Emissions Trading and Competition Law

Refusal to Supply Marketable Pollution Permits

LL.M thesis submitted at the European University Institute the academic year 1998–1999

by

Mikael Hägglöf

Supervisor: Professor Claus-Dieter Ehlermann

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PART I
1 Introduction

Environmental protection in Europe is entering into a new phase. Article 2 of the Treaty of Amsterdam (ToA) (formerly Article 2) provides that one of the tasks of the European Community is to promote a high level of protection and improvement of the quality of the environment. Originally, environmental protection was mentioned in the EC Treaty merely as a side effect of economic growth. The newly won centrality of environmental protection is further emphasised by the new Article 6 (formerly Article 130r(2)), which integrates it into the scope and implementation of all Community policies and activities. The high degree of competitiveness is also included as a Community task, and economic development must henceforth be 'sustainable' as well as balanced and harmonious.\(^1\) However, in its present state, it is questionable whether European environmental policy has the means necessary to achieve a 'sustainable development' which is what the Community's Fifth Environmental Action Program requires.\(^2\)

The Community institutions have indeed recognised that the traditional approach to environmental regulation may not sufficiently take the interests of European industry into account. Moreover, they admit that this lack of consideration weakens the industry in global competition and does not provide it with incentives to act in an environmentally sound manner.\(^3\)

Traditionally, environmental regulation applicable to pollution is based on more or less stringent emission limit values combined with technological requirements as regards pollution control equipment. The industry causing the pollution is generally not entitled to decide on how to combat pollution most efficiently and effectively. This is by many considered as a short-coming, since different industries and different plants work under different abatement conditions. Pollution abatement is more costly to some firms than others, and in order to find out which firms can reduce pollution at the lowest cost for society, the regulator must either obtain and make use of informa-

3 Ibid., at 71-72.
tion specific to private firms or whole industries or create economic incentives to reduce emissions.

Information can be obtained by permitting industry to partake in negotiations regarding emissions and pollution control technology. This approach has been favoured by the Council in the Fifth Environmental Action Program and the Commission in its Recommendation concerning Environmental Agreements implementing Community directives.

The incentives approach has in Europe mainly been steered towards environmental taxes and charges, an approach which was encouraged in the Fifth Environmental Action Program as an efficient means to internalise external costs, i.e. to make the industry treat the environment with the same care as private property. The only concrete measure taken, however, was a proposal for the introduction of combined CO₂/energy tax. The proposal failed to reach the necessary unanimity in the Council, and the Council seems to be moving towards a directive which would enable individual Member States to introduce a CO₂/energy tax, if they so wish. Apart from the efforts of the Council, the Commission issued a communication on eco-taxes and charges in the internal market.

However, the possibilities of regulating pollution specific environmental problems with the help of economic incentives is not limited to emissions taxes/charges. There are also systems of marketable pollution permits which have been frequently used in the US. In Europe, despite being mentioned in the Fifth Environmental Action Program and notwithstanding the support of legal scholars, such systems are but a "twinkle in the Commission's eye."

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5 See section 4.2.1 below for an exception.


8 COM(97) of 29 January, 1997.

9 See section 3 below.

10 Supra note 2.
Emissions trading, as this approach has been called in the U.S., basically encompasses the allocation of a fixed amount of pollution quotas to private firms, which are allowed to trade these quotas between themselves. The idea is to create a system in which firms that are cost-efficient in pollution abatement invest in pollution control technology, whereas other firms purchase their excess pollution rights. In theory, this system would be more cost-efficient for society as a whole since it would allow for flexibility in reaching environmental goals stipulated by the government regulator. Moreover, it would create incentives to reduce emissions and develop more efficient pollution abatement technology.

Even though marketable pollution permits may sound like an attractive way to regulate certain environmental issues, the system is very different from European standards and many potential problems must be addressed before a decision is taken to implement such a system. The purpose of the present paper is to give a general overview of the concept of marketable permits with lessons from theory and practice. In particular the paper will focus on emissions trading and market power concerns, an issue which, to this author’s knowledge, has not yet been addressed by legal commentators. It is easy to imagine a situation in which firm A holds a great number of permits for a certain pollutant, but uses only few since its pollution control is very efficient. What happens if firm B wants to establish and the only hindrance is the lack of pollution permits? When, if ever, would firm A’s refusal to supply firm B with the necessary permits amount to an abuse of a dominant position under EC competition law? Those are the questions which this paper attempts to answer.

However, in order to come to the potential antitrust problems a rather thorough presentation of the concept of marketable pollution permits is needed. Section 2 will therefore introduce the concept in general and theoretical terms. This introduction will be followed by an overview of selected instruments of the more than twenty-year-old U.S. experience of emissions trading (section 3). Section 4 discusses the possible implementation of a system of marketable pollution permits in Europe by pointing at

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some of the design issues that need to be considered and highlighting a few problems under current EC law which must be resolved before such implementation is possible. Section 5 presents the potential competition problems that emissions trading may generate, as described by a number of economic scholars, and concludes Part I of the paper. The American experience does not, to this author's knowledge, offer any antitrust cases before U.S. courts, but that does not mean that the problem is non-existent. Older emissions trading programs were heavily encumbered with regulatory requirements making trades unattractive and the newer programs are still too young to permit any conclusions as to their impact on competition.

Part II is devoted to exclusively to competition law. Section 6 identifies Article 82 (formerly Article 86) as the applicable Treaty rule and the case law of the Court of Justice of the European Communities (hereinafter 'the Court' or 'the Court of Justice'), the Court of First Instance and the Commission on refusal to supply and essential facilities as the relevant limitation within that framework. Section 7 contains a rather extensive (although by no means exhaustive) summary of and comments on the that case law. In section 8, entitled 'Concluding Remarks', the relevance of the law on refusal to supply and essential facilities to marketable pollution permits will be addressed.

13 There are also systems in which the quotas are allocated to countries and allow only countries to trade between themselves. Such programs will be disregarded in the present paper since the focus is directed towards the market behaviour of private firms.
2 Incentive-Based Environmental Regulation

2.1 The Traditional Approach

Traditionally, pollution control has relied upon the so-called *command-and-control* approach. Command-and-control implies that the government lays down detailed directives that prescribe precisely what polluting behaviour is legal or not. Technical criteria are often used for the formulation of the directives. In European environmental regulation such technological criteria include the concepts of "best available technology not entailing excessive costs" (BATNEEC)\(^{14}\) and "best available techniques" (BAT).\(^{15}\) American examples are "best available control technology" (BACT)\(^{16}\) and "reasonably achievable control technology" (RACT).\(^{17}\)

Command-and-control systems represent a kind of "one-size-fits-all" approach to regulation which means that the polluter is left with very little flexibility. Therefore, this type of regulation is generally not cost-effective and perhaps not even efficient in combating pollution. Firms, which have the capacity to abate pollution efficiently, often operate under the same permit conditions as firms, which do not possess such capacity, and the administrator does not have sufficient information to allocate abatement duties in a cost-effective manner. Moreover, command-and-control regulation creates no incentives to develop new control technologies or to reduce emissions to a level below the one stipulated in the permit, since such behaviour would generally only lead to more stringent requirements without return for the firms. Economists observed these problems at a very early stage, and it is on the basis of the findings of those economists that many commentators argue that market-based instruments for environmental policy are superior to command-and-control regulation, since they encourage emissions reductions by those who can achieve them at the lowest cost.

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\(^{16}\) Clean Air Act, section 169(3).

\(^{17}\) Clean Air Act, section 172(3)
most commonly used and advocated economic instruments for environmental regulation are emissions charges and marketable emission permits.

2.2 Emissions Charges

Under a system of emissions charges the polluter is required to pay a fixed price for every unit of pollution emitted. Emission charges thus induce economically rational polluters only to pay those charges lower than the cost of pollution control. Emissions would therefore be reduced until the unit cost of further reductions exceeded the unit tax. In an ideal world, pollution controls would therefore be concentrated among polluters for whom reductions are cheapest and the main part of total emissions among those for whom reductions are most expensive. However, emission charges are considered to be problematic, since the government cannot guarantee a specific emissions level. A tax which is too high could lead to unnecessary costs, while a tax too low would not achieve the intended emissions reduction goal. The problem is thus that it is very difficult for the regulator to obtain sufficient information to set the tax at a level that would lead to the desired reduction of emissions. Thus, marketable emission permits are by many seen as a better approach since the government would be entirely responsible for setting the total amount emitted of a given pollutant. The market would only be involved in deciding where and by whom abatement is to be done.

2.3 Marketable Pollution Permits

Marketable pollution permits are more of a market-based instrument than emission charges, since, apart from setting a cap on permissible emissions of a given pollutant in a given area and the initial allocation of permits, all decisions are left to the market. The origin of this type of environmental regulation is ascribed to an essay written more than 30 years ago by the Canadian economist J.H. Dales.

The following is a brief description of how a system of marketable permits is introduced: The program must be started by a government decision concerning the

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level of emissions of one or more pollutants which is found acceptable in society. This is a decision in which the market is not involved. The environmental standard thus obtained might, for example, specify the total number of tons of a given pollutant that may be emitted nation-wide, Community-wide, or throughout any other appropriate area\(^2\) in a year. The second step would be for the competent authority to create a pool of pollution permits that reflects the amount of pollution allowed.\(^2\) These permits could then be distributed free of charge or be sold or auctioned to polluters. The total amount of permits issued must not exceed the emissions cap set by the government. When the distribution is made, private firms would be allowed to trade the permits between themselves. Firms with the ability to achieve a lower emissions level than the one corresponding to the permits held would thus be able to sell their unused permits to firms that otherwise would exceed their allowed emissions limit, or firms which for some reason need to increase their emissions of the pollutant concerned. The end result of this would be that the total emissions by all on the market would not be higher than the set limit.\(^2\)

The theory behind the use of market mechanisms to combat pollution is considered to encompass two basic ideas. First, the allocation of pollution control should be inversely related to its costs. Therefore, polluters for whom pollution control is cheap should reduce emissions greatly, whereas polluters for whom such control is more costly should only be required to reduce them little or not at all. If this were to be achieved, any given level of pollution control would be achieved at the lowest feasible total cost to society (as paid by polluters and reflected in the costs of the products and services they provide to society). Second, no more pollution control should be carried out than that for which the society is prepared to pay. At some point the cost of additional pollution control will exceed the value of the amenities members of society are willing to give up for it, and that is where pollution control should end.\(^2\)


\(^{21}\) The decision concerning the appropriate area depends on whether the location of emissions of the pollutant in question matters (uniformly mixed pollutants) or not (non-uniformly mixed pollutants). See further section 4.1.10 below.


\(^{23}\) It may seem as if such a system merely can serve to preserve a certain level of emissions as opposed to reducing it, but this is not the case, as can be seen from the description of the American experience with marketable permits in section 3 below.

As indicated above this does not mean that the market is to decide the appropriate level of pollution. Its role will only be to decide who should have the right to emit pollution up to the level that is acceptable by society.

2.4 Advantages of Marketable Pollution Permits

The advantages of incentive based policy mechanisms such as marketable pollution permits have been presented very clearly by Hahn and Stavins\textsuperscript{25} and can be reproduced in the simple form of a list:

(i) Incentive-based policy schemes can promote environmental protection at a lower cost than command-and-control approaches and can thus improve the international competitiveness of the countries adopting them. Savings and increases in productivity are calculated to be very large as compared to command-and-control regulation.\textsuperscript{26}

(ii) Incentive-based approaches need not cost any more to administer than conventional regulatory methods. (In fact, funds from an initial auctioning of permits to polluters could help to finance an expanded budget of the relevant surveillance authority.)

(iii) While exploiting the incentives inherent in a competitive market, incentive-based systems could encourage firms to monitor each other's pollutant emitting activities.

(iv) Market-oriented policies can provide incentives for the private sector to develop new pollution control technologies since under such systems, investments in pollution control can lead to increased profits.\textsuperscript{27} In turn, the market-oriented approach will create incentives for firms to carry out research and development of cheaper and better pollution abatement techniques.

(v) Incentive-based approaches will make the environmental debate more understandable to the general public since attention will be focused directly on what the environmental goals should be, rather than on difficult technical questions concerning technological alternatives for reaching those goals.

\textsuperscript{25} Hahn and Stavins (1991) 'Incentive-Based Environmental Regulation: A New Era from an Old Idea?', \textit{Ecology Law Quarterly} 12-14.

\textsuperscript{26} Some empirical proof of this statement is given in section 3.4 below.

\textsuperscript{27} In this respect, command-and-control regimes work the other way around: Once a pollution abatement technology specified in a permit is installed there is no incentive to develop another since that would only mean that the company in question would have to install this new technology in all its pollution sources and the old technology invested in would become useless.
These statements are not accepted by a consensus of environmental commentators.28 In fact, in the early years of the debate, marketable permits were regarded with much suspicion and it was considered that making money on pollution could not be ethically defensible.29 However, over the years a general understanding of the insufficiency and inefficiency of the command-and-control approach to environmental regulation has emerged in modern society. The market is no longer perceived as a powerful adversary to environmental protection. The current line of thought is an acceptance of the fact that the power of the market can be harnessed and channelled towards the achievement of environmental goals through an economic incentives approach to regulation. Naturally, this system appeals also to the industry since cost-effective regulation can make it more competitive in the global market than regulations which impose control costs that are higher than necessary.30 The individual firm can use its typically superior information to select the best means of meeting an assigned emis-

28 For example, the last point (v) has been heavily criticised by HEINZERLING (1995), supra note 22.
29 SCOTT (1998) supra note 12, at 58. The author quotes a piece from the San Francisco Chronicle to illustrate this argument:
Applicant: I’d like to apply for a licence to emit sulphur oxides. I have this small backyard smelter...
Clerk: Okay. That’ll be $10,000.
Applicant: Did you say $10,000? That’s exorbitant!
Clerk: Look Mac, sulphur oxides aggravate lung diseases, dissolve nylon stockings, peel paint, and create killer fogs. The right to do all that doesn’t come cheap.
Applicant: I’m sorry I didn’t realise...
Clerk: Remember, it’s high fees that reduce damage to health and property. Now if you want something cheap I can let you have a licence good for tossing three beer cans and a sandwich wrapper out of your car window. That’s only ten bucks.
Applicant: Littering? I don’t know, there doesn’t seem to be much profit in it.
Clerk: Ah, you’re looking for profit? Confidentially I think our best buy is a Mugging licence. It entitles you hit three old ladies over the head in the park of your choice and snatch their purses. Most guys come out ahead on this one.
Applicant (surprised): Hitting old ladies over the head? That sounds anti-social somehow.
Clerk (shrugging): It’s no different than a licence to poison people’s lungs. And it only costs $100.
Applicant (indignant): That’s highway robbery!
Clerk (yawning): So what else is new? Next.
sion reduction responsibility.\textsuperscript{31} Thus, by making pollution financially unattractive through regulation by incentive, the government can steer decisions of polluters in a direction which is less harmful for the environment.

\textsuperscript{31} RIPPEL (1998), \textit{supra} note 19, heading 1.
3 The American Experience

3.1 Introduction

Most nation-wide permit trading programs in the U.S. have taken place under the domains of application of the Clean Air Act (CAA), adopted in 1970 and substantially amended in 1977 and 1990. Some state programs have dealt with emissions to water, but they have not been very successful. This overview will focus on the programs undertaken under the CAA for reasons of limitation. Moreover, unsuccessful programs are less likely to generate competition problems than successful ones.

In order to understand the incentive programs described below it is necessary to have some basic knowledge of the main principles and contents of the CAA (section 3.2). The main purpose of section 3.2 is to show that incentive based instruments by no means constitute the backbone of US air quality policy; the basis is instead a firm command-and-control system. The actual emissions trading programs started in the late 1970's at the initiative of the Environmental Protection Agency (EPA) and continued with EPA's Lead Trading Program and the amendments of the CAA in 1990, which together constituted an introduction of a second generation of emissions trading. Section 3.3 below will treat the first generation, and section 3.4 will be devoted to the second.

3.2 The Clean Air Act - General

In the 1960's ecological awareness was on the rise in the US. At that time American environmental law was essentially made up of the common law principles of liability supplemented by a few pieces of federal or state legislation directed towards very specific problems. Eventually, Congress remedied this insufficiency by promulgating

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32 An easy way to get access to the wording of the CAA is to consult http://www.epa.gov/oar/cao.
33 See e.g. the Fox River Program in Wisconsin (Hahn and Hester (1989), 'Marketable Permits: Lessons for Theory and Practice, Ecology Law Quarterly 16:36, 361, at 391-393).
(among other environmental acts) the CAA. The Act thus set the legal bases for the protection of air quality in the United States.\textsuperscript{35}

Pursuant to the CAA, sources of pollution are divided into stationary (plants) and mobile (cars, aeroplanes, etc.) sources. Stationary sources, which will be the focus of the present paper, have more individual characteristics than mobile sources which means that they are regulated individually to a greater extent,\textsuperscript{36} \textit{i.e.} classic command-and-control regulation.

The main purpose of the CAA was to obtain a means to regulate the amount of air pollution acceptable to society. EPA is the authority which is responsible for setting such standards for the most important pollutants with negative effects on public health; the National uniform Ambient Air Quality Standards (NAAQS). The NAAQS are caps on the total concentrations of individual pollutants allowed in the atmosphere over any given period of time.\textsuperscript{37}

Implementation of the federal standards is generally left to the individual states which are required to draw up State Implementation Plans (SIP).\textsuperscript{38} However, in spite of this, a large part of the stationary sources of pollution fall under federal regulations. For example, as regards new stationary sources, EPA is to lay down federal emissions standards; New Source Performance Standards (NSPS). These standards also regulate major modifications to existing stationary sources.\textsuperscript{39} Moreover, EPA is required to promulgate emissions standards for dangerous pollutants, National Emission Standards for Hazardous Air Pollutants (NESHAP). Further, the 1990 amendments of the CAA introduced a permit system for all major sources (sources that emit more than


\textsuperscript{36} PAGH (1994), \textit{Studier over amerikansk miljøret — til belysning af dansk miljøret og EF miljøret}, Jurist- og Økonomfurbundets Forlag, Copenhagen, at 431.


\textsuperscript{38} MEIDINGER (1985), \textit{supra} note 18, at 453. The CAA transfers competence to the Federal agencies and authorities as regards mobile sources, for which standards are set directly by Congress. The amount of emissions reductions and the time during which these reductions are to take place are specified in the CAA itself. The European counterpart to this provision is Council Directive 70/220/EEC on pollutant emissions of motor vehicles OJ [1970] L76/1.

\textsuperscript{39} PAGH (1994) \textit{supra} note 36, at 431. See also MEIDINGER (1985), \textit{supra} note 18, at 453.
100 tons per year into the air) which covers both existing and new sources.\textsuperscript{40} The states are responsible for the administration of the permit system but EPA is the overall surveillance authority. Finally, the federal authority can declare regions, in which the NAAQS are not complied with, nonattainment areas, which means that the EPA has the competence to stipulate and approve of the emission levels of individual sources of pollution.\textsuperscript{41}

\subsection*{3.2.1 Air Quality Standards - NAAQS}

Pursuant to the CAA, EPA is to define the emission limit values for different dangerous substances in the air. EPA must lay down primary and secondary standards. Primary NAAQS are to be health based, and sufficiently stringent to prevent new injury or aggravation of pre-existing injury even to unusually sensitive members of society. Secondary standards are to prevent other negative effects on animals and plants, and on public welfare, such as diminished soil or water productivity.\textsuperscript{42} The NAAQS should have been met by 1975 in 247 air quality control regions through state regulation of existing sources and national emissions standards for new or modified stationary sources (NSPS). In 1977 the CAA was amended so that the deadline for attainment of all primary NAAQS was extended.\textsuperscript{43}

Primary standards may not reflect the possibility of or the costs for attaining the standard. Primary standards are considered to be absolute health based and thus not allowing any trade-offs.\textsuperscript{44}

Since there have been some problems attaining the NAAQS in some parts of the US, the country is divided into attainment areas and nonattainment areas. The former are areas in which the NAAQS are complied with, whereas in the latter compliance is imperfect. The classification is done separately for each dangerous substance. It is

\begin{itemize}
  \item \textsuperscript{40} The permit system requires the applicant to pay a permit fee, which is calculated on the basis of the amount of emissions. The fee is to cover all direct and indirect administrative costs (including examinations, scientific tests, etc.). However, the fee can never be less than $25 per ton emitted.
  \item \textsuperscript{41} PAGH (1994), supra note 36, at 432.
  \item \textsuperscript{42} MEIDINGER (1985), supra note 18, at 452.
  \item \textsuperscript{44} Lead Industries Association v. EPA, 647 F.2d. 1130 (D.C. Circuit 1980).
\end{itemize}
thus possible that one area is in attainment regarding, e.g., $\text{SO}_2$ whereas the same area is in nonattainment concerning, e.g., $\text{NO}_x$.\textsuperscript{45}

3.2.2 \textit{Attainment Areas or PSD-areas}

The 1977 amendments of the CAA introduced the principle of prevention of significant deterioration (PSD) for attainment areas, that is areas in which air quality is better than the one stipulated in the NAAQS. Attainment areas were divided into three groups: Class I, where only insignificant deterioration of air quality is permitted; Class II, in which slight deterioration of air quality may be permitted as long as there is no risk that NAAQS is not complied with; and Class III where air quality may be deteriorated all the way up to the NAAQS. In PSD-areas, approval of new pollution sources and significant modifications of existing sources require proof that the new source not leads to non-compliance with air quality standards (which depend on the classification of I, II, or III), and that the plant makes use of the best available control technology (BACT). In order to decide whether a modification is significant or not it is immaterial whether pollution is \textit{actually} increased, as long as there is a \textit{risk} of increased pollution.\textsuperscript{46}

3.2.3 \textit{Nonattainment Areas}

In areas where the NAAQS requirements are not satisfied, a number of other limitations are applicable both as regards new and existing installations. When establishing new stationary installations the principle of \textit{lowest achievable emission rate} (LAER) applies. LAER is defined as the best system for continuous emission reduction adequately demonstrated. The emission limits are set to be at least as stringent as those for new installations in PSD-areas. At the same time it is required that, either the limit value corresponds to the most stringent emissions limitation in any state plan (SIP), if it is not shown that it is impossible to achieve, or the value shall correspond to the most stringent limitation attained in practice, if the latter limitation is more stringent. Also nonattainment areas are divided into several classes depending on how serious

\textsuperscript{45} \textit{PAGH} (1994), \textit{supra} note 36, at 433.
\textsuperscript{46} \textit{Ibid.}, at 434.
the non-compliance with the emission limit value is. This system triggers different legal rules in the form of increased federal control and regulation depending the class which a particular area is placed in.47

3.2.4 Thus Far: Command-and-Control

From the previous sections it is understood that the CAA is based on a combination of environmental quality standards and pure source regulation. The pollution abatement requirements applying to every individual source are linked to the air quality of the location of the source in question or its desired location.48 This is a command-and-control system which is primarily directed towards new or significantly modified existing sources. Thus, existing sources have no incentive to further reduce their emissions. Moreover, the rules are difficult to apply in a manner which makes firms invest in pollution control technology where such investments would be most useful.

When the CAA was amended in 1990, these problems were, to a certain extent, taken into consideration through the introduction of market-based pollution regulation. For the first time federal tradable pollution quotas, called trading allowances, were introduced allowing producing utilities to buy and sell their SO2 pollution quotas or deposit them in a bank.49

However, already before the 1990 amendments there were administrative practices (introduced and fought for in American courts by EPA) which allowed firms to move all or part of their emissions of the same pollutant from one source to another. It may therefore be wise to start the overview of the American experience of emissions trading with those first generation programs.

47 Ibid., at 435.
48 An important exception to the linkage between air quality standards and source regulation is the national emission standards for hazardous air pollutants (NESHAP). The principle of the NESHAP is that the EPA lays down certain emission limits for certain listed substances on the basis of maximum achievable control technology (MACT). The 1990 amendments of the CAA introduced a system under which plants which voluntarily limit their air pollution to 90% of the MACT-level are allowed to keep this level and thereby avoid being bound by the MACT-level.
49 PACH (1994), supra note 36, at 435 et seq.
3.3 Credit Trading: The First Generation

3.3.1 General

The Emissions Credit Trading Program, which includes the policies of ‘offsets’, ‘bubbles’, ‘banking’, and ‘netting’, has existed for major criteria pollutants (CO, lead, NOx, SO2, particulates and volatile organic compounds) in the U.S. since 1975. This Program allows firms to demonstrate emissions reductions that are below either the firms’ permitted levels or actual emissions history, whichever is lower. It constitutes an attempt to facilitate compliance with environmental standards by allowing firms a much wider range of choice in how they satisfy their legal pollution control responsibilities than possible under the command-and-control approach. Any source choosing to reduce emissions at any discharge point more than required by its emission standard can apply to the control authority (most often EPA) for a certification of the excess control as an "emission reduction credit" (ERC). Defined in terms of a specific amount of a particular pollutant, the certified ERC can be used to satisfy emission standards at other (presumably more expensive to control) discharge points controlled by the creating source or it can be sold to other sources. By making the ERCs transferable, the EPA allowed sources to find the cheapest means of satisfying their requirements, even if the cheapest means are under the control of another firm. In order to explain the language of the program, it can be said that the ERC is the currency used in emissions trading, while the offset, bubble, emissions banking and netting policies govern how this currency can be stored and spent.50

3.3.2 Offsets

Within the scope of the offset policy new sources or major modifications to old ones are allowed to be constructed in nonattainment areas, as long as new emissions are more than offset by reductions in emissions from existing sources. For example, a new source generating 100 tons per year of hydrocarbon emissions would be obliged to obtain more than 100 tons of emissions reductions from other sources in order to
obtain a permit to construct. The emissions reductions would have to come from the
relevant airshed and must be of the same pollutant type. The administrative process
of review and approval of permit conditions is called new source review. It is through
this review process that state and federal regulators impose the offset requirement.

Offsets are designed to permit some economic growth to occur in nonattainment
areas while ensuring that air quality does not deteriorate even further. The EPA in­
stituted the offset rule in 1976 out of fear that the CAA prohibition on new emission
sources in areas that did not meet the original 1975 air quality deadlines would stifle
economic growth. The basic formal requirements for new sources or major modifi­
cations of existing sources in nonattainment areas are the following:

(i) Emissions must be more than offset by reductions in emissions from existing
sources or the increased emissions must not exceed the allowance identified in the
state implementation plan (SIP);

(ii) the new source must comply with the lowest achievable emission rate (LAER);

(iii) all other major stationary sources owned or controlled by the applicant within the
same state must currently be in compliance or on a schedule for compliance with
applicable emission limits;

(iv) the nonattainment area must have an EPA approved SIP.

Offsets may be obtained through internal or external trades, and offset transac­
tions are controlled at the state level. The actual offsets are referred to as ERCs and
the transaction as an offset trade, whether or not the trade is a lease or a sale.

50 TiETENBERG (1998), ' Tradable Permits and the Control of Air Pollution in the United States',
http://www.colby.edu/personal/thtieten, at 3.
51 An airshed is an imaginary bubble within the boundaries of which pollution from different sources
can be said to be 'interchangeable'. For instance, the airshed for CO2 covers the whole world, whereas
the airshed for NOx covers an area the size of which corresponds to half of Sweden.
52 DUDEK AND PALMISANO (1988), ‘Emissions Trading: Why is this Thoroughbred Hobbled?’, Columbia
54 Hahn and Hester (1989), supra note 33, at 372.
55 That is, sources must acquire ERCs for 120% of the amount they will emit. The extra 20% is retired
as better air quality. (TiETENBERG (1998), supra note 50, at 3.)
57 Hahn and Hester (1989), supra note 33, at 372.
58 DuDEK AND PALMISANO (1988), supra note 52, at 224.
3.3.3  **Bubbles**

*Bubbles* allow existing plants in attainment or nonattainment areas to increase emissions at one or more emission points provided any increases are offset by comparable emission reductions from other emission points within the so-called bubble. The name derives from the concept of placing an imaginary bubble over a multi-source plant. The levels of emission controls applied to different sources in a bubble may be adjusted to reduce control costs so long as the aggregate level is not exceeded. Thus, emission credits are created by some sources within the bubble and used by others.\(^{59}\) A bubble may encompass one or more plants, which means that the bubble policy gives existing sources greater flexibility to rearrange emissions to minimise pollution control costs while still meeting applicable SIP control requirements.\(^{60}\) Thus, under the bubble concept, government involvement in construction or modification at a plant is unnecessary as long as there is no net increase in emissions from an imaginary bubble over that plant or a group of plants.\(^{61}\) Originally (1979), all bubbles had to be submitted by the states to the EPA for approval, but in 1981 EPA began to approve *generic bubble* rules that enabled states to approve bubbles.\(^{62}\)

3.3.4  **Banking**

*Banking* was introduced in 1979 as a means to save unused, excess emissions reductions for future use or sale. Each state regulatory agency must develop its own administrative procedures in order to be allowed to have a banking program. Details of these programs vary significantly across states.\(^{63}\) In order to be eligible for banking an ERC must constitute real, certifiable and enforceable emission reductions beyond that which is required by the SIP. Banking allows sources to use ERCs in a manner that protects the public and firms’ interest. The great importance of banking lies in the fact that it provides some degree of certainty to firms. The explanation to this somewhat cryptic statement is that creating ERCs needed for a bubble or an offset transaction

\(^{59}\) HAHN AND HESTER (1989), *supra* note 33, at 372.

\(^{60}\) HOSKINS (1990), *supra* note 43, at 340.


\(^{63}\) HAHN AND HESTER (1989), *supra* note 37, at 119.
may take many months, and emissions banking was therefore developed so companies could better plan how they would create or use ERCs. Since ERCs are the currency of the emissions trading program, it also makes sense that a depository be provided. Lastly, banking strengthens incentives for maximum early reductions instead of encouraging industry to "sit on" potential reductions just because there is no where to deposit them. Deposited ERCs can then later be used in a bubble, offset, or netting transaction to meet a regulatory requirement.64

3.3.5 Netting

Under the netting policy modified sources are allowed to avoid the most stringent emission limits that would be applied to the modification by reducing emissions from another source within the same plant. In other words, netting is the use of ERCs from within a facility to avoid so called New Source Review when an expansion or other modification occurs.65 Therefore, netting can only give rise to internal trades. This trade reduces the net emission increase of a plant to a level below that which is considered significant66 - hence the term netting. Netting can result in small net increases in emissions because only significant increases require New Source Review, which means that increases between zero and significant will be accepted. Netting is, like offset transactions, controlled at the state level and may be used in attainment and nonattainment areas (unless there are specific state restrictions).67

3.4 Allowance Trading: The Second Generation

3.4.1 Distinguishing Allowance Trading from Credit Trading

Credit Trading allows, as shown above, emission reductions above and beyond prespecified legal requirements to be certified as tradable credits. The credits are typically denominated in terms of a pollutant flow such as 'tons per year'. Allowance

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64 Dudek and Palmisano (1988), supra note 52, at 228.  
65 Ibid. at 225.  
66 Significant emission increases trigger the stringent New Source Review.  
67 Hahn and Hester (1989), supra note 33, at 371.
trading on the other hand is based on allowances defined in discrete terms such as 'tons' without the time parameter. Thus, credit trading programs confer a continuing entitlement to a flow of emissions, whereas an allowance in second generation programs is a one-time entitlement to emit, e.g., one ton. Once the authorised ton has been emitted, the allowance is surrendered. Authorising additional emissions requires the issuance of new allowances. In general, this is done well in advance according to specific schedules so that emitters have reasonable security for pollution control investment planning.68

Credit trading programs also tend to focus on specific sources or projects which means that the rules governing the system are rather complex. Allowance trading on the other hand, starts by defining an aggregate emissions cap. The emissions authorised by this cap are then allocated to eligible parties who are allowed to trade allowances between themselves pursuant to very simple rules.69

Credit trading has been less successful than allowance trading due to e.g. the higher transaction costs and greater uncertainty and risk inherent in credit trading compared to allowance trading. These differences will be discussed further in section 4.1 below, where questions relating to the design of a system of marketable emission permits are addressed.

3.4.2 The Lead Trading Program

The inter-refinery averaging, which is the formal name of the Lead Trading Program, is somewhere in between the first and the second generation of market-based instruments used in the US.70 It was instituted by the EPA as part of a regulatory program that mandated reductions in the amount of lead added to petrol.71

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69 GRUBB/ MICHAELOWA/ SWIFT/ TIETENBERG/ ZHANG/ JOSHUA (1998), supra note 34, at 1 and 17
70 In the UNCTAD report on greenhouse gas emissions trading (GRUBB/ MICHAELOWA/ SWIFT/ TIETENBERG/ ZHANG/ JOSHUA (1998), supra note 34, at 20), the Lead Trading Program is without further explanation classified as a credit trading program. However, as Tietenberg points out (TIETENBERG (1998), supra note 50, at 13-14), the Lead Trading Program was based on the assignment of pre-specified allowances which were surrendered after use. This little difference between allowing a certain flow of emissions (credit trading) and allocating one-time entitlements is of great importance for the flexibility of the system as is shown in section 4 below. There is therefore little doubt that Tietenberg’s view should be supported.
71 Lead is one of several substances that can be added to petrol boost octane and prevent "knocking", thus improving automobile engine performance. However, lead is highly toxic, and its use in petrol
The regulatory regime to reduce lead in petrol began in 1973. In 1982, the EPA instituted lead trading at the same time as it imposed new, lower limits on petrol lead content. The trading program was developed out of fear that some, in particular the small, refiners would have difficulties meeting the standards. Thus, refiners were to benefit from a period of flexibility in how the deadlines were met without increasing the amount of lead used. While some refiners could meet early deadlines easily, others could do so only at a significant increase in cost. In 1985 the EPA further reduced the amount of lead allowed in petrol and specified that the lead trading program would be terminated in the beginning of 1986. Recognising that meeting the goal did not require every refiner to meet the same deadline, EPA initiated lead banking later in 1985 to provide additional flexibility in meeting the requirements of the regulations.

Turning to the design of the program, a fixed amount of lead rights (authorising the use of a fixed amount of lead over the transition period) were allocated to the various refiners. Refiners who did not need their full share of authorised rights (due to earlier or larger reductions than required by the program) could sell their rights to other refiners. Thus, refiners had an incentive to eliminate the lead quickly because early reductions freed up rights for sale. Acquiring these credits made it possible for other refiners to comply with the deadlines, even under extreme circumstances such as equipment failures or force majeure. Since the program was designed purely as a means of facilitating the transition to the new low-lead regime, the lead banking program ended as scheduled on 31 December 1987.

The program was unique at the time in that its purpose was to provide a more flexible means of eliminating a pollutant, rather than merely stabilising or reducing emissions. It was also unique in that it was the first successful free and open trading market. The success has mainly been ascribed to the fact that the Lead Trading Program, as opposed to other credit markets, did not require government approval for trades. Instead, trading activity was reported to EPA at the end of each quarter.

leads to the dispersion of significant amounts of lead into the environment. Health concerns thus prompted the EPA to curtail the use of lead as a petrol additive.

72 Tielenberg (1998), supra note 50, at 5.
73 Ibid.
3.4.3 The Acid Rain Program

The CAA Amendments of 1990 introduced a new version of the tradable permits concept. This system, which is also referred to as the Acid Rain Program, has the purpose of reducing industrial emissions of \( \text{SO}_2 \) (which cause acid rain and directly affect human health). The program sets a national emissions cap equal to 50 per cent of the base year (1980) \( \text{SO}_2 \) emissions, and allocates allowances in two phases to 2,200 utility units - primarily electric utilities. (Phase I was implemented in 1995 and covers 111 large power plants in 21 states. Phase II will begin in 2000 and cover all power plants in the 48 contiguous states. The operators of the affected facilities are allowed to trade emissions allowances between their own facilities or with other utilities in order to save costs in achieving the emissions cap. Moreover, each allowance, which provides a limited authorisation to emit one ton of sulphur, is defined for a specific calendar year, but unused allowances can be carried forward into the next year. Emissions may not exceed the levels permitted by the allowances (allocated plus acquired). An annual year-end audit balances emissions with allowances. Utilities which emit more than what is represented by their allowances must pay a USD 2000/ton penalty and are required to forfeit an equivalent number of tons in the following year.

Each year EPA withholds 2.24% of the allocated allowances to go into an auction run by the Chicago Board of Trade. These withheld permits are allocated to the highest bidders. The proceeds are refunded to the utilities from whom the allowances were withheld on a proportional basis. Trades can also take place between private parties any time of the year. However, as opposed to the Credit Trading Program, no administrative requirements except a report to the Allowance Tracking System complicate the trades. This report is necessary for EPA to keep track of the allowances.

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75 The Acid Rain Program was promulgated in Title IV of the CAA as part of the 1990 CAA Amendments. CAA 401 et seq.; 42 USC 7651 et seq.
77 GRUBB/MICHAELOWA/SWIFT/TIETENBERG/ZHANG/JOSHUA (1998), supra note 34, at 17.
79 However, any allowance holder may choose to offer allowances for sale at these auctions. Potential sellers specify minimum acceptable prices.
80 TIETENBERG (1998), supra note 50, at 8.
The Acid Rain Program has been called the largest and most successful emissions cap and allowance trading program in the world. Plants have over-achieved pollution reduction goals at compliance costs less than half those predicted by EPA, and many times lower than those predicted by industry. Moreover, the program has fostered innovation, reduced litigation, and it requires only a small regulatory staff to manage. The program is said to have reduced costs by at least USD 1 billion per year over a comparable command-and-control program.

3.4.4 RECLAIM (Los Angeles, California)

While all of the above programs were initiated and promoted by the federal government, the newest programs have arisen from state initiatives. One of the most ambitious of these programs is the Regional Clean Air Incentives Market (RECLAIM) created in 1993 by South Coast Air Quality Management District (SCAQMD) to cap the emissions of NO₅ and SO₅ in the Los Angeles area, which suffers from the worst air pollution in the US. All participating stationary sources with emissions over 4 tons per year receive an annual emission cap (‘allocation’) and an annual rate of reduction. New sources do not receive anything and must thus purchase allocations from existing ones. The allocation for any compliance year may be freely traded subject to reporting requirements and some spatial restrictions (in order to avoid hoarding of permits at so-called "hot spots", i.e. localised pollution increases). However, allocations cannot be banked for use in future years. Allowable emissions are to decrease between 1994 and 2000 based on a straight line rate of reduction. During this period, average annual

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81 For a detailed analysis of cost savings made and lost under the Acid Rain Program see BURTRAWS (1996), Cost Savings Sans Allowance Trades? Evaluating the SO₂ Emissions Trading Program to Date, Discussion Paper: Resources for the Future, Washington, DC.
83 RAUER (1996), ‘Market-Based Pollution Control Regulation: Implementing Economic Theory in the Real World’, Environmental Policy and Law, 264:177, at 180
84 The program was challenged by parts of the Californian industry which claimed that it was based on inadequate scientific data and that its economic analysis was unsound. However, the California Court of Appeal rejected these complaints in Alliance of Small Emitters/Metals Industry et al. v. SCAQMD, 60 Cal. App. 4th 55 (Cal. App. 2d 1997).
87 NICHOLAS, JUERGENSEMERY, AND BASSE (1999), supra note 76, at 18.
decreases range from 4,1% for SO₂ to 7,1% for NOₓ. For the period between 2000 and 2003 reductions of 9,2% and 8,7% respectively are required.  

SCAQMD maintains an official registry and keeps a public bulletin board where facilities and interested parties can identify availability of allocations. About two thirds of all facilities must measure emissions with continuous emissions monitors that report actual emissions as often as every 15 minutes to the SCAQMD on a publicly available database. Every compliance period is twelve months long, and at the end of its compliance period, each facility submits a final report and is given a two-month reconciliation period in which to sell or secure any emissions units necessary to balance its emissions for the final quarter. Facilities that fail to meet their reduction requirements are required to achieve the reduction by the following year and may be subject to monetary penalties.

The RECLAIM program has achieved significant success in reducing the price of compliance. According to some sources the pre-RECLAIM marginal costs of NOₓ control had reached USD 25,000 per ton for some sources, whereas the cost per ton under RECLAIM has been around USD 2000. Compliance has been exceptionally high and more than USD 35,000,000 worth of credits have been trade to date.

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89 Ibid.
90 Ibid. However, the results have to be taken with a grain of salt since the initial permit allocations tended to be generous.
91 NICHOLAS, JUERGENSMEYER, AND BASSE (1999), supra note 76, at 20.
4 Implementation in Europe

4.1 Design Issues

In this part of the paper some lessons will be drawn from the American experience of credit trading and allowance trading. Successes and failures will be discussed and indications for a potential European implementation of marketable permits will be given. However, the problem of market power under systems of marketable pollution permits will be left out since that issue will be treated separately in section 5 below against the background of the results of economic research on the subject.

The design issues to consider are many and some are rather complex. Therefore, the description and discussion below is not intended to be exhaustive. The particular questions that will be addressed concern the initial allocation of emission rights, eligible participants of a trading program, the legal right vested in an emission right, the permissibility of transfers of emission rights, the problem of transaction costs, the transparency of the system and legal rights of third parties, monitoring and reporting of emissions and transfers, certification of emissions reductions, compliance and enforcement, spatial issues, and, finally, the way to fit a system of marketable permits into an established legal system.

When emission rights are mentioned below, this refers to emission rights both under allowance trading systems and credit trading systems. Should there be differences between the two systems the terms ‘allowances’ and ‘credits’ will be used.

4.1.1 Allocation

The allocation of emission rights to sources is very important, since these rights can be very valuable. In the US, as described above, emission rights have been allocated for free to existing sources of pollution - the so-called method of ‘grandfathering’. Politically, it may be the most practical alternative since it provides the greatest number of rights to existing sources. However, grandfathering makes it more difficult for new sources to enter the market, as these must buy allowances from existing sources.
Alternative methods of allowance allocation would be to auction emission rights or to allocate them based on a rolling average of past actual emissions (the latter can also be described as a type of grandfathering). Both methods would reduce the barriers to new entrants and take shutdown sources into account. In addition, an auction would become a revenue source for the government. However, auctions are problematic since they are likely to encounter political and economic opposition. The arguments against auctions are the same as the arguments against environmental charges. It will be costly for industries to acquire the necessary permits and this will lead to a disadvantageous competitive position compared to firms in other countries (or, as regard a permit market governed by EC law, with firms outside the EU) that are not working a system of marketable pollution permits or have not taken other financial measures in their environmental policy.

Grandfathering, in both its forms, can be seen as a very pragmatic approach because it does not entail any radical turnovers. However, apart from raising barriers to entry, it can be argued that grandfathering is unjust pursuant to the 'polluter pays principle' (Article 174(2) ToA, formerly Article 130r(2)) which implies that the actors who cause most pollution, should not be in a financially more advantageous situation than actors who behave in a manner that shows more consideration towards the environment. According to Peeters a distribution of the marketable permits based on historical emissions leads to disadvantages for environmentally friendly firms. Moreover, she states that if a classical permit system – as opposed to historical emissions – is used as the basis for allocation of permits, the permits themselves must be up to date, which experience has shown not generally to be the case.

However, the polluter pays principle is not a legal rule, it is an economic principle. Community practice has by no means been rigorous in its interpretation of the principle and there are thus many derogations and exemptions. National and Community policies are often allowed to exist even though they may be considered to be contrary to the polluter pays principle. Thus, if the environmental and industrial benefits produced by marketable permits are great enough, surely the polluter pays principle

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93 Peeters (1993), supra note 11, at 125.
94 Ibid., at 123-124.
95 See Krämer (1998), supra note 7, at 69-70, for examples.
would not prevent the implementation of such a system. When and if a European permit market is introduced, some form of grandfathering is the most likely alternative.96

4.1.2 Coverage

The next question to deal with is who should be covered by the emissions trading program. Since such programs reduce costs to society it is of course desirable that as many sources as possible are included in the system.97 However, to include all emitters of a pollutant may not be practical in an allowance trading program because measurement for some classes of sources is uncertain, there are political constraints, or because it may be impractical to include the smallest sources.98

Such problems can be mitigated by giving polluters, which are not initially part of the program, the opportunity to voluntarily opt-in. This would usually require that the opt-in applicant proves that he can satisfy the basic conditions of participating in the program. The Acid Rain program has illustrated that individual sources do opt-in, if given the chance. Individual polluters capable of reducing emissions below their allowable levels see this as their only chance to be rewarded for surplus emission reductions.99 Thus, an allowance trading program should limit coverage to certain important sources of pollution with opt-in possibilities for other suited emitters.

4.1.3 Property Rights100

The basic argument for introducing incentive-based instruments in environmental policy is what is referred to in industrial organisation theory as the "problem of the commons". If ownership is not attached to a particular individual, but rather to a group of unrelated users, these users of the common resource do not fully internalise

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96 Sec, however, section 4.2.3 below.
97 It should be noted that this question only arises with respect to allowance trading since credit trading programs cover all sources that are able to certify ERCs.
100 The heading of this section may startle the environmental lawyer, but, as will be shown below, it is not a question of legal property rights but economic ones. This means that revoking such a right will not necessarily trigger expropriation legislation. Instead, the term indicates that firms can plan how to
the costs of resource depletion. The result is that a resource is overused relative to what might have occurred with individual private ownership. This is why the question of property rights is important to emissions trading programs. If firms are certain of their ownership as regards pollution rights they will internalise costs.

Under the credit trading programs uncertainty about property rights has made internal trading (within firms) more attractive than external trading (between firms). Firms face considerable uncertainty in anticipating how regulators will define baseline emission levels (emissions before the trade) and emission reductions for emissions trading purposes. As regards external trades, the uncertainties are even greater since firms are faced with calculating these factors for other firms. If credits are to be obtained from other firms, the buying firm must know whether the potential seller is really going to be able to make the emission reductions necessary to create the credits. However, these problems can be mitigated with a well-functioning banking system.

The same kind of uncertainty does not arise under allowance trading programs since allowances can only be used once. Thus, an allowance always represents a given amount of emissions. However, even though allowances may appear to be protected private property rights, they are not, at least not legally. CAA section 403(f) provides that "an allowance [...] is a limited authorisation to emit sulphur dioxide in accordance with the provisions of this title. Such allowance does not constitute a property right. Nothing in this title shall be construed to limit the authority of the United States to terminate or limit such authorisation." This type of right is often referred to as a limited property right, since it is not a legally enforceable right. However, judging from the success of the Acid Rain Program, it is apparent that market actors have placed sufficient trust in the government not confiscating issued allowances. The risk of confiscation would seem to be greater the longer the compliance periods. If the purpose of a program is to reduce emissions it is advisable to announce schedules according to which reductions are to take place. Should this not be done, firms will have difficulties with their pollution control planning.

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101 Hahn and Hester (1989), supra note 33, at 361.
102 See also sections 3.4.1 and 8.3.
4.1.4 Permissibility of Transfers

The consequence of a transfer of an emission right is that pollution will occur at another place or time than before. Therefore, it must be decided what amount of freedom polluters in a permit market should be given. There has to be a balance between sufficient environmental protection and a smoothly functioning permit market (because if the market does not function smoothly transfers will not take place and no gains will be made from the system).

As shown by the description of the American experience above, the ways in which governmental approval of permit transfers are designed vary. The core of a system of marketable permits market is flexibility. It is therefore important that the governmental review process be simple and contain as few procedural obstacles as possible. Generally, two ways for designing a governmental test can be distinguished:

(i) The criteria for permissibility of transfers are laid down in the relevant environmental statute. Every transfer which is in accordance with those general criteria is legal (allowance trading).

(ii) Transfers can only be made with the consent of the relevant government authority. The decision making by this authority is guided by general terms in the environmental statute. The authority enjoys a certain discretion within the framework of these general guidelines (credit trading).

Obviously, the first alternative is to be preferred if the most important goal to achieve is flexibility, whereas many serious environmental problems will require the second alternative. The great differences between the many polluting activities may prove it necessary to for the government to judge the particular circumstances of a proposed transfer. However, the need for government permission for transfers in order to protect the environment will severely affect the flexibility of the permit market system. Thus, the ecological criteria which are deemed necessary as regards each type of pollution (and the therefore required procedure) will strongly affect the possibilities and attractiveness of a transfer. In this perspective it seems clear that a permit market will be most useful where the location of particular emissions is not important but overall reductions is the key to solving the specific environmental problem. Examples

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103 PEETERS (1993), supra note 11, at 122.
of this kind of pollution are acid rain, pollution causing depletion of the ozone layer and pollution causing greenhouse effects.\textsuperscript{104}

\subsection*{4.1.5 Transaction Costs}

The costs of completing transactions have severely affected the effectiveness of emissions trading programs over the years. For example, transaction costs play a major role in a firm’s decision whether to trade internally (within the firm or group) or externally (arms length trades). Such costs include the costs of finding an appropriate trading partner, establishing the terms of the trade, documentation, verification and procedural requirements, the costs of delay, and costs created by uncertainty of regulatory approval.\textsuperscript{105}

The credit trading programs (offsets, bubbles, netting, and banking) suffered greatly from high transaction costs, and fewer trades than necessary to achieve full cost-effectiveness took place.\textsuperscript{106} This is because credit trading requires that the creation of each credit or its use be separately approved by a regulatory authority. The fact that transactions are typically only approved \textit{after} reductions of emissions actually have been generated creates uncertainty which raises costs. Moreover, the actual procedure of certification, under the Credit Trading Program, before the regulatory authority is very costly.

Allowance trading on the other hand, has generally low transaction costs and low risk. Firms do not have to conduct case-by-case review of credit transactions, but can simply transfer issued allowances without regulatory intervention.\textsuperscript{107}

Transaction costs are also borne by the regulatory authority to validate and administer the trading system. Here again, credit trading is much more costly than allowance trading. EPA has estimated that the total cost borne by the government for administering the Acid Rain Program is USD 1.50 per ton abated, compared to USD 25 or more for the case-by-case review process under a more typical permit process.\textsuperscript{108}

\begin{footnotesize}
\begin{enumerate}
\item See further section 4.1.11 on spatial issues.
\item HAHN AND HESTER (1989), \textit{supra} note 37, at 140.
\item TIETENBERG (1998), \textit{supra} note 50, at 20.
\item GRUBB/ MICHAELOWA/ SWIFT/ TIETENBERG/ ZHANG/ JOSHUA (1998), \textit{supra} note 34, at 24.
\item Ibid.
\end{enumerate}
\end{footnotesize}
Hahn and Hester have found\textsuperscript{109} that administrative requirements, which are complex or impose major informational burdens on firms do increase transaction costs and decrease trading. However, in their view, banking programs or other efficient means for firms to identify holders of pollution rights can reduce those costs. Furthermore, a firm searching for credits has no market information from which it can anticipate the future price of the commodity in question. If a firm under such circumstances has the option of generating credits/allowances internally, it may do so rather than incur the expense of search for credits/allowances when the outcome of the search is unpredictable.\textsuperscript{110}

Neither of the credit trading programs were consciously designed to minimise transaction costs. Second generation programs have at least attempted to address this issue. The auction market established as part of the Acid Rain Program has been described as a prime example.\textsuperscript{111} Not only did this market reduce costs to actually perform transactions, it also provided systematic public information on prices. This information has the effect of lowering the spread between the highest bid and the clearing price.\textsuperscript{112} The greater availability of data on prices and the nature of trades clearly benefits buyers and sellers.

Consequently, transparency and modest administrative requirements for trades are necessary to keep transaction costs down. However, the different character of different types of pollution may entail more stringent administrative control of certain trades. In such cases transaction costs may rise, but, as is shown in section 4.1.10 below, "second-best" options, which somewhat compromise efficiency, may sometimes be justified. This means that even though consideration of ecological factors may affect the efficiency of a market-based system, such a system may still, if designed correctly, be more efficient than a command-and-control system. Thus, the regulator must in balancing varying interests make sufficient environmental considerations, while not creating transaction costs prohibitive to trade.

\textsuperscript{109} HAHN AND HESTER (1989), supra note 33, at 377 et seq. and 404.
\textsuperscript{110} HAHN AND HESTER (1989), supra note 37, at 141.
\textsuperscript{111} Tietenberg (1998), supra note 50, at 21.
\textsuperscript{112} http://www.epa.gov/acidrain/auctions/auc97dlk.html.
4.1.6 Transparency and Legal Rights of Third Parties

The importance of having a transparent system is shown in section 4.1.5 above in relation to transaction costs. Transparency is of great importance also for legal rights of third parties (i.e. persons who are not involved in the transactions).

Pollution affects every citizen’s right to live in a clean environment and thus, when a polluting activity is subject to regulation all affected citizens are third parties. Moreover, environmental organisations can be considered to be third parties in the sense that their only interest is a clean environment. Therefore, transparency and legal protection of third parties – in the sense that they are allowed to participate in the public decision making process and that they are entitled to judicial review of government decisions which permit polluting activities – must be considered when a system of marketable permits is implemented.

As regards transparency, citizens should be informed about transfers (in particular transfers that may affect them directly) because transfers may change the way pollution affects their neighbourhood. Consequently, all information about transfers should be made publicly available. This can be done by keeping a public registry containing documentation of all trades and trade notices. In the US, firms report to EPA which then publishes the information.

A more difficult question is how citizens should be allowed to deal with the information obtained from the public registers. It is important to note that third party participation and judicial review of transfers will reduce the flexibility of the permit market. Exercise of such rights is time consuming and transfers may thus become less attractive to polluters, and more costly. However, it should be noted that third party participation may be of great importance, not only for the respect of third parties per se, but also to reduce the risk of creating hot spots and thereby run into very complicated questions of environmental liability.

In this connection, it will be remembered that the transfers under allowance trading programs do not require any administrative decisions. A transfer is given legal effect simply by meeting certain statutory requirements. Thus, there will be no room

\[113\] This system is used in the Acid Rain Program by the Allowance Tracking System. In many cases information contained in the registry is made available on the internet by EPA.

\[114\] See BOUCQUEY (1994) supra note 86.
for participation or judicial review. Transfers that are to be approved by government authorities (such as credit transfers under credit trading programs), however, make third party protection conceivable. Third parties can be allowed to participate in the decision which permits or prohibits the transfer or they can challenge such a decision when it is taken. However, it will be understood that such rules will make a slow process even slower. Firms who wish to make a transfer will have a period of uncertainty about the approval of the transfer. The task of the legislator will thus be to find a just balance between the freedom to transfer pollution rights and the protection of third parties.\textsuperscript{115}

The protection of third parties is more necessary if the location of particular emissions is of great interest than if it is not. Should the location not matter, but only the general level of emissions, third parties will only be affected by the initial decision which determines what the cap for each pollution should be, and there is therefore less reason to provide for their protection.

4.1.7 Monitoring, Reporting, and Certification

No form of emissions trading should take place unless there is a highly credible system of monitoring of both emissions and trading activity. High quality monitoring is essential to assure effectiveness of both compliance and trading systems. For example, the Acid Rain Program requires continuous emissions monitoring by sources. Such an approach provides for great certainty, but it is also expensive for polluters. Under this program, monitoring devices and systems were required to be installed and verified in the year before the actual trading started, and ongoing testing of the monitoring systems is required. Moreover, emissions data are sent hourly to EPA's Emissions Tracking System, and they are summarised in a quarterly report to EPA together with the quality assurance data from the monitoring tests.\textsuperscript{116}

Reporting requirements (to the authority responsible for compliance issues) normally take on two forms: the reporting of emissions monitoring results and reporting of emissions trading activity. Monthly reporting of pollution emissions data is common, but technology allows for reporting as often as every 15 minutes. Reporting

\textsuperscript{115} Peeters (1991), supra note 11, at 158.
of emissions trading activity is necessary for quality assurance and enforcement. One element of this is the reporting of trades. All recent US emissions trading programs of the second generation require immediate reporting of trading activity to a government-controlled registry, which is open to the public. This assures openness of the system and can be used by the government for compliance purposes.

There are some differences between allowance trading and credit trading as regards reporting. In allowance trading, reporting of emissions trading activity for compliance purposes is generally part of the reporting process at the end of each quarter and at the end of the year. The report states the source’s total emissions limit, the units of pollution actually emitted during the compliance period, and allowance trading activity such as sales or purchases. Units emitted during the year, plus or minus any allowance transfers, must equal the source’s total limit. For credit trading, reporting requirements can vary depending on which kind of credit trading program is concerned. If sources operate under emission permits, trading can be made enforceable under the permit system, and reporting requirements become integrated with regular permit reporting. Trading only changes the permitted level of emissions. More complex reporting requirements are needed for credit trading, which is not based on a permit system. In the US, EPA demands a number of different notices from credit generators and users. For the purposes of this brief description, however, it is not necessary to go into details on these requirements.\textsuperscript{117}

Certification of trades is not required under allowance trading programs, since the authenticity of each allowance is built into the structure of the program. All second generation program described above allow free trading of allowances without verification or other types of government approval. However, all forms of credit trading require some kind of certification system. In order to be acceptable, credit trades must be judged to be valid on a number of criteria. Under the US credit trading programs, emission reductions must be quantifiable, surplus, either permanent or discrete, and enforceable, meaning that the reduction must be possible to measure, greater than required by the current permit,\textsuperscript{118} lasting, and possible for authorities to enforce. As long

\textsuperscript{117} See further \textit{ibid.}, at 27.
\textsuperscript{118} Or greater than it otherwise would have been, which is the standard of trading in the absence of a permit system. Naturally, this is very difficult to show since it requires a forecast of future economic events and probabilities.
as there is a permit system functioning as a basis of the program, certification can focus on the quantification, since the other parameters are dealt with through the regular permit system. In the absence of such a system, the certification process must address all of these issues. Such a system can lead to rejection of many proposed trades. Trades can take one to two years, which creates high transaction costs and uncertainty.\(^\text{119}\)

The above shows that monitoring and reporting is generally very easy to administer in allowance trading system, whereas these issues, with the addition of certification, can be very complicated in credit trading programs. The latter complexities are, however, not prohibitive, at least not as regards credit trading under a permit system.

4.1.8 Compliance and Enforcement

The freedom of choice that polluters will enjoy in a system based on marketable permits must be controlled efficiently so that the actual legal duties provided for in the permits are complied with. For the permit market to work in an effective way it is of utmost importance that its rules are strictly enforced. Should that not be the case, the value of the pollution rights will decrease and with it the level of incentive for polluters to act in a way which is less harmful to the environment.\(^\text{120}\) Moreover, and more importantly, compliance and enforcement mechanisms are necessary to ensure that the appropriate level of environmental protection is reached.

Transferable pollution rights entail constant changes in the legal duties of polluters, and a supervisory authority must know exactly what these duties are to be able to control compliance. Thus, the supervisory authority must know the amount of pollution rights held by the polluter and the amount of pollution caused by him.\(^\text{121}\)

The US experience shows that the level of penalties appears to be positively correlated with compliance levels. The Acid Rain Program has a record of 100% compliance in all years. The highly reliable monitoring and reporting requirements together with rules on liability and very high penalties, all help to create this record. Under the Acid Rain Program a source that emits more than the number of allowances in its ac-

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\(^{120}\) Peeters (1991), supra note 11, at 159-160.

\(^{121}\) See sections 4.1.6-4.1.7 above concerning the importance of transparency of the system.
count must automatically pay a financial penalty of USD 2000 (1990 dollars, adjusted upwards for inflation) for every excess ton and offset the excess emission with equivalent allowances. The price is much higher than the market price of an allowance (about USD 100). Also under the RECLAIM program fines for non-compliance are high. Under the lead trading program on the other hand, penalties were initially low (they principally involved the need to make up the lost credits), and enforcement was a problem for a time under this program. A relevant aspect of both the Acid Rain Program and RECLAIM is the provision of a two-month reconciliation period following the end of a year for sources to purchase any allowances needed to equal their emissions. This promotes compliance and reduces the risk in the market.122

However, as has been implied above, it is important to note that enforcement and compliance are impossible to administer without efficient monitoring, reporting, and (where needed) certification. Enforcement merely concerns the relevant authorities' competence123 and willingness to take action against non-complying polluters on the basis of the information obtained through the other procedures.

4.1.9 Accountability

Liability rules differ greatly between the different kinds of trading programs. The question of liability is straightforward for allowance trading since all covered sources simply need to show that they have sufficient allowances to cover their actual emissions at the end of each compliance period. Sources are liable if they do not have enough allowances to cover those needs. For credit trades the most straightforward rules involve situations where existing sources are already subject to a system of emissions permits. In such cases the existing liability and enforcement mechanisms of the permit system can be used to enforce credit trades, as the permit of the selling firm would reflect its new lower emissions limit after the trade, and that of the receiving firm its new higher amount. In the absence of a permit system (discrete trading), credit trading programs must create a separate liability system, as any discrete emission reduction is a one-time event and is not reflected in a permit. Here it can be considered whether the liability should be on the seller or the buyer. In the US the liability has

123 See regarding competence in a European setting section 4.3.4 below.
been placed on the buyer in such cases. This system has been criticised, since it creates uncertainty and risk by failing to guarantee generators and users that they will benefit from reductions until they are approved. However, seller liability also constrains trading since pre-certification creates high transaction costs, and the alternative random audit approach has lower credibility. Thus, choices between higher transaction costs and uncertainty on the one hand, and greater credibility on the other, must be made.\(^{124}\)

4.1.10 \textit{Spatial Issues}

Transferable permits have worked particularly well for trades involving uniformly mixed pollutants (pollutants for which only the \textit{level} of emissions matter) and for trades of non-uniformly mixed pollutants (those for which emission \textit{location} also matters) involving contiguous discharge points. Most trades under the credit trading programs have involved uniformly mixed pollutants. Since no models showing the dispersion of pollutants are required for uniformly mixed pollutants (even when trading sources are distant from each other), trades involving these pollutants are cheaper to consummate. Moreover, trades involving uniformly mixed pollutants do not have to be constrained by the need to prevent hot spots (local air quality deterioration) since the location of the emissions does not require any policy considerations.

When, on the other hand, emission location matters, the dominance of economic instruments over command-and-control regulation is less clear cut. Implementing such a system could impose a large administrative burden. In general non-uniformly mixed pollutants require a number of different markets equal to the number of receptors in order to create a cost-effective allocation of control responsibility. In other words, every airshed or water receptor constitutes, regardless of its size, one individual market and, for environmental reasons, trades cannot freely be made between different markets.

\(^{124}\) \textit{Grubb}/ \textit{Michaelowa}/ \textit{Swift}/ \textit{Tietenberg}/ \textit{Zhang}/ \textit{Joshua} (1998), supra note 34, at 29-30. For a thorough and theoretical approach to the question of who should be held liable if a given trade creates a hot spot (excessive localised pollution) see \textit{Bouquey} (1994) supra note 86.
Spatial considerations can also give rise to environmental justice concerns. Under RECLAIM a complaint has been filed according to which the program allows the continued existence of toxic hot spots in low income communities.\footnote{TIETENBERG (1998), supra note 50, at 22.}

In order to cope with spatial problems for non-uniformly mixed pollutants and still enjoy some of the benefits from trading, "second-best" designs may play a role. Second-best designs somewhat compromise the goal of cost-effectiveness, but they still represent an improvement over more traditional approaches. The starting point for this approach is the assumption that it is better to implement a basic system built around standard emission permits, dealing individually with those trades which would result in hot spots or excess pollution at the most severely affected receptors, rather than establishing wholesale restrictions on trades. One illustration of how this type of constrained trading could be implemented is given by the RECLAIM program. The entire trading area is divided into two zones (Coastal and Inland). Due to local geographic and meteorological considerations, emissions in the coastal zone can affect air quality in both zones, whereas emissions in the inland zone affect only air quality in that zone. As a result the SCAQMD has allowed the inland sources to buy permits from either zone, but some facilities in the coastal zone can only buy credits from other coastal zone sources. This has created a situation in which the prices for credits in the coastal zone are considerably higher than prices for credits created in the inland zone. Although these zones reduce cost-effectiveness, zonal permit trading still represents a considerable improvement over a system with no trading at all,\footnote{TIETENBERG (1998), supra note 50, at 22.} and it is necessary to achieve a better environmental result.

Problems with hot spots can also be solved by allowing unrestricted trading, but exercising some control over how the permits are used. For example, the Acid Rain Program addresses the problem with a system which is known as "regulatory tiering". This concept involves applying more than one regulatory regime at a time. The allowance trading is overlaid on a traditional system of regulations which specifies ambient air quality standards. Allowance usage is constrained by the need to meet these ambient air quality standards. Thus, trading is not restricted by spatial considerations, but the use of acquired allowances is subject to local regulations protecting the air quality in that area. The second regulatory tier (the air quality standards) protects against ille-
gal hot spots (those which violate the air quality standards) by disallowing the use of any allowances which would trigger a violation.127

4.2 A European System of Marketable Pollution Permits

Having dealt with the general problems of instituting a system of tradable pollution permits, it is time to turn to some of the issues that specifically concern implementation of such system within the framework of the European Union. Thus, potential drafters of a European permit market must keep the general observations concerning the American experience in mind. In addition to this, the future drafters must also respect the EC-Treaty. US policy instruments cannot easily be transferred into another legal system. It has to be investigated under which conditions a permit market can be transposed into the European legal system. In this section particular attention is paid to the limited European experience of marketable permits, the principle of subsidiarity, and questions of allocation of permits and enforcement of the rules in the light of the available decision-making procedures.

4.2.1 Regulation 3093/94

In response to the threat to the ozone layer 24 nations signed the Montreal Protocol in September, 1988. The signatories agreed to restrict their production of the chief responsible gases to 50% of 1986 levels by 30 June, 1998. In July 1990, the Protocol was amended by an agreement signed in London since new evidence suggested that the Montreal Protocol had not gone far enough. The London agreement required complete phase-out of CFCs and halons by the end of this century. In addition, carbon tetrachloride and methyl chloroform were added to the Protocol and are scheduled to be eliminated 2000 and 2005 respectively. A second amendment was agreed upon in Copenhagen in 1992 where methyl bromide, hydrobromofluorocarbons, and hydrochlorofluorocarbons were added to the list.

Initially the Montreal Protocol, which was signed by (the then) EEC and its Member States was implemented in the EEC by Council Regulation 3322/88,128 which

126 Ibid., at 24
127 Ibid., at 25.
was repealed when Regulation 594/91 introduced the changes inherent to the London agreement. The second amendment of the Protocol (Copenhagen 1992) was implemented by Regulation 3093/94, which also repealed Regulation 594/91.

Until 1994 the scope of the Regulation covered production and consumption limits of ozone depleting substances. The current version, however, applies to production and supply of such chemicals. Production is governed by Article 3 and supply by Article 4 of Regulation 3093/94. Pursuant to these provisions, the Commission is required to issue production licences and assign supply quota to producers (or importers).

Even though it may not be readily inferred from the wording of the relevant provisions (Article 3(10-11), transfer of production licences is permissible. Pursuant to Article 3(10), the competent authority of the Member State in which a producer’s relevant production is situated may authorise the producer to exceed his pre-calculated level of production for the purpose of industrial rationalisation within that Member State. However, such authorisation may take place only on the condition that the sum of the calculated levels of production of the domestic producers of the Member State in question is not exceeded. The key concept of this provision is ‘industrial rationalisation’, which means transfers of all or a portion of the calculated level of production from one producer to another, for the purpose of optimising economic efficiency or responding to anticipated shortfalls in supply as a result of plant closures (Article 2). Similar conditions apply to transfers between producers of different Member States under Article 3(11) of Regulation 3093/94. Cross-border transfers of production licences must be authorised by the Commission, whereas for transfers within a Member State an authorisation by a competent administrative governmental body is sufficient.

Transfers of supply quota are directly sanctioned under Article 4(10) of the Regulation, which provides that a producer entitled to place certain ozone depleting

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128 Council Regulation 3322/88/EEC on substances that deplete the ozone layer, OJ [1988] L297/1. This regulation was repealed by Regulation 594/91.
131 Import and export of such substances were also covered, but they are left out here since a regime that has nothing to do with the purposes of this paper applies to them.
132 Use also falls under the regulation, but that mode of handling the substances in question is left out since no licences or quotas are distributed to users.
substances on the market "may transfer his right in respect of all or any quantities of [the relevant substances] to any other producer of [such substances] within the Community." Authorisation for such transfers is not needed, but the acquirer must immediately notify the Commission.

It is doubtless that the regime under Regulation 3093/94 (and its predecessors) includes the establishment of a permit market instituted for economic reasons (industrial rationalisation). However, to this author's knowledge, Peeters is the only commentator who has observed that the Regulation features a system of marketable permits.133 Other legal scholars claim in one voice that European permit markets do not exist and will not come into being in the near future, if ever. It is therefore unlikely that trades of licences to produce or quota to supply ozone depleting substances have taken place with any frequency in Europe. Should that have been the case, surely legal scholars like Krämer, Jans, Pagh, Scott, etc. would have commented upon the effects of this market, or at least acknowledged its existence.

4.2.2 The Principle of Subsidiarity

The principle of subsidiarity as expressed in Article 5 ToA (formerly Article 3b) provides that:

The Community shall act within the limits of the powers conferred upon it by this Treaty and of the objectives assigned to it therein.

In areas which do not fall within its exclusive competence, the Community shall take action, in accordance with the principle of subsidiarity, only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community.

Any action by the Community shall not go beyond what is necessary to achieve the objectives of this Treaty.

This principle applies only where the Community does not have exclusive competence,134 but in general there is no such competence in the field of environmental

133 Peeters (1993), supra note 11, at 126-127.
134 There are different views on how the principle of subsidiarity should be construed. Some suggest that a broad view should be taken, meaning that the Community’s exclusive competence exists in those areas in which the Member States have transferred power to the Community, irrespective of whether the Community has actually exercised this power. Others mean that the subsidiarity principle would only be excluded where the Community has actually exercised its power. For a discussion of these issues see Craig and De Búrca (1998), supra note 1, at 124 et seq.
policy. Thus, there is only cause for an action at Community level, if and in so far as the objectives of the proposed measure cannot be sufficiently achieved by the Member States. Decisions are to be taken as closely as possible to the citizens and pursuant to Article B of the Maastricht Treaty, the Community shall only act when the targets can be better reached at the Community level. However, it will be seen that a decision to institute a European market of tradable pollution permits can be held to fall within the exclusive competence of the Community.

For environmental problems that have a Community-wide effect on the environment, the subsidiarity principle does not seem to impede the power of the Council to lay down targets in the environmental sector. Notwithstanding this fact, it can be questioned whether the Council also has the power to dictate Member States in the way these targets should be met. It can be argued that the principle of subsidiarity gives the Member States maximum freedom as far as implementation of specific targets is concerned. Such considerations may be valid as far as traditional command-and-control regulation is concerned, but as regards marketable pollution permits their validity can be conceived differently. This is because it is likely that the efficiency gains that can be obtained with the use of an emissions trading program will be greater if the system can be implemented Community-wide instead of being limited to a few Member States. Therefore, efficiency considerations would most likely lead to the conclusion that a European permit market is not contrary to the principle of subsidiarity. The latter argument would carry a particular weight when pollution with effects throughout the Community is at stake.\[135\]

4.2.3 Allocation

In section 4.1.1 above, it was shown that free distribution of permits or other pollution rights may be considered contrary to the polluter pays principle, whereas auctioning or selling permits may encounter political opposition since it affects the competitiveness of the industry negatively. It was concluded that thus far, political opposition against auctioning or selling pollution rights is great enough to make this alternative unrealis-

\[135\] Peeters (1993), supra note 11, at 128.
tic. In addition to those problems, there are specific issues in the Community legislative process that may make the allocation of permits complicated.

While concentrating on allocation of pollution rights free of charge, two alternatives can be distinguished within a Community framework. First, permits or quotas can be allocated to the Member States after which they can distribute them to firms. Second, there is the alternative that a Community authority, such as the EEA, distributes permits directly to firms throughout the whole Community. (Under Regulation 3093/94 the latter method was followed: distribution was made pursuant to the Regulation itself.)

Since the permits that are to be distributed are potentially very valuable, it is likely that there will be a struggle in the Council. Every individual Member State will have economic reasons to obtain as many permits as possible, especially if the permits are transferable throughout the Community. In procedural terms, the legal bases for decision-making in the environmental policy field are Articles 175 and 95 (formerly Articles 130s and 100a).

Article 175 is especially meant for environmental regulations or directives, while Article 95 is used as legal basis for measures meant primarily for the creation of the internal market. The latter can also affect environmental behaviour. Both Articles cannot be used together as legal bases for one measure. In the Titanium dioxide case, the Court of Justice clarified that legislation must be based on Article 95 if its main aim is the establishment of the internal market and not the protection of the environment. Since many product, process and emission standards can influence the internal market, many environmental measures must be based on Article 95. Moreover, the choice of legal basis does not depend on the meaning which the Council attaches to the legislation in question, but on the objective facts that can be reviewed by the Court of Justice.

Concerning the establishment of a European permit market, the procedure for decision-making is important. Under Article 175, regulations or directives must be enacted by a qualified majority or unanimously if the legislation in question concerns "provisions primarily of a fiscal nature; measures concerning town and country planning, land use with the exception of waste management and measures of a general

nature, and management of water resources; measures significantly affecting a Member State's choice between different energy sources and general structure of its energy supply." However, even in the latter case the Council can opt for qualified majority voting pursuant to Article 175(2), a possibility which is very seldom used. Should Article 100a be applicable the Council can adopt environmental rules by a qualified majority rule.

Thus, under Article 130s the Council must in some cases reach a common opinion as regards the initial allocation of permits. It is possible that a program similar to the US Acid Rain Program, for example, would be considered to significantly affect a Member State's choice between different energy sources and the general structure of its energy supply. Should the grandfathering method be used (see section 4.1.1 above), economically weaker Member States can be expected to object that economically strong states will gain unjust advantages since a larger industry produces more pollution and therefore will get larger quotas. Some sort of correction for past pollution therefore seems to be necessary for a politically viable distribution proposal.

Should the qualified majority procedure under Article 95 or 175 be applicable, the decision-making procedure might be facilitated. However, in this case the involvement of the European Parliament is stronger, and this is important for the general acceptance of the permit market.138 The Parliament has the right to defeat a provisional decision by the Council, and the Council then can take the decision only with unanimity. Thus, the Parliament obtains the power to propose changes to the provisional decision of the Council.

Notwithstanding the expected decision-making problems, the European CFC-trading program shows that unanimity is possible to reach in this field. In this case pure grandfathering was used, albeit the source of the method is to be found in an international agreement. Possibly pure grandfathering will be more difficult to use in the future if it is not prescribed elsewhere (e.g. in an international agreement).

137 PEETERS (1993), supra note 11, at 129.

138 See HAHN AND STAVINS (1991), supra note 25, at 22 et seq. for a discussion about the public acceptance of marketable environmental permits in the US. It is not unlikely that the debate would be similar in Europe and that the influential Green Parties would oppose to the introduction of such instruments, at least at an initial stage.
4.2.4 Control and Enforcement

It is important to note that there are incentives for Member States not to apply sanctions against their industry, when it acts contrary to Community legislation governing a market of pollution permits. Such behaviour on the part of the Member States can produce economic advantages for firms originating in that state. It will be recalled from section 4.1.8 above that enforcement by the Member States is of the utmost importance since permit markets can create incentives for firms to act in contravention of the rules, especially when the price of a tradable permit is high. For these reasons it is important to know whether the powers on the Community level are sufficient to enforce EC legislation.

The first observation is that the Commission has very limited powers to supervise the actions of Member States and their citizens. No formal competencies to supervise the environmental actions of firms or citizens in Member States have been attributed to the Commission. However, a first step was taken with Article 18 of Regulation 3093/94 (Article 14 of Regulation 594/91). This provision empowers the Commission to ask all necessary information from the governments and competent authorities of the Member States and from the firms. However, should the Regulation be infringed by a firm, only the Member State in which the firm is established has the power to enforce the provisions of the Regulation towards that firm. Pursuant to Article 19 of Regulation 3093/94 (Article 15 of Regulation 594/91), Member States are to take appropriate legal or administrative action in the case of infringement of the provisions of the Regulation.

Should, however, the national rules for supervision and penalties be harmonised, the Commission's supervision would be easier. It could, for example, be laid down in a Regulation governing a permit market that firms which do not provide adequate information on their polluting activities or pollute more than their emission rights allow will be punished with the withdrawal of rights for the coming period (or even fines like under the Acid Rain Program). Unfortunately, the experience with Regulation 594/91 shows that Member States are not willing to adopt such harmonisation. The Commission's original proposal of Article 15 of the Regulation contained clear sanctions for infringements, but these were deleted in the Council deliberations.
since some Member States did not wish to transfer parts of their sovereignty in the field of law enforcement. Therefore, the current Article 15 only lays down a duty for Member States to take adequate action in the case of an infringement.\footnote{PEETERS (1993), supra note 11, at 131.}

Finally, there is the possibility for individuals to challenge alleged breaches of Community law in national courts. This can be done in cases where individuals find that national law is applied in contravention of EC law. This is an important factor for securing compliance with Community law, but a discussion of the workings of that system would lead too far for the purposes of this paper.

\footnote{Ibid.}
5 Emissions Trading and Competition Problems

5.1 Introduction

As mentioned in section 2.3 above, J.H. Dales presented his ideas on how to come to terms with the ‘tragedy of the commons’ in environmental regulation already in 1968. Dales was motivated by a wish to find ways to internalise external costs for environmentally friendly behaviour. This was to be done through mechanisms creating economic incentives for polluters to reduce their emissions, for instance tradable pollution permits. In 1972, the economist W.D. Montgomery developed an economic model proving that under certain conditions, of which perfect competition is the most notable, tradable emission permits will reduce pollution to any given standards (e.g. nation-wide caps on certain types of pollution set by the government) at least cost to the regulated industry.\textsuperscript{141}

However, perfect competition is rare and many economists have found it important to examine how permit markets and connected product markets would work if this assumption were to be relaxed. The object of this section is to present the theories of these economists in order to identify competition problems. These economic findings may seem alarming, but in section 7 below solutions to the problems will be sought in European competition law.

There are, to this author’s knowledge, no US court cases in which antitrust legislation has been applied in an emissions trading context. However, the lack of judicial activity in this field may be possible to ascribe to two factors: (1) actual trading of permits have not yet reached the proportions expected by US authorities before the programs were implemented, and (2) certain measures were taken in order to avoid market power problems in the permit market.\textsuperscript{142} Therefore, it cannot be concluded that the concerns about competition problems are misdirected.

\textsuperscript{142} See further section 5.3.1 below.
5.2 Economic Concerns

5.2.1 The Concept of Market Power

Before entering into the economic research treating market power concerns with regard to permit markets, some brief words on the concept of market power are adequate.

Free market economies ration the limited resources of the world through price. Firms which are good at producing things which there is a demand for will flourish and those who are less good at such production will eventually go bankrupt. The market thus encourages firms to produce efficiently what people want to buy.

Sometimes some firms reach a position of strength in a particular market—market power (i.e. power over price). Generally, however, such positions are difficult to obtain. The profits of a successful firm may be noticed or guessed by other firms, which are thereby encouraged to produce similar goods or services and enter the market. Therefore, a successful firm is not likely to enjoy market power for an extended period of time unless it can remain more than usually efficient or other firms cannot enter the market and those already in the market are unable to expand. In order to assess whether a monopolist is going to be profitable or not, it is also necessary to see to the competition on the demand side of the market. For example, if the cost of fish increases, some consumers may decide to eat more meat or eggs instead. Therefore, there must exist both barriers to entry on the supply side and a lack of adequate substitutes on the demand side for a monopolist to be profitable. In general, market power can appear to exist in many different cases in the short term. However, economists often assume a period of time long enough to build new production facilities, which means that they tend to perceive most markets as competitive.143

Market power causes efficiency problems when prices are raised above cost. Since some consumers would buy a product sold at cost but refuse to buy it at a higher price, the firm with power to raise prices above cost will have to produce less than it otherwise would. This means that consumers will be worse off since they will have to

buy a product supplied in lower quantities and at a higher price than would be the case in a competitive equilibrium.\textsuperscript{144}

Moreover, it has been argued that another important cause for concern over high prices is the waste of resources spent on acquiring and maintaining market power.\textsuperscript{145} This is so because competitors have to organise and enforce an agreement to keep prices up, persuade politicians to regulate the industry and keep others out, etc. Of course, the resources spent on such efforts could be better spent on producing more goods and services for consumption.

Finally, market power reduces incentives to increase efficiency. If a market is competitive, only the most efficient firms survive. Should efficiency be the only goal, public intervention in markets would only rarely be required. Very few industries are protected by significant barriers to entry, in the absence of government regulation.\textsuperscript{146}

\subsection*{5.2.2 Market Power in the Permit Market}

Montgomery's assumption of perfect competition was first questioned by R.W. Hahn in 1984.\textsuperscript{147} Hahn studied how a single firm with market power in a market for transferable property rights, such as tradable pollution permits,\textsuperscript{148} can exercise its influence to minimise the financial burden from pollution regulation. Should the dominant firm buy permits, it will act similarly to a monopsonist, \textit{i.e.} buy too few permits relative to the efficient solution in order to depress the permit price, according to Hahn. In a situation where the same firm would sell permits it will act like a monopolist, \textit{i.e.} sell to few permits in order to raise the permit price.

Both these types of behaviour will, in Hahn's view, have the effect that total expenditure on pollution abatement will exceed its cost-minimising level and thus cancel

\begin{itemize}
  \item \textsuperscript{144} \textit{Ibid.}, at 9.
  \item \textsuperscript{146} \textit{Korah (1997), supra note 143, at 9.}
  \item \textsuperscript{147} \textit{Hahn (1984), 'Market Power and Transferable Property Rights', Quarterly Journal of Economics, 99(4):753.}
  \item \textsuperscript{148} In this connection it is important to note that 'property rights' does not mean the same to an economist as it does for a lawyer. The economist considers everything, which a firm can be reasonably certain to be able to sell in the future, as a property right. It does not necessarily mean that the firms have legal rights to this property, which would mean that any confiscation of such property would constitute expropriation. The 'allowance' under the Acid Rain Program may serve as an example. It is clearly stated in the Clean Air Act that an allowance is not a property right (the reason for this is that the government
some of the efficiency gains expected from a system of tradable pollution permits. This is known as the 'Hahn-effect'. Thus, Hahn concludes that the initial distribution of permits is very important for the strategy of a firm with market power.

Hahn finds that the effect on price of a firm with market power in the permit market, will vary with its excess demand for permits. Therefore, according to him, knowledge of the demand functions would help the authority, which distributes permits to polluters, to pick the quantity of permits it wanted the market power firm to use through suitable initial allocation. In this connection, however, he points to the fact that realistically, such an authority will never have sufficient knowledge of the demand functions. It will, at best, only have a crude estimate of them. In such cases Hahn’s model can be used to assess the possibilities for exerting market influence.

Hahn reaches his conclusion by relaxing Montgomery’s assumption of perfect competition. Instead, he assumes that the market for permits consists of one firm with market power (i.e. with an influence on price) and a number of other firms acting as price takers. Thus, Hahn’s research shows the importance of finding mechanisms for avoiding that the initial distribution of permits creates market power in that market. In Hahn’s view, these measures should be taken before the market is started up.

5.2.3 Competitive Permit Market and Oligopolistic Product Market

In 1989, D.A. Malueg questioned the potential efficiency gains of introducing permit markets even in cases where the permit market is competitive, but the product market oligopolistic.\textsuperscript{149}

Malueg bases his findings on the following assumptions:
(i) one single pollutant must be brought in compliance with an emission standard;
(ii) the pollutant in question is uniformly mixed;\textsuperscript{150}
(iii) the permit market is competitive; and
(iv) the product market is oligopolistic.


\textsuperscript{150} I.e. the locations of individual polluters can be ignored since health consequences of emissions depend only on the aggregate emission level.
Such a scenario is possible if the same pollutant is emitted in the manufacturing of many different products. An emissions trading program with many participating manufacturers is likely to produce a competitive permit market, according to Malueg. However, if each of the several products is produced by only a few firms, the various product markets may be oligopolistic, he adds.

Malueg explains an oligopolistic product market as characterised by a divergence between price and marginal production costs. It may well be, states Malueg, that a competitive permit market will create a common marginal cost of emission reduction. However, he points out that efficiency requires that also marginal production costs are equated for manufacturers in the same product market, with marginal costs equating the output price. In general, he continues, manufacturers’ marginal costs of production equal neither the output price nor each other’s under oligopoly. In this connection, it is important to note that costs for pollution abatement forms part of a firm’s marginal production cost. Thus, if emissions trading has the effect of lowering abatement costs, production costs will also be lowered. According to Malueg, overall social welfare will be increased as long as the cost reductions of the firms participating in the program are similar. He notes, however, that it is possible that some firm’s cost reduction will be “significantly” less than that of the average. This is likely to be the case in markets with many participants (such as the Acid Rain Program or RECLAIM). Malueg then continues to say that the firm with the lower cost reduction will find its profit falling (compared to the average) and thus, it will cut output. Should the firm, which reduces output for such reasons, be a large (low-cost) firm, smaller (high-cost) firms will increase output. A result of this will be a reduction of overall welfare, according to Malueg. He concludes that the fact that oligopolistic product markets display a divergence between price and marginal production costs, makes it more likely that the introduction of a permit trading program will inefficiently redistribute production in such markets.

Malueg does not consider this risk to be sufficiently serious to recommend that emissions trading programs be avoided altogether. Rather, he sees it as an illustration of the need to judge each individual program in the light of its own special circumstances.
5.2.4 Market Power in the Product Market

One way to actually use permit markets for anti-competitive purposes is by exclusionary manipulation of emission rights by firms to influence the behaviour of competitors in the same industry. In other words, power on the upstream market (the permit market) can be used to exert influence on the downstream market (the product market). Thus, the question is if firms can reinforce their positions on the product market by acting in an anti-competitive way on the permit market.

In order to understand fully how such intents can be realised, it is necessary to have some knowledge of the US approach to exclusion law known as the strategy to raise rivals' costs. Therefore, before entering into the economic concerns expressed with regard to the possibilities of using permit markets to raise rivals' costs, a brief introduction to this concept will be useful.

5.2.4.1 Raising Rivals' Costs

The 'raising rivals' costs' concept with regard to anti-competitive exclusion was introduced by Professors Krattenmaker and Salop, and developed in detail in an article in the *Yale Law Journal* in 1986. Exclusion law includes vertical restraints, exclusionary agreements with competitors or suppliers, mergers, and essential facilities. The traditional US antitrust enforcement concerning these issues has been heavily criticised by adherents of the Chicago School. In their view aggressive, competitive conduct is often deterred because of fear of antitrust authorities labelling it as anti-competitive exclusionary conduct. This criticism eventually resulted in more permissive antitrust rules concerning exclusionary conduct.
Krattenmaker and Salop are critical both to the US courts' way of handling exclusion cases, essentially because the standards are unclear and incoherent, and to the Chicago School *laissez-faire* attitude, since it is over-simplifying the problems. The authors call for a unified legal doctrine regarding a number of practices that were previously thought to raise distinct issues. This new doctrine should reflect the present state of economic theory concerning collusion and exclusion and build upon the perception that antitrust law shall further consumer welfare. Thus far the approach of Krattenmaker and Salop does not differ from the one advocated by Chicago School proponents. However, it is important to note that the authors find that "in carefully defined circumstances, certain firms can attain monopoly power by making arrangements with their suppliers that place their competitors at a cost disadvantage." The central argument of Krattenmaker and Salop is that claims of anti-competitive exclusion should be judged according to whether the allegedly anti-competitive practice places rival competitors at a cost disadvantage sufficient to allow the firm pursuing this practice to exercise market power by raising its price.

The basis for the analysis provided by Krattenmaker and Salop is two questions:
(i) Does the challenged conduct unavoidably and significantly increase the costs of competitors?
(ii) If so, does raising rivals' costs enable the excluding firms to exercise market power, *i.e.* raise prices above the competitive level.

The first question regards injury to competitors and the second one the injury of competition. An extreme example of exclusionary conduct that raises rivals' costs is blowing up or burning down rivals' factories in order to gain monopoly power. More common examples involve refusals to deal, exclusive dealing, territorial restraints, price discrimination, tying arrangements etc. Further, exclusionary conduct can involve actions taken before regulatory agencies or purely private market behaviour. Exclusion may also entail either control over scarce public resources like government permits and licences, or control over private inputs like distribution networks, oil pipe-

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lines, or computerised reservation systems. Despite all the different contexts in which these claims of anti-competitive exclusion may arise, they all involve the same basic allegation that the conduct consists of creating and buying *exclusionary rights*, *i.e.* rights to exclude competitors from equal access to significant inputs into their production process. Such behaviour can in certain circumstances allow purchasers of exclusionary rights to gain market power.

In extreme cases, an agreement is concluded under which only an exclusionary right is purchased; no goods or services are exchanged. Such contracts are referred to as *naked exclusionary rights agreements*. A classic example of such an agreement in US antitrust law is provided by the *Alcoa* case. Alcoa contracted with a number of electric utilities *not* to provide electricity to Alcoa’s competitors in the aluminium industry. Thus, Alcoa did not buy electric power, but merely *market power*, since by forcing its competitors to arrange their electricity supplies differently, Alcoa was driving up their costs. Therefore, Alcoa could charge a higher price for the aluminium it produced. At the other extreme, most supply contracts involve only the sale of some units of an input to the buyer. Competitors may freely buy other units of this input from the same seller. The only exclusionary right obtained in such cases consists of other buyers being excluded from access to the particular units sold. Between those extremes lie cases such as *Klor’s* in which Broadway-Hale bought exclusionary rights (and appliances) from appliance manufacturers who promised to refuse to supply or discriminate against Klor’s who was a competitor of Broadway-Hale. Should the manufacturers not have colluded (which the complainants claimed they did) in this strategy, but rather that Broadway-Hale negotiated a series of unilateral vertical agreements requiring manufacturers to refuse to supply or discriminate against Klor’s, the case for the two-step analysis is clear. The exclusionary rights obtained by Broadway-Hale would have raised Klor’s costs of competing unless it had good substitute sources for appliances. Moreover, in the second step, if competition between remain-

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158 Krattenmaker and Salop (1986), supra note 152, at 227.
160 However, this type of conduct is not necessarily harmless. Overbuying of commodities, such as environmental permits, can raise rivals’ costs. See Sartzetakis (1997), ‘Raising Rivals’ Costs Strategies via Emission Permit Markets’, Review of Industrial Organization 12:751, at 763.
ing non-excluded retailers was insufficient, the exclusion of Klor's would have given Broadway-Hale the power to raise prices.\textsuperscript{162}

Although exclusionary behaviour raising rivals' cost may display certain predatory features\textsuperscript{163} it is important to distinguish it from predatory pricing. Exclusion by raising rivals' costs is more likely to succeed than predatory pricing. Strategies involving cost-raising can be profitable even if competitors are not driven out from the market. Moreover, it does not, like predatory pricing, require sacrifice of short term profits for uncertain future benefits. Rivals with higher costs will cut output immediately.\textsuperscript{164}

In conclusion, the exercise of market power does not require that a firm has the power to raise prices by restricting its own output unilaterally. Market power can also be exercised by raising competitors' costs and thereby forcing them to restrict their production or exit the market, which causes the market price of the output of the predator to rise.\textsuperscript{165} Consequently, it is necessary to carefully monitor exclusive conduct that raises rivals' costs, and using the two-step model only inefficient exclusive conduct will be caught.

\textbf{5.2.4.2 Market Power in the Permit Market and the Product Market (I)}

In 1989 W.S. Misiolek and H.W. Elder presented a study showing the possibilities of one or a group of dominant firms to raise rivals' costs in the \textit{same} industry (product market) or to block the entry of new competitors through exclusionary manipulation of permit markets.\textsuperscript{166} As explained above, the aim of such behaviour would be to influence the costs of other firms in the industry and thereby gain market power on the relevant product market.

According to Misiolek and Elder, industries dependent upon specific natural resources or serving local markets are susceptible to exclusionary manipulation. Conse-

\textsuperscript{162} Krattenmaker and Salop (1987), supra note 153, at 77.
\textsuperscript{163} The behaviour has indeed been termed predatory conduct. See e.g. Predatory Pricing (1989) Paris: OECD, at 13.
\textsuperscript{164} Krattenmaker and Salop (1987), supra note 153, at 73.
\textsuperscript{165} Power over price does not have the power to raise prices but to prevent price decreases in the future. Firms that engage in exclusionary practices that prevent the substitutes from reducing their costs can do so, which is just as harmful to consumer welfare as implementing price increases. Exclusionary conduct could prevent prices from falling by raising the costs of a more efficient competitor. (Krattenmaker and Salop (1987), supra note 153, at 79)
\textsuperscript{166} Misiolek and Elder (1989), supra note 152.
quently, in an attractive area, a pollution permit could become an exclusionary right giving the holder of the permit access to a particular region and its resources, and restricting the entry and activity of others. The authors point out that since it is often more costly for small firms than large ones to invest in sufficiently efficient pollution abatement technology, large firms can block efforts by their smaller rivals to reduce costs by buying more permits than they actually need.

Misiolek and Elder use the following assumptions to prove that the dominant firm can determine the product price and influence the costs of its rivals, the latter through permit prices:
(i) there is one firm dominant in the product market, and this firm has the ability to set the product price;
(ii) there is a fringe of smaller firms acting as price takers;
(iii) there is a clear cost advantage to produce the product within a particular geographic region;
(iv) pollution permits give access to this location;
(v) there is only one form of pollution produced in this area;
(vi) the industry of the dominant firm and the fringe is a major source of that pollution; and
(vii) the price of permits is sensitive to purchases or sales by the dominant firm.

Hence, problems are most likely to be significant in regions offering substantial locational advantages to firms of a highly concentrated industry, particularly in regions where the total amount of emissions permitted is small. Moreover, in contrast to Hahn’s research which was focused on underbuying (or underselling) of a dominant purchaser permits with the purpose to keep prices down (or up), Misiolek and Elder prove that also overbuying can cause competition problems.

As always when dealing with economic research, the assumptions are of fundamental importance for the understanding of the problem. Therefore, it is important to note that dominance in the product market is an assumption for Misiolek and Elder\textsuperscript{167} and hence, not an effect of the permit market. This means that the result of their research is that a dominant firm practising exclusionary manipulation will hold more permits than it otherwise would and therefore create inefficiencies in the permit mar-

\textsuperscript{167} C.f. HAHN, supra note 147, for whom dominance in the permit market is an assumption.
Notwithstanding the fact that Misiolek and Elder focus on the effects on the permit market, it is also possible to conclude that this market can be used as an instrument to gain market power on the product market. In fact, that effect is most likely the reason why a dominant firm would choose to overbuy permits in the first place.

5.2.4.3 Market Power in the Permit Market and the Product Market (II)

In 1993, the Norwegian economist Nils-Henrik Mørch von der Fehr presented a paper in support of the theories of Misiolek and Elder. However, instead of assuming that the market consists of a dominant firm and (small) price-takers, Mørch von der Fehr applies the mentioned theories to oligopolistic markets. Hence, among his assumptions the following can be found:

(i) the firms involved can buy permits in a market where they both/all have market power;

(ii) the number of permits obtained by a firm determines its operational costs.

If the product market is characterised by products, which are fairly close substitutes it will profitable for firms to overbuy permits. Thus, to Mørch von der Fehr permits can serve as ideal instruments for monopolisation since it will be profitable to pay competitors to leave the market, while at the same retaining the permits in order to keep new firms from entering. According to Mørch von der Fehr, the number of permits bought will determine the cost structure of a firm and thus its strategic position. Moreover, manipulation of the permit price affects rivals' costs. Facing those opportunities, firms will typically overinvest in permits since such behaviour reduces marginal production costs and thereby makes them more aggressive in price competition in the product market. At the same time, rivals' marginal costs are increased since the permit price will be driven up.

In this connection, Mørch von der Fehr notes that complete monopolisation will require that permits are essential for profitable operations (because abatement costs are substantial) and that the supply of permits is inelastic. Should on the other hand the number of permits allocated to a given industry not be fixed, complete monopolisation will be less likely. Here Mørch von der Fehr points out that a permit market where the permit supply to a particular industry is exogenously given is only conceiv-

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able if all emissions originate in one industry, and the number of permits issued by the authorities is fixed. Such a scenario is not entirely incredible, but usually a number of different industries will be in the market for any given type of pollution permits. In such cases the supply of permits will be elastic. However, even though it is less likely that a firm will manipulate the permit market so as to force competitors to exit the market or prevent them from entering under such circumstances, there is still room for strategic behaviour through the permit market, Mørch von der Fehr points out. He shows that increasing purchases of permits reduces a firm's marginal costs which induces the firm to increase its output thereby reducing the market price. Consequently, its competitor(s), which will face a lower market price, will reduce its supply thereby improving the performance of the first firm. According to Mørch von der Fehr, this strategic effect enhances the incentives to buy permits. Hence, even in the cases where the supply of permits is not completely inelastic, overinvestment of tradable permits may form part of pre-emptive/entry deterrence plan. This is so since such overinvestment raises rivals' costs by increasing the permit price.

Finally, Mørch von der Fehr shows that aggressive strategies in the permit market may economically prevent firms from investing in pollution abatement technology. In this connection, it will be remembered that creating incentives to invest in pollution abatement equipment and research for new such equipment is one important purpose of introducing a permit market.

5.3 Counter Arguments

The economists referred to in sections 5.2.2-5.2.4 above are not the only ones who have treated the issue of emissions trading and market power. However, they are

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169 See NEWBERRY ((1990), ‘Acid Rain’, Economic Policy 11:297) who discusses the U.K. electricity industry. This industry consists of one publicly owned nuclear-based producer and two privately owned firms which are responsible for the bulk of U.K. emissions of sulphur dioxide.

170 As Mørch von der Fehr points out, however, the welfare in the product market will not necessarily be negatively affected, since the strategic effect referred to tends to increase outputs and thus ameliorate the inefficiency previously present in the oligopolistic market. However, Mørch von der Fehr must be referring to a short-term efficiency gain, since it is hard to believe that a shift from joint dominance to single firm dominance would be efficient in the long run.

sufficiently representative to show where the problems lie. Hahn shows the importance of avoiding that market power is created when the permits are initially allocated. This means that in addition to the choice of method for permit allocation -- grandfathering or auctions -- the actual number of permits allocated must be carefully considered for each individual firm, or at least for each firm which has the potential to obtain market power in the permit market.

Malueg shows that the competitive conditions on the product markets for the different industries, which are to participate in an emissions trading program, must be examined before the program is started. Under certain conditions, oligopolistic product markets can become even more inefficient if emissions trading is introduced.

Misiolek and Elder, and Mørch von der Fehr show that certain types of permit markets will be susceptible to exclusionary manipulation. Such behaviour would consist of abuse of the upstream market (the permit market) in order to gain power on the downstream market (the product market). However, these concerns have been called exaggerated by Tom Tietenberg, and the American experience with Individual Transferable Fishing Quotas supports his conclusions.

5.3.1 Tietenberg

Tom Tietenberg, who has studied emissions trading for more than 25 years, believes that market power concerns need not become a very serious problem for the implementation of future trading programs. In his view, the ability to manipulate prices in the permit market, as discussed by Hahn, will be confined to permit markets where permits are allocated using some form of grandfathering. The larger the divergence between the number of permits actually received by potentially dominant sources and the cost-effective number of permits, the larger the potential for market power problems, Tietenberg admits. However, according to his own studies the divergence from the cost-effective allocation of permits must be "considerable" to generate inefficient permit markets.\(^\text{172}\)

As regards the use of permit markets as a tool for driving competitors out of business, as discussed by Misiolek and Elder, Mørch von der Fehr, and to some extent

by Malueg, Tietenberg claims that such a problem would be relatively rare. In his view, permits are “a very blunt instrument for attempting to gain a strategic advantage.” Moreover, Tietenberg points out that even if market power would be likely to cause problems, its consequences can often be limited by proper program design. His example is the Acid Rain Program, where auctions held on a regular basis constitute an alternative source of permits. Moreover, the government sets aside allowances to be sold should the need arise. Such provisions limit the ability of any participating firm (or group of firms) from cornering the market.

5.3.2 Individual Transferable Fishing Quotas

The US experience with individual transferable fishing quotas (ITQs) shows that market power concerns should not be overestimated. The theoretical basis of the ITQ system is the same as for emissions trading. In order to conserve resources for long term sustainable yield, fishing quotas are allocated to fishing vessels. Each quota constitutes a percentage share of the total annual allowable harvest. The quotas are freely transferable among the vessels. Thus, the idea is to let the market allocate the quotas to those who will most efficiently utilise them.

When the ITQ system was introduced, it was feared that an individual or a group of individuals could monopolise the market through obtaining an excessive percentage of the quotas, and subsequently use that position to exact unfair economic advantage over consumers. This could happen if a particular quota holder were to accumulate an excessive market share.

In order to obtain monopoly power under US antitrust law, a firm must control a substantial part of the relevant market. The ITQ regulations contain precautions against any one entity gaining a disproportionate share of the market. Pursuant to one provision, any ITQ allocation made in accordance with a fishery management plan

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174 Ibid.
176 Ibid., at 44.
177 The relevant product market encompasses all products that are so similar that one can be used as a replacement for the other (United States v. E.I du Pont Nemours & Co., 351 U.S. 377, 409 (1956)). In addition to this, the relevant geographic market must be defined.
must be "carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges." Under another,\footnote{179} the authority which draws up the fishery management plans must take "fairness and equity, conservation promotion, and possible monopolistic or oligopolistic effects on the proposed allocation" into account. Moreover, it has been held that illegal economic concentrations are unlikely to occur because of the high prices of the ITQs and the oversight by the government.\footnote{180}

In \textit{Sea Watch International v. Mosbacher},\footnote{181} a fishery management plan was challenged since two fishermen held over 40% of the shares and fragmentation of the remaining shares was feared to lead to further consolidation as holders of small shares sold their interests. Thereby, the plaintiffs alleged, an impermissible restraint on competition would be created. The court ruled that 40% was not an excessive share under the ITQ-regulations. This ruling is in conformity with U.S. antitrust law. According to Judge Hand in \textit{United States v. Aluminum Co. of America},\footnote{182} a market share of 90% would qualify as monopolisation under the Sherman Act, whereas 60-64% would be doubtful, and 33% would definitely not be enough.

Even though the introduction of the ITQ system has led to the loss of many small fishermen, it is not likely that US courts would find the quota that any individual fisherman can amass to be in violation of the prohibition against monopolisation in the Sherman Act.\footnote{183} The ITQ system is meant to create efficiency on a previously inefficient market, and inefficient markets are the only markets in which intervention should made under the Sherman Act. Consequently, it is unlikely that the two systems would be in conflict with each other.

\section*{5.4 Concluding Remarks}

Notwithstanding Tietenberg's calming words with regard to the possibilities of using tradable permits for exclusionary purposes, and the experiences with ITQs in the U.S, the risks pointed out by the economists referred to in sections 5.2.2-5.2.4 remain con-
ceivable. Tietenberg calls permits “a very blunt instrument for attempting to gain a strategic advantage”, and claims that negative effects “can frequently be limited by proper program design”.

Hence, not even one of the most enthusiastic advocates of emissions trading excludes the possibilities for anti-competitive abuse of permit markets. In addition, it should be noted that recent experiments show that, in situations such as the ones envisaged Hahn, Malueg, Misiolek and Elder, and Mørch von der Fehr, efficiencies can be actually reduced below command-and-control levels.

Furthermore, the ITQ experience must be taken with a grain of salt since the allocation rules under that program more or less excludes monopolisation, as defined under U.S. antitrust law, at the initial stage. Such rules are conceivable also for emissions trading program. An efficient allocation would eliminate the ‘Hahn-effect’ referred to above in section 5.2.2. However, after the initial allocation, it is not necessarily true that highly priced permits would prevent firms from using the permit market to raise rivals’ costs. The market decides the prices and the actors are likely to be more heterogeneous on a permit market than on the ITQ market. Thus, predictions of future prices are difficult to make. In this connection, it is also important to note that the fact that a market share of 40% is not sufficient to constitute monopolisation under U.S. law, has very little bearing on European competition law. Under European law, abuse of a dominant position is prohibited. This means that being dominant is not illegal. Dominance on a market merely imposes a special responsibility on the dominant firm. Thus, dominance can be found even in cases where the market share is less than 40%. In order for there to be a violation of European competition law an abuse of the dominant position is required. Exclusionary behaviour in the permit market with the purpose to raise rivals’ costs and gain market power on the product market is not unlikely to constitute an abuse of a dominant position within the meaning of Article 82 ToA (formerly Article 86).

187 See, e.g., the Commission’s Xth Report on Competition Policy (1981), point 150, in which it is stated that “[a] dominant position cannot even be ruled out in respect of market shares between 20% and 40%.” (The quotation is taken from JEBSEN and STEVENS (1996), ‘Assumptions, Goals and Dominant Undertakings: The Regulation of Competition Under Article 86 of the European Union’, Antitrust Law Journal, 64:443, at 482.)
In light of the above, the question arises whether competition law can be used as a means to remedy the situations feared by Hahn, Malueg, Misiolek and Elder, and Mørch von der Fehr. Obviously, firms cannot be prevented from over- or underbuying permits (Hahn), nor can negative effects on marginal production costs for some firms be remedied (Malueg). However, it may be possible to force firms to sell excess permits held to reasonable prices applying Article 82. Therefore, the remainder of this paper will focus on European and, to some extent, American exclusion law. The purpose will be to find out whether European competition law can be applied so as to prevent firms from abusing the permit market to gain competitive advantages on the product market.
PART II
6 Article 82 – General

6.1 Introduction

Article 82 prohibits the abuse of a dominant position within the common market or in a substantial part of it insofar as it may affect trade between the Member States. Thus, a finding of a violation of this provision requires:

(i) a finding of a dominant position within the relevant market which must be large enough to constitute a substantial part of the common market;

(ii) an abuse of that dominant position; and

(iii) an effect on trade between the Member States.

These three factors will be addressed individually in sections 6.2-4 below. The presentation is, however, extremely brief and is only meant to provide an introduction to the reasoning under Article 82.

6.2 Dominance Assessment

The concept of dominance refers to a position of power for a firm in relation to a specific product market and within a relevant geographical market, both of which must be defined. Needless to say, market definition will be a very simple affair with regard to emissions trading. Let us assume that an emissions trading program is instituted with the purpose to reduce SO₂. In such a case the relevant product market would be permits allowing emissions of SO₂. Environmental considerations would preclude any substitutability between permits for different kinds of pollutants. Moreover, the geographical market would be the geographic area covered by the program in question. For example, under a Community-wide program, the relevant geographical market would be the Community. This is so since the purpose of instituting a Community-wide permit market would be to allow the market to allocate the permits wherever they can be most efficiently utilised.¹⁸⁸

¹⁸⁸ As regards smaller markets, see section 4.1.10 above.
As regards the required dominant position, the Court of Justice has defined it in the following words:

"The dominant position ... relates to a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independent of its competitors, its customers and ultimately of the consumers.

Such a position does not preclude some competition which it does where there is a monopoly or a quasi-monopoly but enables the undertaking which profits by it, if not to determine, at least to have an appreciable influence on the conditions under which that competition will develop, and in any case to act largely in disregard of it so long as such conduct does not operate to its detriment. ...The existence of a dominant position may derive from several factors which taken separately are not necessarily determinative but among these factors a highly important one is the existence of very large market shares."  

Evidently, market shares do not constitute the only important factor to take into account when the question of dominance is at issue. However, it has been held that a market share of ten per cent is not sufficient. Pursuant to the Merger Regulation (recital 15) market shares not exceeding 25 per cent cannot be presumed to significantly impede competition. Should the market share of a firm reach 45 per cent, it is very difficult to claim that that firm is not dominant unless there is another firm in the same market with an equivalent market share. Finally, a market share of 65 per cent leads to an almost irrefutable presumption.

Thus, the findings of the economists referred to in section 5 above indicate that dominance in the permit market is unlikely in Community-wide emissions trading programs. For example, a Community-wide SO₂ market would most likely include a sufficient amount of actors to prevent any firm or group of firms from obtaining more than 25 per cent of the permits. Nevertheless, for other types of pollutants national or international.

193 Admittedly the economists use the concept of market power, which may require higher market shares than dominance.
even regional permit markets may be more suitable.\footnote{This would be the case with pollutants for which the location of the sources of emissions matter to a larger degree.} In such smaller contexts, dominance is more likely to occur.

The embryo of a market for \(\text{CO}_2\) permits in Norway, may serve as an example.\footnote{A committee is currently examining the advantages and disadvantages of instituting a Norwegian \(\text{CO}_2\) permit market. The report is expected to be published in the summer 2000. This author is indebted to Professor Hans Christian Bugge at the University of Oslo for information on the work of the committee.} Some 50 \(\text{CO}_2\) emitters are expected to partake in this program, which is intended to cover all of Norway. Most polluters are of equal size and emit fairly similar amounts of \(\text{CO}_2\). However, the oil industry is by far the greatest contributor to Norwegian \(\text{CO}_2\) emissions. This industry consists of very few firms whereof which two are emitting considerably more than the other ones. Hence, considering that the oil industry is the worst polluter and these two companies are the largest in this industry, it is conceivable that one of them or both gain dominance on the permit market. Applying the findings of Misiolek and Elder, and Mørch von der Fehr, it will be possible to conclude that these firms may come to find themselves in a dominant position on that market, which they can abuse, in order to gain competitive advantages on the product markets (oil, petrol, natural gas, etc.).

It may be argued that such behaviour will not be possible since the polluters outside of the oil industry may hold excess permits. Thus, the smaller competitors in the oil industry may find substitutes to the permits provided by the two large firms. However, it will be remembered that under the lead trading program in the US, the large firms were able to lower the lead content in their petrol much faster than the small ones. Therefore, the former were able to free lead credits for sale faster than the latter. This is most probably due to the fact that the cost for installing the necessary equipment is lower for larger firms.\footnote{This would be the case with pollutants for which the location of the sources of emissions matter to a larger degree.} Hence, the industry with the largest firms will probably be able to lower emissions faster than the other industries. In Norway, this would apply to the oil industry, and within that industry the two largest firms are likely to be able to free permits for sale faster than the rest of the firms. Therefore, it may take some time before the small firms will be able to find substitutes for the excess permits generated by the two large firms. Consequently, the latter two firms may be able to look forward to a period of dominance on the permit market corresponding to the time
it will take small firms around the country to generate substitutes. The large firms will thus be in a position to prevent their smaller competitors from expanding or new competitors from entering. As regards the actual market shares of the two large oil producers, it is of course difficult to predict any figures. However, it can be assumed that market shares of 25 per cent are not unlikely, in particular if the market shares of the two large firms were taken together.

6.3 Abuse

Having found that dominance in the permit market may be possible for one or more firms in national or regional markets, it is now time to turn to the issue of abuse. Article 82 itself provides the following examples of abusive practices:

Unfair purchase or selling prices or other unfair trading conditions, limiting of production, markets or technical development to the detriment of consumers, applying dissimilar conditions to equivalent transactions with other trading partners, and making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which have no connection with the subject of such contracts.

In Hoffmann-laRoche, the Court of Justice developed its view on abuse. The concept of abuse was described as “an objective concept relating to the behaviour of an undertaking in a dominant position which is such as to influence the structure of a market where, as a result of the very presence of the undertaking in question, the degree of competition is weakened and which, through recourse to methods different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition.”

The examples given in Article 82 itself and the definition of abuse provided by the Court has generated case law from the Commission and the Community Courts which generally is divided into the following categories: (i) refusal to supply and refusal of access to essential facilities,
(ii) excessive pricing,
(iii) discriminatory pricing,
(iv) tying arrangements,
(v) predatory pricing, and
(vi) illegitimate use of discounts and rebates.
The order of the above list is meant to reflect the relative importance of the respective kinds of abuse for firms dominant in the permit market, (i) being the most important.

The following is a brief, introductory assessment of the likeliness of finding the individual forms of abuse in relation to a localised permit market.

Refusal to supply a competitor with permits in order to prevent him from becoming more competitive or refusal to supply a new potential competitor could be perceived as a violation of Article 82, if access to such permits would be vital to the competitor. Refusal of access to essential facilities can be seen as a special case of refusal to supply. The Commission has described an essential facility as “a facility or an infrastructure, without access to which competitors cannot provide services to their customers.”199 Permits to pollute could qualify as such facilities in localised permit markets if they are truly indispensable for the competitor seeking access.

Prices charged for permits which have no reasonable relation to the economic value of the permit could constitute excessive pricing. Article 82 would be breached if consumers suffered as result of these pricing policies, even if no effect on competition could be shown. However, a finding of excessive pricing requires a very detailed cost analysis which is a complex exercise. Permits may be possible to value with regard to the money spent on pollution abatement in order to free them for sale. However, it will be very difficult to assess the value for each individual firm to be able to keep the permits for future use. The complexity of the assessment, the sparse case law on the issue, and its close relation to refusal to supply, taken together, mean that excessive pricing will be placed outside the scope of the present paper.

Discriminatory pricing could consist of charging firms in the same industry (product market) higher prices than others. Such behaviour would allow the dominant firm to sell permits to firms which are not competitors to market price, whereas competitors would have to pay a higher price and thereby be put at a competitive disad-

vantage. However, the reasoning behind prohibiting such behaviour is very similar to the one which constitutes the basis for the case law on refusals to supply. An outright refusal to supply would only be interpreted as a more explicit way to drive competitors out of business than charging them more for permits.

*Tying* would be at hand if a firm dominant in the permit market is able to impose on his customer to buy a second non-related product. The latter product is often sold at a price well above the market price. Recalling the example of the Norwegian oil industry, a firm producing plastics may have to turn to the oil industry in order to obtain the necessary permits for expanding its activities. The oil producing firm would thus be able to condition the supply of permits on the conclusion of an onerous contract for supply of oil. This is a somewhat different situation from the ones introduced above, since the two firms involved are not active on the same product market. Nevertheless, the behaviour is closely related to refusal to supply since the customer who refuses the tie-in condition will be told that the permits are unavailable. The basic issue of regulatory intervention to ensure supplies of permits is the same as for refusal to supply. Hence, tying will not be discussed below.

*Predatory pricing* is unlikely to occur on a permit market, since this would mean pricing permits below production costs. Prices which are lower than average variable production costs are to be presumed to be intended to eliminate competitors since they involve sacrificing recovery of all relevant fixed costs. Moreover, pricing is presumed to be abusive even at higher levels if it does not succeed in recovering average total costs and is part of a deliberate plan to eliminate a competitor with fewer financial resources.\(^{200}\) The Commission does not even have to prove that the dominant company will actually succeed in subsequently raising its prices following the elimination or weakening of its competitors.\(^{201}\) Notwithstanding these lenient requirements, it is not likely that firms will try to drive their competitors out of business through lowering prices on permits. In order to be susceptible for such behaviour a firm would have to depend heavily on permit trading. Theoretically, a permit broker could be eliminated through predatory pricing. However, such a scenario would require trading which is extensive enough to sustain at least two firms which concentrate almost ex-


clusively on permit trading. In order for such activities to be profitable, trading programs would have to involve a large number of participants and, as shown in section 5 above, this would reduce the possibilities of firms obtaining dominant positions on the permit market.

Illegitimate use of discounts and rebates is as unlikely to occur in a permit market as predatory pricing. Normally, abuse with regard to rebates and discounts is committed vertically by firms which are not active in the downstream market, for example in the relationship between a manufacturer and a distributor. Permit trading is will not take such proportions as to make useful to tie rebates on permits to exclusive purchasing obligations.

Thus, judging from the economic research described in section 5 and the list of abuses under Article 82, the basic question appears to be whether a firm dominant in the permit market can be forced to sell its excess permits to its competitors. Therefore, the following sections of this paper will focus on the laws on refusal to supply and refusal of access to essential facilities. However, the findings in section 8 below will be capable of providing some guidance also with regard to excessive pricing and tying.

6.4 Effect on Trade Between the Member States

The condition that trade between the Member States be affected is easily satisfied. Even behaviour which has effects only in one single Member State may infringe Article 82. In Commercial Solvents v. Commission, the Court of Justice held that the condition should be interpreted in the light of (what was then) Articles 2 and 3(f) (now Articles 2 and 3(g)) of the Treaty. In the case concerned, it was argued that the alleged abuse did not affect trade between the Member States since 90 per cent of the final product was sold in non-member countries and most of the rest was sold in Italy, where it was also manufactured. The Court held that:

"The Community authorities must therefore consider all the consequences of the conduct complained of for the competitive structure in the common market without distinguishing between production intended for sale within the market and that in-

203 See e.g. Hoffmann-laRoche supra note 189 and Michelin, supra note 186.
tended for export. When an undertaking in a dominant position within the common market abuses its position in such a way that a competitor in the common market is likely to be eliminated, it does not matter whether the conduct relates to the latter’s exports or its trade within the common market, once it has been established that this elimination will have repercussions on the competitive structure within the common market.205 To this author’s knowledge, there is only one case in which the Court has found that the requirement of effect on trade between the Member States was not fulfilled.206 Thus, with the Court’s leniency in mind, it will be assumed that even localised permits markets can produce effects on trade between the Member States.

205 Ibid., para. 33.
7 Refusal to Supply and Access to Essential Facilities

7.1 Introduction

The right to choose one’s trading partners and freely dispose of one’s property are generally recognised principles in the legal orders of the Member States of the European Union. Therefore, intervention with these principles should be made with care and justifications for such intervention be thoroughly considered. In some cases, however, dominant firms have been prohibited from refusing to supply their competitors or distributors. In this paper, the first cases establishing this principle will be introduced in section 7.4 below. In these cases, the Court of Justice and the Commission focused, as will be shown, rather on preventing the elimination of smaller competitors than on economic analysis.

In the 1980’s, the Court and the Commission started to treat refusals to supply somewhat differently. It will be argued that the focus was shifted to economic efficiency, and that the position of individual competitors became less important. The cases belonging to this category will be discussed in section 7.5.

The concept ‘essential facilities’ was first used by the Commission in 1992. Subsequently, a number of cases concerning access to ports were published, and in 1998 the Court of Justice was explicitly asked to take the concept into account for the first time. This case law will be discussed in section 7.6.

Yet another group of cases concern the refusal to license intellectual property rights. These cases are of particular interest for the purposes of this paper since the balancing of the protection of intellectual property rights and competitive markets resembles the balancing which will be needed between the wish to keep incentives to reduce pollution and the need to keep the permit market competitive. The cases dealing with intellectual property rights will be presented in section 7.7.

Before entering into the European case law on refusals to supply and access to essential facilities, however, some brief remarks will be made on the application of the essential facilities doctrine in the U.S. The purpose of this section is to create a basis for comparisons when the European law on refusals to supply and essential fa-
ilities is discussed (section 7.3). This section will be preceded by an introduction to the concept of essential facilities. This concept is somewhat more specific and complex than the general concept of refusal to supply, which is why a theoretical introduction has been deemed necessary (section 7.2).

The general scope of section 7 is limited to current European competition law. Thus, specific comments with regard to exclusionary behaviour on permit markets will be first be presented in section 8.

7.2 The Concept of Essential Facilities

As will be seen from section 7.4 below, refusal to supply concerns situations where the dominant undertaking has refused to supply an existing customer. The doctrine on essential facilities requires no such previous relationship between the (non-)supplier and the customer. However, the European law on essential facilities, insofar as it exists, derives from the case law on refusals to supply and, the purpose of this introduction to the concept is to point at some of the features which are specific to the reasoning in cases concerning access to essential facilities.

The Commission first made explicit reference to the essential facilities doctrine in B&I Line/Sealink. In this case, the Commission described an essential facility as "a facility or an infrastructure, without access to which competitors cannot provide services to their customers". In the Commission's view, refusal to grant access to an essential facility without objective justification or the granting of access to that facility on discriminatory terms is an infringement of article 82. Thus, two central issues are identified by the Commission: First, what are the circumstances in which an essential

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207 It can be argued that also the cases decided in the early years concern essential facilities, as does RIDYARD (1996) 'Essential Facilities and the Obligation to Supply Competitors under UK and EC Competition Law', ECLR, 438.
208 KORAH does not seem to acknowledge its existence in her book EC Competition Law, supra note 143.
209 This statement is applicable not only to the case law on essential facilities but also to secondary legislation. See e.g. ARMORY and VERHEYDEN (1998), How to Ensure Fair and Efficient Terms of Access to "Bottleneck" Network Facilities when the Gatekeeper has no Incentives to Grant Them, Unpublished paper submitted for the 1998 EU Competition Workshop: Competition Policy in Communications Network Markets held at the European University Institute in Florence, 13-14 November 1998.) on the interpretation of the Commission's Notice on the application of the competition rules to access agreements in the telecommunications sector: framework, relevant markets and principles, OJ [1998] C265/2.
210 B & I Line/Sealink, supra note 199.
facility can be said to exist? And second, where an essential facility has been identified, what are the terms on which access to that facility by competitors should be granted?

A simplified model can be helpful in describing the essential facilities dilemma. We assume that in order to provide the end consumer with a certain product, two related activities which both form part of the product are needed. These activities can be characterised as ‘upstream’ and ‘downstream’ activities. An example of the former would be manufacture, whereas distribution can serve as an example of the latter. The essential facilities problem can arise at any of these levels. Let us further assume that firm A supplies consumers with a product which the result of the combination of the upstream and downstream activities. The question is, should firm X which has the capacity to perform the downstream (or upstream) activity only, be given access to the upstream (or downstream) facility of firm A in order to be able to supply consumers?

Ridyard illustrates the upstream/downstream dichotomy with the following examples:

<table>
<thead>
<tr>
<th>'Up-stream'</th>
<th>'Down-stream'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport infrastructure</td>
<td>Transport operator</td>
</tr>
<tr>
<td>Pipeline/Wire</td>
<td>Supply of water, gas, electricity, telephone services through pipe/wire</td>
</tr>
<tr>
<td>Manufacture</td>
<td>Retail/distribution</td>
</tr>
<tr>
<td>R &amp; D</td>
<td>Manufacture</td>
</tr>
<tr>
<td>Raw Material</td>
<td>Processing</td>
</tr>
<tr>
<td>Manufacture</td>
<td></td>
</tr>
<tr>
<td>Spare parts</td>
<td>Marketing/branding</td>
</tr>
</tbody>
</table>

*Tentatively, the following point can be added to Ridyard’s list:*

| Tradable permits | All activities in need of permits to emit relevant pollution in relevant geographic areas |

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212 The model is borrowed from RIDYARD (1996) *supra* note 207, at 439.
Firm X will typically argue that A's refusal to provide X with the required facility prevents X from entering the market and this reduces consumer choice. Moreover, A's behaviour shields A's downstream activity from competition and the prices for the product are therefore too high. Finally, X adds, the costs for X to establish an upstream facility of its own as an alternative to using A's would entail prohibitive costs and therefore consumers would not profit from X's entry in the way they would if X were given access to A's facility.

A on its part will argue that there are intrinsic efficiency advantages in keeping both the upstream and the downstream advantages within the same firm ('economies of scope'). Moreover, A will argue that the benefits that X claims to be able to deliver to consumers if it could gain access to A's upstream facility belongs to A since A was the one who built up the so much wanted upstream facility in the first place. Finally, A claims that competition and consumer interests are sufficiently protected by the fact that A faces competition from firms B, C, and D who supply alternative combinations of up-stream and down-stream facilities to consumers.

Thus, the issue to be decided in each case will be the balancing of potential short-term gains to consumers by granting X access to A's upstream facility, and not negatively affect the incentives of A (and its likes) to develop or produce upstream facilities.

Consequently, even though competitors are normally discouraged from cooperating with one another, some facilities, access to which is essential to enable other competitors to do business, can be labelled as essential and the owner of that facility will be required to give equal access to its competitors. However, access must only be granted if the competitors in question cannot be expected to provide this facility for themselves. When discussing such cases, it is important to recall that great caution is necessary, since the law usually allows a company to retain, for its own exclusive use, all advantages that it has legitimately acquired. The principle that companies in a dominant position must provide access to genuinely essential facilities on a non-discriminatory basis is of greatest importance in industries such as telecommunications, transmission of energy, and transport.213

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### 7.3 The Essential Facility Doctrine in US Antitrust Law

#### 7.3.1 Background

Section 2 of the Sherman Act prohibits monopolisation and attempted monopolisation, meaning the acquisition, the attempted acquisition, or maintenance of monopoly power through anti-competitive means. Under certain circumstances the denial of access to a facility that is essential to competition is deemed to be a form of anti-competitive conduct if performed by a monopolist. The Supreme Court of the United States has never actually recognised a distinct "essential facilities" doctrine. However, lower federal courts have interpreted the Supreme Courts opinion to mean that the denial of an essential facility can, under certain circumstances, constitute an antitrust violation.

When discussing the obligation to share an essential facility under US antitrust law, it is important to note that the underlying assumption is that any firm has the right to deal with whom it pleases. Eighty years ago, the Supreme Court held in *United States v. Colgate & Co.* that "[i]n the absence of any purpose to create or maintain a monopoly, the [Sherman] act does not restrict the long-recognized right of [the] trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal." The rationale for this rule is that a monopolist should be permitted considerable latitude in making decisions as to with whom it will deal and how it will structure its dealings. This rule has even been referred to as "the libertarian right to deal with whom one pleases".

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215 The additions to the quotation are borrowed from JEBSEN and STEVENS (1996), supra note 187, at 506.
216 *Ibid.* However, this presumption may currently be questionable since the Supreme Court in *Eastman Kodak Co v. Image Technical Servs., Inc.* (504 U.S. 451, 483 footnote 32 (1992)) held that "[t]he absence of an unqualified duty to co-operate does not mean that every time a firm declines to participate in a participate in a particular co-operative venture, that decision may not have evidentiary significance or that it may not give rise to liability in certain circumstances." This means that in some cases in which a firm with monopoly power refuses to deal with an actual or potential competitor, that refusal may give rise to antitrust liability.
7.3.2 Development of the Essential Facilities Doctrine

The first case from the Supreme Court commonly viewed as implicitly supporting liability based on the denial of access to an essential facility was the multifirm combination case *United States v. Terminal Railroad*,217 which concerned a combination of railroads, The Terminal Railroad Association, consisting of some of the railroads transiting St Louis (which was an important railroad junction). The Association acquired control over passages into and out of the city and thus also acquired a possibility to exclude or place its competitors at a disadvantage. Since the monopoly power was obtained through the joint purchase of the facility, the Supreme Court approved an order requiring the Railroad Association to admit non-member competitors to the combination or to use the facilities in a non-discriminatory manner.

This case was followed by *Associated Press v. United States*,218 which concerned an association of 1,200 newspapers created in order to achieve economies of scale in the press business. Each member of the association had access to the news generated by other members. This meant that, collectively, the newspapers could afford to have correspondents in many places in the world and staff expert journalists to explain complicated news to the readers. New members were welcomed to Associated Press unless they competed with one of its members. The Supreme Court found that the discrimination against competitors was a violation of the Sherman Act and ordered Associated Press to end it. However, the Court underlined that the Association was under no obligation to admit everyone.

Thus, the two first cases in the history of the essential facilities doctrine in US antitrust law concerned concerted action. However, subsequent to these two cases, a number of cases concerning unilateral refusal to deal were decided by the Supreme Court. The origin of this line of cases is said to be219 *United States v. Griffith*,220 which concerned a "movie exhibitor’s use of buying power in a market in which it had a monopoly to compel distributors to give it preferential rights in towns where the mar-

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ket was competitive." 221 Thus, it did not really concern an alleged essential facility. However, the language of the Court's judgment has in the words of Areeda "come to live a life of its own, quite apart from the circumstances, facts, or reasoning behind it." 222 In fact, all the Court said was that a monopolist may not use its power "to foreclose competition" or "to gain a competitive advantage" in any market. On a literal interpretation this statement could, of course, be taken to mean any monopolist who refuses to make his product or facility available will be condemned under section 2 of the Sherman Act. Areeda is, however, critical to conclusions ascribing such a broad principle to those words in particular since the case in question did not even concern essential facilities. 223

If Griffith is the origin of the essential facilities doctrine as applied to single firm conduct, Otter Tail Power Co. v. United States 224 is its genesis. The case concerned some municipalities, which wished to supply their residents with local distribution of electric power. Otter Tail was asked to either sell electricity wholesale or carry electricity, which the municipalities had bought from another supplier over Otter Tail's lines. Otter Tail refused because it wanted to keep the local distribution business to itself. The Supreme Court found Otter Tail's refusal to supply or carry the electric power to be a violation of section 2 of the Sherman Act. 225

A further development came in 1985 with the Supreme Court's decision in Aspen Skiing Co. v. Aspen Highlands Skiing Corp. 226 Aspen Skiing owned three mountains in Aspen, Colorado, and Aspen Highlands owned the fourth. For some years these two firms together offered a six-day lift ticket covering all four mountains which

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221 AREEDA (1990), supra note 219, at 847 (footnote 29).
222 AREEDA (1990), supra note 219, at 847.
223 Ibid.
225 However, in Areeda's view, because of the peculiar circumstances in the case, it does not spell out any general duty to deal. Firstly, he points out, Otter Tail was a natural monopolist. Moreover, it was regulated and by refusing to supply the municipalities it may have evaded those regulations. Areeda draws this conclusion from the fact that it appears from the decision that transmission charges and wholesale prices were regulated by the Federal Power Commission whereas the retail distribution business was not so effectively regulated. Thus, carrying power or selling it wholesale would prevent Otter Tail from charging monopoly prices and duty to deal may in fact have been beneficial to the consumers. Further, the fact that there was a regulatory agency in place to supervise prices and terms of dealing meant that the Court could require Otter Tail to deal without having to lay down the administrative details. This work could be taken care of by the regulatory authority which had the required expertise. Areeda's conclusion is therefore that the obligation to deal under Otter Tail is very narrow. (AREEDA (1990), supra note, at 848.)
was 14% cheaper than six one-day passes would have been. Aspen Skiing eventually ceased offering the four-mountain pass with Aspen Highlands with the result that the latter lost some business, although its competitive vitality was never in question. A jury verdict gave Aspen Highlands right and this verdict was upheld by the Court of Appeals for the Tenth Circuit. The court held that a multimountain ticket was an essential facility that Aspen Skiing was obliged to share and that there was sufficient evidence to support the jury finding that Aspen Skiing intended to create or maintain a monopoly. The Supreme Court affirmed the decision of the Court of Appeals but never addressed its essential facilities rationale. Instead the Court affirmed the decision of the Court of Appeals solely on the basis of "ordinary" refusal to deal. Although it stated that "even a firm with monopoly powers has no general duty to engage in a joint marketing program with a competitor", the Court found that Aspen Skiing had no valid business reasons for its refusal, other than a monopolist's urge to undercut a competitor. The Court concluded that "the evidence supports an inference that Ski Co. was not motivated by efficiency concerns and that it was willing to sacrifice short-run benefits and consumer goodwill in exchange for a perceived long-run impact on its smaller rival."227

Even if *Aspen Skiing Co. V. Aspen Highlands Skiing Corp.* is considered relevant to the development of the doctrine of essential facilities in the US, its most coherent modern articulation was given in the judgment of the 7th Circuit in *MCI Communications Corp. v. American Tel. & Tel. Co.*228 MCI alleged, *inter alia*, that AT&T had unlawfully refused to interconnect with the local distribution facilities of Bell Operating Companies and thereby had prevented MCI from offering various services to its customers. The court held that "[a] monopolist's refusal to deal under these circumstances is governed by the so-called essential facilities doctrine. Such refusal may be unlawful because a monopolist's control of an essential facility (sometimes called a "bottleneck") can extend monopoly power from one stage of production to another, and from one market into another. Thus the antitrust laws have imposed on firms controlling an essential facility the obligation to make the facility available on non-discriminatory terms." In this connection, the court set out four conditions for estab-

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227 Ibid. at 610-611.
lishing liability under the essential facilities doctrine: (1) control of the essential facility by the monopolist; (2) a competitor's inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility.²²⁹ In the end the court found that MCI had not produced sufficient evidence at trial for the jury to conclude that it was technically and economically feasible for AT&T to have provided the requested interconnections.

7.3.3 The Intent and Monopoly Leveraging Tests

The essential facilities doctrine is not the only exception to the rule stated in United States v. Colgate & Co. that, in the absence of any purpose to create or maintain a monopoly, even monopolists may exercise their own independent discretion as to the parties with whom he will deal. There are two other lines of cases establishing exceptions to this rule: the intent test and the monopoly leveraging test.

The intent test is said to based on the limitations inherent in United States v. Colgate that the right to choose customers does not apply if that right is exercised with the purpose of creating or strengthening a monopoly.²³⁰ According to some authors the Supreme Court applied this rule in Aspen Skiing Co. v. Aspen Highlands Skiing Corp. Thus, the intent test appears to consist of an evaluation of the intent of the firm accused of trying to create a monopoly. In order to show the objective intent of this firm the plaintiff must show both exclusionary effects in the monopolised market resulting from the challenged conduct and a lack of business justification for that conduct.²³¹

The monopoly leveraging test finds its origins in a ruling of the 2nd Circuit in Berkey Photo v. Eastman Kodak Co.,²³² which, in turn, is based on the Supreme Court's dictum in United States v. Griffith that "the use of monopoly power, however lawfully acquired, to foreclose competition to gain a competitive advantage, or to destroy a competitor, is unlawful." In Berkey Photo, the court took this to mean that it is

²²⁹ Ibid. At 1132-1133.
a violation of Section 2 of the Sherman Act for a firm to use its monopoly power in one market to gain a competitive advantage in another, even if it is not a question attempting to monopolise also the second market. Similar to the "intent cases", "monopoly leveraging cases" can be justified by valid business reasons. The difference between the two lies in the "in the nature of the anti-competitive effects required to constitute an antitrust violation". Under the intent test, the issue is to find exclusionary effects in the market where the defendant firm possesses market power. Under the monopoly leveraging test on the other hand, the plaintiff must show advantages for the monopolist in a second related market.

Both of these lines of cases overlap to a considerable extent with each other and with essential facilities cases, but there seems to be at least two differences between intent/monopoly leveraging and essential facilities. Firstly, the former two allow for extensive business justifications for refusals to deal, whereas essential facility cases allow for justifications only if access to the facility would disrupt the monopolist's own business. Secondly, as opposed to monopoly leveraging cases, the essential facility rule becomes applicable only where denial of access to the facility has its effects in a market where the defendant has market power. This follows from the nature of the requirement that the facility be "essential".

7.4 The Early Years

7.4.1 Commercial Solvents

The oldest case concerning refusal to supply under Article 82 is Commercial Solvents. In this case, Commercial Solvents (CS) was the only producer of a raw material, necessary for the production of ethambutol, a derivative chemical used to produce a drug against tuberculosis, and refused to supply it to a competitor, Zoja, which was manufacturing ethambutol. The Court of Justice held that CS abused its dominant

235 Ibid.
236 Commercial Solvents, supra note 204.
position when it decided to stop supplying raw materials (nitropropane and aminobutanol) to Zoja and to start producing ethambutol on its own (through its subsidiary Istituto Chemioterapico Italiano SpA (ICI)). Zoja, having nowhere else to turn, would have been eliminated from the market if the Court would not have ruled in its favour.

CS had a world monopoly in the manufacture of the raw material used to produce ethambutol. Most of the relevant patents had expired, but despite of this it was difficult for other firms to enter the market. This difficulty derived from the fact that outlets for other products which could be obtained using the same complex production procedure were hard to find. Moreover, the costs for research and development were very high and the necessary manufacturing installations were complex and costly.

Originally, CS supplied ethambutol to Zoja through its wholly owned subsidiary ICI. Zoja and ICI had planned to merge, but the negotiations had stranded. When it was clear that the merger would not take place, ICI (instructed by CS) raised its prices for ethambutol to Zoja and gradually reduced the level of its supplies. Eventually, Zoja became unable to manufacture ethambutol on its own and complained to the Commission that CS and ICI were abusing their dominant position as world leaders in the production of nitropropane and aminobutanol. The Commission ruled in favour of Zoja and fined CS and ordered it to resume supplies at a price no higher the maximum price it previously charged.

The Court upheld the Commission’s decision, but reduced the fine. The Court held that by abusing their dominant position in the upstream market (the raw material market) ICI and CS were able to restrict competition in the downstream market (the ethambutol market). The refusal to supply Zoja was considered to be an abuse of a dominant position particularly as it had previously supplied it and then discontinued supplies without adequate commercial reason.

*Commercial Solvents* is often cited by the Court, the Court of First Instance (CFI) and the Commission and it is clearly regarded as an important case stating a broad principle. This principle is that (1) a dominant company in an upstream market (2) which refuses to supply a downstream competitor (who also is a customer), (3) and therefore risks to eliminate all competition on the downstream market from this cus-
tomer is abusing a dominant position within the meaning of Article 86 (now Article 82).237

7.4.2 United Brands

The importance of United Brands238 for the purposes of this paper can be discussed, since the outcome of the case suggests that there is a duty to supply also long-standing customers who are not competitors on a downstream market. The likeliness of finding a case where a firm is a long-standing customer of pollution permits without also being a competitor will have to be regarded as limited. However, due to the importance of the case for the development of the case law on refusals to supply, completeness requires that it be presented.

In this case the Court, like the Commission had done, condemned the reduction in supplies of Chiquita bananas to Olesen, one of United Brands’ distributors in Denmark. The ripeners/distributors used by United Brands in Europe were allowed to handle competing goods and thus, in 1969 Olesen had become the only distributor of the rival brand Dole in Denmark. Four years later, Olesen had taken part in an advertising campaign for Dole and according to United Brands he was selling fewer and fewer Chiquita bananas. Olesen was also accused of pushing sales of Dole at the expense of Chiquita. Following this, United Brands reduced its supplies to Olesen and the Court came down hard on United Brands for doing so. It extended the formulation in Commercial Solvents by stating that:

1. The products withheld by the dominant supplier must belong to a brand attracting consumer preference.

2. The disappointed customer must be of a ‘longstanding’ status and one ‘who abides by regular commercial practice’.

3. The orders placed by this customer must have been ‘in no way out of the ordinary’.239

Consequently, refusal to supply a first-time customer or a customer who has substantially increased his orders to exploit resale opportunities outside his domestic

237 Ibid., para. 251.
238 United Brands, supra note 200.
239 Ibid., para. 182.
market would not be covered by the prohibition. Should the customer fulfil the requirements set out above, it is necessary to see if the discontinuance to supply is justified. The Court held that a dominant undertaking may protect its own commercial interests if they are attacked. However, such counterattack must be assessed according to the following rule of proportionality "...that attack must still be proportionate to the threat taking into account the economic strength of the undertakings confronting each other." 

Thus, dominant companies have a duty to supply customers in many cases, but it seems as if the duty to supply a customer or a distributor is less strict than the duty to supply a competitor and that the duty to supply does not apply in every situation. The conclusion to draw from United Brands seems to be that a dominant company may not interfere with its distributors’ commercial independence, including their freedom to promote rival brands.

7.4.3 Hugin v. Commission

The Court’s judgement in Hugin v Commission has been called "[t]he strangest of the Court of Justice’s vertical refusal to deal decisions." The case concerned the relationship between the Swedish firm Hugin, which produced cash registers, and Liptons which was the United Kingdom distributor of Hugin’s products. Liptons had built up a separate business in servicing and supplying spare parts. In 1972 Hugin established its own subsidiary in the United Kingdom to distribute cash registers and the distribution agreement with Liptons ended. Shortly afterwards Hugin refused to supply Liptons with spare parts.

In the Commission’s view Hugin was dominant in the market for spare parts to Hugin cash registers and had abused its position by refusing to supply Liptons without justification. This was particularly so since Liptons had been a customer for 12

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240 Ibid., para. 190.
241 Hugin, supra note 206.
243 This narrow market definition is clearly debatable. For criticism see e.g. PATHAK (1989), ‘Articles 85 and 86 and Anticompetitive Exclusion in EEC Competition Law Part 2’, ECLR 256-272, at 258-261. FOX ((1986), ‘Monopolization in the United States and the European Community: Efficiency, Opportunity and Fairness’, Notre Dame Lawyer 61:981, at 1003) has, in relation to this case, stated that "in the United States a company’s own brand of product is almost never a market."
years and had built up a major business in the supply of spare parts. Hugin’s elimina-
tion of Liptons would mean the elimination of a major competitor in the servicing and
repair of Hugin machines. The Commission rejected Hugin’s justification based on
quality concerns (the technical complexity of the Hugin products), since Liptons was
clearly competent to perform repair services.

The Commission’s decision was quashed by the Court on the basis of lack of ef-
effect on inter-State trade since Liptons only traded in its capacity of service company
within a 50 mile radius of London and made no exports. Moreover, Hugin produced
many different models for various countries in Europe which were affected by the
different requirements of language and currency so that exporting spare parts from one
Member State to another was uneconomic and unlikely. No commercial pattern of
trade in such spare parts between Member States existed that could be disrupted by
the commercial decision made by Hugin not to supply. However, it has been sug-
gested that there is no reason to believe that the Court would not have upheld the
Commission’s decision as far as the question of abuse is concerned.244

7.4.4 BP v. Commission245

If Commercial Solvents and United Brands (and Hugin) at the time were interpreted
as submitting dominant firms to an extensive obligation to deal, BP v. Commission
must have come as a relief. The case shows that, at least in cases of severe shortage,
the dominant company is not obliged to supply "occasional" customers to the detri-
ment of "faithful" ones. Therefore, it can be argued that the terminated purchasers in
Commercial Solvents, United Brands, and Hugin “through their reliance-based ex-
pectations developed a qualified "right" to continue supply.”246 Such a right does not
exist for the occasional customer.

The case was an appeal of a decision in which the Commission had found that
that BP had unlawfully refused to supply ABG, which was BP’s downstream com-
petitor in the petrol distribution market. The origin of the dispute between BP and

well, p 631. See also GLASL (1994), 'Essential Facilities Doctrine in EC Anti-trust Law: A Contribution
to the Current Debate', ECLR 6: 306-314, at 309.
245 Case 77/77, BP v. Commission [1978] ECR 1513,
246 KAUPER (1989), supra note 242, at 673.
ABG was attributable to the oil crisis in 1974. Due to the oil shortage created by this crisis, oil companies could only supply their traditional customers. ABG had, in fact, bought primarily from BP but the firm no longer had a long-term contract with BP. In the Commission’s view BP should have taken these earlier supplies into account and supplied all its customers with the same proportion of the amounts it had supplied in an earlier period, which, it suggested, might be 12 months.

The Court found that, BP was entitled to, due to the general scarcity of supply, treat ABG less favourably than customers who had long-term contracts at the relevant time.\(^{247}\) The Court thought it fair to regard ABG as an occasional buyer during the oil crisis notwithstanding its prior long-term arrangements with BP. It also noted that any increase in supplies to ABG would have resulted in a decrease of supplies for the regular customers and concluded that a duty to apply a formula such as that proposed by the Commission "could only flow from measures adopted within the framework of the Treaty, in particular Article 103, or in default of that, by the national authorities."\(^{248}\)

The Court’s judgment is very specific and therefore unlikely to be a precedent for the future,\(^{249}\) but the opinion of Advocate General Jacobs is elucidating. The Advocate General interpreted the Commission’s position to be that lacunae in all types of governmental measures can be filled by invoking Article 86. Mr Warner himself, however, thought that in this case it was not a question of "a lacuna of a kind that Article 86 is designed to fill or is appropriate to fill." In his view, the Article can only apply if it can be "found in the in the terms of that article some rule, either express or implicit, that suppliers are required to observe in such a situation." Since Article 86(c) was found not to apply, the rule must be implicit. The Advocate General then concluded that an implicit standard could be the basis for a finding of abuse only if it were "equitable, practical and generally accepted"\(^{250}\) The Court’s finding that the standard proposed by the Commission could be imposed only by legislation appears to follow this analysis.

\(^{247}\) BP v. Commission, supra note 245, para. 32.
\(^{248}\) Ibid., para 34.
\(^{249}\) KORAH (1997), supra note 143, at 119.
\(^{250}\) All quotations in this paragraph are taken from Advocate General Warner’s Opinion in BP v. Commission, supra note 245, at 1537-8.
In conclusion BP v Commission qualifies the duty to supply long-standing customers, as laid down in United Brands,\textsuperscript{251} to mean that dominant firms have no duty to supply former customers, there is only a duty not to cut off present ones.

7.4.5 National Carbonising Company\textsuperscript{252}

In the National Carbonising decision the Commission specified that the dominant company has a duty not only to supply the raw material to competitors but also \textit{to do so at a price} which, in all circumstances, enables its only downstream competitors to remain in business if they are reasonably efficient.

The decision concerned the National Coal Board’s alleged excessive prices for coke charged to National Carbonising. The National Coal Board was found to be dominant on the UK markets for coal and coke. Coal is the raw material in coke production and National Carbonising was a UK coke producer. The latter firm complained that the National Coal Board sold coal for coke production at excessive prices and sold industrial coke at too low prices to make it possible for National Carbonising to profitably compete with it in the coke market. The Commission rejected the complaint, but its reasoning in this case illustrates the principle that a dominant company, which sells both the raw material and the downstream product made from it, has a duty to both supply the raw material to its competitors, as in \textit{Commercial Solvents}, and to do so \textit{at a price that allows} the reasonably efficient downstream competitor to remain in business.\textsuperscript{253} Moreover, the Commission held that a firm dominant in the market for raw material has a duty to supply its subsidiary on the same basis in all respects as it supplies with its subsidiary’s competitors. Any subsidy would be considered discriminatory behaviour and thus contrary to Article 86.

7.4.6 Comments

The case law of the early years show that longstanding customers cannot be cut off from supply without valid business justification. All of the Court cases in this section

\textsuperscript{251} United Brands, supra note 200.
have been heavily criticised for lack of economic analysis. For example, *Commercial Solvents* is said not to take consumer welfare into account, since those suffering from tuberculosis can hardly be said to be injured (in economic terms) as a result of Zoja’s elimination from the market. Injury to this group of consumers would depend on who could produce the drug more cheaply (Zoja or ICI) and on whether the elimination of Zoja as an independent buyer of raw materials would make it more difficult for a new undertaking to start producing them. The likely result of such an inquiry would be that ICI would be more efficient than Zoja due to vertical integration. In the short run Istituto would gain market power in the final market for ethambutol which could harm consumers. However, in the long run this would be outweighed by the fact that entry by newcomers, attracted by the possibilities of high profits, would lower the prices of that product. *Hugin* has been criticised, not only for its narrow market definition, but also on the ground that a competitive market in the servicing of other cash registers remained. Moreover, it has been suggested that Hugin’s vertical integration may have been efficient and that consumers would have suffered no injury if Liptons had been eliminated. Many commentators agree that that the Commission’s decision does not rest on efficiency grounds, but instead appears to focus primarily on the harm caused to Liptons (regardless of consumer welfare) and on the value of preserving independent firms in the market for its own sake. The Commission and the Court seemed to assume that the refusal to supply was unfair to Liptons, without examining whether Liptons could swiftly start servicing and repairing cash registers of other makes.

Kauper has convincingly argued that *Commercial Solvents, United Brands* and *Hugin* all display characteristics showing the Court’s and the Commission’s interest in fairness and ”a perceived value in retaining smaller, independent firms dependent for supply on dominant firms in the market for its own sake.” He further states that the language used in *Commercial Solvents* and *Hugin* very much resembles the monopoly

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leveraging principle in US anti-trust case law. Pursuant to this principle, the use of monopoly power, even when lawfully acquired, to obtain a monopoly or gain an advantage in a second market is prohibited. In vertical integration cases such as Commercial Solvents and Hugin the firm which is dominant upstream and integrates downstream can be seen as using its power to become dominant in the downstream "second market". In fact, Kauper points out, some American courts have applied Griffith in this way. In his view, however, this is not correct since Griffith was not a vertical case. The defendant in that case used its monopoly power in one geographic market to extend it to another. If he would have succeeded in this, output in the second market could have been restricted with price increases in that market as a result. In vertical cases on the other hand, the monopolist cannot extract a monopoly profit by gaining a second monopoly within its own distribution system, unless it is for some reason unable to do so in its primary market. Therefore, in Kauper's view, Commercial Solvents, United Brands and Hugin are cases in which the Court of Justice have applied competition law in a way American courts did many years ago, but would never do today. In the US fairness and the preservation of small and medium-sized firms have had to give way to the concern over economic efficiency.

BP v. Commission mitigates this case law so that it is rather clear that it applies only to longstanding, present customers which are also competitors. National Carbonising follows Commercial Solvents but requires prices for resumed supplies to be low enough to allow a reasonably efficient competitor to remain in business. Reasonable efficiency could be interpreted to mean anything between nearly inefficient and efficient. Thus, also firms which cannot contribute to the market with efficiency are to be protected pursuant to National Carbonising.

259 KAUPER (1989), supra note 242, at 673.
260 See section 7.3.3 above.
7.5 The First Cases Referred to as ‘Essential Facilities Cases’

7.5.1 Telemarketing

The *Telemarketing* case concerned two related companies, the television station CLT and its exclusive agent for television advertising in the Benelux countries, IPB, and their relation to Centre Belge, which was a telemarketing organisation. Telemarketing is the provision in television advertisements of the telemarketing company's telephone number enabling viewers to call in orders to obtain more information concerning the products advertised. The telemarketer provides the telephone lines and operators.

Centre Belge had an agreement for telemarketing with IPB which showed television viewers Centre Belge's telephone numbers. When the agreement expired, IPB refused to prolong it on the same terms. IBP wanted its own telephone number to be displayed instead of Centre Belge's. The refusal to supply Centre Belge with this service resulted in the elimination of competition on its part. The Court held that on the basis of *Commercial Solvents* "an abuse within the meaning of Article 86 is committed where, without any objective necessity, an undertaking holding a dominant position on a particular market reserves to itself or to an undertaking belonging to the same group an ancillary market which might be carried out by another undertaking as part of its activities on a neighbouring but separate market, with the possibility of eliminating all competition from such undertaking."²⁶³

Cowen believes that it is possible to infer an "indispensability test" to all claims made by customers that a facility is essential from the *Telemarketing* judgment. This test would mean that when there is no alternative to the facility in question, the Court will refer to it as "essential".²⁶⁴

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²⁶³ Ibid., paras. 25-27.
The **BBI/Boosey & Hawkes** decision was an interim measures decision requiring Boosey & Hawkes (B&H) to resume supplies of musical instruments and spare parts to two firms, GHH and RCN, which had jointly set up a venture to compete with B&H. The latter was the only manufacturer of brass wind instruments in the UK, but it was, as implied above, about to face competition from BBI, which was a joint venture set up by GHH and RCN. The two firms complained that B&H had started "vexatious litigation" and other harrassing tactics against them upon learning of their intention to enter the manufacturing business. Moreover, it cut off supplies of instruments and spare parts to GHH and RCN.

Without B&H's products GHH and RCN would not have a complete product range and would thus risk to go out of business due to B&H's refusal to supply. Should the two smaller firms have gone out business the viability of the joint venture BBI would have been questionable (to say the least). The Commission therefore ordered B&H to resume its supplies to GHH and RCN. The supplies were to be made under the same terms and conditions as before they were terminated.

The Commission used the proportionality test laid down by the Court of Justice in *United Brands*, but formulated it in a more lenient way than the Court had done nine years earlier. It stated that "there is no obligation placed on a dominant producer to subsidize competition to itself" and that "where a customer transfers its central activity to the promotion of a competing brand, it may be that even a dominant firm is entitled to review its commercial relations with that customer and on giving adequate notice terminate any special relationship". However, B&H’s abrupt withdrawal of supplies and the fact that it was part of a wider reprisal policy against GHH and RCN made the Commission conclude that its behaviour was not justified even under the new lenient version of the *United Brands* proportionality rule.

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266 See section 7.4.2 above.  
267 **BBI/Boosey & Hawkes**, supra note 265, para. 19.
7.5.3  

London European-Sabena\(^{268}\)

London-European was a small private company which operated the air route Luton - Brussels in competition with \textit{inter alia} Sabena. The latter carrier was considered dominant in the market for computer reservation services, and refused to give London-European access to its computer reservation system (CRS),\(^{269}\) Saphir, since it found London-European's air fares too low\(^{270}\) and because London-European appointed another company instead of Sabena for some of its ground handling service. Half of the reservations on the Luton-Brussels route were booked through Saphir and virtually all carriers based in Brussels were part of the Saphir system. The Commission was therefore convinced that London European would not survive as Sabena's competitor on the route in question unless it was granted access to Saphir. In its decision the Commission relied on \textit{Commercial Solvents} and regarded Sabena's refusal to grant London-European access to its CRS a refusal to supply an essential service.

In the terms of Article 82, Sabena's behaviour can be seen as deliberate reduction of production, as prohibited by Article 82(b), in the sense that it carries with it the possible elimination of London-European from the market of air transport services between Brussels and Luton. Moreover, tying access to the CRS to a prior agreement on the ground handling services infringed Article 82(d).\(^{271}\)

In conclusion, \textit{London-European/Sabena} shows that refusal to supply an essential service without business justification is a violation of Article 82. It is important to note that this conclusion applies even in cases where artificial barriers to entry for new competitors are raised, \textit{i.e.} in cases where no prior relationship between the dominant company and the firm which is refused access existed.\(^{272}\)

\(^{269}\) The CRS allows travel agents to consult flight schedules, fares and seat availability of airlines included in the system and to make reservations without having to telephone the air carrier concerned for each booking.
\(^{270}\) London European's tariffs were half of the standard IATA tariffs.
\(^{271}\) GLASL (1994) \textit{supra} note 244, at 306.
\(^{272}\) C.f. \textit{Telemarketing}, \textit{supra} note 262, where access to the facility in question was withdrawn because the dominant firm wanted to enter the market itself.
The Commission found that the Irish airline Aer Lingus enjoyed a dominant position on the London-Dublin route and that it had abused that dominant position by refusing to resume its interline agreement with one of its few competitors on that route, the British airline British Midland. Interlining is a practice which falls under the auspices of the International Air Travel Association (IATA), under which almost all airlines agree to issue tickets on behalf of one another. It's noteworthy that these multilateral agreements, which are not restrictive in themselves, are the justification for tariff consultations which are subject to Article 81(1) (formerly Article 85(1)). It's also important to note that interlining is normal industry practice except in some circumstances which were not relevant to this case.

The Commission held that "refusing to interline is not normal competition on the merits...the argument that interlining would result in a loss of revenue would not in itself make the refusal legitimate... Both a refusal to grant new interline facilities and the withdrawal of existing interline facilities may, depending on the circumstances, hinder the maintenance of or development of competition. Whether a duty to interline arises depends on the effects on competition of the refusal to interline; it would exist in particular when the refusal or withdrawal of interline facilities by a dominant airline is objectively likely to have a significant impact on the other airline's ability to start a new service or sustain an existing service on account of its effects on the other airline's costs and revenue in respect of the service in question, and when the dominant airline cannot give any objective commercial reason for its refusal (such as concerns about creditworthiness) other than its wish to avoid helping this particular competitor." It is unlikely that there is such justification when the domi-

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274 A market the size of which is rather diminutive to be a "substantial part of the common market" which is what the market must be in order for Article 82 to apply.
275 SUBOTTO ((1992) 'The Right to Deal with Whom One Pleases under EEC Competition Law: A Small Contribution to a Necessary Debate' ECLR 6:234-244, at 236, footnote 17) states that the words in italics are contrary the Commission's statement in BBI/Boosey & Hawkes that "[t]here is no obligation placed on a dominant producer to subsidize competition to itself." However, it does not seem like the Commission placed such a duty on Aer Lingus. In the Commission's view Aer Lingus was in a discriminating manner refusing British Midland access to a facility that it normally would have provided to other airlines. In other words, because Aer Lingus was deviating from normal industry practice in this case, it had to justify its behaviour and the wish not to subsidise competition to itself was not considered a sufficient justification (even if such behaviour is not abusive in itself).
nant airline singles out an airline with which it previously interlined after that airline starts competing on an important route but continues to interline with other competitors."276

Thus, if refusal to interline causes a significant handicap or raises a barrier to entry such refusal is prohibited under the Community competition rules. A denial of interlining forces a new entrant either to operate infrequent flights (with a long, unprofitable start-up period as a result) or offer frequent flights immediately attracting passengers who want a choice of flights, but accepting low capacity utilisation. Both alternatives lead to higher start-up costs. Therefore, an interline agreement with the dominant airline (assuming that there are only two competitors) may be essential for the new entrant. In fact, the Commission explicitly admitted that this intervention was amounting to a form of artificial assistance to the new entrant. Consequently, it limited the obligation to interline to two years after the decision. Thus, in the Commission's view interlining can be essential for a competitor when it is entering the market, but not necessarily later when it has had time to establish itself. It has been suggested that "temporary duties to provide access to facilities only arise when a dominant firm has refused normal industry arrangements selectively in order to handicap or discourage an active competitor."277 Moreover, the Commission has explained the decision itself as being taken within the context of a period when the European air transport industry was being liberalised. Therefore, it argued that airlines which were making use of the new opportunities for competition should be given a fair chance to develop and maintain their competitiveness against established airlines.278

7.5.5 Comments

All cases mentioned in this section may seem very similar to the cases treated in section 7.4, and, in fact, they are all based on Commercial Solvents. However, a quick glance at the literature on essential facilities and refusals to supply tells us differently. All of these cases have been mentioned in the context of the development of a European essential facilities doctrine. Telemarketing, which was the earliest of these

276 British Midland/Aer Lingus, supra note 273, paras. 25-6
cases, has created considerable terminological confusion. It has been referred by some to as a classic refusal to supply case,\textsuperscript{279} others cite it as the first essential facilities case in European competition law,\textsuperscript{280} whereas others again categorise it as a tying case.\textsuperscript{281} These differences find their explanation in the fact that the three types of cases are very similar. However, an analysis of the case shows that the focus, as in \textit{Commercial Solvents}, lies on the use of dominance in an upstream market in order to gain competitive advantages in a related market. Moreover, as opposed to the US essential facilities doctrine, there is no requirement that there be market power in the downstream market.\textsuperscript{282} Finally, there is nothing in \textit{Telemarketing} that suggests that the decision was not taken to protect a smaller competitor. Thus, no shift from the old focus on fairness to a new one on efficiency can be noted. The main difference from the case law of the early years is that \textit{Telemarketing} concerned a refusal to supply a service instead of goods.

Therefore, even though \textit{Telemarketing} attracted some attention at its time, the case was not revolutionary. \textit{BBY Boosey \& Hawkes} is more interesting in this respect. In this case the Commission not only introduced a "new", more lenient proportionality rule than the \textit{United Brands} rule, but also adopted a more efficiency based way of addressing a refusal to supply. Of course, the Commission noted that B&H's behaviour threatened GHH and RCN (its small competitors on the downstream market). However, it also noted that this threatened the ability of the joint venture to compete with B&H. This has been interpreted as a sign of a shift from the fairness policy in the earlier cases, where the refusals to deal only had vertical effects, to a more efficiency based policy where horizontal effects are considered more interesting.\textsuperscript{283} (The relation-
ship between the joint venture and B&H was clearly horizontal since they competed on the same market and none was directly dependent on the other.)

In London European/Sabena the Saphir CRS system is a typical example of an essential facility, and it is possible that the Commission considered it as such for London European.\textsuperscript{284} Like in BBI/Boosey & Hawkes, the focus rests on the horizontal effects of the practice. The harm caused by Sabena’s intention to keep prices up was felt in the market for air transport, and thus affected not only London-European but also consumers of air transport services. There are some similarities with the US concept of essential facilities,\textsuperscript{285} but, as opposed to the application of the US concept, only dominance in the upstream market (the CRS market) was considered and no attention is given to the extent of dominance held on the downstream market (the airline market).\textsuperscript{286} Instead, the focus on the upstream market in London-European/Sabena resembles the American concept of monopoly leveraging, i.e. the use of dominance in one market to create a competitive advantage in another related market.\textsuperscript{287} Notwithstanding this, the case signals adherence to the efficiency considerations in BBI/Boosey & Hawkes.

British Midland/Aer Lingus is more problematic, but some of its flaws can be derived from the fact that the outcome of the Commission’s decision was dependent on Community air transport liberalisation at the time. This observation may relieve

\begin{footnotesize}
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\item[\textsuperscript{284}] See e.g. GLASL (1994) supra note 244, at 306, GYSELEN (1989) supra note 256, at 628, and VENIT and KALLAUGHER (1994) supra note 231, at 327, who all dub London-European/Sabena an essential facility case. It should be noted, however, that the Commission in fact admitted that reservation by telephone could serve as a particularly efficient back-up systems for airlines with few flights and lower fares than their competitors. This finding makes it questionable whether Saphir was really ‘essential’ to London European.
\item[\textsuperscript{285}] The essential facility doctrine has been used in the US to consider questions of access to CRS, but not even the largest CRS on the American market was found to be an essential facility, since other CRSs existed in the market. (KAUPER (1989) supra note 242, at 681-682).
\item[\textsuperscript{286}] Alaska Airlines v. United Airlines 948 F.2d 536 (9th Cir. 1991), cert. Denied, 112 S.Ct 1603 (1992) shows the difference between American and European law in this context. The Alaska Airlines court found that even if an airline had market power in the CRS market, it could only be required to grant access to its CRS under an essential facility test if refusal would allow that airline to create or maintain market power in a market for airline services. Interestingly, Subiotto (supra note 275, at 236 (fn 15)) has stated that since access to Sabena’s CRS was essential for London-European to compete on the Brussels-Luton route, the principle stated in Alaska Airlines could have been relied upon by the Commission. Subiotto seems to focus on the fact that the court stated that if a firm with power to exclude its rivals from a facility has the power to eliminate competition in the market downstream from the facility, and that firm does exclude some competitors, there is a danger that the firm will monopolise the downstream market. However, this does not mean that eliminating a competitor in the downstream market always will lead to monopolisation, a finding of dominance in the downstream market is still required, and such an analysis was not made by the Commission in London-European/Sabena.
\item[\textsuperscript{287}] See section 7.3.3 above.
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critics of the case such as Venit and Kallaugher who, assuming that *British Midland/Aer Lingus* is to be construed as an essential facilities case, argue that the decision does not even contain the most basic essential facility analysis. Firstly, they point out that, instead of examining whether the facility was truly essential for entry by British Midland, the Commission found that Aer Lingus' refusal to interline put British Midland at a competitive disadvantage. Secondly, the Commission did not examine British Midland's possibilities to duplicate the facility by obtaining sufficient frequencies to make interlining unnecessary. The authors note that only the scarcity of slots at Heathrow and the consequent need to shift slots from other profitable uses in order to expand the services on the London-Dublin route was the only thing that was preventing British Midland from building up sufficient frequencies of flights. Venit and Kallaugher submit that shifting profitable slots to a less valuable use is something that can be required from a new entrant, and that it is not fair to characterise a substitute for those slots controlled by a competitor as an essential facility.\(^{288}\) Within the framework of an essential facility analysis it is easy to agree with Venit and Kallaugher that *British Midland/Aer Lingus* creates some confusion. It can be perceived as a step back to fairness approach displayed and criticised in the early case-law on refusals to supply.\(^{289}\) However, given the imperfections in the aviation market at the time and the potential gains from liberalisation, this decision should probably be regarded within the context of Community aviation policy and thus not be relied on as a pure essential facility case.

In conclusion, these cases may not have established an essential facilities doctrine in European competition law, but one change is noticeable. The requirement that the competitor, to whom supplies are refused, be a longstanding customer was done away with and appears to have been replaced by a focus on the competitive structure of the market with a view to further consumer welfare.


\(^{289}\) See 7.4.6 above. See also Ridyard (1996) *supra* note 207, at 443.
7.6 The Use of the Concept Essential Facilities

7.6.1 Holyhead (B&I Line/Sealink and Sea Containers/Sealink)

Both B&I Line/Sealink and Sea Containers/Sea Link concerned access of third party ferry operators to Holyhead port in North Wales. The port was owned by Sealink (through a subsidiary) which also used it as a base for operation of its ferry service on the Holyhead - Dublin (Dun Laoghaire) route.

In B&I Line/Sealink, B&I, which had an established service operating out of Holyhead port, lodged the unusual complaint that Sealink was committing an abuse involving physical interference with B&I's use of the harbour. In more concrete terms, Sealink changed its ferry schedules so that they came to disrupt B&I's operations. The disruptions consisted of Sealink's ships passing close by the B&I ferry terminal on their way to Sealink's berths in the inner harbour. The channel in which these ships passed was very narrow and thus each passing ship caused vertical and horizontal turbulence to such a degree that the B&I linkspan for vehicles and passengers had to be disconnected and its loading period had to be interrupted and shortened. B&I claimed that Sealink had changed its schedules deliberately to cause more disruption to B&I. Sealink on the other hand meant that B&I could alter the stern shape of their ferry so that it would suffer less disruption from the passage of the Sealink ferries and that they were already aware of the problem when they moved to their existing terminal.

The Commission distinguished between Sealink as a harbour owner and Sealink as a competing car ferry operator and said that as a dominant harbour owner it was not free to discriminate in favour of its own car ferry activities. Moreover, the Commission concluded that Holyhead port was an essential facility because the relevant market was defined as the central corridor of ferry journeys between Great Britain and Ireland and within that narrow market Holyhead was said to be the only available British port. The Commission held that a dominant firm which owns and controls an

\[\text{supra note 199.} \]
\[\text{Commission Decision 94/19/EC Sea Containers/Sealink, OJ [1994] L15/8.} \]
essential facility infringes (what was then) Article 86, if it refuses to its competitors access to that facility or if it discriminates against competitors in favour of its own activities in a related market. Thus, the owner of an essential facility must give competitors equal access and any imposition a competitive disadvantage upon a competitor must have an objective justification. According to the Commission, this is particularly so when the competitor is already subject to a certain level of disruption from the dominant firm's activities. Under such circumstances, the dominant firm was said to have a duty not to take any action which will result in further disruption. Such is the case even if the latter's action lead to, or primarily aim towards, more efficient operations on its part.

The Commission ruled that Sealink could not change its schedules to put B&I at a disadvantage because the physical limitations of the port and the narrowness of its channel meant that B&I's loading and unloading activities would be affected by Sealink's choice of schedules. Thus, the Commission, by way of interim order, forced Sealink to return to its original schedules.

The second case concerning Holyhead Harbour involved the same defendant, namely Sealink, but the plaintiff this time was Sea Containers, which was also operating out of Holyhead. Both Sea Containers and Sealink had the intention to start up a new high-speed catamaran service on the central corridor route between Great Britain and Ireland. Sea Containers had asked Sealink to allow it to use the harbour for this new service. Sealink delayed and made the negotiations difficult by not negotiating in good faith and by failing to set up adequate procedures for handling its responsibilities as harbour operator towards other users. However, Sealink eventually, under pressure from the Commission, made an offer to Sea Containers which the Commission regarded as non-discriminatory and which was accepted by Sea Containers. Thus, no interim order was necessary to resolve the dispute.

292 The Commission defined an essential facility as "a facility or infrastructure without access to which competitors cannot provide services to their customers." (B & I Line/Sealink, supra note 199, para. 41.)
293 This was the first time the Commission had ever made a statement of a general principle using the phrase "essential facility" and it was explicitly based on the case law of the Court beginning with Commercial Solvents, supra note 204.
294 The Commission only imposed a temporary duty to provide access on Sealink. The obligation was to last until B&I had modified its ship and quay in order to avoid the interference after which the problem would disappear. C.f. British Midland/Aer Lingus, supra note 273.
Notwithstanding this, the Commission took the opportunity to develop the doctrine of essential facilities. It reiterated the principle of non-discriminatory access to essential facilities for competitors from B&I Line/Sealink, and added that the principle also covers new entrants into the relevant market. Moreover, a duty to negotiate was established. In the Commission's view, Sealink's rejections of proposals and counter-offers were inconsistent the obligations of a dominant undertaking in an essential facility context. It was not conduct which could have been expected from an independent port authority. The Commission also stressed that Sealink never consulted with other ferry operators in Holyhead and set up no procedures for dealing with its responsibilities as a harbour operator. It observed that "an independent harbour authority, which would of course have had an interest in increasing revenue at the port, would at least have considered whether the interests of existing and proposed users of the port could best be reconciled by a solution involving modest changes in the allocated slot times or in any plans for the development of the harbour."

7.6.2 Port of Rødby

Like the Holyhead Harbour cases Port of Rødby involved access to a ferry terminal. In this case the terminal was used for ferry services in the Baltic Sea from Denmark to Germany. The Danish Minister for Transport refused to allow Stena to build a private commercial port near Rødby, and to allow it to operate from Rødby itself. As opposed to the Holyhead cases, Port of Rødby concerned an outright denial of access to port facilities to a competing ferry company, and the case involved the refusal by the Danish Government to authorise the new services. The case was thus decided under what was then Article 90 (Article 86 ToA) pursuant to which Member States are prohibited to enact or maintain in force any measure contrary to the competition rules with regard to public undertakings and undertakings which are granted special rights.

The Commission found that there was no real alternative to the port of Rødby for sea transport between Eastern Germany and Denmark, and that the volume of traf-
tic through the port made it a "substantial part" of the Common Market. The port authority, DSB (the Danish State railway), which operated the harbour and ran the ferry together with the German railways, was therefore in a dominant position and the refusal to let Stena build another harbour or use Rødby strengthened this dominance. Had the state-owned DSB refused a competitor access to the port, it would have committed an abuse of a dominant position. Hence, the state was infringing Article 90 by doing the same thing. In this connection, the Commission observed the lack of technical constraints, the lack of evidence that Rødby could not handle more traffic, the fact that there were only two competitors on the sea route, and that Stena was willing to finance any necessary alterations. Article 90 was applied because the ferry company was placed in a position which it could have achieved only by violating Article 86. The Commission held (based on Telemarketing) that "an undertaking that owns and manages and uses itself an essential facility, i.e. a facility or infrastructure without which its competitors are unable to offer their service to customers, and refuses to grant them access to such facility is abusing its dominant position. Consequently, an undertaking that owns or manages an essential port facility from which it provides a maritime transport may not, without objective justification, refuse to grant a shipowner wishing to operate on the same maritime route access to that facility without infringing Article 86." Some 70 per cent of passengers and 88 per cent of lorries between Denmark and Germany used this route. 

The Danish Government argued that its refusal to allow Stena to build a new harbour or get access to Rødby was justified since it was not acceptable to let a new ferry operator enter the market. This was so since there was no unmet demand for additional services, and because access for a new entrant would harm the operators which had access already since the future would entail no possibilities for them to increase their use of the port. The government moreover claimed that the terminal was not suited to cater an additional ferry operator. The Commission did not share the government's predictions of future demand. As for the argument that the existing facilities were saturated, it did not change the Commission's position that competition was desirable and that access for a new entrant would fulfill this need.

298 Some 70 per cent of passengers and 88 per cent of lorries between Denmark and Germany used this route.
299 Port of Rødby, supra note 297, para. 12.
The case concerned a dispute between two Austrian daily newspaper suppliers, Bronner and Mediaprint. The Oberlandesgericht, acting in its capacity as the Austrian court of first instance in competition matters, asked the Court of Justice whether Mediaprint's refusal to grant access to Bronner to its national home delivery service, which Mediaprint used for its own daily newspapers, constituted an abuse of a dominant position.

Mediaprint, which was a publishing group consisting of three different companies, had combined share of total newspaper circulation amounting to 46.8 per cent. Their share of total advertising revenue amounted to 42 per cent. They reached 53.3 per cent of the population over 14 in private households and 71 per cent of all newspaper readers. This was, Bronner claimed, evidence of dominance. Mediaprint had the only nation-wide home delivery service for daily newspapers in Austria. Bronner, who was the owner of the daily newspaper Der Standard, wanted access to Mediaprint's network but the latter refused. According to Bronner Der Standard had insufficient sales to justify investments in an own home delivery service. Moreover, the alternatives - postal delivery or sale of the newspaper through conventional newspaper retail outlets - were inferior. Therefore, Bronner claimed, since Mediaprint's Austrian home delivery service constituted an essential facility, Mediaprint's refusal to grant access constituted an abuse of a dominant position. On these grounds Bronner urged the national court to oblige Mediaprint to give him access to its network on payment of reasonable remuneration. Neither Advocate General Jacobs\(^\text{300}\) nor the Court agreed with Bronner.

Before entering into the Court's judgment it will be useful to address Advocate General Jacobs' highly instructive Opinion. The Advocate General explained the doctrine of essential facilities as follows:

"According to that doctrine a company which has a dominant position in the provision of facilities which are essential for the supply of goods or services on another market abuses its dominant position where, without objective justification it

\(^{300}\) Case C-7/97 Oscar Bronner v. Mediaprint, Judgment of the Court, 26 November 1998, not yet reported.

\(^{301}\) Case C-7/97 Oscar Bronner v. Mediaprint, Opinion of Advocate General Jacobs, delivered on 28 May 1998, not yet reported.
refuses access to those facilities. Thus, in certain cases a dominant undertaking must not merely refrain from competitive action but must actively promote competition by allowing potential competitors access to the facilities which it has developed.302 Then he pointed out that the Court had never referred to the doctrine of essential facilities in its jurisprudence. However, he pointed to the case law on refusal to supply as closely related to it. After having reviewed that case law, he concluded that a pure refusal to deal could never itself amount to an abuse of a dominant position. There must be some other factor involved, such as anti-competitive behaviour or intent.

Mr Jacobs' review of the law also included the essential facilities doctrine under US antitrust law and the laws of the Member States. It has been suggested that the Advocate General was of the opinion that these conditions should apply also in Europe.303 As regards the laws of the Member States, Mr Jacobs noted that they "generally regard freedom of contact as an essential element of free trade."304

Next the Advocate General made some general remarks which can provide guidance for future application on the case law on refusal to supply and essential facilities. First, he noted that the right to choose one's trading partners and freely dispose of property is a general principle of law and incursions on those rights must therefore be made with care.305 Second, for competition policy to interfere with the freedom of contract "a careful balancing of conflicting considerations" is necessary. The simple fact that a dominant firm gains or retains an advantage over its competitors by denying them access to a facility does not justify requiring access to it under competition law. In this connection the Advocate General also noted that compulsory access may in many cases be beneficial to short-term competition, but that the back side of it is that compulsory access will undermine vital dynamic incentives and ultimately harm consumers. Third, he stressed that those who apply competition law must recall that "the primary purpose of Article 86 is to prevent distortion of competition - and in particular to safeguard the interests of consumers - rather than to protect the position of particular competitors." This is very interesting with regard to the discussion on lack of economic analysis in the early case law on refusals to supply. In un-

302 Supra note 301, para. 34.
303 TREACY (1998), supra note 213, at 504.
304 Supra note 301, para. 53.
derlining this point, he pointed out that it would be unsound, in cases where a competitor sought access to raw material in order to compete with the dominant firm in the downstream market, to focus solely on that firm’s power in the upstream market and assume that reserving the downstream market is automatically abusive. “Such conduct will not have an adverse impact on consumers unless the dominant undertaking’s final product is sufficiently insulated from competition to give it market power.”\textsuperscript{306}

According to Mr Jacobs, particular caution is required in cases where the dominant firm has invested heavily in creating the facility (such as may be the case for intellectual property rights) to which competitors seek access. The interest of free competition must be balanced with that of providing an incentive for research and development.\textsuperscript{307}

After his extensive review of the law the Advocate General concluded that Mediaprint was not required to give Bronner access to its home-delivery system. Even if less convenient, there were alternative means of distribution. Bronner’s recent growth indicated that Mediaprint’s system was not essential for Bronner to compete in the newspaper market. In Mr Jacobs’ view, it was not established that the investments required were so high as to prevent any publisher from setting up a competing system.\textsuperscript{308}

The Court never used the term ‘essential facility’ in its judgment, but, like its Advocate General, it stressed that refusal to supply by a dominant firm is not in itself an abuse. Bronner, who had relied on, \textit{inter alia}, \textit{Magill,}\textsuperscript{309} learned that for Mediaprint’s behaviour to labelled an abuse of a dominant position, its refusal to grant access to the home-delivery system should have been likely to eliminate all competition in the daily newspaper market, without the refusal being capable of being objectively justified. The access should also have been indispensable to Bronner, inasmuch as there was no substitute for Mediaprint’s service.\textsuperscript{310} The Court found that the service in question was not indispensable. It identified delivery by mail and sale in shops and

\textsuperscript{306} The Advocate General’s general remarks are taken from paras. 56-8 of his Opinion, \textit{supra} note 301.
\textsuperscript{307} \textit{Supra} note 301, para. 62.
\textsuperscript{308} \textit{Supra} note 301, paras. 68-9.
\textsuperscript{309} Joined cases C-241 and 242/91 \textit{RTE and ITP v. Commission} [1995] ECR 1-743. See further section 7.7.3 below.
\textsuperscript{310} \textit{Supra} note 301, para. 41.
kiosks as alternative, although less advantageous, methods of distribution. Moreover, it held that there are no "technical, legal or even economic obstacles capable of making it impossible, or even unreasonably difficult for any other publisher of daily newspapers to establish [...] its own national home-delivery scheme..."3\textsuperscript{311}

Further, the Court implicitly distinguished between what is essential for competition and what is essential for individual competitors. It therefore did not find it important that a newspaper with a low circulation would not find it economic to establish a nation-wide distribution system. Rather, for access to indispensable, one must establish that the market could not sustain a competing system at all.\textsuperscript{312} Thus, the imposition of compulsory access is a last resort, to be applied only when all hope of normal competition has been abandoned.

### 7.6.4 Comments

The Holyhead Harbour cases suggest the following "code of conduct" for dominant firms which control essential facilities:

(i) an firm dominant in the market for a product (or service), which is necessary for competitors' ability to provide services to their customers, may not refuse access to that product without justification or on terms less favourable than those which it gives its own services;

(ii) a dominant firm may not discriminate in favour of its own activities in a related market;

(iii) abuse can be committed also against new entrants which offer new, better or different services which require the use of the facility in question;

(iv) the dominant firm has a duty to propose and seek solutions to meet a downstream competitor’s needs;

(v) the conduct of the dominant firm can and should be compared with the conduct of an independent operator with no interest in protecting or enhancing its downstream business; and

\textsuperscript{311} Supra note 300, paras. 43-4.

\textsuperscript{312} Supra note 300, paras. 45-6. See also para. 68 of the Opinion of Advocate General Jacobs, supra note 301.
(vi) there is a duty for the dominant firm to consult actual or potential competitors who may wish to use the facility. This requirement entails a duty to have internal procedures to ensure that duties to downstream competitors are observed.

Some major differences between the earlier case law and the Holyhead cases can be noted: The strict duty not to discriminate seems to go beyond the general prohibition of discrimination as regards equivalent transactions under Article 82(c). There also seems to very little room for taking legitimate business interests of dominant firms into account. For example, in United Brands it was clear that refusal to supply could be allowed if there was a legitimate commercial interest that needed to be protected. In the Holyhead cases, the only legitimate justification for a refusal to provide access would be the limited capacity of the harbour. Moreover, the standard of the independent harbour operator implies that Article 82 can be used for a type of regulatory intervention which was rejected by the Court in BP v. Commission. It will be remembered that in that case the Commission had decided that BP was under an obligation to supply fuel to all customers in ratios calculated according to purchases before the oil crisis. The Court disagreed and held that only regular customers could expect to be supplied. Moreover, it held that a duty to ration supplies as suggested by the Commission “could only flow from measures adopted in the framework of the Treaty, in particular Article 103, or in default of that by the national authorities.”

In the Holyhead cases, the Commission did, in fact, require Stena to act in accordance with a certain procedure (the duty to behave like an independent harbour operator etc.) which was very close to the approach rejected in BP v. Commission. Thus, the Court could well have rejected the Commission’s analysis, had the case been appealed. The rationale in Commercial Solvents and its follow-ups seem to be a standard of reasonableness for assessing whether a firm controlling an essential facility has abused its

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313 In fact, the Commission held already in National Carbonising Company, supra note 252, that a company dominant in the market for raw materials has a duty to supply its subsidiary on the same basis in all respects as it supplies its subsidiary’s competitors. However, the value of the statement can be questioned since the complaint was rejected.
314 Venit (1998) supra note 230, at 27. Venit also suggests that limited capacity may not be an adequate justification. He states that it may be necessary for the dominant firm to provide access anyway, perhaps on a rotating basis.
315 Article 99 ToA
316 BP v. Commission, supra note 245, para. 34. See also AG Jacobs’ Opinion in Bronner v. Mediaprint, supra note 301, para. 69.
dominant position in limiting access to the facility, rather than the strict test suggested in *B& Line/Sealink* and *Sea Containers/Sea Link*.

However, it has been suggested that the Holyhead cases, like the essential facilities cases under US law, may only be applicable to so-called 'dual monopolies'. A firm in such a position holds market power both in the upstream (the essential facility) and the downstream market. In this situation, it can be argued that a doubly dominant firm should be required to follow a strict code of conduct, which forces it to act as if it were an independent operator without interests in the downstream market. At least, an interpretation limiting the application of the port cases to dual monopolies would mean that the strict requirements arising from them would not conflict with the line of cases starting with *Commercial Solvents*. However, the Commission's decision does not indicate such an analysis was relied on. Instead the decision was based solely on dominance in the market for providing harbour services although Sealink might have been dominant also on the market for ferry services.

Even though they may not be of direct interest for the purposes of the present paper, some remarks will also be made on the Commission's market definition and finding that Holyhead was a substantial part of the common market. However, these remarks are of indirect interest since the circumstances under which the decision was made may put limits to the general applicability of these cases.

As regards the market definition, it can be noted that Sea Containers never even took up the option to operate from Holyhead. Instead, since 1996, it has been operating a passenger service to Ireland from Liverpool rather than Holyhead. At the time of the complaint the Commission dismissed the possibility that services operating from Liverpool could be effective substitutes for those operating from Holyhead. Indeed it does take longer to cross the sea from Liverpool but as Sea Containers' own brochure puts it: "Why put up with the stress and fuel costs of driving an extra 2 hours from Liverpool when you can sail direct from Liverpool, so easily reached by the motorway network?"

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320 NERA Competition Brief January 1999.
The Commission's finding that Holyhead was a substantial part of the common market is debatable for more obvious reasons.\(^{321}\) However, the Commission seemed to be aware of this and made clear that "it is important to stress that a port, an airport or any other facility, even if it is not in itself a substantial part of the common market may be considered as such in so far as reasonable access the facility is indispensable for the exploitation of a transport route which is substantial."\(^{322}\) Recognising that this argument can be extended to any infrastructure, and not merely to transport routes, the Commission stated that "[t]his consequence of Article 86 is of essential importance in the context of deregulation."\(^{323}\) In other words, as regards dominance in the market for widely sold goods, a "substantial" part means a route or a port that carries a quantity of goods that is economically significant in relation to a Member State or an important region of the Community.\(^{324}\)

Implicitly in Sea Containers/Sealink and explicitly in Port of Rødby, the Commission also made clear that the 'Holyhead formula' applies not only to discriminatory treatment for existing customers of a port, but to potential customers who seek entry and are refused access. The Port of Rødby decision also suggests that it may not even be possible for a harbour owner that occupies a dominant position to justify a refusal of access by showing that the harbour is already full.\(^{325}\)

*Bronner v. Mediaprint* indicates that the Court, and more obviously Advocate General Jacobs, are concerned that the Commission's references to the essential facilities doctrine will create disincentives for firms to create new such facilities. The Court seems to be of the opinion that its jurisprudence on refusal to supply is, in most cases, sufficient and that there is little need for a doctrine of essential facilities in European competition law. Another possible interpretation is that the Court finds the essential facilities doctrine useful only in very specific cases (*e.g.* deregulation), such as the cases in which the conditions of the US version of the doctrine are satisfied.\(^{326}\) However, until the Court delivers a judgment to that effect, the differences between

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\(^{321}\) See *Furse* (1995) 'The 'Essential Facilities' Doctrine in Community Law', *ECLR* 8: 469-473, at 471, who states that "[i]ndubitably, Holyhead is not a substantial part of the Common Market."

\(^{322}\) The Commission's XXIInd report on Competition Policy (1992), point 219.

\(^{323}\) Ibid.


\(^{325}\) *Venit* (1998), *supra* note 230, at 27. See, however, *Goyder, supra* note 192, at 348, who believes that access to a truly saturated facility would not be required. He also states that "genuine technical reasons" may be an objective justification.
the Commission's essential facilities test, the US essential facilities doctrine, and the Court's case law on refusal to supply will mystify firms in possession of what could be considered to be an essential facility. Nevertheless, in Bronner v. Mediaprint, the Court at least made clear that a system of home-delivery services for newspapers is not an essential facility.

7.7 Intellectual Property Rights

7.7.1 Introduction

The case law of the Court of Justice on refusals to license intellectual property rights displays certain features, which make this introduction required. The owner of an intellectual property is by law given the right to exclude certain acts by potential competitors and to impose certain obligations on contracting parties. National legislators have considered it necessary to protect new inventions, designs, works of art etc. to give incentives to creative work. A commercial firm which cannot fully reap the fruits of its investments in research and development is not likely to undertake such a risky enterprise. "The best incentive for technical and creative innovation is considered to be the provision of to the innovator of exclusive rights over his new technical process, product, creation or design for a limited duration. This duration reflects the compromise struck by the state between the need to encourage invention and the 'evil' of granting a monopoly to an undertaking." Thus, there is a need to find a balance between the wish to keep incentives to creative work and the need to ensure that the rights inherent in the rules protection such incentives are not misused for anti-competitive purposes.

Already in 1964, the Court drew a distinction between the existence and exercise of intellectual property rights. The former is protected by Articles 30 and 295

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326 See section 7.3.2 above.
327 SUBIOTTO, supra note 275, at 237.
(formerly Articles 36 and 222), whereas the latter is subject to the Treaty thus including the competition rules.329

In Parke Davis,330 the Court held that, although ownership of a patent is not an abuse in itself, "the utilisation of the patent could degenerate into an improper exploitation of the protection".331 Moreover, Court held in the same case that charging a higher price for a patented product as compared with that of an unpatented product does not necessarily constitute an abuse. On the other hand an excessive royalty asked by a patent holder was considered to be an abuse in Hilti332 and a dominant undertaking taking over a competitor and thereby acquiring additional intellectual property rights was found to abuse a dominant position in Tetra Pak333. However, both Hilti and Tetra Pak display additional circumstances; the holders of the rights had not made "normal use" of their rights. In the first case the sole object of demanding an excessive royalty was to block a licence of right which was available under the UK patent. In the second case Tetra Pak already had a substantial lead over competitors in the technology field and the additional property right related to a very significant development.

In finding a rationale for the Court's case law on refusal to license intellectual property rights, a closer look at three rather recent cases (Volvo v. Veng, Magill, and Tiercé Ladbrooke) is necessary.

7.7.2 Volvo v. Veng334

Volvo v. Veng335 concerned the Swedish car producer Volvo's refusal to license a registered design right to the British company Veng. Volvo sued Veng in the English

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329 It has been held that this definition is so flexible as allow the Court to state that the way the rights are used goes to their substance or essence, if it approves of the use being made of the rights. Where it disapproves, however, it can say that the question relates to their exercise and is subject to the Treaty. (KORAH (1997), Technology Transfer Agreements and the EC Competition Rules, Oxford University Press, Oxford, at 34-35.)
331 Ibid. at 72.
Patents Court for infringement of Volvo's rights regarding a registered design to body panels for Volvo cars. Veng imported the body panels in question from Italy and Taiwan via Denmark. Veng initially denied infringing Volvo's registered design right and also challenged its validity. Moreover, Veng argued that Volvo's refusal to grant a licence to it or to others under the registered design in question was an infringement of Article 82. The national court therefore asked the Court of Justice whether it is prima facie an abuse of a dominant position to refuse to license others to supply body panels, even where they are willing to pay a reasonable royalty for all articles sold under the licence. The front wings of the Volvo 200 series cars were the only body panels that were registered as a design right in the United Kingdom by Volvo at the material time. Consequently, all other body panels could be freely manufactured and marketed in the UK.

The Court's judgment is very brief and only deals with the question of abuse. The first observation made by the Court was that the ways in which designs and models should be protected is, in the absence of harmonisation, a matter for national rules. Thus, the national legislatures are to determine which products shall be protected regardless of whether they form part of a unit which is already protected as such. The Court went on to emphasise that the very subject-matter of a registered design is the right to prevent third parties from manufacturing and selling or importing products incorporating the design without its consent. Therefore, the Court held, compulsory licensing, even if in return for a reasonable royalty, would deprive the proprietor of its exclusive right, and refusal to grant such a license cannot in itself constitute an abuse of a dominant position.

However, in the following paragraph the Court gave three examples of abusive conducts that may be prohibited under Article 82, even if they relate to the exercise of an exclusive right by the proprietor of a registered design. Those examples were "the arbitrary refusal to supply spare parts to independent repairers, the fixing of prices for spare parts at an unfair level or a decision no longer to produce spare parts for a

\[335\] See also its twin case Case 53/87, CICRA v. Renault [1988] ECR 6039, which was delivered on the same day as Volvo v. Veng. The two cases are very similar, almost identical, both in their facts and in their outcomes.

\[336\] In this connection, it should be noted that Advocate General Mischo considered that part of the design might be recovered from the sale of spare parts and thus that a fairly high price would be accepted so that the incentive to create new car designs would not be negatively affected.
particular model even though many cars of that model are still in circulation, provided that such conduct is liable to affect trade between Member States.\footnote{Volvo v. Veng, \textit{supra} note 334, para. 9.}

It was not clear whether the Court intended this list to be exclusive, but it was certainly clear that additional circumstance are required in order to qualify a refusal to license as an abuse of a dominant position.

7.7.3 \textit{Magill}\footnote{\textit{Supra} note 309.}

\textit{Magill} concerned the refusal of Radio Telefis Eireann (RTE),\footnote{The British Broadcasting Corporation and Independent Television Publications were also involved in the proceedings, but for reasons relating to the presentation of the case this fact is left out below.} the Irish radio and television authority, to license its weekly radio and television schedules to Magill, an organisation which wished to publish a weekly magazine containing these schedules. RTE had a copyright in the compilation of weekly schedules and published its own weekly guide of programmes in advance. It also permitted newspapers to publish weekly highlights of the programmes and daily lists. Magill started to publish a comprehensive guide of the schedules anyway, a fact which led RTE to bring copyright infringement actions in the Irish courts. The actions were successful and Magill complained to the Commission that RTE's behaviour amounted to abuse of a dominant position and asked it to require each RTE to grant Magill a copyright licence. The Commission adopted a decision to this effect, which was confirmed by the Court of First Instance and the Court of Justice.

As regards dominance, the Court confirmed the position of the Court of First Instance that RTE held a dominant position in respect of its own weekly program listings. This was so since it could prevent effective competition in the downstream market for weekly program magazines by virtue of its monopoly on the information concerning its own television programs.

When addressing the question of abuse, both courts held that RTE was exercising its copyright in a way which was detrimental to competition. However, it is important to note that certain exceptional circumstances were held to be decisive for the finding that RTE had abused a dominant position:
(i) the refusal to license prevented the emergence of a new product (a comprehensive weekly television guide) for which there was a potential consumer demand. Thus, a violation of Article 86(c) (Article 82(c) ToA) was ascribable to RTE;340
(ii) the refusal to licence was not justified neither by the specific needs of the broadcasting sector nor by technical requirements of producing magazines containing the schedules;
(iii) access to the information on RTE's television programs was indispensable for the compilation of comprehensive weekly television guides and thus, by denying access to this information, RTE reserved the market for such guides to itself.

7.7.4  Tiercé Ladbroke341

Those who were disturbed by the Court's judgment in Magill were probably rather relieved by the judgment of the Court of First Instance in Tiercé Ladbroke. The case concerned the refusal of French arrangers of horse races to license the copyright for French televised pictures from races to Ladbroke, which wished to transmit them in Belgium for its betting service. Ladbroke said to have offered a reasonable fee for the licence and relied on the Commission's decision in Magill342 in claiming that the defendants' refusal was an abuse of a dominant position. The Commission did not uphold this complaint since, according to its market definition, neither did the defendants occupy a dominant position, nor was Magill applicable to the case.

The Court of First Instance upheld the Commission's market definition (the services of broadcasting sound and television pictures in general in Belgium). Despite this fact, the CFI took the opportunity to develop its view on the alleged abuse. The most interesting part of the judgment, for the purposes of this paper, is the CFI's distinction between Magill and the present case. First, it held that Magill could not be applied since only Ladbroke and not the defendants was active on the Belgian betting market. Thus, the defendants were incapable of exploiting their intellectual property

340 This finding was contrary to Advocate General Gulman's Opinion, in which he stated that the prevention of the production of a new non-competing product could have been abusive, but, in his view, RTE was entitled to use its copyright to prevent the emergence a competing product.
right on that market. Second, it held that "[e]ven, if it were assumed that the presence of [the defendants] on the Belgian market in sound and pictures were not, in this case, a decisive factor for the purposes of applying Article 86 of the Treaty, that provision would not be applicable in this case. The refusal to supply the applicant could not fall within the prohibition laid down by Article 86 unless it concerned a product or service which was either essential for the exercise of the activity in question, in that there was no real or potential substitute, or was a new product whose introduction might be prevented, despite specific, constant and regular demand on the part of consumers."343

The CFI then concluded that the televised broadcasting of horse races may constitute an additional and suitable service for bettors, but it is not indispensable. In fact, it pointed out, Ladbroke's presence on the Belgian market and its market shares with regard to bets on French horse races contradicted any claim of indispensability. Then it added that since transmission took place after bets are placed, absence of transmission could not affect the choices made by bettors, which further proved that the service in question was not indispensable for bookmakers.

Lastly, the defendants' absence on the Belgian betting market was also held to preclude any application of *London European/Sabena*, *Commercial Solvents* and *Telemarketing* to the case. With regard to these cases the CFI apparently saw no need to examine what the result would have been if this absence had not been a decisive factor for the outcome of the case.

7.7.5 *Comments*

*Volvo v. Veng* seemed to state a rather clear rule: Refusal to license an intellectual property right does not constitute abuse of a dominant position unless some aggravating circumstances are present. As regards rights related to spare parts, improper use of the intellectual property right could consist of refusal to supply independent repairers with spare parts, charging unreasonably high prices, and ceasing to produce spare parts even if a considerable number of vehicles of that model are still on the road. From these examples given by the Court, it can be concluded that without (substantial) harm to consumers a refusal to license would be perfectly legitimate.

343 *Tiercé Ladbroke*, *supra* note 341, para. 131.
Then came *Magill*. On a literal interpretation this judgment goes very far. It could mean that the holder of an improvement patent for a new product would be entitled to a licence – for a reasonable royalty – from a dominant firm that holds the basic patent. Such a broad interpretation could substantially reduce the incentive to invest in the research and development which led to the invention of the original patented invention. The Commission explained, during the proceedings, that the obligation to license stemmed from its finding that the intellectual property right held by RTE was unmeritorious. In its view, television listings did not objectively deserve to be protected by copyright, since they were a mere by-product of RTE’s broadcasting activities and required no creative effort. However, as has been pointed out by commentators, such an approach leads to legal uncertainty since every unusual intellectual property right may be challenged. The Commission would be the instance to decide whether an intellectual property right is justified or not. This view is clearly contrary the Court’s case law on the distinction between the existence and the exercise of intellectual property rights in relation to Articles 295 and 30. There is a fundamental assumption in EC law that, in the absence of harmonisation, Member States are free to determine the subject matter they deem fit to be protected by intellectual property rights.

However, the Court did not embrace the Commission’s controversial opinion in *Magill*, and this makes the judgment difficult to interpret. Its scope depends on the interpretation of the factors which constituted the exceptional circumstances that motivated an obligation to license. If the Court regarded these factors as cumulative, the application of the case is extremely narrow, whereas a broader application would be possible if any one of the factors would suffice. Moreover, like Stena in the Holyhead Harbour cases, RTE was dominant on both the upstream and the downstream market. Therefore, cases in which an intellectual property owner is not dominant in the downstream market are not likely to be analysed along the lines of *Magill*.

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344 *Korah*, *supra* note 329, at 54, and *Subiotto*, *supra* note 275, at 239.
346 See section 7.7.3.
347 Note, however, that this comparison does not make it appropriate to discuss *Magill* in terms of essential facilities (as has been done by *Temple Lang*, *supra* note 213 and *Ridyard*, *supra* note 207). Even if it may be tempting to draw such conclusions from the Court’s finding that access to the information on television programs was “indispensable” for *Magill*, it must be remembered that it is exactly this ability to exclude rivals and gain a competitive advantage that is the essence of an intellectual
Tiercé Ladbroke can be interpreted to limit the scope of Magill. Advocate General Jacobs stated in his Opinion in Bronner v. Mediaprint that the position following Magill and Tiercé Ladbroke was “that a dominant undertaking commits an abuse where, without justification, it cuts off supplies of goods or services to an existing customer or eliminates competition on a related market by tying separate goods or services. However, it also seems that an abuse may consist in a mere refusal to license where that prevents a new product from coming on a neighbouring market in competition with the dominant undertaking’s own product on that market.”349 In Mr Jacobs’ opinion, the outcome in Magill was ascribable to very special circumstances which will very rarely occur. With the risk of over-interpreting Mr Jacobs’ Opinion, it can be stated that he might have seen Magill as nothing short of a “freak” in the case law on refusal to license intellectual property rights.

Magill cannot be interpreted with any certainty, but if Advocate General Jacobs is right, its application appears to be limited to very specific cases, where all three factors referred to as ‘special circumstances’ by the Court must be present cumulatively. Notwithstanding this uncertainty, it may be correct to state that the general rule under European competition law is that there is no obligation to license intellectual property rights, unless such refusal prevents the emergence of a new product (for which there is a consumer demand), the refusal is not justified and access to the intellectual property right in question is indispensable for the downstream competitor. The focus on a new product signals that Article 82 should be applied to protect the interests of consumers not competitors also with regard to intellectual property rights.

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348 VENIT (1998), supra note 230, at 32.
349 Para. 43 of the Opinion, supra note 301 (emphasis added).
8 Concluding Remarks

8.1 The Setting

It will be remembered that according to the studies made by the economists mentioned in section 5 above, marketable pollution permits can under certain circumstances be used to raise rivals' costs for exclusionary purposes. The conditions required for such behaviour to be possible were identified as: a small, local permit market with one dominant firm (or a number of jointly dominant firms). This firm must be dominant on the downstream (the product market) as well as on the upstream market (the permit market). Moreover, the area in which the permit market is situated must display certain features, which makes it an indispensable location for manufacture of the relevant product. For example, there could be a clear cost advantage, e.g. due to raw material supplies, to manufacture the product within this particular geographical region.

Let us assume that firm A is established at this location and that firm B, which is an actual or potential competitor of firm A on the relevant product market, wishes to establish there. Firm B has access to the necessary supply of raw material, the real property needed to establish an industrial site on the location in question, and the funding to start the manufacture of a product competing with that of firm A. In sum, firm B has almost all the necessary components to become a serious rival to firm A. However, it lacks the necessary pollution permits. Assuming that firm A is dominant on the permit market and on the product market, it is not likely that it wishes to supply the necessary permits to firm B. For firm B the desired pollution permits must clearly appear to be essential for production. In order to be able to assess whether A's refusal to supply B with the necessary permits would amount to an abuse of a dominant position, (at least) three different factors must be taken into consideration:

(i) Are there any substitutes for firm A's permits?
(ii) How did firm A obtain the permits it possesses?
(iii) Can environmental considerations affect the outcome in the competition law proceedings?
8.2 Substitutes

As demonstrated in section 7 above, firm B must show that A’s permits are essential for its operations. That can only be done by showing that there are no substitutes available. A finding of lack of substitutes requires evidence to the effect that other actors on the permit market have no spare capacity, i.e. excess permits, and that the government neither issues nor sells any more permits for the relevant pollutant.

Recalling that the case law on refusal to supply of the early years was focused on the protection of competitors, as opposed to competition, there may seem to be some possibilities to argue that B’s existence is dependent upon permit supply from A. However, it will be remembered that the case law in question requires that there has been a longstanding relationship between A and B, which A has cut off, without any justification, for there to be an abuse. It is not likely that such a relationship could ever exist between A and B. Permits do not appear to be a commodity which will be subject to regular supplies from one entity to another.

The case law of the Commission, following the early years, indicates that a longstanding relationship may not be required in all cases. In e.g. British Midland/Aer Lingus, this feature seems to have replaced with the fact that interlining was standard practice in the air transport sector. In the Holyhead cases and Port of Rødby, it was explicitly stated that also new entrants to a market can successfully demand access to an essential facility. Thus, in these cases, focus was shifted from what the smaller competitor could expect from the dominant firm to the obligations of the dominant in cases where access to its facility or product is truly essential for its competitors. Applying the Commission’s view in the port cases to marketable pollution permits, it can be asserted that firms that are dominant in the permit market cannot refuse to supply a competitor, if permits are necessary for that competitor’s ability to provide services to its customers. In such cases, the dominant firm may not discriminate in favour of its services, as far as access to permits is concerned. Moreover, the Holyhead cases impose procedural conditions upon the owner of an essential facility,

350 In particular MISIOLEK and ELDER, supra note 152, and Mørch von der Fehr, supra note 168.
351 See section 7.4.6 above.
352 Supra note 273.
353 B & I/Sealink, supra note 199, and Sea Containers/Sealink, supra note 291.
354 Supra note 297.
meaning that it must *inter alia* behave like an independent operator, or in this case like a permit supplier with no interests in the downstream market. A’s justification for not supplying permits in such cases could be that all permits are in use, or expansion for which permits are needed is imminent. However, as was indicated in section 7.6.4 above, the fact that all permits are in use may not be a sufficient justification.\(^\text{355}\) This means that once a facility is considered to be essential, within the meaning of the Holyhead cases, it is very difficult to justify a refusal of access to it. Thus, the most important aspect of this case law with respect to marketable pollution permits is whether such permits can qualify as essential facilities. Generally, large infrastructures, such as telephone networks, electricity transmission networks, rail networks and postal services can be given this label.\(^\text{356}\)

Traditionally, in Europe, such facilities have been owned by a regulated, even nationalised, industry. Thus, they have obtained control over facilities which are impossible or very difficult to duplicate without considerable effort. In such cases it can be economically motivated to grant competitors access to the facility in question, and require that its owner actively promotes competition.\(^\text{357}\) In this respect, it may be recalled that the Court of Justice has held that access to a facility is not shown to be indispensable only on the basis that the competitor seeking access to it cannot duplicate it. Indispensability requires that the market cannot sustain a competing system at all, according to the Court.\(^\text{358}\) This means that no possibilities of obtaining permits anywhere but with firm A must exist for A’s permits to be indispensable. Thus, the possibilities of buying the nearby emitters in order to obtain their permits must be taken into account before access is granted by way of regulatory intervention.

Permits on a permit market, however, as opposed to facilities obtained by legal monopolies, are not distributed exclusively to any one firm, but to all participants in the market. Hence, the interest of keeping incentives to lower pollution by achieving more efficient pollution abatement (through innovation or other investments) and thereby free permits for sale must be considered before the essential facilities doctrine is applied to a refusal to supply such permits.

\(^\text{355}\) See *Port of Rodby*, *supra* note 297, where full use of a port was not considered to justify a refusal of access to it.
\(^\text{357}\) See *ibid.*, para. 34.
\(^\text{358}\) *Bronner v. Mediaprint*, *supra* note 300, paras. 45-6.
8.3 Auction, Efficient Abatement or Grandfathering?

8.3.1 Auction or Efficient Abatement

Assuming that firm A obtained the permits by purchasing them at an auction, the analysis would have as its starting point that A made a major investment to obtain the commodity that B seeks access to. Assuming that A obtained them through efficient pollution abatement, the investment may be even greater. In such cases it is important to note that the purpose of introducing marketable pollution permits is to give polluters the opportunity to choose whether they prefer to invest in abatement technology or simply purchase more permits from other polluters. Thus, firms are given the right to choose the most cost-effective way to achieve the environmental goals set by the regulator. It is very important to ensure that the market is working smoothly. A non-functioning market would not achieve the desired cost-effectiveness. Therefore, the question of the right to permits is of great importance.

It has been shown above that the basic argument for introducing incentive-based instruments in environmental policy is to come to terms with 'problem of the commons'. In systems of marketable pollution permits, this problem is reduced by creating limited property rights in the form of permits to emit a given amount of a given type of pollution. The property rights are limited, since it has not been considered wise to introduce legal rights to pollute. First, such rights would be likely cause considerable political controversy, since their introduction would signal a shift from obligations to rights for polluters. Second, emissions trading programs with legal rights for polluters to the transferable quotas would be static in the sense that, without triggering laws on expropriation, no further emission reductions could be made once the overall emission limit is set. However, in order to keep the incentives to lower emissions, the industry must place reasonable trust in the government not reducing the emissions cap more than planned and announced. Thus, the limited rights that can be expected in a European emissions trading system will be rather weak, and it is there-

\[359\] See section 4.1.3 above.
\[360\] A qualification to this statement is that the government could enter the market and purchase emission rights in order to retire them. However, such an alternative would be costly for the state and not allow enough flexibility in case of an acute need of large emission reductions.
fore questionable whether it would be economically sound to subject them also to the threat of competition policy intervention.

With regard to the above, it appears that limited emission rights have some characteristics in common with intellectual property rights. Both are immaterial rights, which have no direct connection to physical property, and both are legislative inventions created to promote technical (and creative in the case of intellectual property rights) innovation. In both cases, innovation is unlikely to occur unless the innovator can be assured to be able to enjoy the fruits of its investments. Moreover, intellectual property rights are limited in time, and, in practice, so are rights to pollution permits (since the emission limits can be expected to be gradually reduced).

It can, of course, be argued that one crucial difference between intellectual property rights and emission rights is that the former, as a legal right, is protected by Articles 30 and 295 (formerly Articles 36 and 222), whereas the Treaty does not protect the latter in this way. However, this argument is formalistic and not convincing. The object of creating both rights is the same: to create incentives to innovation. The reasons for not granting a full legal right to emission quotas derive from an environmental risk assessment. Every environmental measure must reflect the scientific uncertainty about environmental development, emissions that are currently acceptable may, in the future, be considered to be outrageously high. It can therefore be argued that, if environmental risk assessment could be made with certainty, emission rights with a full legal value would be traded on permit markets.

Another objection to the comparison between emission rights and intellectual property rights could be that the process, with which pollution is reduced, can in itself be eligible for protection by an intellectual property right. However, if this were the case, permit markets would not be needed to promote technical development. This is a conclusion which has been proven wrong in sections 2-3 above. Moreover, not all processes can be protected. Some pollution abating techniques are considered too common or too simple to deserve such protection. Nevertheless, also techniques belonging to this category may be very expensive to install. Incentives for the latter type of investment must also be ensured.

For these reasons, it would be wise to apply the case law on refusal to license intellectual property rights to refusals to supply pollution permits, at least if the permits were obtained through auction or efficient pollution abatement. It will be re-
membered that the conclusion of section 7.7 above was that a refusal to license will only considered abusive under very special circumstances: the refusal must prevent the emergence of a new product; it must be unjustified; and the permits must be indispensable for the production of the new product. Hence, if firm B can show that access to A's permits will lead to the introduction on the market of a new product, for which there is a potential consumer demand, A will have to supply permits to B, if this is indispensable for B's production and A cannot justify its refusal to supply. Again, a justification can be full use of all permits or imminent future use of them. The 'new product requirement' is difficult to assess without a concrete case, but judging from the decision of the Court of First Instance in Tiercé Ladbroke\textsuperscript{361} and the opinion of Advocate General Jacobs in Bronner v. Mediaprint,\textsuperscript{362} it will only rarely be applicable. As regards the requirement that the permits be indispensable for firm B, reference is made to section 8.2 above.

8.3.2 \textit{Grandfathering}

Excess permits, which firm A received without charge, cannot as readily as the purchased (in one way or another) permits be equated with intellectual property rights. Generous grandfathering rules\textsuperscript{363} can be source of the permit surplus of firm A. Thus, A has invested neither resources nor money to obtain the essential commodity with which it can exclude its competitors from the downstream market.

In such cases the deregulation rationale of the essential facilities doctrine appears to fit the description of the situation better than the case law on refusal to license intellectual property rights. However, even in such cases caution is required. Evidence of the actual pollution level before the program was started will be necessary if the dominant firm claims to have reduced its level of pollution since then. The outcome of the evidence assessment will be decisive for whether the more lenient (for the dominant firm) 'intellectual property approach' or the Commission's strict version of the essential facilities doctrine should be applied. Moreover, in order not to reduce

\textsuperscript{361} Tiercé Ladbroke, supra note 341.
\textsuperscript{362} Bronner v. Mediaprint, Opinion of Advocate General Jacobs, supra note 301.
\textsuperscript{363} Initial over-allocation of permits seems to be rather common. This is probably attributable to the fact that exact estimation of every partaking firm's emission would be too costly and too difficult to admin-
incentives to generate marketable permits, it must be clearly stated by competition law enforcers that grandfathered permits will be treated differently from purchased ones.

8.4 Environmental Considerations

Should a system of tradable environmental permits be introduced on a European level, this system will surely form part of the Community environmental policy. This observation adds to the weight of the environmental integration clause under Article 6 ToA (formerly Article 130r(2)). Pursuant to this provision, the environmental aim of the permit system must be taken into account and be respected, "in particular with a view to promoting sustainable development", also in a competition law context.

Interestingly, the integration principle has just recently been moved from Title XVI of the Treaty dealing with environment to Part I entitled "Principles". This change may illustrate a trend in the development of the view of environmental policy. For example, while competition has been emphasised from the start, environmental protection was not even mentioned in the original Treaty. Not until 1972, in Paris, the Heads of State agreed that economic expansion should be subject to the need for environmental protection. Another thirteen years passed before the Court of Justice held that protection of the environment is an essential goal of the Community. In 1987, special provisions for the protection of the environment were implemented in the Treaty through the Single European Act. And finally, in Treaty of Amsterdam, the environmental integration clause was moved from Title XVI to Part I of the Treaty. In this respect it is noteworthy that other integration clauses such as those dealing with public health and employment are not give equal prominence.

However, in general, European environmental policy should not affect its competition policy negatively since the effect of the full integration of the polluter pays principle will, if the market works the way it should, be that the harmful effects of

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production, distribution, use and ultimate disposal of goods are expressed in their price. Thus, one important feature of the polluter pays principle is that it is meant to translate the negative effects on the environment of a particular process or good into costs. Consequently, the price mechanism will perform its signalling function which forms the basis of a market economy. In this way the price of a product will to a certain extent reflect the degree of pollution it causes. Therefore environmental policy and competition policy seem to have a common goal in that it is important for both to make competition as free from distortion as possible. When firms are forced convert environmental costs into financial terms, the competitive market will be one of the mechanisms which will make the industry reduce emissions, in particular by using less polluting production and disposal techniques.\textsuperscript{366}

Notwithstanding this, the polluter pays principle is far from fully integrated in European law. Thus, some environmental costs are only partially or not at all reflected in the price of the product. In response to this, firms and governments have been inclined to restrict competition in certain markets in order to improve the possibilities of attaining the envisaged environmental goals.\textsuperscript{367}

However, as regards Article 82, no decisions by the Community courts or the Commission indicate that environmental considerations have been allowed to affect the outcome of a case. However, one imaginable case is the refusal of a firm effective in pollution abatement due to superior technology, to supply this technology to its competitors. The integration clause could in such a case be used to determine the quality of the products manufactured using the different technologies. The products of the refusing firm will be of higher quality, and thus generate higher consumer demand, than the ones produced by the refused firm, since consumer demand will be interpreted in the light of the integration principle. Thus, by refusing to supply the equipment the dominant firm’s behaviour acts to the detriment of consumers.\textsuperscript{368}

In general, it appears that the integration clause does not provide for outright exceptions to the competition rules. However, it has been stated that it forces competition law enforcers to recognise that the ‘ecological record’ of a product forms part of its quality. Thus, a dominant firm can ask its suppliers to behave in an environment-


\textsuperscript{367} \textit{Ibid.}, at 237-238.

tally sound manner without committing an abuse, since such a request merely relates to the quality of the product.\textsuperscript{369} In conclusion, the role of the integration principle in the application of competition law is that environmentally friendly behaviour is presumed to further consumer welfare. That is, consumers are assumed to want environmentally friendly products.

As regards refusal to supply marketable pollution permits, the integration clause seems to be of limited importance. Returning to the relationship between firm A and B, it can be said that A's refusal to supply B neither furthers nor harms consumer welfare as defined in terms of environmental quality. The environmental goal was set when the program was started and will not be affected by A's refusal to deal. It can be argued that A's behaviour will prevent a proper functioning of the market and thereby reduce potential long-term environmental benefits, such as the possibility to drastically lower the overall emission limit. This possibility may arise if the regulator finds that the trading program has led to far greater emission reductions than expected. However, such measures should be taken with great care. If the market loses confidence in the limited property right vested in the permit, trading will diminish and potential future cost-savings will be lost. Therefore, it is wiser to regard the permit market as any other market and apply the competition rules without particular regard to the integration clause. If efficiency is achieved on the permit market, consumer welfare will be furthered in the long run also from an environmental point of view.

8.5 Conclusion

Apart from the general considerations, which must be made when dealing with all cases of refusal to supply, refusal to license intellectual property rights, and access to essential facilities, the specific issue of refusal to supply marketable pollution permits must be addressed with particular attention paid to the method of allocation. The general rule should be that tradable permits, obtained through auction or, even more clearly, through efficient pollution abatement, should not be subject to strict rules on access for competitors such as the Commission's 'essential facilities doctrine'. The better view is that the law on refusal to license intellectual property rights should ap-

\textsuperscript{369} Ibid., at 66.
ply by analogy to refusals to supply marketable permits. Such an approach is consistent with the observed similarities between intellectual property rights and tradable pollution permits.

The essential facilities doctrine appears to be more appropriate in the context of deregulation.\(^{370}\) This conclusion has to do with the fact that many regulated industries have obtained essential facilities, to which competitors seek access, without having to invest heavily. Excess amounts of grandfathered permits belonging to dominant firms should be treated like such facilities, since that excess is due to governmental regulation (a misjudgement of permit demand) and not to efficient pollution abatement. Therefore, grandfathered permits merit less protection than purchased ones.

Unfortunately, this proposal creates complexity in the legal system, since the same commodity will be treated differently depending on how it was obtained. It can thus be concluded that, in order to avoid that dominance on the permit market becomes a problem, because of poorly designed grandfathering rules, the initial allocation of permits should be undertaken with great care.\(^{371}\)

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\(^{370}\) See section 7.6.4 above, in particular with regard to the Commission’s finding that Holyhead port was a substantial part of the common market in \(B \& I\)/Sealink (\textit{supra} note 199).

\(^{371}\) It will be remembered that this was also the finding of HAHN, \textit{supra} note 147.
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Case Law from the Community Courts


*Case Law from the Commission of the European Communities*


Case Law from US Courts


