 by the Director General of the NCA, and at the 100th Meeting of the OECD Competition Committee – Paris, February 2008.

Main points. The main point of these speeches was that there is close connection between environmental policies and sustainable development on the one hand, and competition on the other. This connection might well be a win-win situation for society. Since the ultimate goal of competition policy is to ensure efficient markets, an efficient environmental policy calls for a strong competition policy. However, it is a challenge to visualise this connection. This is a clear challenge facing the competition authorities.

Furthermore:

- Competition authorities should not allow firms to exploit market power in the short run in order to stimulate more innovation,
- Competitive industries must not be allowed to dampen competition for the sake of innovation,

– Horizontal or vertical cooperation between companies is often necessary to achieve R&D and eco-innovations. Competition law enforcement should not discourage this, but

– Distortions to competition due to overzealous use of state subsidies under the cover of climate innovations should not be allowed, and

– It must be ensured that globalisation can lead to efficient use of resources and the development and dissemination of eco-innovation.

In the speeches it was also pointed out that competition authorities should act against concentrations and abuse of market power, in particular in energy markets. In this regard, the EU initiative to establish effective electricity and other energy markets in Europe is very important.

Moreover, the development of a European market for traded emission quotas has just started. Important experience has been gained. The market will be extended and further developed to cover more sectors and emissions sources. In the speeches, it was pointed out that the competition authorities should take a keen interest in the design and functioning of these markets. Like other markets, emission quota markets can be vulnerable to collusive behavior both by sellers and buyers. Such behavior reduces the efficiency of markets and distorts price signals.

Box 23. Main Points and Recommendations – Advocacy

- Promoting correct pricing of environmental goods is crucial to a cost-efficient environmental policy and proper innovation incentives
  - This can best be achieved through effective competition
  - Otherwise price signals reflecting environmental externalities cannot be effectively transmitted
- The green toolbox consists of a wide range of instruments. Analysing and identifying regulations that distort or restrict competition, and proposing more efficient means to that end are:
  - important to the achievement of competition policy goals
  - vital to improving the quality of regulation in the environmental area
  - in accordance with the OECD's Declaration on Green Growth, at the Council Meeting at ministerial level in June 2009
- The competition authorities have the important task of promoting effective competition
  - Advocating market based instruments in environmental policy is in accordance with competition policy
- To succeed, initiatives must be timely, and political support sought. In addition, it is clear that change may take time and perseverance may therefore be necessary

5. Business Practices in Green Markets

Green markets are expanding in many sectors of the economy in a response to apparent willingness to pay a premium for goods and services associated with environmental benefits.

One definition of a green market is one where the goods traded are a result of a joint production of a private good and an environmental public good (i.e. green goods). Another way to express this is markets for 'environmentally friendly' goods and services, or as put more formally by Moraga-Gonzalez and Padrón-Fumaro (2002): A market where (i) products vary in their environmental characteristics, and (ii) purchasers are willing to pay more for environmentally 'cleaner' goods.[50]

One example of a green market in this context is the growing market for "green electricity," which is electricity generated using renewable energy sources. Consumers increasingly have the option to purchase green electricity with a price premium that applies to all or part of their household's electricity consumption. In return, production of green electricity displaces pollution emissions from electricity generated with fossil fuels. Thus consumers of green electricity purchase a joint product – electricity and reduced emissions.

Green certificates are one manifestation of a green market in this context. Green certificates are also known as renewable energy certificates. The certificates distinguish the environmental attributes of the electricity from the electrons (i.e. the energy attributes) of the electricity. The green certificates and the electrons can be sold separately in different markets.

To the extent renewable energy obligations are imposed, the purchase of green certificates will document that electricity producers have met their renewable energy obligation. Moreover, the revenue from the sale of green certificates provides a stimulus to develop new renewable energy sources.

For green certificates and other manifestations of green markets to work properly, the underlying markets must also work properly. Thus, competition authorities should act against concentrations and abuse of market power, not the least in energy markets. In this regard, the EU initiative to establish effective electricity and other energy markets in Europe is very important.

Voluntary agreements on emission reductions, or the improvement of energy-efficiency, have been in place in many countries in different industries for many years.[51] The same applies to recycling and waste management schemes.

The fact that many governments, non-governmental organisations, and industries promote green markets as a decentralised mechanism to encourage private provision of environmental public goods has contributed to these trends.

Thus, different kinds of green or environmental agreements or schemes seem to be an inherent part of green markets.

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50 Moraga-Gonzalez, J. and N. Padrón-Fumaro (2002). *Environmental Policy in a Green Market*, Environmental and Resource Economics 22: 419–447, 2002

51 Environmental voluntary agreements can be defined as those by which the parties undertake to achieve pollution abatement or environmental objectives. The target or the measures included in the agreement need to be directly linked to the reduction of a pollutant or a type of waste identified as such in relevant regulations.

It is particularly in relation to recycling and waste management schemes that the Nordic competition authorities have identified schemes that have triggered competition concerns. This is also an area where there is still room for improvement in environmental policy design, namely allowing competition to play a more important role in enhancing efficiency. We will be paying particular attention to this area in Section 5.2.

The expansion of green markets has also prompted certification and labelling programs for a wide range of products. Even though such schemes have not have caused any antitrust cases or advocacy initiatives to a significant degree in the Nordic countries so far, potential competition concerns in relation to such schemes are discussed below. This, we believe, will provide a valuable background for future assessment of such schemes.

Since enforcement of competition law is at the core of the competition authorities' activities – and business practices in green markets can be associated with horizontal as well as vertical competition concerns in addition to abuse of dominance – we will start with a brief summary of the legal basis for the antitrust work related to green markets, devoting some extra attention to the assessment of horizontal environmental agreements.

5.1 Antitrust and Green Markets

The competition authorities must assess to what extent agreements and business practices in green markets can constitute a violation of competition law[52], i.e. be in contravention of the prohibition of competition-restricting cooperation or the prohibition of abuse of a dominant position.

Regarding the prohibition of competition-restricting cooperation, it is important to note that many product collection and recycling systems typically depend on a range of different agreements. Some are entered into between competitors (horizontal agreements), others are entered into, for example, between demand-side participants and service suppliers (vertical agreements).

Thus, an important issue is whether the manner in which recycling companies are organised and operate involves cooperation that restricts competition and is prohibited under competition law.

Regardless of the market shares of affected undertakings, block exemptions do not apply to hard-core restrictions such as horizontal price-fixing, market sharing, and influencing of fixed retail prices and minimum prices. It is unlikely that a recycling system that entails horizontal hard-core competition restrictions would be acceptable under corresponding national regulations to the EU or EEA block exemptions.

Cooperation covered by the prohibition set out in Article 101(3) TFEU is not illegal if the terms and conditions of the exemptions in the third sentence are met. To qualify for an exemption, the cooperative activity in question must meet four conditions specified in 101(3): It must contribute to improving the production or distribution of goods or to promoting technical or economic progress; consumers must be secured a fair share of these benefits; it must not impose more restrictions than necessary to achieve the cooperation goals; and competition must not be excluded for a substantial part of the products in question.

52 Competition law in the Nordic countries regulate the activities of recycling companies responsible for handling returned products in a way which for all practical purposes in this context is similar to EU and EEA legislation and provisions on competition.

The European Commission's guidelines for applying Article 101(3) TFEU provide guidance on the application of the exemptions in general and on agreements in an environment in particular. A short overview of the Commission's guidelines on horizontal agreements in the environmental area is presented below.

Box 24. EU Commission guidelines on horizontal environmental agreements.

Horizontal environmental agreements. The Commission's guidelines state clearly that, by definition, environmental agreements should be considered to be in breach of Article 101(1) TFEU if the cooperation does not genuinely concern environmental objectives but serves as a tool to engage in a disguised cartel, i.e. otherwise prohibited price fixing, output limitation or market allocation; or if the cooperation is a part of a broader agreement aiming to exclude actual or potential competitors.

Although some cases may be relatively clear-cut, there are a host of borderline cases. There is little reason for concern if there is no precise individual obligation placed on the parties or if they are only loosely committed to contributing to the attainment of a sector-wide environmental target. The same applies to agreements which give rise to genuine market creation. Recycling agreements, for instance, do not generally restrict competition provided, and for as long as, the parties are not capable of conducting the activities in isolation, whilst other alternatives and/or competitors do not exist. Moreover, agreements setting standards for environmental performance of products or processes that do not appreciably affect product and production diversity in the relevant market, or whose importance is marginal for influencing purchase decisions, do not either fall under Article 101(1) TFEU.

However, if an environmental agreement appreciably restricts the parties' ability to model the characteristics of their individual products or the way in which they produce them, involving one-sided or reciprocal influence over production or sales, and the agreement covers a major share of an industry, there are greater reasons for concern.

Another situation which would give a rise to concern is when there are agreements in place between companies holding significant market shares in which some particular enterprise has been appointed as exclusive provider of services related to collection and/or recycling of products for the companies involved. This might appreciably restrict competition if other actual or potential providers exist or might otherwise come into existence.

Even where some particular environmental agreements may raise concerns from a competition standpoint, i.e. the agreements fall under Article 101(1) TFEU, they could also bring economic benefits that outweigh their negative effects on competition, either at individual or aggregate consumer level. The benefits must stem from reduced environmental pressure resulting from the agreement, as compared to a baseline where no action is taken, and to pass the test in Article 101(3) TFEU, the expected economic benefits must outweigh the costs in terms of reduced competition.

Still drawing on the guidelines, it is important to note that whatever the environmental and economic gains and the necessity of intended provisions, the agreement must not eliminate competition in terms of product or process differentiation, technological innovation or market entry in the short or, where relevant, medium term. The guidelines mention as an example that in the case of exclusive collection rights granted to a collection/recycling operator who has potential competitors, the duration of such exclusivity should be determined with due regard for the possible emergence of an alternative to the exclusive operator.

We see that the European Commission's guidelines clearly state that environmental benefits can be used as a defence for horizontal practices or arrangements otherwise deemed restrictive under competition law. However, there are strict requirements to be fulfilled in this regard. There must be net economic benefits in terms of reduced environmental pressure resulting from the agreement, as compared to a baseline where no action is taken, and the expected economic benefits must outweigh the costs. Such costs include the effects of reduced competition along with compliance costs for economic operators or effects on third parties. On a final note, the guidelines state that

a cost-benefit analysis may be necessary to assess whether net benefits for consumers in general are likely under reasonable assumptions.[53]

Similar efficiencies may be attained by practices other than horizontal cooperation agreements, including vertical agreements, unilateral practices and mergers. Different schemes and their use of service providers may also imply a violation of the prohibition against abuse of dominance. In the experience of the Norwegian Competition Authority (NCA), some recycling companies have used various forms of exclusivity clauses in their agreements with companies that provide services to them, such as companies that perform collection and/or waste recycling.

Typically, such exclusivity clauses ensure that a service provider will have the exclusive right to perform a specified service for the recycling company in a specific geographic area. In some cases, the clauses prohibit the service provider that performs services for a recycling company from offering its services to the recycling company's competitors or offering services similar to those the recycling company offers. As to recycling companies that enjoy a dominant market position, this type of conduct may be viewed as abuse of market power, and thus as a violation of the competition law.

In the next section, we will look closer at restrictive practices in the waste and recycling markets.

5.2 Restrictive Practices in Recycling and Waste Management

A typical *green scheme* would be a horizontal agreement set up to comply with environmental obligations related to recycling or returnable products. Such schemes can extend to entire industries and usually comprise a complex set of arrangements, which may be either horizontal or vertical, or both. Environmental agreements may also stipulate standards regarding environmental performance of products (inputs or outputs) or production processes.

The competition concerns in a more specific green context can basically be divided into three categories:

i) spillover effects,
ii) bundling of demand for collection and sorting services and
iii) pricing and fee structure.

5.2.1 Spillover effects

The spillover effects may involve a significant commonality of costs or the exchange of sensitive information, and it may facilitate collusion in the product market. The following example from Iceland, involving a joint venture to operate a common fuel station, illustrates the concerns that can arise.[54]

53 As this statement makes clear, the assessment of a specific agreement is challenging. Clear price signals reflecting the environmental benefits render such an analysis easier. Notwithstanding, further work may be required to clarify how such an analysis can be conducted in practice from a competition policy perspective.

54 Environmental aspects were not central in this case but the example represents a situation in which socially wasteful investments were taken into consideration. Wasteful capital expenditure is harmful to the environment since too much material is used to provide a certain amount of goods which could be provided with less, possibly much less, capital equipment.

Box 25. Exemption from article 10 of Icelandic competition law (article 101 TFEU) permitting oil companies to operate a common fuel station at Keflavik Airport. (dnr 27/2005) – Iceland

Background. In the Icelandic Competition Authority's (ICA) decision no. 21/2004, the oil companies were found guilty of extensive collusion. The companies were ¨required to meet certain obligations, one of which was to end their cooperation at Keflavik Airport. Shortly after the decision, the oil companies filed for exemption from the ban on the grounds that conditions for exemption in Article 15 of the Icelandic competition law were fulfilled.

The applicants had been operating since 1994. Their business can be divided into two categories; those which have long-term contracts and those which purchase irregularly from the joint venture company.

The Approval. The existence of one fuel station at the airport was considered Pareto efficient and it was also thought to improve distribution of the product and related services.

As the situation in Europe was to a large extent comparable, i.e. one fuel station at each airport, that was a factor which had to be taken into account.

It was also clear that the capital expenditure (in special equipment) required to build a fuel station was extremely high. Hence, the common use of a single fuel station was considered to generate social benefits in the form of prevention of wasteful investment expenditures.

The ICA´s Decision. A permission to operate the joint venture was granted subject to various conditions aimed at minimising the risk of collusion.[1]

1 Environmental policy aspects were not considered by the ICA in this case.

The competition issues included concerns that the companies would harmonise costs attributable to the environmental aspects of the product. This part of production costs would thus cease to be a subject of competition between the cooperating companies, which again could reduce benefits to consumers from competition.

In the box below, one case from Norway is presented where commonality of costs was one of the potential issues. The complainant asked the NCA to consider whether a collective decision regarding an environmental fee constituted an illegal cooperation since the fee was one of the elements in the car importers' individual pricing decisions.

Another spillover effect relates to information exchange. Certain information exchanges amongst competitors may either be necessary or practical in order to achieve environmental beneficial outcomes. To this end, competitors may seek to enter into voluntary agreements with their competitors. Such practices will in many cases also be endorsed by authorities keen to promote environmental objectives and green growth.

On one hand, information exchanges through green schemes and environmental agreements can improve market outcomes which can directly benefit consumers, for example by sharing risks, saving costs, sharing know-how and driving innovation faster.
On the other hand, e.g. voluntary agreements and different recycling schemes will involve information exchange and different forms of cooperation within industries, which can also facilitate collusion, work in a discriminatory manner, be exclusionary and distortive. It is clear that the exchange of sensitive information and price fixing in order align prices in the product market are violations of competition law.

Another spillover effect may be related to the fact that the recycling companies expanded their activities to include other areas, such as providing information about members' environmental efforts and lobbying activities. These tasks may be viewed as cooperation on information or marketing to consumers. Even marketing, a competitive parameter, can to some extent be coordinated through a recycling company, so that participants no longer compete in this area. Thus, coordination through a recycling company may lead to member companies competing in fewer areas. It is also possible

Box 26. Return system for scrapped cars in Norway - Autoretur AS (Veolia Miljø Metall AS (A2008-22)) - Norway

Background. Autoretur AS organises a return system for scrapped vehicles and is approved by the environmental authorities as such. The company is owned by the Norwegian Car Importers Association (Bilimportørenes landsforening).

The scheme is financed by an environmental fee collected from and paid by car importers. The fee is collected by the Directorate of Customs and Excise, and allocated to a fund administered by Autoretur. The fund is supposed to cover the costs of running the scheme. Autoretur has contracts with subcontractors operating the return scheme.

The infringement. In 2006, Veolia Miljø Metall AS asked the NCA to consider whether the fee and the building up of the reserve fund represented a case of abuse of dominant position, i.e. a breach of Section 11 of the Norwegian Competition Act The background for this allegation was that the fee structure and the fund constituted an effective barrier to establishing alternative and competing return schemes.

The NCA was also asked to consider whether the determination of the environmental fee on new cars constituted illegal cooperation, i.e. a breach of Section 10 of the Competition Act. The background for this request was that the fee was uniform for all importers, i.e. represented a collective decision on one element in their individual pricing decisions.

The decision. The NCA concluded that the competition issues arising from the building up of a reserve fund to a large extent followed from a regulatory framework designed and enforced by the environmental authorities.

In the decision the NCA also stated that it had already decided to follow up two similar cases with a letter to the environmental authorities, i.e. use its power, as specified in Article 9, to point out anti-competitive effects of public measures and proposals.

that such coordination may constitute cooperation that restricts competition in a way that constitutes a violation of competition law.

5.2.2 Bundling of Demand

Different green schemes can also imply bundling of demand, for instance related to collection and sorting services. Quite a few recycling schemes imply a *de facto* or *de jure* monopoly, and even if prices are regulated, different concerns from a competition point of view may arise, for instance related to i) competition between schemes or ii) between suppliers to the scheme.

As the following examples show, quite a few 'green' competition cases from the Nordic countries involve, one way or the other, bundling of demand resulting from green schemes: one case from Sweden involving essential facilities and access to infrastructure, and one case from Iceland involving a decision by Reykjavik City to enter the recycling market, and one case from Finland involving non-compete clauses.

Box 27. The Swedish market for collecting used packaging materials in plastic: Plastkretsen/ FTI (dnr 152/2008) - Sweden

Background. On the 22 February 2008, the Swedish Competition Authority (SCA) received a complaint from a firm called TMR AB alleging that its competitor FTI/Plastkretsen (hereinafter FTI) abused its dominant position under Article 102 TFEU. The abuse was alleged to take place in the market for collecting used plastic packaging materials. FTI and TMR are both active in the market for collecting used packaging materials covered by the regulation on the responsibility for packaging materials.

Regulation (2006:1273) on the responsibility for packaging (the regulation) regulates the responsibility of producers of packaging materials. The law reflects a polluter pays principle, under which

firms that place packaging materials on the market are held responsible for collecting and recycling the used materials. This responsibility is often discharged by infrastructure clubs; producers that jointly set up a system in which consumers can drop off their used packaging at a designated point from which it is taken for recycling by the producers. In Sweden the industry set up a system called FTI (Förpacknings- och tidningsinsamlingen). The system dates from mid-90s.

The infringement. FTI was de facto monopolist for about a decade until the challenger TMR entered the market with the idea of supplying services aiming at helping businesses to manage their responsibility for recovering and recycling plastic packaging. Under regulation 2006:1273, firms need to address their responsibility wherever a package may become waste in Sweden. This provision has made it difficult to duplicate the system for recovering and recycling packaging. Duplication is hard to bear financially in the rural areas of the country, and in areas where population density is higher, the lack of available space for placing bins is an issue. TMR was unable to construct a complete parallel system whereby TMR claimed that using some of the same bins as FTI to recover materials is necessary in order to be able to be active on the market.

The competition issue in the case was whether the infrastructure held by FTI constituted a necessary facility which could not be completely duplicated. FTI refused to grant access to the necessary bins. It may here be useful to add that the system created by FTI was established on municipal sites which could not be duplicated.

The SCA:s decision. The SCA met with the parties one by one. After explaining to FTI the gravity of its refusal to to supply, the company agreed to enter into negotiations with TMR. The decision to close the case was taken on 7 July 2009 since the complainant could no longer prove that there was a refusal to supply by FTI. Some months later the parties had entered into an agreement and both parties can now market a complete service in collecting and recycling used packaging.

Box 28. Bláar tunnur (dnr 69/2007) - Iceland

Background. Gámaþjónustan, a waste collection company, complained to the ICA about the decision by the City of Reykjavik to begin offering its residents recycling services referred to as Bláar tunnur (transl. Blue Barrels). By doing so, the City would be competing in the recycling market with Gámaþjónustan.1

The complainant claimed that the City's entry into the market would damage competition in the recycling market due to the city's superior competitive position and would therefore infringe Article. 16.-b. of the Icelandic Competition Act.

The infringement. Article 16.-b. of the Competition Act allows the Icelandic competition authority to take action against acts of public institutions if these could be damaging to competition unless some special legislation permits the harmful conduct.

The City's superiority stems from its substantial tax revenues and size. One income source is the green tax which is intended to cover the City's retrieval costs. Additionally, the City was now offering each household recycling services in the form of a blue barrel for which each household would be charged 7,400 kr. for a whole year of service. The complainant's view was that the cost of the blue barrel service to each home was too low as not all costs were included. On that basis the complainant thought the city was engaging in predatory pricing.

The ICA´s decision. A special law on waste handling contains a provision which obliges each municipality to make its own arrangements with regard to the collection of household and business waste in the community. The provision also states that each municipality is responsible for the transportation of household waste because of the municipalities' role in waste handling. The conclusion was therefore that the ICA did not have the authority to intervene because the municipalities were required by law to carry on these projects.

It was however the ICA's assessment that certain clues had emerged that suggested that the blue barrel scheme might be damaging to competition in the recycling market. Therefore the ICA decided to exercise advocacy efforts by directing an opinion to Reykjavik's City Council.

1 Specialised firm which operates in the recycling market, taking care of waste retrievement, transportation, recycling, and total solutions for institutions and companies.

Box 29. Suomussalmen Jätekuljetus Oy/Keski-Kainuun Kuljetus Oy - Finland

Background. The institutional set-up of waste management in Finland is discussed in Fact Box 18 above. The case concerns a non-competition clause related to a concentration implemented in 2003. The concentration concerned waste collection in three neighboring municipalities in Northern Finland (Suomussalmi, Hyrynsalmi, Ristijärvi). Suomussalmen Jätekuljetus (based in Suomussalmi) sold its waste collection activities in Hyrynsalmi and Ristijärvi to Keski-Kainuun Kuljetus which also operated in the latter municipalities.

The infringement. Suomussalmen Jätekuljetus pledged for 10 years not to compete in waste collection in Hyrynsalmi and Ristijärvi while Keski-Kainuun Kuljetus pledged for 10 years not to compete in waste collection in Suomussalmi.

As a result of the deal, both emerged as the only operators in waste collection in their respective areas. As the reason for the deal, Suomussalmen Jätekuljetus stated a public tender organised by the municipality of Ristijärvi, as a result of which it had lost the waste collection from the municipal premises to Keski-Kainuun Kuljetus, leaving insufficient clientele to continue waste collection activities in Ristijärvi and Hyrynsalmi.

The FCA's decision. On consulting the FCA, the parties amended the deal, deleting the buyer's non-competition clause altogether and shortening the seller's non-competition clause to two years. In late 2005, a new competitor entered the waste collection market in Suomussalmi, where real estate owners are authorised to conclude agreements on waste collection from their premises. In 2011, a broader area, covering all the municipalities mentioned, will adopt a waste collection system in which the municipalities reserve for themselves the right to organise waste collection in their territories.

The FCA closed the file.

A European Commission report on competition issues in waste management systems states that as the market power of such systems increases the more obliged companies with important market shares are to participate in the system, and that:

> *The bundling of demand limits the choice of collection/sorting and recycling companies and, in the case of a de facto or de jure monopoly of the systems, leaves the companies with only a single system that they may enter into agreements with.*[55]

However, the paper points out that a certain bundling of demand might seem to be an inevitable consequence of the creation of a viable scheme, for instance due to important network economies.

Yet, it is also pointed out that it is essential to ensure that this bundling of demand does not lead to unjustified restrictions to competition in the downstream market (competition between collectors) and upstream markets (competition between systems). Thus, the Commission found that:

> *…the contracts between a system and the collectors should be of limited duration, there should be a transparent, objective and non-discriminatory tender procedure, and the system must not prevent access of competitors to the collection infrastructure.*[56]

A case from Norway illustrates the importance of this point.

55 See the DG Competition Paper, Concerning Issues of Competition in Waste Management Systems, http://ec.europa.eu/competition/sectors/energy/waste_management.pdf.

56 *Op. cit.* p. 16.

Box 30. Tender on establishment of facilities and network for processing and collecting scrapped electric and electronic products by Elretur AS: Veolia Miljø Metall AS (A2008-1) – Norway

Background. In 1999, manufacturers of electrical and electronic (EE) products were tasked with the responsibility for the collection and proper recycling and processing of EE waste. Elretur AS were established following the industry-wide agreement between the Norwegian Ministry of the Environment and the EE branch organisations to achieve an 80 percent return rate. Elretur was established as a nationwide take-back company for the collection, recycling and environmentally sound processing of scrapped electrical and electronic equipment. The stated purpose of establishing the company was to ensure the best possible practical implementation of the above mentioned agreement.

The scheme is based on the authorities' Regulations regarding scrapped electrical and electronic products (EE Regulations). These regulations make producers and importers in Norway responsible for the environmentally sound processing of scrapped products. All dealers have an obligation to accept waste of the same type as the new products they sell. The waste is picked up from the dealers and municipalities and processed by the return (take-back) companies.

Elretur is a non-profit company. The costs of operating the scheme are supposed to be covered by an environmental fee on sold EE products. One of its key tasks is to provide information. The collection and processing of waste is carried out by contract operators all over the country. The company has signed contracts with joint operators for the collection and processing of scrapped electronic products and white goods (including CFC products). The contracts are drawn up and worded in such a way that the operators are responsible for the waste generated in their contractual county. Elretur's customers are companies that have responsibilities under the EE Regulations. These are companies that import, or, in Norway, produce electrical and electronic equipment.

In 2006 the NCA received a complaint from Veolia Miljø Metall AS ("Veolia") regarding a tendering process arranged by Elretur AS. The tender related to the establishment of facilities and network for processing and collecting scrapped electric and electronic products. Veolia was rejected from the tendering process, and filed a complaint in this regard, asking the NCA to assess whether the conduct was in breach of Section 10 (illegal cooperation) and/or 11 (abuse of dominance) in the Competition Act.

The infringement. The complainant claimed that the reason why Elretur denied Velia a contract was that Elretur considered Veolia to be a competitor in the marked for organising return systems for EE-waste.

The decision. The NCA had at the time several similar cases related to recycling schemes. The different recycling schemes complained about did to a large extent raise similar competition issues. However, the cases did to a large extent also relate to schemes that were endorsed by the environmental authorities.

According to Article 9 of the Norwegian Competition Act, the NCA shall supervise competition in the various markets. The Authority frequently uses its power specified in Section 9 to point out anti-competitive effects of public measures and proposals. It was decided to use the authority specified in Section 9 to send a letter to the Norwegian Pollution Control Authority (SFT, now the Climate and Pollution Agency) pointing out the potentially negative effects on competition of the regulatory framework for recycling schemes, inter alia because of the way in which the recycling companies enter into contracts, instead of using resources to handle the cases individually.

Regarding the relationship between systems and obliged companies, it is stated in the report that, as a general rule, collective systems should apply objective, transparent and non-discriminatory conditions in their membership criteria and fee structure.

5.2.3 Pricing and Fee Structure

In the report referred to above, it is also pointed out that the fees should reflect the actual costs of collection and recovery. Cost-plus based pricing schemes or x-inefficiency may in addition to competition concerns also undermine the objectives of environmental policy.

In many of the green schemes, prices are regulated in some way. A common way to do this is to require that the scheme operate on a non-profit basis. This does not solve all problems, and some of the 'green' competition cases encountered concern fees and pricing issues. Apart from the obvious problems relating to x-inefficiency, some competition-related problems seem to stem from the building up of funds, as the following example illustrates.

Box 31. New pricing scheme for processing and collecting scrapped electric and electronic products by Elretur AS: Ragn-Sells AS (A2008-20) - Norway

Background. This case also pertains to Elretur, the background and purpose of which is described in the complaint brought by the company Veolia Miljø Metall, described in decision A2008-1 above.

The complaint against Elretur was brought by Ragn-Sells. This is a Swedish-owned company which in Norway operates nationwide, serving household, municipal, and industrial customers with services relating to the collection, sorting, transport, recovery and treatment of residual products and waste. One of Ragn-Sells business areas is collection and treatment of EE-waste, and the company had temporary approval as an EE collection and recycling company from the environmental authorities (till 2007). However, the company has a relatively small market share and turnover in this segment.

Elretur is a non-profit company. The costs of operating the scheme are supposed to be covered by an environmental fee on sold EE products.

In 2005 Elretur published a new price list (i.e. environmental fees) for collecting and treating scrapped EE products. After the new price list was published, Ragn-Sells AS (Ragn-Sells) sent a letter to the NCA asking the authority to instigate whether Elretur was in breach of Section 11 (abuse of dominance) of the Norwegian Competition Law.

The infringement. Ragn-Sells claimed that the new prices (i.e. environmental fees) were so low that they could hardly cover the average variable costs of collecting and treating EE-waste, and that the new price structure therefore constituted an abuse of dominant position.

Elretur for its part argued that the environmental fee had been calculated and collected in a way that resulted in building up a reserve fund. Consequently, it was decided to reduce the reserve fund by a temporary reduction in the environmental fees.

The decision. The NCA concluded that the competition issues arising from the building up of a reserve fund to a large extent followed from a regulatory framework designed and enforced by the environmental authorities. Thus, the NCA decided that the most appropriate action was to follow up this case with a letter to the environmental authorities, i.e. use its power specified in Article 9 to point out anti-competitive effects of public measures and proposals.

Another pricing related reason of concern from a competition point of view relates to the pricing structure itself; namely that it could have a discriminatory effect, for instance between participants within and outside the scheme or between participants within the scheme. One case from Norway, one from Sweden and one from Iceland illustrate how different pricing schemes can cause 'green' competition issues.

Box 32. The market for recyclable containers: Rentpack (A2009-35) - Norway

Background. Rentpack AS is owned by the Norwegian Brewers association (Bryggeri- og drikkevareforeningen). The company owns a range of standard refillable packaging. Brewers and soft drink producers wishing to use these standard refillable packaging units for the Norwegian market have to rent them from Rentpack AS.

In 2005, Rentpack's Board of Directors, regarded as an association of undertakings under Section 10 (Agreements between undertakings that restrict competition) changed the fee structure for new reusable plastic bottles. The decision implied a differentiated tariff structure in the system for

reusable bottles. Following the decision, the NCA received letters from several producers of mineral water, requesting the NCA to intervene against the fee increase imposed by Rentpack.

The infringement. The NCA considered that the changed fee structure in the recycling scheme for recyclable drinking containers would affect the actors in the marked for soft drinks and bottled water differently. Small and medium-sized companies would be affected unfavorably with respect to bigger-sized companies, i.e. small and medium-sized actors would be at a competitive disadvantage in comparison with bigger actors. Thus, the decision would lead to competition-restricting effects in the markets for soft drinks and bottled water. Consequently, in the NCAs view, the fee structure implied a decision by an association of undertakings which restricted or distorted the competition in the marked for soft drinks and water in bottles, thus infringing Section 10 of the Norwegian competition act, as well as infringing Article 53 of the EEA Agreement.

The decision. After assessing the circumstances, where the NCA in particular attached importance to the fact that Rentpack AS changed their fee structure in accordance with the envisaged decision by the competition authority, the NCA terminated the process.

Box 33. Collection and recycling of aluminum cans and plastic bottles for beverages (dnr 377/2006) - Sweden

Background. Two firms, AB Svenska Returpack och AB Svenska Returpack PET (hereinafter "the Returpack system") run a system for collection and recycling of aluminum cans and plastic bottles for beverages. The infrastructure for collecting bottles and cans consists of machines that can read a label on the bottles and cans that are part of the system. The machines are installed in shops where consumers purchase the products. When the machine recognises a label on a beverage container it takes the can or the bottle and gives a small cash check in return to the consumer. The cash check may be used as cash in the shop. The Returpack system is an infrastructure club owned by some of the major producers of beverages in Sweden. Any firm that places aluminum cans or plastic bottles on the market is responsible for collecting and recycling those containers. The Returpack system is the only nationwide infrastructure for collecting and recycling cans and bottles.

Soldab AB was an importer of beverages that needed access to the Returpack system in order to be able to provide a system in which consumers can collect and recycle containers. Soldab needed to put labels on the imported cans and bottles in order for the machines to recognise them. Those labels where sold by Returpack at a price that risked making imports of beverages in aluminum cans and plastic bottles unprofitable.

The infringement. The Returpack system had a monopoly in offering a complete system for collecting and recycling cans and bottles. Since the Returpack system is an infrastructure club, owned by the largest national producers of such products small competitors or importers would be at a competitive disadvantage when marketing competing products. The unjustified high prices for labels were likely to constitute an infringement of article 82 EC-Treaty (now article 102 TFEU).

The SCA's decision. The Swedish Competition Authority decided to close the case after Returpack significantly decreased the price for labels. Parallel importers no longer found the price of labels being set at such a level that it affords a competitive disadvantage.

Box 34. Scrap metal (dnr 36/2001) - Iceland

Background. The case concerns an agreement between two companies in the recycling sector, Sorpa and Fura. Sorpa is a joint venture, owned by municipalities near Reykjavik, which collects and recycles waste from council residents. Fura, however, specialises in the recycling of metals. The agreement (which was not entered into on the basis of a public offering) was that Fura should receive all scrap metal (recyclable and unrecyclable) from Sorpa without a charge. Sorpa even carried the transportation costs.

Fura's sole competitor in Reykjavik city, Hringrás, complained to the ICA about the dominant position that the agreement conferred on Fura by not requiring it to pay for the resources and transportation in accordance with the general practice in the market. Furthermore, the complainant

argued that Fura was able to bid higher for scrap metal from other sources because of its alleged dominance.

The Infringement. Agreements made by public companies such as Sorpa can be examined on the basis of Articles 10 (101 TFEU), 11 (102 TFEU) or 16 of the Competition Act. These articles concern activities of public bodies which may harm competition.

There was disagreement as to whether companies generally paid for scrap metal. However, it was not debated that transportation costs were in general carried by the recipient but not the supplier. Recognising this, the ICA considered that the free delivery probably granted Fura a considerable competitive advantage in the market. However, during the proceedings, Sorpa revoked the agreement with Fura, and there was therefore no need for an intervention on ICA's behalf.

The ICA's decision. The ICA's conclusion was that the agreement destabilized competition in the relevant market.

The agreement, involving a public body making a business agreement with a private company, which operates in a competitive environment, was considered to undermine the competitor's position in the market and thus violate Article 16 of the Competition Act. An invalidation of the agreement was considered to be an option but since Sorpa revoked the agreement in the meantime, there was no need for intervention. [1]

1 Environmental policy aspects were not considered by the ICA in this case.

Another competition concern regarding the relationship between systems and obliged companies relates to so called 'all or nothing rules', where the system requires the participants to transfer all of their obligations to the system, effectively denying alternative systems the opportunity to compete for collections services or competition between systems and alternative solutions. The rule may also prevent the participating undertakings from choosing the most cost-efficient combination of compliance options.

Competition concerns can also arise in the relationship between systems and collection/recovery companies, for instance that the collective systems privilege contracting with their own shareholder companies for the treatment/recycling of the materials and/or grant exclusivity. Regarding the former, a way to mitigate this risk is to ensure that collective systems use transparent and non-discriminatory tendering procedures. The latter issue, i.e. granting of exclusivity in a vertical relationship, is covered by the regulations and guidelines on vertical agreements.

In addition to restrictions between the parties, an environmental agreement may also have an impact on the output of third parties, either as suppliers or as purchasers. For instance, environmental agreements, which may phase out or significantly affect an important proportion of the parties' sales as regards their products or production processes, may raise competition concern if the parties hold a significant market share. The same applies in the case of agreements whereby the parties allocate individual pollution quotas.

Box 35. Restrictive practices in recycling and waste management

- Industry wide arrangements through e.g. branch organisations or industry-owned schemes common and endorsed by the environmental authorities in recycling and waste management
  – Arguments in favors of such solutions include economies of scale, operational efficiency, and avoidance of non-participating producers getting a 'free ride'
- However, serious competition concerns may arise:
  – risk of spillover effects,
  – bundling of demand and
  – pricing and fee structure.
- In most instances, there are better, competition based approaches by which the environmental authorities can reach their objectives in a more cost efficient way
- Most environmentally related cases faced by the Nordic competition authorities in recent years relate to recycling and waste management
  – Many cases closed using soft enforcement

5.3 Certification Arrangements and Competition Concerns[57]

Certification of products means assessment and approval of a product according to a predetermined standard. Product certification highlights the specific characteristics of a product that differentiate it from similar products. It signals the product's credibility and quality attributes that are otherwise difficult to detect. Certification can be based on public regulations or voluntary labeling. To increase its credibility, the certification process is usually handled by a third party who has no direct connection to either the buyer or the seller of the product.

Certification has become a key element in marketing organic food products but has also received increased attention in sectors such as construction, electricity and taxi services, although this varies quite widely between countries. In the food sector, different factors have been identified as being crucial to the development of the sector and to the increasing number of certification systems within this area: changing consumer demand, increasing internationalisation, higher ownership concentration among different actors in the industry and a focusing on safety and quality. Certification can, among other factors, be used as a differentiation strategy to create niche markets. In order to create well functioning markets, there is much in favour of the view that effects of certification for different types of products need to be analysed both from a producer and consumer perspective.

Arguments in favour of certification can be based on the fact that consumers (and producers) lack information or that information is asymmetric (sellers know more about the quality of a good than buyers) which, in turn, can result in market failures. One assumption underlying the outcome of perfectly competitive markets is that consumers and producers possess perfect information concerning the price, physical characteristics and availability of each commodity. Another assumption is that there is perfectly free mobility of all consumers, producers and resources (both within the market and into and out of the market). As long as consumers possess perfect information about the price of products supplied by various producers and incur no exchange costs, price disparities cannot persist because consumers would shift their demand away from the high-price producers to the low-price producers. Perfect information and free exchange are similarly required on the part of the producers to guarantee that the prices of

57 This section consists to a large extent of direct translated parts from a report in Swedish by Anna Andersson and Joakim Gullstrand at AgriFood Economics Centre (SLU and Lund University) concerning certification, competition and trade viewed from an economic perspective (Certifiering, konkurrens och handel, 2009). In addition, the section draws on a report by Alexander Zorn, Christian Lippert and Stephan Dabbert of Universitat Hohenheim regarding an economic analysis of certification systems in organic food and farming (Economic concepts of organic certification, 2009). The report by Andersson and Gullstrand was commissioned by the Swedish Competition Authority.

inputs are the same for all producers. Economic models identify potential market failures which may hamper the functioning of a market. One such market failure is that consumers (and producers) do not have perfect information. They incur costs in respect of information gathering including collecting, storing, retrieving and processing. In the economics literature this is called bounded rationality (Simon, 2008).[58] Collecting information is costly. One has to pay for information or collect it oneself by spending (scarce) time.

Certification can to a considerable extent reduce transaction costs for consumers by gathering information and thereby – via increased mobility – reinforce competition which in turn may make it easier to achieve environmental goals. However, certification can also have negative effects on competition, for instance if it is the result of lobbying from big companies aimed at excluding small companies from using certain types of certification. The outcome of certification arrangements is *inter alia* dependent on the number of firms and the physical characteristics of the good. In a dynamic perspective, whether firms can freely enter or leave the market and how costly this is are also of importance. This is further described in sections 5.3.1 and 5.3.2.

One aspect is the relationship between certification and competition resulting from effects through international trade. One of the problems is that certification standards are developed in industrialised countries and that developing countries have little influence on the standard-setting process. This is to some extent discussed in Sections 5.3.3. Section 5.3.4 contains a summary and some policy recommendations.

5.3.1 Economic Theory and Certification Effects

Lack of information or asymmetric information may result in market failure. When all players in a market do not have access to the same type of information, if information is missing or even erroneous the risk is that the market will function (highly) inefficiently. Collecting information is, however, costly and the transaction costs depend on the characteristics of the product. Markets for high-quality products may even collapse in the event of serious information problems. If high-quality products cannot be produced at the price buyers are willing to pay (based on the quality they expect to get) these products will be forced out of the market.

Certification of products may reduce information problems. If buyers have more information it becomes easier for them to adapt their consumption choices to their preferences. More information may also improve market functioning due to increased consumer mobility. Products not otherwise being marketed (and demanded and sold) may also be supplied which will increase the benefits to society from a socio-economic point of view.[59] By successful certification, producers and sellers are able to benefit from consumers' higher willingness to pay for organic products.

According to McCluskey (2000) organic labeling is an effective tool for overcoming information problems for consumers.[60] By setting standards and defining exactly what constitutes organic food, producers ensure that the costs to consumers of monitoring and enforcement can be reduced. Consumers can at low cost easily identify organic food products and thereby satisfy their demand. Given market transparency provided by a given standard and consumer confidence in the control system, organic food markets can further develop and grow.

Regarding the collection of information, economists distinguish three categories of product attributes or qualities according to the cost of collecting information: namely search attributes, experience attributes and credence attributes (Nelson, 1970, Derby

58 Simon, H.A. (2008), Rationality Bounded. In: The New Palgrave Dictionary of Economics. Ed. Basingstoke: Palgrave Macmillan.

59 This is based on the assumption that the information is, of course, not erroneous.

60 McCluskey, J. J. (2000), *A game theoretic approach to organic foods: An analysis of asymmetric information and policy*, Agricultural and Resource Economics Review, vol. 29(1) pp. 1-9.

and Karni, 1973).[61] Search attributes can be discovered already before purchase and are basically such properties as can be identified by looking at the product, for instance the color and form of a potato. Experience attributes, however, cannot be checked before the purchase but easily afterwards, for instance the taste of the potato. Credence qualities of a product are however invisible which means that they cannot be identified after purchase and consumption, or, if they can, only a very long time later. The producer on the other hand possesses all the information on the quality, since he or she knows how the good has been produced. The information on product quality is therefore asymmetrically distributed between buyer and seller.

Indeed, the more difficult and more expensive it is for the buyer to determine a product's attributes before purchase, the greater the benefit of certification that signals the goods have the attributes sought. Without certification, consumers would face severe quality uncertainty and high potential for mislabelling. Certification is therefore primarily used to signify that a product has one or more credence attributes. If certification is designed in a correct way, and in those cases where it is necessary supplemented with labelling, the buyer will be able to distinguish the certified product from others prior to purchase and determine whether it has the desired credence attributes. It can be said that credence attributes are transformed into search attributes through certification. Because consumers determine what is produced in a market economy, their conscious choice based on correct and relevant information does not by definition have a negative impact on the function of the market. Basically, certification can therefore function as a sound rule of the game for competition.

The above describes how certification can reduce information problems and thereby increase the benefit to the individual consumer. The fact that certification provides consumers with more information about credence attributes of goods may also be used to increase the socio-economic benefits in cases where consumption decisions result in external effects. Labelling of beneficial products may, for instance, encourage consumers to choose a healthy alternative. This may in its turn result in the population being healthier, which increases productivity and reduces public health costs. The potential social benefit of introducing certification for healthy products may thus be greater than the increase in profits that certification entails for businesses. The converse may also apply if certification is not designed in the right way.

Certification is also associated with costs that vary during different stages of the process. It is important to make a distinction between the costs of introducing the certification system in an operation and the actual costs of certification of the operation. For the producer, monetary and non-monetary costs are usually very high when entering into and during conversion to an organic operation. Transaction costs of the conversion of an operation, i.e. the costs of adapting the production and management processes to organic system requirements highly depend on the starting point and the area of production. In the long run these costs are sunk[62] and will only affect profit during a certain period of time. When the operation has been certified organic for some years, information costs will fall to a common level as long as the production type stays the same. According to Zorn et al. (2009) only a few studies exists on the costs of organic certification covering all parts of the system and it is very difficult generally to provide reliable estimates for the costs of organic certification[63].

61 Nelson P. (1970), *Information and consumer behaviour,* Journal of Political Economy, vol. 78, pp. 311-329 and Derby M. and E. Karny (1973), *Free competition and the optimal amount of fraud*, Journal of Law and Economics, vol. 16, pp. 67-88.

62 Sunk costs are costs incurred in the past and they will not yield any economic gain should a firm decide to cease with its business and exit from the market.

63 Rundgren has estimated the financial burden from organic certification services to amount to 1.5 per cent of organic retail turnover. Rundgren, G., (2001), *What cost is organic certification?*, The organic Standard, vol. 7 pp. 7-12.

5.3.2 Certification, Differentiation and Price Premiums

The fact that certification enables buyers to determine what products have credence attributes also involves opportunities for producers. When buyers can differentiate between products, the producer can actually exploit the willingness of some buyers to pay more for special qualities, which may mean a larger market for more product qualities. As it generally involves higher costs for producers to manufacture products of higher quality, a higher price is also often required for such production to be possible. However, it is not likely that producers can charge a higher price if buyers cannot identify which products are of what quality. Thanks to certification, which in a credible way signals a particular product quality to buyers, high-quality products may be more easily identified. This also in its turn enables producers to charge a price premium for products of high quality, which provides an incentive to develop different product qualities.

How much higher a price the business can charge depends upon how well the business succeeds with the differentiation, how unique the buyers perceive the product to be in relation to the competitors' alternatives. Indeed, the more unique a product is, the more difficult it is for buyers to substitute it with another, which in economic terms means that demand becomes less elastic. Businesses can utilise the limited opportunities for substitution by charging higher prices than would previously have been possible. By using such certification as a differentiation strategy, a business can thereby reduce price competition in the market in favour of competition over product attributes.

If a business succeeds well with differentiation, it can at least in the short term utilise the limited opportunities for substitution and act as a monopolist. Owing to its unique products the business will thus gain the power to influence pricing of its products and thereby increase the profits of the business.[64]

However, it is not certain that a producer can use certification to develop market power if many others produce similar products, which may be the case for instance in the production of staple commodities. Producers then remain price takers, who must adapt themselves to a given price even after differentiation through certification has been introduced. When certification is introduced, the market is split into two segments: one for certified products and one for conventional products. Both of these segments, however, have such a large number of producers that an individual producer cannot affect pricing. This results from the individual producer's product not differing sufficiently from other producers' products for the buyer to perceive it as unique. It is therefore easy for the buyer to substitute one product for another and difficult for producers to accumulate market power. Market segmentation in itself, in combination with quality signaling provided by certification, may however nonetheless result in price premiums for certified products. An important consequence of producers being price takers is that any price premium does not mean that producers can increase their profit, only that high-quality production is possible. As the producers cannot influence pricing, any increase in price in this case is derived from a natural adaptation to supply and demand for certified products. Consequently, certification here does not have a negative impact on the function of the market.

Andersson and Gullstrand (2009) also draw attention to the fact that certification can be used to increase rivals' costs. To use cost-driving strategies has long been a way for a dominating business to disadvantage its rivals without the need to apply predatory pricing. Compared with predatory pricing, the possibility of increasing rivals' costs is both less expensive and more credible. This is because the dominating business does not need to operate at a loss in the short term and because it is profitable to increase the rivals' costs regardless of whether or not they leave the market. Common examples of cost-driving strategies are exclusive supplier contracts, lobbying for statutory provi-

64 Even if consumers are paying higher prices than under an outcome characterised by intense competition, it is important to bear in mind that this represents a transfer of income and not a socio-economic loss. The welfare loss consists of production (and consumption) being lower than what is desirable from a socio-economic point of view. The more inelastic the demand, the less will consumption be reduced through a higher price.

sions and product regulations that damage rivals, and marketing and R&D wars. Influencing the design of certification standards is another way of increasing rivals' costs. Even if those groups who set standards should be open for all firms, it is not uncommon for there to be actors with more influence than others. Major businesses may – thanks to their lower organisational costs and greater resources –, have more opportunities than other to influence the design of certification standards. Grolleau et al. (2007) have identified four ways for a business to increase its rivals' costs by influencing the design of certification programs.[65] These are described below.

Define a narrow product category

The aim of certification is to signal which products within a particular product category possess special attributes. How the product category is defined therefore has significant consequences. Dominating businesses can influence category divisions so that their products are compared with as few other products as possible, which makes it easier for these businesses to become certified. This behavior makes it difficult for rivals to differentiate their own products and for consumers to choose the product that best satisfies the fundamental aim of the certification standard. One relevant example may be that beef producers would prefer to end up in the narrowest product category possible in future climate labeling based on carbon dioxide equivalents. From the beef producer's perspective, climate labeling should preferably create a special category for beef considering how much less greenhouse gases the production of other kinds of meat or the vegetarian protein alternative legumes normally emit in comparison.

Define certification criteria that disfavour competitors

Businesses can also influence the certification criteria so that their own products are favoured over competing products. The criteria are e.g. designed so that they focus on raw materials that competitors use more intensively, even if the use of these raw materials as such does not need to be a major impediment for achieving the original goals of the certification any more than the use of other alternatives. Criteria may also be designed according to local conditions and in this way harm foreign producers that, for instance, have other cultivation traditions. Transport criteria is a typical example of how local producers can favour their own positions by putting a limit on how long goods may be transported or requiring that goods must be transported in a special way. When foreign producers' costs increase, their potential competitive advantages such as lower labour costs or better cultivation conditions are threatened.

Define monitoring mechanisms that disfavour competitors

By formulating monitoring mechanisms in a special way, costs can be increased more for some producers than for others. The ability of producers to conduct tests that require special technical equipment often varies widely. A large business often has its own laboratory that can conduct complicated tests quickly and efficiently. A small producer does not have the same financial assets to implement expensive tests and cannot utilise the advantages of scale to the same extent as a large business. Certification can thereby be easier for major producers. Foreign producers also may not have access within a reasonable distance to the technical equipment that is required owing to various technical traditions. The criteria for implementing a certification audit can also disfavour foreign producers if the rules do not allow or impede foreign control bodies.

Disrupt signals to the consumer

Finally, a business can increase its rivals' costs by creating an environment that produces uncertainty on the part of consumers regarding certified products. This is achieved by developing their own product labeling or through disseminating messages

65 Grolleau, G., L. Ibanez and N. Mzoughi, (2007), *Industrialists hand in hand with environmentalists: how eco-labeling schemes can help firms to raise rivals' costs*, European Journal of Law and Economics, vol. 24 pp. 215-236.

about their own products' attributes. Rivals who wish to market credible certified products incur higher transaction costs when it becomes more difficult for the consumer to determine which product possesses which attributes.

5.3.3 Certification and Trade[66]

Certification may disadvantage foreign producers in several different ways if the conditions of the certification standard are based on domestic circumstances or if competitors use standard design with a strategic purpose. Foreign producers can also incur higher transaction costs if it is difficult to gain access to the certification rules or if they are only offered in a language that is not the producer's native language. Certification that discriminates against foreign producers will have a negative impact on the market shares of foreign producers and increase the market power of domestic companies. It can thus be said that certification becomes a form of non-tariff trade barrier. Certification can, however, also represent an opportunity for foreign producers to improve product quality and improve the efficiency of their production and also a chance for foreign producers to reach new, sometimes more profitable, markets. In particular, developing countries that sometimes have difficulties reaching the markets of industrialised countries owing to poorly developed domestic safety regulations regarding food products can obtain better opportunities for market access thanks to certification. What the introduction of a certification standard means for trade between countries consequently depends on the standard's design, that is to say how easy, or difficult, it is for the foreign producers to meet the standard. Standards that involve major increases in costs for foreign producers in relation to domestic producers can in practice operate as an import prohibition. Less restrictive standards can on the other hand increase imports, even where the increases in costs are proportionally greater for foreign producers.

5.3.4 Concluding Remarks

Certification affects various parties in the supply chain. How the parties are affected and the effect that certification has on competition and the way in which the market functions depend to a great extent on the initial competitive situation and the design of the certification standards. In the best case, certification results in better competition with an efficient market as a consequence. This is because certification provides consumers with more information about product quality and subsidises transaction costs. Certification quite simply makes it easier for consumers to identify the attributes of different goods, which means that consumption decisions can be adapted according to real preferences.

The fact that consumers can identify different qualities is also a precondition for producers being able to engage in high-quality production. This production is normally expensive and requires higher prices to be possible. Without credible quality signals it is difficult to charge higher prices, as there is no cause for the buyer to rely on particular goods having the attributes sought. When certification is introduced, the producers' incentives to develop the various product qualities that consumers demand increase. Certification thus results in more product variants through differentiation, which increases the options available to consumers.

The positive result depends on a correctly designed, non-discriminatory certification standard and properly functioning competition between the various actors in the supply chain. All producers must consequently have the same opportunities to make use of certification and to gain access to any price premium. However, it is important to bear in mind that certification can cause different profit opportunities for different actors in the supply chain depending on the initial competitive situation. Firms that from the beginning operate in a market exposed to fierce competition have, for example, more limited opportunities to increase profit with the aid of differentiation by certification than firms in a market with few competing players. Indeed, the fewer players in the market, the greater the market power and better differentiation possibilities. Certification

66 The content of this subsection draws exclusively from the report by Andersson and Gullstrand (2009).

of food products ought therefore to be significantly more profitable for retailers who operate in an oligopoly market than for primary producers who are often exposed to intense competition and are therefore often price takers. The unequal balance of power between actors also means that price premiums often pass to the stronger actors; it is consequently preferable to have equally strong actors that challenge each others' power positions.

An initial unequal balance of power within an industry may create discriminatory certification standards. This is because the strong actors have greater opportunities to influence certification standards to their own advantage. A discriminatory standard will limit opportunities for producers to compete on equal terms, resulting in inefficient production with higher consumer prices and a poorer range of supply of goods. In cases where the standard disadvantages foreign producers in favour of domestic producers, certification can also have a negative impact on international trade flows.

In the table below, different types of effects from certification are summarised.

Table 1. Certification effects for different actors under different forms of competition

	Consumer	**Retailer**	**Processor**	**Primary producer**
Properly functioning competition	Certification provides - more information - lower transaction costs - more available options	Certification enables - sales of high-quality goods	Certification enables - production of high-quality goods	Certification enables - production of high-quality goods
Inadequate competition	Certification may - result in unnecessarily high consumer prices for certified goods	Certification can - be used to exploit the consumers' greater willingness to pay for special products	Certification - can be used to exploit buyers' greater willingness to pay for special products - can exclude processors with discriminatory standards from the market - does not need to result in price premiums for processors in buyer-driven supply chains	Certification - can be used to exploit buyers' greater willingness to pay for special products - can exclude producers with discriminatory standards from the market - does not need to result in price premiums for producers in buyer-driven supply chains

Source: Andersson and Gullstrand (2009)

Box 36. Main Points and Recommendations – Certification

- Certification has become increasingly important, not the least in green markets
  - When certification is introduced, producers have a greater incentive to develop the various product qualities that consumers demand
  - Certification highlights specific characteristics of a product
  - Is primarily used to signify that a product has one or more credence attributes (attributes that are invisible and difficult to judge). Thus, certification reduces the transaction costs consumers incur in gathering information
  - Green certification encourages consumers to choose a 'greener' alternative
- Businesses may try to influence the certification criteria so that their own products are favoured over competing products
  - This may for instance be done by defining a narrow product category or defining monitoring mechanisms that disfavour competitors
- Correctly designed, independently determined, non-discriminatory certification standards and effective competition are important for positive results
- The competition authorities have an important role in this context (advocacy or enforcement) as businesses may have an incentive to influence the certification criteria in an anti-competitive way

6. Future Challenges on the Path to Green Growth

In the OECD's Declaration on Green Growth, from the Council Meeting at Ministerial level held in June 2009, it is stated that economic recovery and environmentally and socially sustainable economic growth are key challenges that all countries are facing today.[67]

Notwithstanding, Green Growth will be relevant beyond the current global economic downturn, addressing urgent challenges including the fight against climate change and environmental degradation, enhancement of energy security, and the creation of new engines for economic growth. The Ministers also clearly state that the crisis should not be used as an excuse to postpone crucial decisions for the future of our planet.

Acknowledging that 'green' and 'growth' can go hand in hand, the Ministers encourage domestic policy reform, with the aim of avoiding or removing environmentally harmful policies that might thwart green growth. Moreover, the Ministers declare that they will work towards establishing appropriate regulations and policies to ensure clear price signals encouraging efficient environmental outcomes.

Clear and correct price signals reflecting environmental externalities and appropriate incentives for investment in green technologies can only be achieved through effective competition. This means that competition policy and effective enforcement of competition law must be an integral part of a Green growth strategy. It also means that market-based environmental policy tools are important ingredients in green policy packages.

In practice, regulators use a wide range of approaches to achieve environmental goals. While command and control policy instruments have been widely used for decades in the execution of environmental policies, market-based approaches such as pricing emissions or subsidising environmentally beneficial behavior, have been mandated by academia for several decades, and are now being implemented in a growing number of applications. The Nordic competition authorities have been firm and visible advocates of market based approaches in environmental policy.

Some existing environmental policies or schemes endorsed by respective authorities impose restrictions on competition. They raise barriers to entry and/or limit incentives or opportunities for effective competition. The Nordic competition authorities have been active in pointing out these limiting effects, where they exist, and advocating the importance of competition to achieve environmental goals in a cost-effective way. Potential spill-over effects from governmentally endorsed schemes as well as other possible anti-competitive effects from bundling of demand or pricing arrangements have also been scrutinised in several cases, as part of the enforcement activities of the competition authorities.

Green competition advocacy and the involvement of competition authorities in relation to direct or indirect restrictive effects on competition resulting from various green schemes, will be no less important in the future, and will constitute an important factor in a successful Green Growth strategy.

67 OECD, Declaration on Green Growth, adopted at the Council Meeting at Ministerial level on 25 June 2009, C/MIN(2009)5/ADD1/FINAL.

We have paid substantial attention to Green Public Procurement and green certification schemes in the report – not because these are areas about which the Nordic competition authorities have had any great cause for concern, or which they have prioritised using enforcement resources – but because we believe such approaches will grow in importance in the future. We hope that the sections on Green Public Procurement and green certification schemes will assist the competition authorities in their assessment of such schemes in the future. We also hope that these sections can be valuable to other authorities interested in learning how these tools can be used and applied in ways that stimulate competition while supporting the green growth strategy.

Environmental policy and competition policy share the common long-term objective of preserving and increasing social welfare. In the report it has been explained why effective competition is important for the efficiency of environmental policy, and consequently, why competition policy and effective enforcement of competition law should be an integral part of a Green Growth strategy. An important point in the report is that we should strive to make the execution of environmental policy and competition policy mutually supportive.

It may be tempting for individual regulating bodies in the public sector engaged in implementing green growth policy to introduce or remove taxes or regulations targeted at the sector they have administrative responsibility for without paying attention to the wider impact their decisions might have on the economy. These decisions may e.g. be triggered by proposals expressed in the media, and implemented with an eye to the immediate political reward. Such opportunistic, *ad hoc* politics must of course be avoided. A successful shift towards green growth requires that policies be coherent and cost efficient. This requires a broad and long term perspective where the impact on competition is also taken into account.

To contribute fully to Green Growth is one of the great strategic challenges faced by competition authorities. Their enforcement activities will be crucial in ensuring that restrictive business practices do not undermine the Green Growth strategy. Green Growth has already created and continues to create new and innovative business segments into which new economic operators are emerging, competing for new customers and transactions, and forming ties with other business segments. Hence, one of the challenges of Green Growth is innovative industries: new operators attempt to enter and prosper, incumbents strive to protect their turf, new collaborative configurations and distributive systems take shape. The Schumpeterian perspective on competition in innovative and dynamic markets has taught us that not all innovations necessarily intermesh harmoniously; competition is also for the market and not only in the market.

To exploit new innovative opportunities fully without barring even better innovations in the future is a great challenge for everyone. The institutional set-up must be restructured to facilitate the removal of barriers to entry and provide further impetus for the innovative entry of new types of environmentally-motivated products and services as well as productive techniques. It is equally important that the institutional set-up maintain competitive neutrality. Inevitably, however, choices have to be made that provide impetus to certain kinds of development paths and perhaps deter others.

Competition authorities do not generally have the authority to make decisions on such fundamental institutional choices. However, they must clarify the competitive ramifications of such choices, and point out situations in which competitive neutrality is unnecessarily compromised.

Competition authorities must also maintain a dynamic and forward-looking perspective on their enforcement activities in respect of innovative green markets. They must be careful not to discourage pro-competitive, welfare-enhancing competition. Fighting for a dominant position through innovation is good – abusing the dominant position, when it is gained, is bad. Collusion or abuse of dominance are never good, even when dressed in green.

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