AIR POLLUTION

The case for a stronger European legislation

Ruth Houghton, Tena Prelec, Amelia Womack

European Citizens' Initiative

European Green Week
Brussels, June 2013

Executive summary

Air pollution has been widely recognised as one of the main environmental issues of our times. Its detrimental effects on health have long been certified. What is more, they affect the population disproportionately: they strike hardest on the most disadvantaged classes of society, who are more likely to live in suburban areas of big urban conglomerates. In spite of some efforts to regulate the problem, evidence shows that levels of carbon dioxide have been steadily increasing and are giving no signs to halt.

In this paper it will be argued that current air pollution legislation on international and European levels is still wholly inadequate to tackle this major threat to human health and to the environment at large. The two main matters brought to the fore are the issues concerning enforcement and liability.

As the case study about the city of London shows, EU directives alone do not currently provide an instrument strong enough to ensure compliance among member states, that very often procrastinate or simply acknowledge their breach with European legislation without taking further action. Because of the failure of the EU systems on enforcement (notably, the EU Infringement Proceedings) to directly address non-compliance, there is a real need for an alternative.

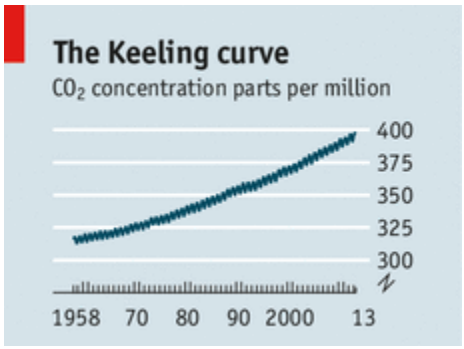
It will be here suggested that the place to look for this alternative is the area of legal liability. So far, civil liability has failed to prove itself a deterrent strong enough in environmental issues. This is in part due to the still anthropocentric and largely proprietary view of nature adopted in law: extensive damage to the environment that does not touch a "legal good" goes still substantially unchallenged.

A more fruitful approach, it is suggested, would be to embrace the route of environmental criminal liability, which is by no means new and which holds both the elements of stigmatisation and deterrence that civil liability is lacking. Research shows that minimal levels of criminal sanctions are needed to be effective. Creating a crime of ecocide could therefore achieve much needed environmental protection that current legislation is failing to provide.

A threat for the environment, a threat for the man

Air pollution is not only a great threat to human health: it is also a threat that strikes the poor and disadvantaged in a disproportionate way. The modern tendency for population to gravitate more and more around big conglomerates (see the case study on the city of London in appendix) compels the less wealthy to live in suburban areas were levels of pollution are highest, and opportunities to engage in healthy outdoor activities are often lowest. It is thus an issue which touches a complex intersection of environmental and social problems.

Levels of carbon dioxide in the atmosphere – one of the primary indicators of air pollution – have consistently increased throughout the past fifty years, as the meticulously researched study by Charles D. Keeling shows:[1]



It is thus apparent that, in spite of the proven range of detrimental effects that air pollution encompasses, and in spite of it being one of main causes of death in urban areas, current regulation has so far failed to provide an answer to health and environmental concerns. We will now examine legal framework on international and European levels, looking to identify the main issues that make them ineffective.

International Legal Framework

The international legal framework for the atmosphere is source and issue specific; The 1992 UN Framework Convention for Climate Change (UNFCCC) and the Kyoto Protocol 1997 seeks to address CO_2 emissions, the 1979 Convention on Long-Range Transboundary Air Pollution (LRTAP) has 8 Protocols,[2] dealing with different substances such as SO_2 emissions, NO_x, and Volatile Organic Compound (VOCs) emissions and the 1985 Convention for the Protection of the Ozone and the 1987 Montreal Protocol seeks to address the hole in the Ozone layer. Such a fragmented approach means that there are 'gaps in terms of geographical coverage, regulated activities, [and] controlled substances'.[3] The International Law Commission have noted the problem;

> 'This piecemeal approach has had particular limitations for the atmosphere, which by its very nature warrants holistic treatment'.[4]

A fragmented approach to the atmosphere means that areas giving rise to substantial damage remain unregulated. Additionally, even the Convention regimes that are in place have weaknesses, showing that a new approach to regulation is needed.

The UNFCCC, as a framework convention, contains few obligations and the Kyoto Protocol, though recently extended, has been shown to be ineffective in combating CO_2 emissions. The Kyoto Protocol has also highlighted the problem with compliance of international obligations in environmental law. In December 2011 Canada withdrew, demonstrating that even a binding treaty agreement did not have enough force to maintain compliance.[5] Even the Montreal Protocol, which is often heralded as a success,[6] contains loop-holes such as the continued presence of illegal trading[7] and its inapplicability to recycled substances.[8] The combination of ineffective compliance mechanisms and loop-holes that can be manipulated by states means that the atmosphere is not adequately protected by these regimes.

LRTAP deals with transboundary air pollution in North America and Europe. The 1984 Sulphur Protocol required states to reduce emissions by 30% and the 1995 Protocol sought to achieve a further reduction. The NO_x Protocol was more difficult to negotiate, and it does not contain specific targets, rather it requires states to stabilize their emissions.[9] The VOC Protocol returned to a system of target setting, and parties were required to reduce by 30% or stabilise their emissions by 1999.[10] LRTAP has been criticised for being only a 'symbolic victory'[11] because of the latitude afforded to states in implementation.[12] In the European Union there has been a significant drop in the emissions of Sulphur Dioxide.[13] Whilst this could be seen as a success for the 1985 and 1994 Sulphur Dioxide Protocols to LRTAP, leading environmental lawyers have argued that the success might be attributable to a change in industry and infrastructure, rather than compliance with the Protocol obligations.[14] In fact, the NO_x and VOC Protocols are hindered by instances of persistent non-compliance.[15] The effects of non-compliance go without saying, but they are two-fold; an ineffective convention and an increase in the chance of substantial damage to the environment. The weaknesses of these three regimes illustrate that there is a deficit in the adequate protection for the atmosphere at the international and supranational level.

Problems with enforcement

a) Domestic Level

One of the problems with the current framework for the regulation of air pollution is that there is no real enforcement. Obligations are binding and targets are set[16] but as the case study on London shows, states can simply choose not to comply. There are a number of identified reasons for non-compliance, ranging from lack of capacity to willingness.[17] Theories on compliance models have sought to address the various reasons for non-compliance: the Enforcement school addresses persistent non-compliance with sanctions,[18] whilst the Managerial school tends to assume that non-compliance arises from a lack of capacity and seeks to induce compliance through incentives.[19] Neither school adequately deals with non-compliance, especially as states find economic incentives in not complying, which renders incentives useless and minimal economic sanctions pointless.[20] One commentator, arguing against environmental crimes, noted that unlike other crimes where there is always a detriment to society without benefit, environmental crimes might have an economic benefit.[21] This opinion sums up the attitude often taken towards the environment; the prioritisation of economic benefit over environmental damage. It is understandable that models for compliance would aim to incentivise states. However, these theories on non-compliance, in seeking to promote compliance amongst states, overlook the environmental effects and the damage done to the environment; non-compliance need not be persistent to cause wide-spread and systemic damage to the environment. If states can simply choose to ignore international and supranational obligations, as the London case study shows, the legal framework on air pollution is in need of an enforcement mechanism that works on the domestic level.

b) EU Level

The European Union does have in place mechanisms to induce and enforce compliance with EU obligations. However, it will be shown that when it comes to air pollution these mechanisms cannot provide an adequate means of protection from serious damage.

The Infringement Proceedings under Article 258 TFEU should provide a strong system of enforcement which could be used to protect the atmosphere. The sanctions levied under Article 260(3) TFEU strengthen further such protection. The two types of sanctions under Article 260(3) TFEU provide for both an incentive to comply and a punishment to deter. However, the 'excessive length of infringement proceedings may undermine their [utility]', given that the nature of environmental damage is such that it can be cumulative and delays in procedures could lead to an increase in damage.[22] Moreover, the procedures do not guarantee compliance with obligations. As the current case law from the ECJ shows, frequently the Commission has to bring states back to court because they have not complied with the court order.[23] Although the procedure has been strengthened in the Lisbon Treaty, the use of such a back-up process shows that states will still choose non-compliance even in the face of a court order. The many instances of the Commission asking states to comply with EU air quality obligations shows that the EU Infringement Proceedings are not adequate to protect the atmosphere.

The Preliminary Ruling procedure in Article 267 TFEU has impressive strength and has been praised for being 'unique in its effectiveness'[24]; interpretations are binding,[25] and 'national courts are in turn obliged […] to take all necessary measures in order to comply with the preliminary ruling, e.g. by consistent interpretation […]' or removing the national measure.[26] However, the measure or act will only be 'invalid', it will not be nullified.[27] This means that whilst any ruling the ECJ might give in response to the United Kingdom Supreme Court reference from *ClientEarth*, the decision will not be binding on any other cases. Although there are an increasing number of cases referring questions to the ECJ, as Vink suggests, counting the number of cases that reach the ECJ does not address the number of cases where questions are not referred. [28] Although the conditions for when a reference should be submitted are strict, because parties do not have the right to a reference the emphasis is on the national courts to refer questions. As will be shown with the civil liability regimes, limiting the role of the individual litigant so as to deny them a right to a reference reduces the effectiveness of a protection mechanism, because breaches can be left unchallenged. The statistics on the cases referred to the ECJ does not address what the national courts do with such rulings. It would be unwise to predict what the ECJ will decide on ClientEarth's case, but looking at some of its earlier decisions it can only be hoped that a more activist approach will be taken by the ECJ to protect the environment. In *Commission v Austria*,[29] the ECJ noted that the protection of the environment should prevail, but this was qualified; 'it must do so in a reasonable, well-thought-out and gradual manner'.[30] Any tendency to place limits on the importance of the environment must be rejected in light of the substantial damage done to the atmosphere. If the ECJ does not take a stronger stance on the protection of the environment, the relative strength of a Preliminary Reference procedure is irrelevant; it might be an important constitutional tool, but the decisions taken by the ECJ do not protect the environment.

The problems with compliance at the domestic level and the weaknesses of the systems in place at the European Union show that there is a need for a new approach to ensuring compliance with environmental law obligations. In the next sections some of the problems with the current civil liability systems will be addressed, and then criminal law will be proposed as an attractive addition or alternative.

Problems with Civil Liability

In this section it will be argued, firstly that at present there is not an adequate system of civil liability for air pollution and secondly, civil liability is not sufficient to protect the environment from substantial damage.

There are conventions that utilise civil liability as a method of enforcement, such as conventions dealing with nuclear energy and oil.[31] However, when it comes to civil liability states are not keen to set up regimes outside of discrete areas. [32] The LRTAP Convention does not provide for civil liability, Sands and Peel have suggested that the footnote attached to Article 8; 'The present Convention does not contain a rule on State liability as to damage', is indicative of states' reticence to set up liability schemes. Similarly, the 1993 Lugano Convention was supposed to establish a common system for liability, but its general nature has made it unattractive to states. Even if the Lugano Convention was in force, its exception in Article 8 would have undermined the protection of the atmosphere. Article 8 provides that the operator will not be liable for damages that were 'caused by pollution at a tolerable level under local relevant circumstances', leaving 'tolerable' undefined is compounded by the problem that there are no universal standards and furthermore, the operator can define what was tolerable given the circumstances.[33] Even with these weaknesses, the Lugano Convention is still not welcomed by states. The example of the Lugano Convention shows that firstly, at present there are no international civil liability regimes in place for air pollution and secondly, where conventions are drafted they are likely to be weak and inadequate to protect the atmosphere from substantial damage.

The European Union has had more success with civil liability. The Directive on environmental liability with regard to the prevention and remedying of environmental damage establishes a civil liability framework.[34] However, it does not apply to the atmosphere as the Preamble defines environmental damage narrowly;

> Environmental damage also includes damage caused by airborne elements as far as they cause damage to water, land or protected species or natural habitats.[35]

Even the combination of both international conventions and European directives does not provide a civil liability regime for the protection of the atmosphere.

The Directive can also be used to show that, even if it did extend to the atmosphere, civil liability is not an adequate enforcement mechanism for the protection of the atmosphere. Firstly, it is a very restricted regime as the directive covers only situations where 'certain legal goods are affected negatively'. [36] Although, broader than other regimes because the Directive is not tied to legal property,[37] the 'goods' approach shows that rather than accepting the intrinsic or inherent value of the environment the Directive is premised in an anthropocentric and largely proprietary view of nature. Such an approach might exclude from the liability scheme substantial damage to the environment that does not touch a 'legal good'. It also only applies to damage caused by 'occupational activities listed in Annex III'.[38] Furthermore, states are not obliged to take action against operators,[39] and the lack of public participation means that breaches can go unchallenged.[40] The limited scope of the Directive shows how inadequate a system of civil liability can be in protecting the environment from substantial damage.

More broadly, there are problems with using civil liability to protect the environment. Megret has noted that with civil remedies actors can 'internalise the risk of having to pay damage', not only does this reduce environmental responsibility as just another example of 'doing business' but it also removes the deterrent effect.[41] Birnie, Boyle and Redgwell have noted reasons why civil liability

schemes are not adequate. Firstly, civil liability is restricted by the need to identify specific polluters.[42] However, they note that in cases of air pollution there has been some indication that courts will impose joint liability on multiple tortfeasors.[43] Secondly, they highlight the problems of proving negligence and the limitation of placed on damages.[44] Only damages that are 'reasonably foreseeable' will be recoverable, and a narrow definition of damage will exclude losses which cannot be quantified in monetary value.[45] In cases of gross and substantial damage to the environment such a restriction does not sit easily if we are to value the environment for its intrinsic and inherent worth.

In this section it has been shown that at present there are no international schemes for civil liability in respect of air pollution. It has also been argued that even if current schemes were to extend to cover air pollution, civil liability is not, on its own, an adequate tool for the protection of the environment. In light of these weaknesses, there needs to be a new alternative. It is proposed that criminal law, and the crime of ecocide could provide an important tool for the protection of the environment.

Benefits of Criminal Liability

Given that there are weaknesses in the EU system on enforcement, and given that civil liability even if it extended to cover air pollution, does not adequately address non-compliance, there is a real need for an alternative. The alternative proposed here is criminal liability, and more specifically the crime of ecocide.

Non-compliance mechanisms under the LRTAP and its Protocols highlight the problem with persistent non-compliance by states, and the ineffectiveness of inducements; 'something more is needed than a regime of incentives'.[46] The EU directive on liability and the recourse to preliminary ruling and infringement procedures show that civil and administrative law lacks 'both the element of stigmatization and deterrence', especially when dealing with 'transgressive behaviour'.[47] As it has been argued, focusing sanctions on persistent non-compliance side-steps the issue of addressing gross levels of damage, which might not always be cumulative or the result of repeated non-compliance.

In contrast, criminal law has the added incentive to refrain from harmful conduct.[48] Using criminal law as a tool for compliance and enforcement will have additional benefits, as Megret suggests it will 'reinforce the general perception of the environment as a prized externality that deserves to be protected', rather than being just another part of 'business'.[49] Using criminal law on the supranational level shows that the issue is 'too serious or important'.[50]

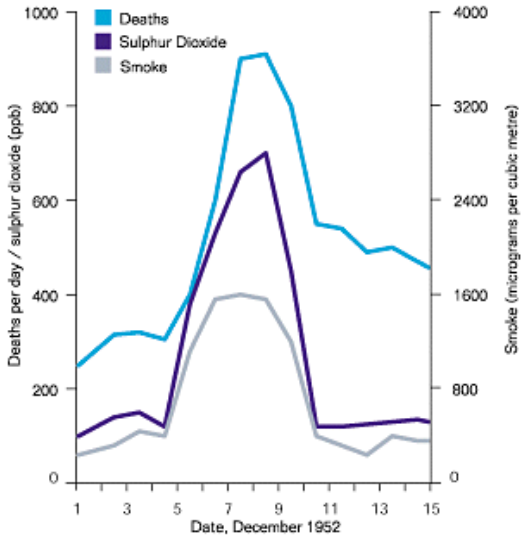
There are trends within the EU to move towards environmental criminal law. However, at present the systems in place are not sufficient. The Convention for Protection of Environment through Criminal Law is not yet in force and Birnie, Boyle and Redgwell suggest that it is unlikely to influence because of its general character.[51] The Directive on the protection of the environment through criminal law[52] obliges Member States to provide for criminal penalties in their national legislation in respect of serious infringements of provisions of Community law on the protection of the environment. The Commission noted that the existing criminal sanctions in Member States were not stringent enough to ensure environmental protection.[53] However, this Directive creates no obligations regarding the application of such penalties.[54] This is a significant weakness, and Mullier argues that to be effective, minimal level of criminal sanctions needs to be established.[55] Nevertheless, the benefits of deterrence when using criminal law are evident and show that there should be an incentive to create strong and meaningful criminal laws for the protection of the environment. Creating a crime of ecocide can achieve this protection.

Conclusions

Enforcement of EU law is still ostensibly flawed, and is not guaranteeing compliance with the current legislation on air quality. A second – and related – issue is civil liability, which is proving to be completely inadequate to provide an answer to the towering environmental problems Europeans are facing. The benefits of using criminal liability in this case are very evident, as this approach would give a markedly higher level of gravitas to the issue, by combining deterrence and stigmatisation. The case for a law of ecocide is definitely one worth hearing when examining the apparently unsolvable air pollution deadlock in which we are finding ourselves today.

Appendix 1. Case study of the City of London: when reacting is always too late

Thoughts of Victorian London conjure a Dickensian image of blackened buildings and smog, but what changed to provide the cleaner streets we have today? In 1952, "The Great Smog" closed in around London seeping into homes and offices and disrupting the city due to poor visibility. Although London was used to smogs, this one was different. It lingered for just two days, but in that time the levels of pollution killed around 4000 people due to respiratory illness, although later accounts have boosted that number to around 12,000.



This impact on the population of London could no longer be ignored, and finally motivated the government to implement the clean air act to reduce the volumes of sulphur dioxide in the atmosphere. This change in law gave increased protection to the lives of many Londoners. However, when the problem had been evident through the recurring smogs, or “pea soup” as Londoners called it due to its noxious green colour, the government had failed to take action, which triggered the deaths of thousands of people.

This example is often cited as the beginning of strong and robust clean air legislation. However, it could also be argued that it is an example that is repeated across UK history, of the development of a

reactive rather than *proactive* application of the law. It also highlights how new laws will address only one aspect of concern rather than formulating a holistic approach to ending air quality issues for future generations.

The same pattern of environmental impact was seen again in 1990 and 1991 where levels of Nitrogen Oxide reached double WHO recommended levels resulting in 160 deaths. This gave rise to a new clean air act. Once again, had this act been implemented earlier, it would have saved lives and improved living conditions and health standards across London.

Today, it is estimated that there are an additional 4,000 deaths a year in London that can be attributed to air pollution. There still isn't enough legislation to protect the residents of London against pollutants such as particulate matter and nitrous oxide - which are still occurring at levels above EU standards and costing over £20 million/annum.

On top of this, air pollution causes acid rain. Acid rain destroys habitats, pollutes water and destroys ecosystems. The intense impact of this rain can be seen across the buildings in London and Europe through damage of the stone work. In the Victorian era, the V&A took plaster casts of all the famous buildings across Europe for the museum. At the time this was considered a joke. Why would a museum create replicas of these works to display? Only now we can appreciate the V&A's foresight: these pieces are currently used by European cities in their restoration processes of buildings, which have been so badly destroyed by acid rain that authorities can't precisely fathom their original state without the plaster casts. If this is what acid rain does to stone, it can easily be imagined what it does to the environment.

Londoners discuss the nature of air pollution in such places as Beijing and Hong Kong without realising that they are currently living in the single European city with highest levels of air pollution. The effects of it are evident in both short and long term symptoms including cardiovascular problems, respiratory disease, brain disease and cancer. The worst affected are the elderly and young children, especially those with already present respiratory problems. With schools lining the busy streets of London, their exposure to harmful air pollutants has meant that around 15-30% of all new cases of asthma can be attributed to air pollution.

Current air pollution strategies are not having enough of an impact, and are not fit for the purpose of influencing this complicated issue. Despite the carcinogenic emissions in diesel, there are still over 8,500 diesel buses and 20,000 diesel taxis. Londoners still live in an era of smog alerts, such as the smog in April 2011 which was caused by a change in climatic conditions.

What is worse, the UK is not even honouring the commitments it has already taken: though officially compelled to comply with the EU directive on air quality, the government has simply stated that it will not be possible to reach the agreed benchmarks within the foreseen timeframe. The Supreme Court has recently certified the legal breach, and the case has been referred to the European Court of Justice.

Overall, there seems to be a reluctance to even state that there is a problem. There are still no processes in place to protect the population from the inevitable damage impacting Londoners. How many more people will die as a result of air pollution before robust laws to protect the population are introduced?

[1] See http://www.economist.com/news/leaders/21577385-only-good-news-about-earths-record-greenhouse-gas-levels-they-have-been-well
[2] Monitoring and Evaluation Protocol (1984); Sulphur Protocol (1985); NO_x Protocol (1988); Volatile Organic Compounds Protocol (1991); Sulphur Protocol (1994); Aarhus Protocol on Heavy Metals (1998); Aarhus Protocol on Persistent Organic Pollutants (1998); Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone (1999)
[3] International Law Commission, Report on the work of its sixty-third session (26 April to 3 June and 4 July to 12 August 2011) General Assembly, A/66/10, Annex B 'Protection of the atmosphere (Mr. Shinya Murase)', 311.
[4] ILC, *ibid*, 311.
[5] Adam Vaughan , 'What does Canada's withdrawal from Kyoto protocol mean?', The Guardian, 13 December 2013, available online at: http://www.guardian.co.uk/environment/2011/dec/13/canada-withdrawal-kyoto-protocol [last accessed 2nd June 2013].
[6] Feja Lesniewska, 'Filling the holes: the Montreal Protocol's non-compliance mechanism' in Malgosia Fitzmaurice, David M. Ong and Panos Merkouris (ed.) *Research Handbook on International Environmental Law* (2010) 471-491 (471).
[7] Anne Lucia Plein, 'A Story between Success and Challenge -20th Anniversary of the Montreal Protocol', (2007) New Zealand Journal of Environmental Law 67-98 (78)
[8] Plein, ibid (81).
[9] 1988 Protocol Concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes, Article 2. See, Patricia Birnie, Alan Boyle and Catherine Redgwell (ed.), *International Law and the Environment* (OUP 2009), 347.
[10] The 1991 Geneva Protocol concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes, Article 2.
[11] Wetstone and Rosencranz, *Acid Rain in Europe and North America*, 145 cited in Patricia Birnie, Alan Boyle and Catherine Redgwell (ed.), *International Law and the Environment* (OUP 2009), 345.
[12] Patricia Birnie, Alan Boyle and Catherine Redgwell (ed.), *International Law and the Environment* (OUP 2009), 345.
[13] Between 1990-2006 SO_2 levels have dropped by 70% within the EU, and NOx levels have dropped by 35% within the EU, see UNECE website http://www.unece.org/env/lrtap/30anniversary.html [last accessed 1st June 2013]
[14] Birnie, Boyle and Redgwell (n 7) 348-349.
[15] see for example Decision 2011/2 *Compliance by Greece with its obligations under the Protocol concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes*, ECE/EB.AIR/109/Add.1.
[16] see, Kyoto Protocol and Montreal Protcol and Protocols under LRTAP
[17] R.B. Mitchell, 'Compliance Theory: An Overview,' in J. Cameron et al., eds.,Improving Compliance with International Environmental Law (London: Earthscan, 1996), 11-13.
[18] see for example, K. Danish, Management and Enforcement: The New Debate on Promoting Treaty Compliance, 37Va. J.Int'lL. 789 (Spring 1997).
[19] A. Chayes and A. Chayes, *The New Sovereignty: Compliance with International Regulatory Agreements* (1995).
[20] M. Fitzmaurice and C. Redgwell, 'Environmental Non-Compliance Procedures and International Law' (2000) 31 *NYIL* 35, 40
[21] Michael Faure, *Towards a New Model of Criminalisation of Environmental Pollution: The case of Indonesia* (2006) cited in F Megret, 'The Problem of an International Criminal Law of the Environment', (2011) 36(2) Colombia Journal of Environmental Law, 195-257 (221).
[22] Koen Lenaerts and Jose´A Gutierrez-Fons, 'The General System of EU Environmental Law Enforcement', (2011) *Yearbook of European Law*, 1–39 (2).
[23] see for example, http://ec.europa.eu/environment/legal/law/press_en.htm. There are over 13 cases since October 2010 to July 2011 of the Commission asked the state to comply with the court ruling.
[24] Francis Jacobs, 'The Role of the ECJ in the Protection of the Environment', (2005) 18(2) *Journal of Environmental Law*, 185–205, 200.
[25] Pal Wenneras, *The Enforcement of EC Environmental Law* (OUP 2007), 181.
[26] Wenneras, *ibid*, 182.
[27] Wenneras, *ibid*, 202.
[28] Maarten Vink, 'Explaining the Use of Preliminary References by Domestic Courts in EU Member States: A Mixed-method Comparative Analysis', Paper to be presented 'Judicial Politics in the EU and Beyond', 11th Biennial Conference of the European Union Studies Association, 24 April 2009.
[29] Case C-320/03 *Commission v Austria*, judgment delivered on 15 November 2005

[30] Francis Jacobs, 'The Role of the ECJ in the Protection of the Environment', (2006) 18(2) *Journal of Environmental Law*, 185-205 (200).
[31] Convention on Third Party Liability in the Field of Nuclear Energy ("Paris Convention") 1960, NEA (OECD); Convention on Civil Liability For Nuclear Damage ("Vienna Convention") 1960, IAEA (UN); Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage, Vienna, 12 September 1997, 4 October 2003, 36 ILM 1454 (1997); 1969 Convention on Civil Liability for Oil Pollution Damage; 1971 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage; 1992 Oil Pollution Liability Convention
[32] Philippe Sands and Jacqueline Peel, with Adriana Fabra and Ruth McKenzie, *Principles of International Environmental Law*, (3rd ed, CUP 2012), 738.
[33] Sands and Peel, *ibid*, 768
[34] Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage *OJ L 143, 30.4.2004, p. 56–75*
[35] Directive 2004/35/EC, Preamble, para 4. Although it is noted that air pollution is references in Annex III; The operation of installations subject to authorisation in pursuance of Council Directive 84/360/EEC of 28 June 1984 on the combating of air pollution from industrial plants (4) in relation to the release into air of any of the polluting substances covered by the aforementioned Directive.
[36] Justice and Environment; European Network of Environmental Law Organisations, 'The Environmental Liability Directive an effective tool for its purpose?; Comparative study on existing environmental liability regimes and their practical application' 2012, available online at: http://justiceandenvironment.org/publications/eld-2012 [last accessed 2nd June 2013], 8
[37] Gerd Winter, Jans H. Jans, Richard Macroy and Ludwig Kramer, 'Weighing up the EC Environmental Liability Directive', (2008) 20(2) *Journal of Environmental Law*, 163-191 (168).
[38] Justice and Environment; European Network of Environmental Law Organisations, 'The Environmental Liability Directive an effective tool for its purpose?; Comparative study on existing environmental liability regimes and their practical application', 17.
[39] *ibid*, 8.
[40] *ibid*, 36.
[41] F Megret, 'The Case for a General International Crime against the Environment', (April 3, 2010), available at SSRN: http://ssrn.com/abstract=1583968 or http://dx.doi.org/10.2139/ssrn.1583968, 4
[42] Birnie, Boyle and Redgwell, 324
[4343] *Michie v Great Lakes Steel Division* 495 F 2d 213 (1974) cited in Birnie, Boyle and Redgwell, 324.
[44] Birnie, Boyle and Redgwell, 324
[45] Birnie, Boyle and Redgwell, 324
[46] Megret, 'The Case for a General International Crime against the Environment', 6.
[47] F Megret, 'The Problem of an International Criminal Law of the Environment' (n 17), 233.
[48] Birnie, Boyle and Redgwell (n 7) 329.
[49] Megret, 'The Case for a General International Crime against the Environment' (n 37) 6; 4
[50] A Cassese, 'Reflections of International Criminal Justice' (1998) 61 MLR, 1, 6-8.
[51] Birnie, Boyle and Redgwell (n 7) 330.
[52] The Directive on the protection of the environment through criminal law, 2008/99/EC of the European Parliament and of the Council of 19th November 2008
[53] see European Commission website, 'Environmental Crime', available online at: http://ec.europa.eu/environment/legal/crime/ [last accessed 2nd June 2013].
[54] see Armelle Gouritin and Paul de Hart, 'Directive 2008/99/EC: A new start for criminal law in the European Community?', (2009) 1 Elni Review, 22-28 (27)
[55] Elaonore Mullier, 'The Emergence of Criminal Competence to Enforce EC Environmental Law: Directive 2008/99/ in the Context of the Case-Law of the European Court of Justice', (2010) Cambridge Student Law Review, 94-116.