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Dieter Hecht and Nicola Werbeck*

Waste Without Frontiers?

The transfrontier recovery, treatment and disposal of waste in the European Union is governed by regulations both at the union level and in the individual states.

Do these various regulations make economic sense? What are the arguments for and against national export bans and import restrictions over and above the EU regulations?

More than 250m tons of municipal waste and 850m tons of industrial waste are produced in Europe every year. These figures present only a rough estimate, since both the will and the capacity to gather and process data differ considerably between countries. In addition, most terms have not been standardised.¹ Although the European Union is currently attempting to standardise terms and waste statistics for its member states, serious deficiencies still exist here, too.² Excluding agricultural waste, the commission released the following statistics showing the waste quantities for the 15 member states for 1990:³

<input type="checkbox"/> mining	352m tons
<input type="checkbox"/> manufacturing	336m tons
<input type="checkbox"/> household waste	132m tons
<input type="checkbox"/> power generation	57m tons
<input type="checkbox"/> other sectors	33m tons
<input type="checkbox"/> hazardous waste (all sectors)	22m tons

While 69% of municipal waste was dealt with at waste disposal installations and 18% was incinerated in 1990, these figures were 57% and 23% respectively in 1993.⁴ With regard to technical and organisational issues, waste disposal installations differ greatly between the individual states. Hazardous waste is only partly incinerated, not least because the Community's total incineration plant capacity covered only about 10% of its volume of hazardous waste in the late 1980s. In 1990, approx. 70% of hazardous waste was deposited, the rest was

incinerated, recycled or otherwise treated.⁵ Even today, hazardous waste is often dumped at sites that are not suitable for this according to our present level of knowledge.⁶

Waste can be recycled, dumped in the environment or dealt with in special plants (waste disposal installations or incineration plants). Proper disposal at disposal installations or incineration plants is of advantage because it helps to prevent or at least reduce detrimental effects on the environment.⁷ All things considered, the costs associated with the disposal of waste result from the need for space, capital and labour power as well as the remaining environmental pollution. Due to differences in environmental conditions, in supplies of scarce resources and in evaluations of ecological damage, these costs vary at different locations.⁸ If these differences in

¹ Cf. D. Stanners and P. Bourdeau (eds.): *Europe's Environment. The Dobris Assessment*, Copenhagen 1995, pp. 347, 576.

² Cf. Commission communication on the review of the Community strategy for waste management (COM(96) 399 of 30 July 1996), pp. 18 f.; K. Wieringa (ed.): *Die Umwelt in der Europäischen Union, Bericht zur Überprüfung des Fünften Umwelt-Aktionsprogramms*, Copenhagen 1997, pp. 69 ff.; Council resolution on a Community strategy for waste management (97/C76/01, OJ No. C76, 11.03.1997), pp. 1 ff.

³ Cf. Commission communication on the review of the Community strategy for waste management, op. cit., pp. 5, 18. Percentages taken from D. Stanners and P. Bourdeau, op. cit.

⁴ Cf. K. Wieringa (ed.), op. cit., pp. 70f.

⁵ *Ibid.*, p. 72.

⁶ Cf. "1992". *The Environmental Dimension, Task Force Report on the Environment and the Internal Market*, Bonn 1990, p. 120.

⁷ For further details concerning the different techniques cf., for example: *Der Rat von Sachverständigen für Umweltfragen: Abfallwirtschaft. Sondergutachten*, September 1991, Stuttgart, esp. pp. 344 ff.

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costs are reflected by prices, incentives arise for waste producers to dispose of their waste at locations where – including any transport costs – it will be cheapest for them. If it is cheaper for waste producers to dispose of their waste abroad, transfrontier shipment of waste will arise.⁹ While waste exports from Germany accounted for 1,008,725 tons in 1995, imports accounted for 276,459 tons. Approximately 61% of German waste exports and 82% of waste imports were hazardous waste. 72% of German waste exports were shipped to EU member states. About 13% of exports and 26% of imports were disposed of.¹⁰

Seen from an economic perspective, transfrontier waste trade is to be welcomed, since it can result in an increase in public wealth, in the same way as the international division of labour. What is required, though, are rules that can be enforced at an international level in order to ensure proper disposal, but which might, of course, differ from country to country. A legal obligation to dispose of or treat waste only in plants that are fully suitable for this task cannot be criticised in a densely populated world. However, in addition to this, both politicians and scientific experts have raised a number of arguments against using foreign waste disposal plants. In Germany, the aim of self-sufficiency with respect to waste disposal is reflected in the so-called Kreislaufwirtschaftsgesetz (Commercial and Industrial Waste Management Act).¹¹ In the following, the regulations for waste producers and transporters included in the various European directives and regulations will be examined critically, first from a European and then from a national perspective.

European Waste Policy

Since the mid 1970s, the European Union has enacted rules for waste management by means of various directives and one regulation.¹² The framework directive on waste of 1975/91¹³ is based among other things on the fact that diverging legal provisions on

waste management in the individual member states could affect the quality of the environment and the proper functioning of the single market. The framework directive comprises basic rules as to the provision and utilisation of waste infrastructure as well as the avoidance and recovery of waste. It also defines the term “waste” at an EU-level. The European Waste Catalogue (EWC), which was released in 1993, lays the foundation for a standardised labelling of waste for its disposal and recovery within the European Union.¹⁴ It is one objective of the framework directive that waste disposal should be carried out in a way which ensures that public health is not threatened and the environment is not harmed in any way. Uncontrolled waste disposal is illegal. The member states are instructed to set up a modern and cost-effective integrated network of waste disposal facilities. This network is to ensure the Union’s self-sufficiency with respect to waste disposal. In addition, every Member State may strive for its own self-sufficiency in waste disposal, taking into account geographical peculiarities and special kinds of waste. Waste is to be dealt with at one of the closest suitable facilities.

Since 1994, the council regulation on the supervision and control of shipments of waste within, into and out of the European Union¹⁵ has been in operation in the EU, regulating transfrontier recovery, treatment and disposal of waste. While it prohibits waste

¹² For an overview on this topic see e.g. M. Dieckmann: Das Abfallrecht der Europäischen Gemeinschaft. Systematische Darstellung der gemeinschaftsrechtlichen Vorgaben für die nationale Rechtssetzung und Rechtspraxis, in: W. Hoffmann-Riem, H.-J. Koch, U. Ramsauer (eds.): Forum Umweltrecht, Schriftenreihe der Forschungsstelle Umweltrecht der Universität Hamburg, Vol. 10, Baden-Baden 1994; D. Hecht and N. Werbeck: Abfallpolitik, in: P. Klemmer (ed.): Handbuch Europäische Wirtschaftspolitik, Munich 1998, pp. 219 ff.

¹³ Cf. Council Directive on waste of 15 July 1974 (75/442/EEC, OJ No. L 194 of 25 July 1975, pp. 47 ff.), amended by the Council Directive on standardising and rationalising reports on the implementation of certain Directives relating to the environment of 23 December 1991 (91/692/EEC, OJ No. L 377, 31.12.1991, pp. 48 ff.); Council Directive on waste of 18 March 1991 (91/156/EEC, OJ No. L 78 of 26. 03. 1991, pp. 32 ff.) amending Council Directive on waste 75/442/EEC.

¹⁴ See Commission Decision of 20 December 1993 establishing a list of wastes pursuant to Article 1a of Council Directive 75/442/EEC on waste (94/3/EC, OJ No. L 5, 07.01.1994, pp. 15 ff.) For further details cf. M. Engler: Abfallverzeichnisse, in: L. Schimmelpfeng, C.-O. Zubiller, M. Engler (eds.): Der Europäische Abfallkatalog, Umsetzung und Praxis der Abfallverbringung in der Europäischen Union, Berlin, Heidelberg 1996, pp. 87 ff.

¹⁵ Council Regulation (EEC) No. 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community (OJ No. L 30, 06. 02. 1993, pp. 1 ff.) as amended by the Decision of 21 October 1994 (94/721/EC, OJ No. L 288, 09.11.1994, pp. 36 ff.) For details see e.g. H. v. Köller, W. Klett, O. Konzak: EG-Abfallverbringungsverordnung mit Erläuterungen und weiterführenden Vorschriften, in: Abfallwirtschaft in Forschung und Praxis, Vol. 68, Berlin 1994.

⁹ For a more detailed account of these issues, the interested reader may refer to N. Werbeck: Konflikte um Standorte für Abfallbehandlungs- und -beseitigungsanlagen. Ursachen und Lösungsansätze aus ökonomischer Sicht, Schriftenreihe des Rheinisch-Westfälischen Instituts für Wirtschaftsforschung, N.F., No. 55, Berlin 1993.

⁹ For a survey on transfrontier shipments of waste in Europe see D. Stanners and P. Bourdeau, op. cit., pp. 352 ff.

¹⁰ Cf. Umweltbundesamt: Daten zur Umwelt. Der Zustand der Umwelt in Deutschland, 1997 edition, Berlin 1997, pp. 444 ff.

¹¹ Gesetz zur Förderung der Kreislaufwirtschaft und Sicherung der umweltverträglichen Beseitigung von Abfällen (Kreislaufwirtschafts- und Abfallgesetz – KrW-/AbfG), 27. 09. 1994 (BGBl. I, p. 2705 ff.)

exports to ACP countries altogether, exports from one EU member state to another or to a third state are usually heavily restricted and are subject to extensive inspection, authorisation and monitoring procedures; the same applies to imports from these countries. Outside the EU, exports of waste for disposal may take place only to selected EFTA countries. In addition, member states may prohibit waste exports in part or altogether, in order to enforce the principle of proximity, the priority of recovery, and the principle of self-sufficiency with respect to waste disposal. As far as the competent authorities are concerned, they may raise objections against transfrontier waste shipments, in order to enforce the principle of self-sufficiency in waste disposal or to ensure that waste management adheres to waste management plans.

In its Walloon judgement,¹⁶ the European Court of Justice confirmed that individual member states may forbid others to dispose of waste in their respective territory. Furthermore, it declared in another judgement that the principle of domestic disposal is consistent with the EU Treaty.¹⁷ In the Walloon judgement the court was concerned with the admissibility of an order by the Walloon Regional Executive which forbade the disposal of waste from other regions or from other member states of the European Union in Walloon.¹⁸ According to the judgement, restrictions on waste disposal are illegal impairments of free trade; nevertheless, they may be justified by reasons of environmental protection as an imperative requirement of Community law.¹⁹ Taking the principle of proximity into consideration, the court decided that the damaging effects on the environment and on public health that arise as a result of the disposal of waste at a distant location are higher than those resulting from the disposal of comparable domestic waste.

Arguments for Restrictions

Waste is shipped to foreign countries if the producer or carrier expects to earn a higher profit than he would if it were disposed of locally. Directives and regulations for transfrontier waste shipment are to ensure that incentives for such practices are only

provided if the advantages arising on an international level outweigh the disadvantages. If the populations of waste-importing states believe that they cannot cope with the risks associated with waste disposal as a result of their capacities and equipment or because of their institutions, import bans by these nations are justified. Nevertheless, the question remains as to whether or not national governments in waste-importing states pass bans that are in the common interest and whether existing bans can be enforced. Should this not be the case, export bans can be justified. Exporters could restrict themselves on a voluntary basis should they realise that the dangers of disposing of waste are not known in other countries, that the disposal process cannot be monitored, or that people who are threatened by risks from waste disposal do not have an institutionalised possibility of protecting themselves against environmental pollution and threats to their health. Here, export restrictions or bans serve those people who cannot protect themselves and who are not protected by their representatives or governments. These measures prevent imported waste from being disposed of by individual social groups at the expense of third parties. A universal export ban to ACP countries, as is currently practised by the European Community, can thus be justified in the interest of third parties. There is an inherent danger, though, of (un-)consciously patronising people in potential importing countries.²⁰

Waste exports to countries with highly developed institutions and a considerable amount of capital and human resources are to be judged differently. While universal export bans are only partially justifiable, special rules are necessary in order to guarantee proper disposal. Institutions can be set up in such a way that a spontaneous order for waste disposal can grow, or they can strive for a "construction" of waste disposal by the government. The rules support the concern for macro-economic growth (or efficiency)

¹⁶ Cf. EuGH, Urteil v. 9.7.1992 – Rs C-2/90 (Kommission/Königreich Belgien), in: Europäische Zeitschrift für Wirtschaftsrecht, Vol. 3, 1992, pp. 577 ff.

¹⁷ See: Europäischer Gerichtshof billigt deutsche Vorschriften über Abfallexporte, in: Umwelt, 1995, pp. 287 f. The Commission has also adopted this position. Cf. Commission communication on the review of the Community strategy for waste management, op. cit., pp. 3, 14.

¹⁸ For additional information see M. Dieckmann: Das neue Abfallverbringungsrecht der Europäischen Gemeinschaft – Ende des "Abfalltourismus"?, in: Zeitschrift für Umweltrecht, Vol. 5, 1993, pp. 109 ff.; M. Dieckmann: Das Abfallrecht der Europäischen Gemeinschaft, op. cit., pp. 212 ff.; P. v. Wilmsky: Grenzüberschreitende Abfallentsorgung im Binnenmarkt: Spannungen innerhalb des Gemeinschaftsrechts, in: K. Gutke (ed.): Druckschrift zu den 2. Kölner Abfalltagen 1993, Abfallwirtschaft im EG-Binnenmarkt, Cologne 1994, pp. 163 ff., here pp. 176 ff.

¹⁹ Cf. also Commission communication on the review of the Community strategy for waste management, op. cit., p. 3.

²⁰ Cf. also Der Rat von Sachverständigen für Umweltfragen, op. cit., p. 133.

²¹ See D. Hecht, N. Werbeck, R. Wink: Abfallwirtschaft zwischen Marktcoordination und hoheitlicher Planung – eine ordnungspolitische Entscheidungshilfe, in: List Forum, Vol. 22, 1996, pp. 43 ff.

and the concern for security.²¹ The disposal of waste is efficient if it is achieved at minimal cost from a macro-economic perspective and if there is the tendency to provide an optimal disposal capacity. Should the capacity be too low as a result of wrong incentives, this would have a negative impact on the production of goods. Seen from the point of view that advocates a security-oriented policy, rules are designed to secure access to capacity and restrict the risks arising from the disposal as such. Standardised European directives and rules in the waste sector are of advantage if decisions by waste producers in a given member state affect humans and nature in other member states. The aim of these directives should be to provide a framework for promoting transfrontier, advantageous barter. The directives have to make the disposal of waste outside suitable landfills or incineration plants more difficult. They should leave it to the discretion of the respective waste producer or carrier where they would like to dispose of their waste. As far as present regulations are concerned, this freedom is only partially granted. Although there is no general ban on waste exports within the EU, every member state has the right to pass its own rules for restricting transfrontier shipment of waste with respect to its home territory.

Risks Involved

From an EU perspective, the three most important reasons that can be brought forward as arguments against the shipment of waste are transport risks, the danger of improper waste disposal and free-rider problems as far as the provision of adequate plants is concerned. In the case of free shipment of waste, these are problems which may hit any of the member states as a result of missing or inadequate rules. The further away waste has to be shipped, the higher are the environmental costs resulting from the transport process and the more probable are accidents. Shipment risks and costs could be put forward as arguments in favour of disposal restrictions, if there are no rules that price the damages caused by transfrontier shipment of waste which are certain to arise, and which include potential risks in the price for such shipments. Generally speaking, transport externalities are not an argument against waste disposal at the EU level. They compete with other kinds of shipments for the right to harm the environment through pollutants and noise, and they cannot be put in a worse position simply because of the kind of goods that are shipped. It is only the exceptional risks associated with waste shipments (e.g. resulting from

the properties of the waste) that may justify special rules. However, these risks should not so much be reflected in the prohibition or restriction of shipments of waste, but rather in rules allowing for their adequate pricing, e.g. by means of liabilities and insurance policy requirements.

A second argument against the free shipment of waste arises if the probability increases that waste is disposed of outside of, or in unsuitable, disposal facilities, either as a general result of transfrontier shipment or as a result of the greater distance involved. While such practices would increase the individual profits of waste producers and carriers, they would violate the safety of the population of the other member states. It is here that rules are required which, firstly, ensure that waste is disposed of exclusively in suitable facilities and which, secondly, provide incentives to reveal asymmetrically distributed information between those who produce, ship, and dispose of waste as far as the type and properties of the respective wastes are concerned.²² As long as there are no enforceable rules at EU levels providing sufficiently strong incentives to ship waste to suitable facilities and to correctly specify the waste that is to be disposed of, economic reasons can justify restrictions on the transfrontier shipment of waste. However, this justification holds true only as long as the additional costs arising from the improper disposal of waste outweigh the advantages of transfrontier shipments. But it is the idea of national licensing requirements and the regulations set forth in the council regulation to provide incentives for the proper disposal of waste. The standardisation of terms and the definition and description of hazardous waste which is aimed at in the framework directive and put into practice in the EWC is yet another prerequisite for a single market that is to apply to waste disposal as well.²³

In addition to the risks associated with the shipment of waste and the monitoring problems involved, a special kind of free-rider attitude can serve as a third argument in favour of Europe-wide rules for

²² There are several directives that serve this purpose, among others the landfill Directive, the regulations set forth in the Council Directive on the incineration of waste and the regulations implemented in the Council Directive on the supervision and control of the transfrontier shipment of waste. See the Commission proposal on landfilling of 10 March 1997 (97/C156/08, OJ No. C 156, 24.05.1997, pp. 10 ff.); Council Directive 89/369/EEC of 8 June 1989 on the prevention of air pollution from new municipal waste incineration plants (89/369/EEC, OJ No. L 163, 14.06.1989, pp. 32 ff.); Council Directive 94/67/EC of 16 December 1994 on the incineration of hazardous waste (OJ No. L 365, 31.12.1994, pp. 34 ff.)

²³ Cf. also Commission communication on the review of the Community strategy for waste management, op. cit., pp. 4 f.

the transfrontier shipment of waste. For both technical and economic reasons, the catchment areas of disposal facilities are typically larger than the areas in which damage resulting from pollutants, or loss of image following the presence of the facilities themselves, may arise. As long as this damage cannot be fully compensated, the individuals concerned will usually oppose the construction of such facilities in their neighbourhood, being willing to pay for additional shipment costs to facilities that are located further away. This behaviour will lead to a free-rider attitude and a suboptimal disposal capacity if no rules exist that specify how the conflict between local and regional interests is to be settled.²⁴ The possibility of being able to dispose of one's waste in third states for a certain fee might lead to a reduction in political efforts in member states to find domestic locations for such disposal plants, because this would decrease the local political costs connected with such a decision.²⁵ A lack of disposal capacities would reduce the potential for economic growth in the single market, a potential result which might call for political action.

Free-rider Behaviour

Free-rider behaviour among municipalities within a member state will result in a lack of disposal capacities, since, from a local perspective, the locational prerequisites for disposal facilities are not given or low waste quantities will make it impossible to realise economies of scale with respect to the disposal costs. As a consequence, this will on the one hand lead to an increase in the incentives to dispose of waste illegally, and on the other, high disposal costs imply that many processes in which waste is produced would have to be abandoned. At national levels, this problem has so far frequently – though not always successfully – been transferred to locally superior authorities by passing on the respective responsibilities.²⁶ Although this could also be a solution at EU levels, the question remains as to whether or not the consequences arising from a Europe-wide free-rider attitude would be comparable to those on a national level. While the need to build

their own disposal facilities will typically result in municipalities and waste producers facing insoluble technical problems or financial burdens, this is not usually the case for member states. Should transfrontier shipments of waste result in a lack of disposal capacity at EU levels, additional facilities could still be set up within the member states. For doing so, natural prerequisites should be given as well as the possibility of benefiting from economies of scale with respect to disposal costs. It is only for smaller member states with low waste quantities that problems may arise. This problem is taken up in some basic respects in the council regulation on the supervision and control of shipments of waste, which says that member states whose quantities of hazardous waste are so small that it would not be efficient for them to run their own special-purpose disposal facilities should cooperate with others.²⁷

Should the free-rider theory be of empirical relevance and should there be no generally accepted rules at an EU level for determining locations for disposal facilities open to all of the member states, it would be necessary to have the right to impose national import restrictions (not export bans, though). However, a network of European disposal facilities between which waste producers could choose, so that they could dispose of their waste in facilities of their choice (i.e. under official supervision, of course) would have much more favourable effects from an economic perspective. In this case, authority would have to be transferred to European bodies that could deal with the problems connected with determining locations for waste disposal facilities and the allocation of capacity utilisation. This could be achieved in a way comparable to that in which this question is treated in Germany. However, it would have to be done without granting extensive veto rights to individual member states.²⁸ By doing so, those member states which might be negatively affected by a decision for a location in their territory could be prevented from rejecting locations under discussion without having adequate reasons. What is required at the same time, though, is a Europe-wide agreement on a catalogue of criteria for determining the suitability of locations for waste disposal facilities, including their weighting and evaluation. The more criteria are either defined independently of a location or the higher the accep-

²⁴ For a more detailed account of this topic see N. Werbeck, *op. cit.*

²⁵ Cf. P. v. Wilmsky: *Abfallwirtschaft im Binnenmarkt. Europäische Probleme und amerikanische Erfahrungen*, in: U. Battis, E. Rehlinger, G. Winter (eds.): *Umweltrechtliche Studien*, Vol. 8, Dusseldorf 1990, pp. 219 ff.

²⁶ For additional information on German law see e.g. H. v. Köller: *Kreislaufwirtschafts- und Abfallgesetz. Textausgabe mit Erläuterungen*, in: *Abfallwirtschaft in Forschung und Praxis*, Vol. 77, Berlin 1995, pp. 142 ff.

²⁷ See Council Regulation (EEC) No. 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community, *op. cit.*, Art. 4.

²⁸ Cf. P. v. Wilmsky: *Abfallwirtschaft im Binnenmarkt*, *op. cit.*, pp. 244 f.

tability of a given procedure in which the suitability of a location is determined, the more will conflicts concerning potential locations for waste disposal facilities be defused. Consequently, rights to protection against pollutants are not ignored and operators of waste disposal facilities are not granted unlimited emission rights, but potential damage and risks arising from waste disposal facilities are evaluated as independently from the location itself as possible, and thus the requirements to be met by such facilities as well.

By allowing Europe-wide access to their waste disposal facilities, the operators would be put under increased competitive pressure on the one hand, and on the other, waste producers could use those disposal facilities that were cheapest for their purposes. Apparently, it is this goal which, according to the framework directive, is to be realised through the obligation of all member states to release information on those plants which are to belong to the integrated network. A joint utilisation of waste disposal facilities might even make it possible to realise economies of scale that would not be present otherwise. So long as both waste-producing and waste-disposing facilities are subject to official approval, as is demanded in the framework directives on waste and hazardous waste, the licensing authority would only need to demand proof that producers have the possibility of disposing of their waste in an authorised disposal facility, without needing to restrict the producers' choice between individual plants.

At present, there are no EU-wide rules concerning the process of determining the suitability of a location for a waste disposal facility and for enforcing its construction. Nevertheless, the EU grants its member states the right to reject waste imports and to impose export bans. Thus the question arises as to which issues speak in favour of export and import restrictions from a national perspective and which speak against them.

National Export Restrictions

National export bans or restrictions prevent domestic waste producers from using foreign disposal facilities. First of all, this is of disadvantage to some domestic waste producers, since they cannot dispose of their waste in less-expensive foreign facilities. As large parts of both the production and utilisation of goods result in the production of waste, these disadvantages have a significant impact on the entire economy. Thus, the question arises as to what

advantages might arise from export bans, because the total advantages would obviously have to outweigh the total disadvantages in order to justify such measures. Possible arguments in favour of an export ban are:

- differences in the scope for pricing externalities in the member states;
- strong incentives for waste prevention and recovery;
- problems with respect to the monitoring of transfrontier shipments of waste, leading to financial burdens in the case of illegal disposal;
- the need for security;
- the guaranteeing of high capacity utilisation of domestic facilities.

The thesis that an export ban to countries within the European Union whose waste disposal standards do not meet German levels would prevent environmental pollution is only partly true. The degree of pollution resulting from the disposal of waste does not depend on the country of origin, but rather on its composition. If the population of the importing member state accepts its domestic waste disposal conditions, this is a decision which has to be respected by the politicians and citizens of the exporting country, even though they might regard these conditions as being inadequate. The greater degree of environmental pollution might well correspond to national preferences or special local circumstances.²⁹ Measures to put a price on externalities primarily affect national levels and should thus correspond to the individual interests of every member state which is interested in the efficient allocation of its scarce resources. Nevertheless, there is no general evaluation of what is to be regarded as being efficient. Apart from pollutants which will certainly result in damage to the environment or to public health which cannot be compensated for once a certain concentration is exceeded, it is impossible to judge the value of environmental or health-protection measures. Often, the evaluation of damage and risks and the possibility of their compensation cannot be stated objectively. This is, rather, the result of different preferences and collective procedures by means of which damage and risks are recorded and evaluated – there is no such thing as “the” evaluation

²⁹ For some more general information on decentralisation in environmental policy see H. Karl, O. Ranné: European Environmental Policy between Decentralisation and Uniformity, in: INTERECONOMICS, Vol. 32, 1997, pp. 159 ff.

method. It is important whether or not the procedures that are applied in the respective member states with respect to acceptable and non-acceptable risks and their distribution yield results that reflect the interests of the state's population. It is only in states without such procedures that export restrictions can be justified.

Every export ban which is maintained by arguing that harmful effects on the environment are not to be exported to third countries proves ineffective as well, since it does not prevent the damage from taking place, but simply changes its source. Should, as a result of high technical and organisational standards, waste disposal costs be high in one member state as compared to the others, the goods produced in that state will also be comparatively expensive. Foreign suppliers who have to pay less for waste disposal will gain a cost advantage which can be reflected in the price of the respective goods. Supposing the lower prices result in an increase in demand for the goods in the country with the export ban, this would mean that, in spite of the export ban for waste, there would be an increase in environmental pollution in the foreign country which is caused by the increase in domestic demand. Thus the export ban that had originally been justified by environmental concerns proves ineffective.

Arguments in Favour

Nevertheless, there are still several reasons which serve as arguments in favour of export bans to countries whose general situation with respect to technical and/or organisational issues is not satisfactory. Export bans can be justified if it can be expected that

- there will be repercussions in the exporting country as a consequence of pollution from the importing country,
- contaminated products will be imported, or
- the exporting country – as a contributor to the pollution – might be required to assist in cleaning up contaminated sites in the importing country at a later point in time.

However, since environmental burdens and contamination will also arise as a result of waste that is produced in the country in which the disposal facilities are located, both transfrontier emissions as well as transfrontier trade with contaminated products can also be expected if export bans exist. It would thus be more effective to reduce the overall emission

of pollutants, which, in turn, would make it necessary to agree upon minimum requirements throughout the European Union with respect to organisational and technical issues regarding waste disposal. So long as the pollution covers a comparatively small area (which nevertheless would have to comprise more than one country, of course), negotiations between the states concerned should be sought after. A ban on the disposal of waste in certain plants of inferior quality might be justified by the fact that the disposal process will produce future contaminated sites. Should a consequence of this be that the general public of the exporting country has to pay for the clean-up costs because the original waste producer can no longer be traced, it is justified to impose a general export ban on special kinds of waste to certain disposal facilities.

As a result of export restrictions, domestic waste producers might have to pay comparatively high prices for disposing of their waste, one consequence of which will be stronger incentives to prevent and recover waste.³⁰ But this cannot be used as an argument in favour of export bans or restrictions. Preventing and recovering waste are not to be seen as ends in themselves; the degree to which waste is prevented and recovered should, rather, conform to the scarceness of disposal capacity not only in one state. Waste disposal has an impact on the environment and public health. But if this impact of waste disposal is to be reduced, this will also result in an increase in costs elsewhere. Apart from the use of scarce resources like manpower or capital, disadvantages will arise because consumers will have to do without certain goods or with goods that lack certain characteristics. Furthermore, additional costs will also follow this reduction should it become necessary to develop new substances or production methods that produce less waste. Both R&D as well as the implementation of new technologies or ideas will lock up funds, which will, obviously, not be available for other purposes. It would also be conceivable that, at a national level, there will be a reduction in waste production in such a way that industries which produce high quantities of waste shift their locations to foreign countries. Moreover, it is important to realise that the recycling of waste is not free of charge. Finally since incomplete and unequally distributed know-how does not allow any reliable prognoses, it would also be absolutely unjustified to claim that

³⁰ Cf. D. Hecht: Möglichkeiten und Grenzen der Steuerung von Rückstandsmaterialströmen über den Abfallbeseitigungspreis, Schriftenreihe des Rheinisch-Westfälischen Instituts für Wirtschaftsforschung, N.F., No. 51, Berlin 1991.

waste disposal capacity will become increasingly scarce on a global level in future and that national export restrictions will result in an increase in new technological developments for preventing and recovering waste on the domestic market which would, in turn, ensure a leading position in this field in the future. It is feared that these arguments are only used as an excuse for assuring high capacity utilisation of domestic waste disposal facilities. Moreover, this argumentation will clash with the goals of the single market, since it is unquestionably of a protectionist nature.

An export ban may also be of advantage from a national perspective if it can be expected that domestic waste exports will be dumped illegally abroad and that the exporting country will have to pay for the clean-up costs. As long as monitoring mechanisms can be installed which will, if necessary, help in identifying the origin of waste that has been dumped illegally abroad, it is sufficient to implement rules for holding the respective parties responsible for their actions. And this is precisely what the European Council Regulation on the supervision and control of shipments of waste stipulates, and what is being transformed into national law e.g. in Germany by the German law on the transfrontier shipment of waste.³¹ According to these laws, waste is only allowed to be disposed of if a security deposit has been made in advance or if comparable insurance has been taken out. If it becomes necessary, these funds are to be used for meeting any costs that arise from re-importing the waste and from disposing of it in a proper way. Special problems arise, however, if it is not possible to determine the original producer or transporter of waste which has been dumped illegally. In future, costs that arise from re-importing and disposing of such waste are covered by a fund (the so-called "Solidarfonds Abfallrückführung") which is maintained by the waste exporting industry.³² A general ban on waste exports can only be justified if the expected costs of waste exports including the

costs for any re-imports exceed those of its domestic disposal.

One final argument in favour of export restrictions is based on security. If waste-exporting nations could suddenly be excluded from using foreign waste disposal facilities, there could be a lack of capacity at national levels, because it would take a considerable amount of time to set up new disposal facilities in the exporting countries. Such a situation could occur if the economic advantage of disposal abroad were not really based on lower disposal costs, but on conditions that are subject to sudden change.³³ One example of this would be a country which does not have a well-developed environmental policy, because it is currently governed by parties that are not interested in environmental issues, but which could lose their majority in a future election. Obviously, the risk of suddenly being excluded from foreign waste disposal facilities will be seen differently, depending on the exporting state's or region's need for security. Problems might arise due to the fact that, in order to evade domestic disputes on the location of waste disposal plants, waste is exported without having taken such risks into account. This kind of behaviour can typically be expected if the region can hope that in the case of a sudden import ban national authorities could force operators of domestic waste disposal facilities to accept waste from this region. Nevertheless, a general ban on waste exports cannot be justified on the grounds of this argument. In addition, an export ban may also serve as an excuse for attempting to assure high capacity utilisation at domestic waste disposal facilities.

National Import Restrictions

National import restrictions can be justified for two reasons. First of all, as has been demonstrated above, they can be justified if there is a free-rider attitude at European levels with no other rules present to prevent a shortfall in capacity. In addition, there is the question as to whether or not national import restrictions could be required in order to increase public wealth in the member states. National import regulations limit the business activities of national waste disposal providers since they cannot offer their services to foreign waste producers. Restrictions on national waste imports may be justified on various grounds, among others by the costs that arise with respect to

³¹ See Council Regulation (EEC) No. 259/93 of 1 February 1993 on the supervision and control of shipments of waste within, into and out of the European Community, op. cit., Arts. 25, 26, 27; Gesetz über die Überwachung und Kontrolle der grenzüberschreitenden Verbringung von Abfällen (Abfallverbringungsgesetz - AbfVerbrG), 30. 09. 1994 (BGBl. I, pp. 2771 ff.), paras. 6, 7, 8.

³² For a short discussion of the fund see: Anstalt Solidarfonds Abfallrückführung eingerichtet, in: Umwelt, 1996, p. 249. For a critical review by representatives of the waste disposal industry see B. M. Krämer: Solidarfonds Abfallrückführung - verfassungsrechtliche und ordnungspolitische Implikationen, in: L. Schimmelpfeng, C.-O. Zubiller, M. Engler (eds.), op. cit., 1996, pp. 41 ff.; R. Cosson: Das neue Abfallverbringungsrecht aus Sicht der Entsorgungswirtschaft, in: L. Schimmelpfeng, C.-O. Zubiller, M. Engler (eds.), op. cit., 1996, pp. 49 ff.

³³ Cf. P. Michaelis: Ökonomische Aspekte der Abfallgesetzgebung, in: H. Siebert (ed.): Kieler Studien, Vol. 254, Tübingen 1993, p. 61.

monitoring the proper disposal of waste, political costs, and security-based considerations. The importing state will always have to bear the risk that imported waste will result in damage to the environment or public health. Obviously, this does not pose a problem as long as people are aware of these risks and accept them. For numerous technical and economic reasons it is impossible for the importing state or the waste disposal company to gather correct information on the composition of the waste to be disposed by analysing it. Thus it is absolutely necessary for them to be correctly informed by the waste producer about these issues in order to be able to dispose of the waste without causing any unwanted damage. This is only possible, however, if the information is not given on the basis of terms, measurement methods etc. that differ at national levels and could thus lead to fallacies. Should this be the case, i.e. should terms or measurement methods differ between countries, import restrictions may be justified. At European levels, the standardisation of terms aimed at by the European Waste Catalogue, and the various rules outlined in the regulation on the supervision and the control of shipments of waste which are to improve the flow of information between the member states are expected to reduce this problem. Hence, if the quality of imported waste is equivalent to domestic waste which may be disposed of without any problems in the respective member state, import restrictions cannot be justified. Nevertheless, there is frequently a tendency for the individuals in most societies to regard foreign waste as being more problematic than domestic waste. This view is also taken up in the Walloon judgement of the European Court of Justice. Therefore, the problem arises that if waste imports are subject to political decision-making, these are connected to considerably high political costs, e.g. as a result of opposition or loss of votes. Consequently, as long as national rules enable politicians to control issues concerning waste imports that go beyond the introduction of general standards on such imports, it can be expected that political rationality will result in import bans on foreign waste, even on those kinds which are comparable to domestic waste.

Import restrictions may also be of advantage if future access to waste disposal plants within other member states of the EU is uncertain. Opening up

comparatively cheap domestic facilities to foreigners results in their capacity being exhausted more quickly. Without having guaranteed access to comparatively cheap foreign disposal facilities in future, allowing foreigners to dispose of their waste in domestic plants may result in domestic producers having to use comparatively expensive facilities sooner than they would have had to if they had been the only ones to use the domestic plants. This means the importing state would harm itself in the long run. Thus as long as there is no guarantee at European levels that it will be possible to access comparatively cheap disposal plants in future, economic reasons support import bans.

Conclusion

It is difficult to find general reasons in favour of export bans in all member states of the EU. However, in order to avoid such bans it is necessary to have rules which can be enforced at European levels and which ensure proper disposal of waste. Seen from a European perspective, national free-rider behaviour appears to be the most important problem. As long as EU-wide rules on providing and allowing access to waste disposal facilities do not exist, it may be necessary to grant member states the right to set up national import restrictions. The same applies to the protection of individual states if the exchange of information between waste producers and disposers does not work properly and the quality of information differs between states, e.g. as a result of varying definitions, measurement methods, etc. At EU levels, export bans can only be justified from case to case by distributional considerations, security-oriented arguments, or the attempt to prevent damage to the national environment or financial burdens. It is not a convincing argument for self-sufficiency with respect to waste disposal that every waste export means shifting damage to the environment to another country.³⁴ Every export of goods that leads to environmental pollution in third states as a result of their utilisation or disposal, every emission of pollutants into the air or water that has a transfrontier impact and every import of goods that results in environmental pollution in the country of their origin has the same effect. As long as waste disposal companies and the population of importing countries are aware of which kinds of waste they are importing and which risks are associated with their import, and as long as they accept these risks and the waste is dealt with in adequate disposal facilities, hardly anything supports export bans.

³⁴ This was how the former German minister of the environment, Klaus Töpfer, argued. See K. Töpfer: Europa – Umweltgemeinschaft auf hohem Schutzniveau, in: Umwelt, 1989, pp. 473 ff., here: p. 474.