



Konkurransetilsynet
Norwegian Competition Authority

Competition Concerns Related to Recycling in Norway



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English summary of the Authority's report No. 1/2004

Oslo, April 2005

Foreword

An important facet of the Norwegian Competition Authority's work is to monitor various markets and propose measures to improve competition.

In 2002, the Authority appointed a project group to scrutinize markets associated with waste, waste treatment, and recycling. The following Competition Authority advisors participated in the project group: Christian Wold Eide, Espen Sjøvoll, Gro Holst Volden, and Marie Wiersholm.

The project group findings were presented in a report exceeding 100 pages, in July 2004. The report was printed and released in September 2004.

As the report has attracted some degree of international interest, the Norwegian Competition Authority has publishing this abbreviated version for English-speaking readers. The report's introductory summary has been translated in its entirety, while the remaining chapters have been summarized and compiled for the English-language edition.

Oslo, April 2005.

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Report summary

- Today’s policy for waste collection and recycling — which to a great extent is based on cooperation among competitors — raises concerns regarding competition. Insufficient competition makes the recycling systems expensive, both for society at large and consumers.
- Many companies that conduct waste collection and recycling — so-called recycling companies — currently enjoy positions of market dominance. The consequences of this are inadequate incentives to reduce costs, and a risk that recycling companies’ services are priced too high.
- This report includes ideas as to how public authorities may facilitate open, competition-based “deposit” solutions using deposits or environmental certificates that are refundable.

The Norwegian Competition Authority has assessed the activities of recycling companies that organize waste collection and recycling. The aggregate annual revenues of the companies covered in the report exceed NOK 1 billion. The Authority identifies competition-related problems of today’s systems, and proposes some remedies to improve the situation. An alternative approach to resolving waste problems, featuring greater use of markets and competition, is also presented.

Since the early 1990s, Norway’s environmental authorities have 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-organized collection, in which responsibility for handling waste rests 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 an industry. In terms of the effects on competition, cooperation among competitors plays far too great a role in the waste policy.

Insufficient competition makes today’s recycling systems expensive for Norwegian society and its consumers. For many products, the recycling cost, often referred to as an “environmental fee,” constitutes such a small price component that consumers disregard it when making a purchase. When the “environmental fee”, for all practical purposes, is the same for all competitors, the surcharge does not affect consumers’ product choices. A product’s “environmental fee” is set at a level that allows recycling companies to cover their expenses. Because there is no real market competition, recycling companies need not operate at the lowest possible cost.

Systems that rely on industry-organized 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. For recycling companies set up to handle returned products, the effects of the system in place today are a lack of incentives to minimize costs and a risk that recycling companies’ services are over-priced. The activities of such recycling companies may also, depending on circumstances, be in violation of competition legislation.

The organization of industry-wide recycling companies may also facilitate the exchange of information among product market participants, which can be detrimental to market competition. Further, comprehensive cooperation within an industry may make it difficult for new participants to enter the market via parallel import or production. Effective competition depends on the existence of few or low barriers to market entry.

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 for achieving the desired goals in the lowest-cost manner. Once environmental requirements have been determined, markets can be allowed to arrive at how best to organize 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 Norwegian Competition Authority recommends that environmental authorities consider the suggestions set forth in the report, and implement waste market regulations that facilitate greater competition.

1. The waste problem and how Norway has addressed it

Consumption of goods generally gives rise to waste. In Section 27 of Norway's pollution act, waste is defined as "...discarded items or materials. Also defined as waste are superfluous items and materials from services, manufacturing, waste treatment facilities, etc." This report by the Norwegian Competition Authority focuses on the negative environmental effects caused by packaging waste and discarded products, and to a lesser extent on the negative environmental effects arising from manufacturing and general consumption. The environmental effects of waste and waste treatment may include noise, radiation, odors, and environmentally harmful emissions to air and water.

The society as a whole benefits from reducing the amount of waste that ultimately enters the natural environment. However, from a socio-economic perspective, if no costs are associated with depositing waste in nature, the market will produce more waste than desirable. If there is no monetary impact on persons or enterprises from waste entering the natural environment, market participants will not be concerned about harm caused by production and consumption on our environment. Such environmental damage is often referred to as the negative externalities or the negative external effects of market participants' actions. Over-production and excessive consumption of goods, or, alternatively, too much waste being deposited, compared with what is socio-economically desirable, are consequences. Such external effects generally give rise to socio-economic losses.

To offset this market failure, Norwegian public authorities have introduced a so-called *extended producer responsibility*, according to which producers carry the physical and/or financial responsibility for their products once their use has been discontinued. In Norway, extended producer responsibility has been introduced from 1995 through agreements between the Ministry of the Environment and various industry associations. Pursuant to such extended producer responsibility, business and industry are responsible for the handling and recycling of waste from products they have put on the market. The costs associated with this are typically included in the price of the product.

Such agreements on extended producer responsibility, which have been entered into between Norway's Ministry of the Environment and organizations representing producers and importers in various industries, provide for the establishment of recycling companies to assume responsibility within each industry for collection and recycling of used products and waste. In 2001, systems set up pursuant to extended producer responsibility (as described in the next paragraph) were introduced for the following industries: packaging (including corrugated cardboard, cartons, glass, metal, beverage cartons, plastic packaging, one-way beverage containers (cans and one-way PET bottles), lubricants/recovered oil, electric, electromechanical, and electronic goods (separate systems for so-called white goods, grey goods, and brown goods), equipment with CFC refrigerants, batteries, automobiles, tires, and PCB-embedded windows. Gradually, regulations have been issued pursuant to law governing producer responsibility for most areas, whereas specific recycling goals are set forth in industry agreements.

It is recycling companies that typically undertake to meet producers'/importers' obligations as to waste treatment and recycling. Although some recycling companies do the collection and recycling themselves, most purchase such services from subcontractors. The subcontractors perform the collection, transportation, and recycling of waste. The various wastes may carry some positive value, and be sold; or they may carry negative value, in which case the

recycling companies must pay for further processing. Recycling companies finance their operations by levying so-called “*environmental fees*” on their members as payment for the company’s services. Recycling companies’ members recover their payments for the recycling companies’ services via the price of the products they sell. These waste management systems represent significant sums: the recycling companies covered in the report have aggregate annual revenues of over NOK 1 billion.

As a rule, the various waste management systems investigated by the Norwegian Competition Authority have established a single collection system, and thus a single recycling company for each industry or product group. Industry participants, or, alternatively, industry organizations, own and operate the recycling company.

2. Relationship to Norwegian and European competition rules

2.1 Introduction

On 1 May 2004, the new Norwegian Competition Act entered into force. The Act introduces a purely prohibitive regime, modeled after EU and EEA competition legislation. Thus, the new Norwegian Competition Act regulates the activities of recycling companies responsible for handling returned products similarly to EU and EEA legislation and provisions on competition. However, one modification applies: It follows from the preparatory work for the Competition Act that the Norwegian Competition Authority must not allow competition considerations to be outweighed by other considerations, such as environmental ones, in its application of the Competition Act. This contrasts with the situation in the EU, where the EU Commission may — and in some cases is obliged to — give more weight to environmental considerations in applying EU competition legislation.

Under Norwegian legislation, consideration of various overarching issues, such as weighing effective market competition against environmental effects, beyond what is socioeconomically efficient, are to be made at a political level, see Section 13 of the Norwegian Competition Act.

The actual establishment of a recycling company generally does not violate competition rules and regulations. However, the organization and operation of such companies create certain competition problems. The main focus of the report is the question of whether the manner in which the recycling companies are organized and operate, implies price-fixing as prohibited in Section 10 of the Norwegian Competition Act. The focus chosen by the Norwegian Competition Authority must be understood on the basis of its prior cases: All cases concerning recycling companies set up to collect discarded products that were examined by the Norwegian Competition Authority prior to this report involved conduct relating to this type of cooperation. Particular issues associated with recycling companies’ use of service providers and the prohibition against abuse of dominant market position set forth in Section 11 of the Norwegian Competition Act are also discussed.

2.2 Prohibition against cooperation that restricts competition

2.2.1 Problem definition

The question of whether recycling companies' financing constitutes price cooperation in violation of Section 10 of the Competition Act is discussed at two levels in the report: firstly, whether the companies' *determination and handling of the so-called "environmental fee"* constitutes illegal price cooperation; secondly, whether *sale of collected products* for recycling violates the prohibition provision.

2.2.2 Payment for recycling services

The problem is whether recycling companies' determination of the "environmental fee" or how that fee is to be passed on, constitutes illegal price-fixing among the recycling company's members.

Recycling companies finance their activities by levying "environmental fees" payable by their members as compensation for the companies' services. Members recover the expenses associated with the "fee" through the pricing of the products they sell. Thus, the "environmental fee" is included in the price customers pay for members' products. Accordingly, if members determine the amount of the "environmental fee" via their recycling company, then they have reached an agreement as to that component of a product's price, for example, the price of automobile tires. Such an agreement may, in certain instances, violate Section 10 of the Competition Act.

In most instances, the board of directors of the recycling company determines the "fee", though sometimes it is determined by its management or jointly by the board and management. Whether the *determination of the "environmental fee"* is to be regarded as illegal price cooperation among the members of the recycling company, largely depends on a concrete assessment of the ability of members to *determine the level of the fee*. If the recycling company determines the fee unilaterally, without its members being able to influence the decision, then cooperation of the sort prohibited by Section 10 of the Competition Act has not occurred. If, on the other hand, members are able to influence the determination of the fee, the determination may in some instances be regarded as cooperation in violation of Section 10 of the Competition Act.

With regard to this issue, the recycling company's relationship with its members is decisive. If the company is *independent of its members*, there is no cooperation as to price setting. However, if the recycling company can be seen as acting on behalf of its members, the company's fee setting will have to be regarded as a type of cooperation that may be prohibited by Section 10 of the Competition Act. Whether the company can be identified with its members will depend on a concrete assessment of the facts, including whether the company is owned by its members, and whether they are represented on the company's board of directors. Whether determination of the fee is prohibited price-fixing among recycling company members is a complex, detail-oriented assessment. Legality must, therefore, be determined on a case-by-case basis.

In some instances, the recycling company determines that members' costs for being company members are to be specified in invoices to members' customers; i.e., such costs must be itemized in payment invoices. Agreement as to the amount of the environmental fee to be

reflected in the price of products for sale, entails cooperation on a pricing component. *Agreements or guidelines on how the “environmental fee” is to be passed on* by members of a recycling company to their customers, therefore, clearly violate the prohibitions of the Competition Act. In several cases involving recycling companies, the Norwegian Competition Authority has established that cooperation on how to pass on recycling charges violates the prohibition against price-fixing, as set forth in the Norwegian Competition Act of 1993.¹

2.2.3 Sale of waste

In most cases, recycling companies do not handle collection or recycling of discarded products themselves, but leave those tasks to subcontractors. However, recycling companies often handle the *sale of recycled products*.

The sale of products that are recycled by the recycling companies can be regarded as cooperation in determining the price of such products, in violation of Section 10 of the Competition Act. Whether a recycling company’s determination of price constitutes illegal price-fixing, depends on the findings of a detailed inquiry. If a company pays dividend to its members, the members will benefit from the recycling company setting excessive prices on waste sold, and this might therefore be an indication of price-fixing. If the recycling company can be identified with its members, the sale of waste through the recycling company may constitute price cooperation, in violation of Section 10 of the Competition Act.² If, on the other hand, the recycling company is independent of its members, there is no cooperation in violation of Section 10 of the Competition Act.

2.2.4 Exchange of information

The report also discusses the issue of whether recycling companies are organized in such a way that they facilitate exchange of information among members. If that is the case, it will lead to an *increased risk of illegal cooperation as to prices, but also as to market sharing, bid rigging etc., in violation of Section 10*. In this respect, there may be a risk that participation in a recycling company may give rise to competition restrictions in the very market for the products that the members of the company produce.

In many instances, recycling companies will receive data on members’ sales of various products, because such data are often needed to determine the “environmental fee” each member is to pay. If the members of a recycling company have access to this information, for example through board representation, participants may have detailed information about each others’ businesses. The Competition Act does not necessarily prohibit exchange of information among businesses, but in some cases it may constitute a cooperation that restricts competition in violation of Section 10 of the Act. Whether exchange of information is illegal depends on factors such as the type of information exchanged, e.g. whether the information only includes historical data or whether the information also includes future market conduct. The structure of the relevant market is also important. If the market has oligopolistic features, exchange of information will facilitate participants coordinating their market conduct.

2.2.5 Coordination of competition parameters other than price

Cooperation on pricing allows for the recycling company’s services to be priced higher than necessary, and allows for the excess revenues to be returned to the company’s members

¹ See the Norwegian Competition Authority’s decisions V2001-69 and V2000-83.

² See the Norwegian Competition Authority’s decision V2000-83.

directly or indirectly. Direct transfer may take place through dividend payments to members or by a lowering of members' fees. Indirect retransfer may take place via the recycling company being assigned tasks beyond normal recycling activities.

Several of the recycling companies examined by the Norwegian Competition Authority have expanded their activities to include other areas, such as providing information about members' environmental efforts, lobbying activities and so forth. 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. Such coordination through a recycling company leads to company members competing in only a very few areas. Thus, it is possible that such coordination, in certain cases and in combination with other factors, may constitute cooperation that restricts cooperation in violation of Section 10 of the Competition Act.

2.2.6 Exemptions under Section 10, third sentence, of the Competition Act

Cooperation covered by the prohibition set forth in Section 10, sentence 1 of the Competition Act is not illegal if the terms and conditions of the exemptions in Section 10, third sentence, are met. To qualify for an exemption, the cooperation in question must meet four conditions. The cooperation 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; the cooperation must not impose more restrictions than necessary to reach the goals of the cooperation; and competition must not be excluded for a substantial part of the products in question. The Commission's guidelines for applying the EC treaty's article 81(3) provide guidance on the application of Section 10, third sentence of the Competition Act. The report only discusses the announcement on horizontal agreements, as this is assumed to be of particular relevance to the activities of recycling companies.

Under Section 10, fourth sentence, more detailed rules and regulations may be issued as to what is covered by the third sentence, so-called block exemptions. EU and EEA legislation provides for special block exemptions both for horizontal and vertical agreements. Similar block exemptions will be provided under Section 10 of the Competition Act. Consequently, block exemptions and their related instructions are relevant to interpretations of Section 10 of the Competition Act.

The establishment of systems for product collection and recycling typically depends on the entrance into several different agreements; some of these agreements are entered into between competitors (horizontal agreements), others are entered into, for example, between demand-side participants and service suppliers (vertical agreements). Regardless of affected undertakings' market shares, 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 viewed as improbable that a recycling system that entails *horizontal competition restrictions* will be allowed by an EU or EEA block exemption, and thus, by Section 10, fourth sentence, of Norway's Competition Act.

2.3 Prohibition against abuse of dominant position

The report on product collection for recycling also discusses recycling companies' use of service providers and the prohibition against abuse of dominance set forth in Section 11 of Norway's Competition Act. In the experience of the Norwegian Competition Authority, 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 Section 11 of the Competition Act.

3. Efficiency considerations

3.1 Introduction

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 use of the products in question. In many instances, it may be difficult or impractical for each market participant to fulfill this obligation on its own. Thus, a market arises for taking on and fulfilling participants' obligations as to waste handling, the so-called *recycling market*. Although the system in place in Norway typically results in a single participant that takes care of the waste in question throughout the entire recycling process, the recycling market comprises multiple sub markets. Actually, we are describing 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.

In the view of the Norwegian Competition Authority, the current system for collection and recycling of waste in Norway restricts competition in recycling markets, and lends itself to restrictions of competition in the product market. This situation does not contribute to optimal use of the resources of society. Firstly, most recycling companies we have examined have, for practical purposes, a monopoly in the recycling market. Such monopolies lead to inadequate incentives for cost control, and the risk that the services of recycling companies are too expensive. Secondly, the Norwegian Competition Authority finds it highly problematic that the system in force at present is so greatly dependent on cooperation among competitors, as this entails the risk that competition is also restricted in product markets in which these market participants compete. The two competition problems mentioned here are discussed in greater detail, below.

3.2 Restricted competition in waste markets

Recycling-company monopolies restrict the potential effectiveness of competition in markets for waste collection, sorting, and recycling. Monopolies generally result in higher prices than what would be the case in competitive markets, in this instance higher "environmental fees". If the compensation payable by members of the recycling system is too high, a consequence

may be that fewer participants join the system, which fosters the problem of “free rides” through the system for items originating with non-participants.

The recycling companies reviewed in the report have stipulated a non-profit clause in their statutes. Accordingly, the “environmental fee” should merely reflect the costs of the recycling system. Participants that are able to recover any loss through higher fees, however, will have no incentive to minimize their costs and optimize operational efficiency. Thus, they generally won’t arrive at the most efficient solutions. Insufficient competition may lead to “monopoly profits”, and thereby making it possible for companies to operate in an ineffective manner - in other words, at higher costs than necessary. For example, Plastretur (plastics recycling) has included in its statutes that any profit is to be invested in “developing the company and furthering its purpose.” Another example is that of Norsk Dekkretur (tire recycling), which uses profits to “improve services.” There are also examples of recycling companies that operate extensive activities beyond their core business activities. For example, Norsk Returkartong (cardboard recycling) has used its surplus to acquire 49 percent of Hippopotamus, a company that sells office supplies made from recycled paper.

Although, generally, there are no formal barriers to entry for competing recycling companies, potential new competitors will find it difficult to enter the recycling market. In many instances, public authorities have granted first mover advantages in the form of grants to support the business development, which later competitors may not enjoy. Further, public authorities’ requirement that recycling systems be nationwide may hinder new market entries, as this requirement increases market-entry costs. Typically, recycling systems must reach a certain size to be competitive. Although projections may indicate that the market may be large enough to accommodate two equal-sized systems, it will be difficult for a new market participant to win customers if most turnover in the market is already linked to an existing recycling system.

Further, an existing market participant may employ various strategies to prevent potential competitors from entering the market. As discussed previously, a monopolist will frequently have resources available to invest in measures that will deter new market entrants. For example, the monopolist may build excess capacity so as to convince potential newcomers that any attempt at market entry will be countered by aggressive pricing. By employing all available capacity, prices can be driven to levels that can bankrupt newcomers, who typically will not have “unlimited” resources. Such conduct will maintain the monopoly.

Most recycling companies have very few employees, and do not perform collection or recycling activities themselves. Their task is to enter into contracts with waste management subcontractors on behalf of an entire industry. A major market participant, such as a recycling company, will thus be able to exercise abusive purchasing power vis-à-vis suppliers of collection, sorting, and recycling services. This situation entails a sub-optimal market solution, as demand-side participants squeeze prices by curtailing their demand. Generally speaking, supplier markets with well-functioning competition at the outset, when confronted by demand concentrated in the hands of a recycling company, may eventually devolve into supplier-side concentration, too. Suppliers being unsuccessful in winning contracts with the single purchaser in the market, risk bankruptcy. Norsk Dekkretur, for example, has chosen to sign a contract with only a single nationwide contractor, instead of contracting with multiple, regional suppliers.

Although in most cases, recycling companies must pay for an environmentally sound treatment of waste, it is sometimes possible to convert waste into something that can be sold at a profit; for example, as a raw material for manufacturing. Recycling of brown paper, aluminum cans, and lead-acid batteries is common. Should a recycling company constitute a major seller, it may also be able to exercise abusive market power vis-à-vis purchasers of recycled materials. Dominant producers of products employing new materials may also benefit from controlling access to recycled material, which could be used as substitutes and, thus, represent a competitive threat. Such market examples are discarded tires, waste oil reprocessed into heating oil, and recycled HCFC refrigeration gases, all of which can compete on a par with imports from major manufacturers and petrochemical firms.

3.3 Restricted competition in the product market

A system leading to a single recycling company obtaining monopoly may result in inefficient waste management. The competition may be even further restricted when recycling company owners compete in the product market. The arena for cooperation and exchange of information established via recycling companies can undermine competition and thereby harm consumer welfare.

Recycling company owners are generally also that company's customers. Thus, they should be concerned with keeping the costs of collection and recycling as low as possible, so that the price they pay (the "environmental fee") is kept to a minimum. However, the "fee" is incorporated in the price of the products they sell. If demand for the products in question is relatively insensitive to price fluctuations, the potential is great for passing on the entire "environmental fee" to consumers by raising prices by the same amount, as if the fee was a state tax. An industry-wide agreement stipulating such conduct may easily be attained, as the industry's participants also are recycling company participants. Several recycling companies have had a more or less explicit agreement with their members to identify the "environmental fee" on a separate line on invoices. Such a practice is particularly attractive if it is possible, directly or indirectly, to transfer the recycling-company's surplus liquidity to its owners. The Norwegian Competition Authority has seen examples of recycling companies retroactively returning earnings to their owners (typically when there is no longer a need to further build up the company's financial credits), despite the company's policy not to pay dividends. For example, three such instances have been identified with respect to Batteriretur. Payment of funds to members according to their paid-in amounts functions as a "rebate" on services provided. Moreover, if the entire, original cost of the environmental service has been passed on to consumers, then consumers are experiencing a price increase that *exceeds* the costs of the recycling plan. Alternatively, a recycling company can indirectly transfer its earnings to its owners by assuming tasks that members would otherwise have to perform, such as lobbying or joint marketing of an industry's environmental profile.

In general, organizing industry-wide recycling companies will facilitate exchanges of information that harm competition, as well as facilitating joint understanding among participants in product markets. Recycling companies may have access to information about production and import volumes and other types of data on members' business activities. Thus, the conditions are in place for participants to coordinate their market conduct, for example by agreeing to maintain product prices above a certain level. Such cooperation is more likely to be effective and stable if participants have access to information on each others' market shares and similar data, so that they are able to verify that the agreed-to price level is

maintained. Many of the markets discussed in the report have oligopolistic features, i.e., the markets have a transparent environment comprising few and large participants. Also, many of the products are relatively homogenous, which strengthens the incentives for coordination of market conduct because the alternative may be fierce competition on prices and thus, low profitability.

Product market participants do not compete solely on price; they may also compete as to “environmental friendliness.” The environmental impact of products and packaging is a matter of concern to consumers — and they are willing to pay a premium to lessen that impact. Thus market participants will compete by offering the most environmentally friendly technologies, using the most environmentally sound materials, and demonstrating that their products are part of an efficient system for collection and recycling. Projecting a pro-environment profile may be an important aspect of competition, and a featured aspect of product marketing. An industry-wide recycling company will only conduct *joint* marketing efforts, and thus remove competition in this area. To encourage producers to develop new and more environmentally sound products and packaging, that are less costly and easier to recycle, there must be a system in place that rewards such efforts. If an independent organization operates a recycling company, the latter is likely to differentiate prices based on the costs of collecting and recycling various materials. Recycling companies owned by an industry, on the other hand, will typically find it difficult to set anything but a “just” and equal-to-all fee for all products. This inflexibility manifests itself even when a recycling company’s co-owners use different technologies or materials in their production.

Comprehensive cooperation in an industry will also make it more difficult for new participants to enter the market and establish parallel import or production. Often participation in a recycling system is mandatory for producers and importers. In such cases, access to participation in existing recycling systems on the same terms and conditions that apply to established competitors, is vital for market entry. All recycling companies discussed in the report are formally open to all, including those that do not participate in industry associations, and are not recycling company shareholders. However, it is conceivable that newly established companies seeking to join a system might be met with terms and conditions poorer than those of established members. There seems to be no significant external monitoring as to whether all participants in a recycling system are treated equally, particularly in areas such as access to and level of services provided.

4. Recommendations

Norwegian environmental authorities have chosen a waste management solution under which the obligations of producers and importers are assumed by an industry-owned recycling company. Naturally, there may be good arguments *in favor* of such a solution, including economies of scale, operational efficiency, and avoidance of non-participating products getting a “free ride” through the recycling system. Nevertheless, the Norwegian Competition Authority believes that in most instances, there are better ways in which environmental authorities can reach their objectives. In fact, several recycling systems fail to fulfill the goals set by public authorities. One key reason appears to be insufficient incentives, including an absence of sanctions if goals are not achieved.

Through their regulation of recycling systems, public authorities are responsible for facilitating that waste management takes place through efficient utilization of society’s resources. First and foremost, public authorities must specify target collection/return rates for various environmentally harmful materials. The rates should be based on the cost of recycling the various types of waste, relative to the environmental gain. The optimized return rates can be modified over time, as technologies, production methods, and materials are improved. In most instances, public authorities’ regulation of waste markets has not been based on identifying optimal return rates. Generally, requirements for recycling are based on the decisions of politically appointed authorities or requirements pursuant to EU regulations.

By facilitating each industry’s organization of its own recycling company, public authorities may preclude solutions that exploit potential joint operations for collection and recycling. Consumers and retailers must relate to an unnecessary number of recycling systems, while artificial and inappropriate market divisions are fostered. This is certainly the case for multi-faceted and complex products that typically contain a number of different components and several environmentally harmful materials. Coordination with various other recycling companies may yield efficiency gains. There is reason to believe that industry-independent collection and recycling providers would show greater imagination as to efficient solutions of this type. Primarily, it is the view of the Norwegian Competition Authority that splitting the waste-management value chain and differentiating the various recycling sub-markets can resolve the problems of today’s waste recycling systems.

The “environmental fee” determined by recycling companies is meant to cover the costs of recycling. Market participants are insulated from the costs arising from the proportion of waste that is *not* being properly treated, but rather ends up as deposits or releases to the natural environment. Thus, there is no convincing evidence that the “environmental fee” contributes to efficient fulfillment of environmental objectives. As mentioned previously, cooperation in determining “environmental fees” may be in violation of the Norwegian Competition Act. Accordingly, the Norwegian Competition Authority recommends that environmental authorities consider replacing the current system by introducing an environmental *tax* on environmentally harmful products, and that this tax reflects the damage wrought on the environment unless the products or materials are recycled or otherwise properly processed after being discarded. Such an environmental tax can be viewed as pre-payment of the “right to pollute.” If discarded products are treated properly, public authorities may refund a portion of the tax.

A problem that remains to be solved is that producers or importers of products do not control their items or materials once they are discarded. On the consumption side, consumers lack financial incentives to return waste.

An environmental tax as suggested by the Norwegian Competition Authority, which is reimbursed to those who are able to prove that they have processed the waste in question according to applicable rules and regulations, will make it attractive to compete on “purchasing” discarded products. Each end processor has the option of collecting discarded products or purchasing them from collectors. In turn, collectors will “purchase” discarded products from consumers by offering payment or other services. Incentives can be refundable deposits or environmental certificates. If consumers are offered the refunding of a deposit, they will choose to deliver their waste to the highest paying market participant. Typically, this participant will be the most efficient one.

Environmental authorities should determine environmental objectives, and then leave it to the market to arrive at solutions for how return and recycling may best be organized. Environmental taxes may be levied upon a product’s production or import — and refunded to those who ensure proper end-treatment. Reimbursement should be independent of whether it is the original producer/importer or other market participants that treats the waste. Authorities must facilitate the greatest possible number of participants entering the recycling market in order to ensure optimal competition. If taxes are payable at the introduction of a product to the market, this would eliminate the problem of non-participating producers getting a “free ride.” The amount recyclers are willing to pay to get hold of waste, will, as a point of departure, correspond to the size of the refund, *minus* a requirement for return on equity and recycling costs. Consumers, on the other hand, will want to offer collectors their discarded products if they receive a suitable price. In other words, natural market mechanisms should ensure that collection and final processing will take place as long as the cost of these actions is lower than the environmental tax, which, as a starting point, reflects the environmental cost of the products in question. Public authorities will achieve their environmental goals as long as the tax is correctly determined. A rate of product returns that is too low may be countered through higher taxes or an increase in the refunded amount.

The idea of a refundable environmental tax is, for practical purposes, a deposit that follows each product throughout its lifecycle, and thus generates a value chain for discarded products, from consumers to final processor. Over time, those market participants that offer the most efficient solutions will attract the most waste and process it at the lowest costs. The market will give rise to appropriate ways of resolving problems. For some products, using stores as collection points is natural, as is the case for today’s system for collecting beverage containers, whereas for other products it may be better if market participants collect discarded products at user or owner locations.

One key challenge is to offer producers incentives to develop more environmentally friendly products. The introduction of taxes will initially offer producers and importers incentives to develop and use products and raw materials that carry lower or no environmental taxes. Over time, however, the proposed system will also provide incentives to develop products with lower collection and recycling costs. If product A is more easily recycled than product B, and both cost the same to produce, then product A will be more valuable than B when it is discarded; thus, the net value of product A is higher than that of product B.

A key advantage of such a system is that it establishes a distance between producers/importers and the waste-market participants that collect and provide final processing. The product market and waste markets are thus disconnected. This separation will make it significantly harder to abuse a recycling system to engage in price-fixing among market participants and other anti-competitive behavior.



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