THE ROLE OF THE INTERNATIONAL ENVIRONMENTAL LAW REGIME IN ABATING ACIDIFICATION IN EUROPE

Oleh : Erna Dyah Kusumawati Fakultas Hukum Universitas Sebelas Maret E-mail: erna30dyah@yahoo.com

Abstrak

Tulisan ini bertujuan menguji pengaturan hukum lingkungan internasional mengenai kebijakan pengurangan pengasaman (*acidification*) dan menganalisis peran rejim internasional dalam pengurangan pengasaman di Eropa. Hukum Lingkungan Internasional telah menetapkan Konvensi Internasional tentang Polusi Udara Jarak Jauh Lintas Batas Negara beserta beberapa Protokol. Protokol yang paling baru adalah protokol untuk mengurangi pengasaman eutrofikasi, dan ozone level dasar. Protokol ini menetapkan batasan emisi tahun 2010 bagi empat polutan, yaitu: belerang (sulphur), Nitrogen Oksida (NOx), Senyawa Organik Volatil (VOCs), dan Ammonia. Selain itu, protokol ini juga menetapkan nilai batasan yang ketat untuk sumber emisi yang khusus serta mensyaratkan penggunaan teknologi terbaik yang tersedia. Pada level regional Eropa, Uni Eropa telah mengadopsi directives kebijakan-kebijakan udara dan secara terus menerus menginisiasi pengembangan strategi *acidification* untuk memberantas acidifikasi dan eutrofikasi. Kedua rejim, CLRTAP dan kebijakan udara Uni Eropa dapat digunakan untuk mengurangi proses acidifikasi di Eropa. Kedua rejim berfungsi secara timbal balik dan saling melengkapi dan terimplementasi dengan baik di Eropa. Hal ini terbukti bahwa proses acidifikasi dapat dikurangi. Konsekwensinya meningkatkan kualitas udara di wilayah Eropa. Jelas bahwa hukum lingkungan internasional dapat saling melengkapi hukum regional dan berperan dalam pengurangan acidifikasi di Eropa.

Kata Kunci: Hukum Lingkungan Internasional, acidifikasi, Uni Eropa

Abstract

This article examines the international environmental governance regarding abating acidification policy and analyses the role of the international regime in abating the acidification in Europe. International environmental law has been established the Convention of Long Range Trans boundary Air Pollution (CLRTAP) as well as its protocols. The recent protocol is Protocol to Abate Acidification, Eutrophication and Ground-level Ozone which sets emission ceilings for 2010 for four pollutants; sulfur, NOx, volatile organic compounds (VOCs) and ammonia. In addition, it sets tight limit values for specific emission sources and requires best available technologies to be used. The European Union adopted Air policies Directives and simultaneously initiated the development of an Acidification Strategy for combating acidification and eutrophication. Both of these regimes; CLRTAP and its protocols and the EU Air policy, might be used to abate the acidification in Europe. These regimes serve a reciprocal function and are well implemented in Europe. There is a proof that the acidification in lakes and streams is decreased. The consequence is the improvement of the air quality. It is clearly shown that the regimes play the major role in abating the acidification process in Europe.

KEY WORDS: *International Environmental Law, Acidification, European Union*

A. Introduction

Since the emergence of industrialization era, states have recognized the impact of the air pollution in local level, so called localized air pollution (Helm and Sprintz, 2000: 640). Moreover, nowadays industrialization is growing even bigger every day, the bigger an industry gets the more air pollution is occurs. Pollution happens in all countries in the world and has destroyed environment significantly, such as the damages to lakes, forests, buildings, and public health (Helm and Sprintz, 2000: 640). The life-threatening environmental problems have become the major/priority concern of the international community. The environmental problems have an international dimension in two respects (Shaw, 2008:845). *First*, the pollution generated from certain country can trigger serious impact in other countries. In this particular dimension, Shaw gives example regarding acid rain, in which the chemical substance emitted from the factory in one countries can react with the water and sun light to form acids. These acids are carried by the wind and can fall to the earth with the rain (acid rain) often thousand miles away from the factory. *Second,* the need of cooperation between states to resolve the environmental problems arises. Therefore, realizing the danger of pollution to the environment, the international community established the international en-

vironmental regime in order to reduce its widening impact. Also, the international community has slowly been moving away from the classic state responsibility approach to damage towards a more international cooperation regime (Shaw, 2008:845). This article will briefly explain*, first*, the international environmental governance regarding abating acidification policy. *Second,* it will analyse the role of the international regime in abating the acidification in Europe.

B. Brief Overview of the International Environmental Regime for Abating Acidification in Europe

This overview will be divided into two parts; the first part will discuss the Convention on Long-Range Transboundary Air Pollution regime and its Protocols. The second part will discuss the European Union Air Policy regime. Since these two regimes have much influence in abating acidification in Europe, it is wise to pay attention to both of them briefly.

1. The Convention on Long-Range Transboundary Air Pollution and its Protocols

As it is mentioned in the introduction part, the localized air pollution has been known since the early phase of industrialization era, while the transboundary air pollution have attracted public attention more recently (Helm and Sprintz, 2000;640). At universal level, the UN General Assembly has adopted many resolutions regarding the environment. For example resolutions:

a. No A/RES/35/8 on Historical responsibility of States for the preservation of nature for present and future generations
b. No A/RES/37/137 on Protection against products harmful to health and the environment
c. No A/RES/37/250 on Immediate implementation of the Nairobi Programme of Action for the Development and Utilization of New and Renewable Sources of Energy
d. No A/RES/42/187 on Report of the World Commission on Environment and Development
e. No. A/RES/44/229 on International Cooperation in the Field of Environment
f. No. A/RES/44/228 on UN Conference on Environment and Development.
g. No. A/RES/45/212 on Protection of global climate for present and future generations of mankind
h. No. A/RES/47/188 on Establishment of an intergovernmental negotiating committee for the elaboration of an international convention to combat desertification in those countries experiencing serious drought and/or desertification, particularly in Africa.

In 1979, The first diplomatic framework for international cooperation on transboundary air pollution was established and known as the Convention on Long-Range Transboundary Air Pollution (hereinafter CLRTAP) (United Nations, 2005: p.217)

Four main aspects of the 1979 Convention may be recognized:

first, the recognition that airborne pollutants were a major problem;

second, the declaration that the Parties would 'endeavour to limit and, as far as possible, gradually reduce and prevent air pollution, including long-range trans boundary air pollution' (article2);

third, the commitment of Contracting Parties 'by means of exchange of information, consultation, research and monitoring, develop without undue delay policies and strategies which should serve as a means of combating the discharge of air pollutants, taking into account efforts already made at the national and international levels' (article 3); and

fourth, the intention to use 'the best available technology which is economically feasible' to meet the objectives of the Convention. Article 2 and 3 were set as the aim of CLRTAP (United Nations Economic Commission for Europe).

Moreover, the Convention was to be overseen by an 'Executive Body' (EB), which included representatives of all the parties to the Convention as well as the European Community (EC) (article 10). Furthermore, the ECE secretariat was given a coordinating function (article 11). The institutional structure has also included several Working Groups, Task Forces and 'International Cooperative Programs' (Wettestad, 1999:673). Under CLRTAP eight Protocols regarding environmental have been adopted (Ishii, 2001:211).

Based on the Convention, a cooperative, and a strong initial focus on knowledge improvement and monitoring (EMEP) should be established (article 9). Then, in 1984, a specific financing Protocol for the EMEP monitoring program (Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe- EMEP) was established. As it is

stipulated in the convention (article 3) that parties should cooperate to resolve the environmental program, therefore many steps were taken to implement the CLRTAP.

The first main regulatory step in the cooperation was stipulated in the 1985 Protocol on the Reduction of Sulphur Emissions or their Trans boundary Fluxes by at least 30 per cent. Article 2 of the Protocol stipulated a reduction of emissions/trans boundary fluxes of sulphur dioxide (SO2) by at least 30% as soon as possible, and by 1993 at the latest, with 1980 levels as baseline. However, some major emitter states failed to join the agreement, among them were the UK, the US, and Poland (Wettestad, 1999:673).

The next Protocol is the 1988 Sofia Protocol concerning the control of emissions of nitrogen oxides (NOx) or their Trans boundary fluxes. Basic obligations of the state parties are stipulated in article 2 (1). The obligations are included that the signatories pledged to freeze NOx emissions at the 1987 level from 1994 onwards and to negotiate subsequent reductions. Twenty five countries signed the protocol, including the UK and the United States; moreover, 12 European signatories went a step further and signed an additional (and separate) joint declaration committing them to a 30% reduction of emissions by 1998 (Wettestad, 1999:673).

The next step was the 1991 Geneva Protocol concerning the Control of Emissions of Volatile Organic Compounds (VOCs) or their Trans Boundary Fluxes. VOCs are a group of chemicals which are precursors of ground level ozone (Wettestad, 1999:673). The protocol in article 2 (2) called for a reduction of 30% in VOC emissions between 1988 and 1999, based on 1988 levels - either at national levels or within specific "tropospheric ozone management areas" (TOMAs). Furthermore, a new Protocol on Further Reduction of Sulphur Emissions was signed in Oslo in June 1994 by 28 Parties, based on the critical loads approach. The aim of this approach is that emissions reductions should be negotiated on the basis of the (varying) effects of air pollutants, rather than by choosing an equal percentage reduction target for all countries involved (Wettestad, 1999:673). Another two protocols are The 1998 Protocol on Persistent Organic Pollutants (POPs); and the 1998 Protocol on Heavy Metals.

The most recent is the 1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, signed in 1999 in Gothenburg, Sweden and entered into force on 17 May 2005 (Ishii, 2001:210). The Protocol sets emission ceilings for 2010 for four pollutants; sulfur, NOx, volatile organic compounds (VOCs) and ammonia (article 2) Additionally, the Protocol sets tight limit values for specific emission sources and requires best available technologies to be used (Schroeder and Yocum, 2006:327).

2. European Union Air Policy

This part will explain the European Air policy, known as EU framework directives, primarily regarding the Air Quality Framework Directive and the National Emissions Ceilings Directive.

This first set of policies in the 1970s and 1980s (EC Directive 70/220, 72/306, 75/716) recognized the health hazards and environmental effects of vehicle emissions and fuel additives (Corrigendum to 70/220/EEC, Corrigendum to 72/306/EEC, Council Directive 75/716/EEC), and served as a precursor to the more stringent and defining air quality policies introduced from 1984 onward. Framework Directive 84/360 began a series of strong air pollution regulations, setting emission standards of industrial plants (Council Directive 84/360/EEC of 28 June 1984 on the Combating of Air Pollution from Industrial Plants). Finally, the Air Quality Framework Directive 96/62 was established in 1996 (H. Selin and S.D. van Deveer, 2003: 29). There are four sub sequent directives under the Air Quality Framework Directive which specify limit values for pollutants: sulphur dioxide, nitrogen oxides, particulate matter, and lead (1999/30); benzene and carbon monoxide (2000/62); ground level ozone (2002/03); and arsenic, cadmium, mercury, nickel, and polycyclic aromatic hydrocarbons in ambient air (2004/107) (Schroeder and Yocum, 2006: 329).

The European Union simultaneously initiated the development of an Acidification Strategy for combating acidification and eutrophication. The Acidification Strategy was revised in the next few years and a focus on ground level ozone was added, constituting the National Emissions Ceilings (NEC) Directive, adopted in 2001 (Schroeder and Yocum, 2006: 329; Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on National Emission Ceilings for Certain Atmospheric Pollutants, OJ L 309, 27.11.2001, p. 22–30).

All EU member states are required to adopt and implement these regulations into their na-

tional law, monitor pollutant levels, and devise an attainment program if limit values are exceeded. They must monitor emissions and make the information available to the public. The information made available to public includes location where pollution is excessive, the nature of the pollution, and the origin of pollution (Schroeder and Yocum at L. Simeonov and E. Chirila. eds., 2006: 323).

Both of these regimes; CLRTAP and its protocols and the EU Air policy, might be used to abate the acidification in Europe. The following section will analyse whether these regimes have a major role in abating acidification or not.

C. The Role of CLRTAP and European Union Regimes in Abating Acidification in Europe

CLRTAP and its Protocols are categorized as binding instruments for all parties. CLRTAP starts out with a framework agreement that lays out the general principles, the ultimate objective, and the institutional creation. The EU Air Quality Framework Directive incorporates previous directives on air pollution abatement to enhance inter-policy coordination and serves as an umbrella framework, under which sub sequent directives can be ratified (Schroeder and Yocum, 2006: 324).

CLRTAP and the EU cover the same geographical area (i.e. entire EU is covered by CLRTAP). These two regimes do not overlap each other. On the contrary, by sharing norms and rules, they encourage and influence one another. On the one hand, CLRTAP can make the regulation in regional level stronger, and the European Air Pollution Regimes, on the other hand, can make regulation in the universal level stronger as well. Thus, both of them serve the reciprocal function (Schroeder and Yocum, 2006: 332). The universal regulation can serve as a general principle while the regional regulation can be made stricter and more specific based on the condition of the region, which varies from one region to another. Therefore in this part, EU has succeeded in making regulation far stricter than CLRTAP. For example, The NEC Directive (2001/81/EC) establishes national ceilings for SO2 that are, in fact, stronger than the CLRTAP agreement by 3 percentage points. The other regulated emissions – NOx, VOCs, and ammonia – have set ceilings 333 that are equal to or lower than the ceilings established by CLRTAP. Under the NEC Directive, sulphur emissions should decrease by 77 %, NOx by 51 %, VOCs by 54 %, and ammonia by 14 % of 1990 levels (compared to the Gothenburg Protocol's expected reductions of sulphur by 63 %, NOx by 41 %, VOCs by 40 %, and ammonia by 17 %). Thus, the legally binding instruments give stronger provisions for follow-up and control of member states' implementation and compliance with the emission ceilings.

With all the comprehensive regulations and the assurance of their implementation, all parties expect that in the future there will be a better air quality in Europe. It is not an easy way to implement all these regulations, since the ratification of the international and regional legislations really depend on the interest of the country. Especially, International law lays the principle of sovereignty of the state to exploit the use of its natural resources within its jurisdiction. Nevertheless, with the development of human rights regime especially right to a healthy environment, this sovereignty of states has been limited. As it is stated in Principle 2 of the Rio Declaration, adopted at the United Nations Conference on Environment and Development 1992, states have 'the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies' (Shaw, 2008: 850). Furthermore, Principle 3 also stated that 'the right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations'. Therefore, although states have sovereignty in exploiting their resources, states are obliged to exploit it wisely and to pay attention that the resources must be reserved for the next generation, so called sustainable development principle (Oluf Langhalle, 1999: 133).

Thus, States parties who signed these regimes have to adopt the regimes in its national law and to implement it, in order to have a better environment for living both for now and for the next generation. Member states in EU have implemented all these regimes under the monitoring and reporting system of the Executive body for CLRTAP (article 10) and under the EU policy monitoring (European environment Agency, EEA Technical Report, No.7/2010, available at http://www.eea.europa.eu/publications/european-union-emission-inventory-report).

The stricter regulation has made its success. As it is reported by Environmental Research Centre, University College London, there is an improvement of environment quality, in this case the decrease of acidification in lakes and streams (Eds. M. Kernan, R.W. Battarbee, C.J. Curtis, T.D. Monteith, and E.M. Shilland, 2010:1). Furthermore, the report states that the improvement happened after the controls on the emissions of acid gases from coal and oil burning power stations was introduced by the Government and the monitoring tools was established under the CLRTAP (Eds. M. Kernan, R.W. Battarbee, C.J. Curtis, T.D. Monteith, and E.M. Shilland, 2010:1). In addition, the monitoring data collected from Europe showed clearly

the reduction in the emission of acidifying pollutant have had a significant positive effect on surface water quality (R.C. Ferreir, R.F. Wright, A. Jenkins, and H. Barth, 2003: 432). Further recovery showed that the emission has continued to decline although there may be time lags in ecosystem response (R.C. Ferreir, R.F. Wright, A. Jenkins, and H. Barth, 2003:432).

All the evidences mentioned in the previous paragraph showed that there is a significant impact on the environment, regarding the governance of international and regional regime in environmental fields. It is clearly shown that the regimes play the major role in abating the acidification process in Europe. Although it has been proven in acidification, the regimes still need to be developed with a dynamic approach to tackle air pollution in particular and environment pollution in general.

D. Conclusion

Indeed the CLRTAP and its protocol regimes provide the internationally-accepted rules and principles, institutions and monitoring procedures in combating the threat to environmental problem in industrialization era. While European Union policy gives the regional dimension of environmental law combating threats to the environment, which is brought into line with the regional condition. The policy making in International and regional level are hand in hand and supportive of each other. Combined with the strict implementation as well as monitoring function; the regimes can be the major factor in abating the acidification process as one type of threats to the environment. The result reached by the European Countries in reducing the acidification can be used as a model for other countries.

Furthermore, the pollution problems still continue on and it is difficult to eradicate the problem completely. What we can do is to reduce the problem to its minimum level. This can be done with the strong cooperation from all countries in the world to realize the need to save the environment by exploring the natural resources wisely. Accordingly, we can build the sustainable development for our common future.

BIBLIOGRAPHY

Atsushi Ishii. 2001. Merging the EU Acidification Strategy: Evaluating the 1999 Gothenburg Protocol to Abate Acidification, Eutrophication, and Ground-level Ozone. RECEIL. Vol. 10 No. 2.

Carsten Helm and Detlef Sprinz. 2000. Measuring the Effectiveness of International Environmental Re-gimes, The Journal of Conflict Resolution, Vol. 44, No. 5 (Oct., 2000.

Corrigendum to 70/220/EEC: Council Directive of 20 March 1970 on the approximation of the laws of the Member States relating to measures to be taken against air pollution by gases from positive-ignition engines of motor vehicles, OJ L 81, 11.4.1970.

Corrigendum to 72/306/EEC: Council Directive of 2 August 1972 on the approximation of the laws of the Member States relating to the measures to be taken against the emission of pollutants from diesel engines for use in vehicles, OJ L 299, 23.11.1977.

Council Directive 75/716/EEC of 24 November 1975 on the approximation of the laws of the Member States relating to the sulphur content of certain liquid fuels, OJ L 307, 27.11.1975.

Council Directive 84/360/EEC of 28 June 1984 on the combating of air pollution from industrial plants, OJ L 188, 16.7.1984.

Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management, OJ L 296, 21.11.1996.

Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on National Emis- sion Ceilings for Certain Atmospheric Pollutants, OJ L 309, 27.11.2001.

Eds. M. Kernan, R.W. Battarbee, C.J. Curtis, T.D. Monteith, and E.M. Shilland, 2010. Recovery of Lakes and Streams in the UK from Acid Rain, UK Acid Rain Monitoring Network 20 year Interpretative Report, Environmental Research Centre, University College London, available at http:// awmn.defra.gov.uk/ resources/ interpreports/20yearInterpRpt.pdf.

European environment Agency. 2010. *European Union emission inventory report 1990–2008 under the UNECE Convention on Long-range Transboundary Air Pollution (LRTAP),* EEA Technical Report, No.7/2010, available at http://www.eea.europa.eu/ publications/european-union-emission-inventory- reportH. Selin and S.D. van Deveer. 2003. Mapping Institutional Lingkages in European Air Pollution Politics. Global Environment Politics. Volume. 3 no. 3.

L. Simeonov and E. Chirila (eds.). *Chemicals as Intentional and Accidental Global Environmental Threats*. 2006. European Institutions for Controlling chemical Air pollution: An analysis of CLRTAP-European Union Interplay. *Nato Security through Science Series*. Dordrecht. Springer in cooperation with NATO Public Diplomacy Division.

Jørgen Wettestad. 1999. Designing Effective environmental Regimes: The Case of The Convention on long- Range Transboundary Air Pollution (CLRTAP). Energy & Environment. Vol. 10 No. 6.

Malcolm N. Shaw. 2008. *International Law*. 6th Edition. Cambridge University Press.

Oluf Langhalle. Sustainable Development: Exploring the Ethics of Our Common Future. International Politi- cal Science Review Vol. 20, No. 2.

Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Long-term Financing of the Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollut- ants in Europe (EMEP). Geneva 28 September 1984. United Nations. Treaty Series. Vol. 1491.

Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on the Reduction of Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent, Helsinki, 8 July 1985, United Nations, Treaty Series , vol. 1480.

Protocol to the 1979 Convention on long-range transboundary air pollution concerning the control of emis- sions of nitrogen oxides or their transboundary fluxes, Sofia, 31 October 1988 , United Nations, Treaty Series, vol. 1593.

Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes. Geneva. 18 November 1991. United Nations. Treaty Series, Vol. 2001.

Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Further Reduction of Sul- phur Emissions. Oslo, 14 June 1994. United Nations. Treaty Series. vol. 2030.

Protocol to the 1979 Convention on Long-range Transboundary Air Pollution to Abate Acidification, Eutrophi- cation and Ground-level Ozone, Gothenburg (Sweden), 30 November 1999. Vol. 1302.

The Rio Declaration on environment and Development, adopted at the United Nations Conference on Envi- ronment and Development 1992. United Nations Publication, Sales No. E.73.II.A.14 and corrigendum). chap. I. also available at http://www.unep.org/Documents.Multilingual/ Default.asp?documentid=78&articleid=1163

R.C. Ferreir, R.F. Wright, A. Jenkins, and H. Barth. 2003. Predicting Recovery of Acidified Fresh Waters in Europe and Canada: an introduction. Hydrology and Earth System Science. Volume 7. No. 4.

The Convention on Long-range Transboundary Air Pollution, Geneva, 13 November 1979, United Nations, Treaty Series , vol. 1302.

United Nations Economic Commission for Europe, Protocols to the Convention, available at http://www.unece.org/env/lrtap/status/lrtap_s.htm.

United Nations Economic Commission for Europe, http://www.unece.org/env/lrtap/status/lrtap_s.htm).