

## REGIONAL AFFAIRS

**Barcelona Convention****New Protocol on Integrated Coastal Zone Management**

by Ivica Trumbic\*

**Introduction**

The Mediterranean as a semi-enclosed sea presents unique geomorphological, hydrological, climatic and environmental features while at the same time being vulnerable to numerous human activities and resulting pressures. The state of the Mediterranean Sea and its coastal areas has deteriorated in the last several decades as Mediterranean coastal zones have become subject to significant pressures from a range of socio-economic activities, or driving forces.

Integrated Coastal Zone Management (ICZM) has been gradually introduced into the coastal planning and management practices in many Mediterranean countries, primarily as an instrument of coping with the growing coastal pressures. Since 1985, countries have started to adopt specific coastal legislation. Spain was the first country to adopt the Coastal Law, while the European Union adopted the Recommendation on ICZM in 2001. In the context of the Barcelona Convention, since the early 1980s the Mediterranean Action Plan (MAP), and in particular its Priority Actions Programme Regional Activity Centre (PAP/RAC), have been developing relevant methodologies and tools, implementing coastal projects, and carrying out training activities in ICZM.<sup>1</sup> Unfortunately, these as well as many other efforts have not brought wholly satisfactory results, neither in terms of significant improvement of the ecological status of coastal (marine and terrestrial) areas nor improvement of coastal management practices.<sup>2,3,4</sup> A new, and structurally more important, impetus for ICZM was needed. Thus, in 2001 the Mediterranean countries decided at the Contracting Parties' Meeting in Monaco to start developing the Protocol on Integrated Coastal Zone Management.

**Summary of Pressures on Mediterranean Coastal Areas**

In 2000, the permanent population of the Mediterranean coastal states was approximately 430 million. The forecasts show that this total will exceed 520 million in the year 2025.<sup>5</sup> However, most of this growth will be concentrated around the southern and eastern rims of the region, while in the north, the growth will be almost negligible. In 1995, there were about 140 million inhabitants

in the Mediterranean coastal regions (34% of the total in Mediterranean countries). In some countries, the percentages of coastal populations can be very high (Lebanon 91%, Greece 89%, Israel 86%, Libya 85% and Tunisia 70%).<sup>6</sup> Coastal population projections for 2025 show that it might grow to between 160 and 210 million inhabitants.<sup>7</sup>

In the 1980s and early 1990s, urbanisation intensified, mainly around major port areas and urban agglomerations, as a response to the high demand for residential and recreational facilities. Overall, the urbanisation rate that was 62% in 1995 is forecast to grow to 72% in 2025.<sup>8</sup> Again, the urbanisation rate in the north will increase only slightly, from 67% to 69%, while in the south it will accelerate more steeply, from 62% to 74%. It is forecast that the populations of Mediterranean urban agglomerations above 10,000 inhabitants will grow from 274 million in 2000 to 378 million in 2025.<sup>9</sup> It is expected that most of this growth will be concentrated in the Mediterranean coastal areas. This trend can already be observed today, because more than 30% of the total length of the coast in the region has been occupied. Coastal urbanisation has significant environmental consequences such as: spatial polarisation; rising demand for key resources and conflicts of use; physical degradation of resources; pollution threats to the sea; and pollution risks to urban areas. The Mediterranean is the world's prime tourism destination, with 392 million arrivals in 2000. The concentration rates are maximised on the coast where they are heavily seasonal. The tourism industry is dominant in the north-western Mediterranean, but it is expected to increase more rapidly in other sub-regions. The carrying capacity of many tourist destinations has been heavily exceeded, reducing their attraction and endangering their very survival. The forecasts show that in 2025, the region might expect (according to one scenario) the arrival of up to 350 million tourists.<sup>10</sup> Maritime transport, particularly the transport of crude oil, carries an enormous risk in the Mediterranean. It is estimated that, at any moment in time, there are about 200 large oil tankers navigating in the Mediterranean Sea. Fortunately, there has not yet been a major shipping accident in the region involving large oil tankers, but there have been a large number of smaller accidents – oil spills that have caused localised damage. The MAP specialist centre that deals with the issue of oil spills – the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea – has listed 268

\* Director, Priority Actions Programme Regional Activity Centre (PAP/RAC), Mediterranean Action Plan, Kraj Sv. Ivana 11, 21000 Split, Croatia; T: +385 21 340 470, F: +385 21 3404 90, E: ivica.trumbic@ppa.htnet.hr.

accidents for the period 1977–1995, three quarters of which involved oil. The quantity of registered oil spilled varies from 12 tonnes in 1995 to 13,000 tonnes in 1991. What's more important, the number of accidents per year is increasing.<sup>11</sup>

In general, the state of Mediterranean waters is considered to be reasonably good. However, the presence of pollution "hot spots", as identified by the Mediterranean states and MAP,<sup>12</sup> typically located in semi-enclosed gulfs and bays near key harbours, big cities and industrial areas, probably constitutes the major problem of the Mediterranean Sea. Physical alterations of the coast and habitat destruction are further impacts of concern. The eutrophication of coastal waters has become a major problem in some parts of the Mediterranean Sea, particularly in the enclosed and relatively shallow Adriatic Sea.

Despite the fact that coastal erosion has been considered a severe problem for many Mediterranean countries, it has not yet been emphasised as a major threat in the region. However, it is estimated that 26% of the Italian Adriatic coast and 23% of the Ionian Sea show trends of erosion, while only 50% of the total coastline of the EU Mediterranean area is regarded as stable.<sup>13</sup>

Potential impacts from climate change in the Mediterranean include drought, floods, accelerated soil erosion and desertification, storms, coastal erosion, changes in seawater temperature and salinity, sea-level rise and biodiversity reduction. Such changes occur in a way that is likely to exacerbate the problems that already exist in various Mediterranean countries. While the fluctuations of sea level throughout history seem to have been largely dominated by the effects of local tectonics, climate change could be an additional factor particularly affecting the key natural wetlands and coastal lowlands along different stretches of the coast. Although recent scenarios for the Mediterranean predict a lower range of sea-level rise (up to 50cm in the next 50 years) than envisaged in earlier reports, this rise could still have a significant impact on vital coastal resources. One Spanish report predicts that such a rise could wipe out 30–40% of Spanish beaches.<sup>14</sup>

The Mediterranean cultural heritage (monuments, historical settlements, archaeological sites, languages, literature, traditions, customs, *etc.*) constitutes a valuable regional resource. Coastal towns and small islands form an extraordinary and complex web of cultural units. As in other parts of the world, globalisation (*i.e.*, the standardisation of economic systems, urban settlements and social behaviour) poses some threats to cultural identities represented by local communities.

The economic gulf between the EU countries and other countries around the Mediterranean Basin is persistent. Thus, for example, the difference in *per capita* GNI in 2006 between the richest and the poorest country in the region was 27 to 1.<sup>15</sup> This discrepancy has prompted large migrations that create major problems and frictions in immigrating countries, and a brain drain, *inter alia*, in the emigrating ones.

As a result of pressures caused by the above-mentioned driving forces and resulting processes, there

are a number of conflicts and issues that have become, over time, more or less a typical feature of the Mediterranean coastal areas:

- Desire to get as close to the coastline as possible, particularly for the activities that require locations at the sea-land interface, such as marinas;
- Incompatibility of various land uses which cannot exist in juxtaposition, such as tourism and recreation activities, and aquaculture in marine areas;
- Private ownership of coastal land which denies the public free access to the coastline;
- The long-term goals of conservation of coastal resources are often incompatible with the interests of short-term economic profit, such as is the case with the Mediterranean fisheries; and
- The provision of "environmental" services is often not proportional to the rate of economic development, for example, the expansion of sewage collection and treatment often lags behind the pace of hotel construction in many Mediterranean areas.

From the location point of view, the problems of coastal areas are focused in spatial units such as:

- Large urban agglomerations (more than 100 "hot" spots have been identified);
- Free spaces outside the protected zones (30% of the Mediterranean coast has already been urbanised);
- Protected natural zones (the surface area of wetlands has shrunk from 3 million hectares in Roman times to 200 thousand hectares at present);
- Wider river basins in which most of the land-based sources of pollution of the coastal sea are located; and
- Zones of intensive mariculture.

### Initial Response to Mediterranean Coastal Environmental Challenges

Several issues that have persisted in the Mediterranean environment due to rapid population growth, urbanisation and uncontrolled economic development prompted Mediterranean countries to take action soon after the United Nations Conference on the Human Environment held in Stockholm in 1972. At the regional level, the most important initiative was to set up the Mediterranean Action Plan (MAP) in the mid-1970s. Soon after, the Barcelona Convention followed, which has provided a legal framework for actions towards improvement of the regional environment. MAP was the first Regional Seas programme of the United Nations Environment Programme (UNEP). MAP's main components have dealt with monitoring pollution in the Mediterranean; assessing the future of the Mediterranean Basin; preserving the Mediterranean's natural and cultural heritage; promoting the integrated management of Mediterranean coastal and marine regions; and promoting sustainable development in the Mediterranean Basin.

Although MAP has placed special emphasis on assisting countries with ICZM, in particular with the establishment of a regional specialist centre (PAP/RAC), most ICZM is needed at the national and local levels, and responsibility for coastal zone management implementation,

thus, lies with the national decision makers and other stakeholders. In this respect, several national initiatives, undertaken mainly in the planning, legislative and institutional domains, deserve special mention. The Spanish Shores Act and the French Coastal Law were adopted in the second half of the 1980s. These laws were mainly concerned with the regulation of the Public Maritime Domain, but they also possessed instruments for basic land development control and specific planning legislation for coastal areas. The Spanish Shores Act covers, for example, the following: the setting up of coastal boundaries; concessions and authorisations of public lands; approval for use and protection of public lands and regulations for the use for coastal defence and regeneration; and definition of the extent of coastal public property. Several other Mediterranean countries have also adopted coastal legislation, namely Israel, Tunisia, Morocco, Algeria and others. Croatia deserves a special mention because the Govern-

However, it should be stressed that its establishment was prompted by the below-par achievements of the traditional planning tools and instruments for protecting coastal land, particularly along the French Mediterranean coast. Another notable example is Tunisia, where the national Agency for the Protection and Management of the Coast was formed for the strategic as well as day-to-day management of coastal areas.

At a more practical level, master plans were developed in some countries where the coast has been given the status of a resource of national value and importance. The Israeli National Master Plan for the Mediterranean Coast, prepared and adopted almost two decades ago, determines the following: land use along the coastal strip for beaches, recreation and sport, and for tourist facilities; the protection of antiquities, nature reserves, national parks, forests and coastal reserves; and land use for ports and other infrastructures for which a coastal location is vital.

The plan aimed to prevent development for which a coastal location is not essential, and to resolve conflicts of interest among land uses that require a coastal location. It prohibits development within 100m of the coastline and requires Environmental Impact Assessment (EIA) as a prerequisite for the consideration of new coastal projects. The Israeli Master Plan is the background document serving the recently established inter-ministerial Coastal Commission, which makes decisions on all coastal projects. Recently, several Italian



Coast, Turkey

Courtesy: Coast Day

ment adopted a Decree on the Protection of Coastal Areas in 2004, which has recently been integrated in the new Spatial Planning Law. The Decree (Law), however, is more concerned with the distribution of coastal uses upon which it places relatively strict protection and conservation requirements, than with the issue of integrated coastal zone management.

These legislative initiatives have paved the way for the establishment of national institutions whose objective has been to manage national coasts. The most notable example is the French *Conservatoire du Littoral* (Coastal Conservancy). Its objective was to acquire property along the shores of the sea and lakes in order to protect such lands from urban encroachment, to preserve the ecological character of these areas and to improve public access to them, as well as to aid in the formulation of marine resource plans. Since 1975, the *Conservatoire du Littoral* has acquired 750km of shoreline. Most acquisitions are made by private agreement, but compulsory expropriation is occasionally carried out in the public interest. The land cannot be sold thereafter and public access is generally provided. It is managed primarily by local authorities on the Conservatoire's behalf. Today, the Conservatoire remains a major tool for coastal management in France.

ian regions and provinces have started preparing coastal territorial plans (*Piano Territoriale delle Coste*), which complement the regional and provincial spatial plans. A number of Mediterranean EU regions are also adopting specific ICZM strategies.

### Regional Milestones for Integrated Coastal Zone Management

In the wake of the Rio Conference, a number of regional events have sought to identify and bolster ICZM as a major tool in the promotion of sustainable development in Mediterranean coastal regions. The following can be considered milestones in this process:

- A Conference on Sustainable Development in the Mediterranean, held in Tunis, in 1994, approved several preparatory activities for the implementation of the Rio documents in the region. Adopted were the Declaration on Sustainable Development in the Mediterranean, the Agenda MED 21 as a draft document, and the Resolution on the Establishment of the Mediterranean Commission on Sustainable Development (MCSD).
- The Ninth Ordinary Meeting of the Contracting Parties, held in Barcelona, in 1995, when the MAP post-Rio activities were defined, and the amendments to the

Barcelona Convention that are of crucial importance to the implementation of ICZM and sustainable development principles within MAP were adopted. Also adopted were: the Action Plan for the Protection of the Marine Environment and Sustainable Development of the Mediterranean (MAP Phase II); a document on Priority Fields of Action (1996–2005); and the Barcelona Resolution on the Environment and Sustainable Development in the Mediterranean Basin.

- The Euro-Mediterranean Conference, held in Barcelona, in 1995, established the Euro-Mediterranean Partnership. The environment was recognised as one of the domains demanding an intensified cooperative effort and as a crucial dimension for the achievement of sustainable development in the Mediterranean. The general objectives of the environment programme under the framework of the Euro-Mediterranean Partnership with special interest in coastal zones were set as follows: (a) to assist in altering the trend of environmental degradation; (b) to protect the Mediterranean environment and contribute to sustainable development; (c) to integrate environmental concerns into sectoral policies; and (d) to strengthen its coherence and secure synergies with existing multilateral programmes and legal bodies. In this context, the Ministerial Euro-Mediterranean Conference, which was held in Helsinki, in 1997, adopted the Short and Medium-term Priority Environmental Action Programme (SMAP), with Integrated Coastal Zone Management as a priority field of action.
- A major shift in the regional efforts towards better coastal management occurred with the advent of the Mediterranean Commission on Sustainable Development (MCS D) in 1996. The MCS D promotes a new model for environmental management in the region. In addition to representatives from regional governments, MCS D members hail from NGOs, professional associations and the private sector, all of them major stakeholders in regional coastal sustainable development. The MCS D decided to analyse a number of priority issues that were hindering sustainable development in the region. Prominent among them was the sustainable management of coastal zones, the development of tourism, and sustainable urban management.
- At the Tenth Ordinary Meeting of the Contracting Parties to the Barcelona Convention, held in Tunis in 1997, the following ICZM recommendations, previously proposed by the MCS D, were adopted: (a) to improve institutional mechanisms for the integrated management of coastal areas; (b) to establish or strengthen and enforce legislative and regulatory instruments; (c) to ensure access to information in order to raise awareness and training for the largest possible number of actors; (d) to establish appropriate incentive systems for the integrated management of coastal areas; (e) to develop, with the support of relevant international organisations, and of the EU, practical pilot projects in the field of coastal area management and to disseminate the results; and (f) to increase opportunities and improve the effectiveness of active public participation.

- At the Fourteenth Ordinary Meeting of the Contracting Parties to the Barcelona Convention in Portoroz in 2005, the Mediterranean Strategy on Sustainable Development (MSSD) was adopted. One of the major chapters specifies the activities to be undertaken to stimulate ICZM in the region. Adoption and ratification of the ICZM Protocol is named as the most important action.

### **Barriers to a More Effective Implementation of ICZM in the Mediterranean**

In spite of the recent successes that place the Mediterranean region among the most advanced in the world in terms of regional cooperation, the level of implementation of ICZM in the region is far from being satisfactory. In recent years, several reports,<sup>16,17,18,19,20,21</sup> prepared by reputable international organisations and institutions, have identified a number of barriers to more effective implementation of ICZM and, consequently, to an improvement in the situation in Mediterranean coastal areas. These barriers can be identified in different steps of the ICZM process, starting from data and information management, planning, management, decision making, monitoring, evaluation and implementation. They can be summarised as follows:

- A strategic view of the Mediterranean coastal areas is still missing. Some countries have not yet agreed on the general goals and intentions of ICZM. Given the importance of coastal zones in the Mediterranean and the complexity of their problems, the general lack of effective interventions could be considered as troubling.
- There are differences among countries in the approach to ICZM in terms of management focus, *i.e.*, resource management versus traditional land-use planning. In the case of Mediterranean countries, the prevalence of tourism and urbanisation in the coastal zones favours the latter.
- Many Mediterranean countries still rely on traditional administrative systems, which often results in ineffective national and lower-level administrative structures, weak enforcement, and no policy integration.
- One of the major obstacles to ICZM is the limited influence (and thus weak integration) of environmental concerns in development planning by many Mediterranean administrations and stakeholders, which is jeopardising the establishment of efficient ICZM systems at the national level.
- Although international funding for ICZM has increased in the region, led by EU, GEF, World Bank and UNEP, there is still a problem of insufficient national financial support for coastal programmes. Many countries have not recognised the importance of coastal areas, have not given priority to them, and have not provided adequate financial resources to implement coastal projects. Too many countries are relying solely on international funding, as if coastal management is an exclusively international concern, and not their national priority.
- An accurate basis for estimating the extent of coastal problems, especially in integrating development issues

with the environmental situation, one which would facilitate regional-level policy making, has not yet been found. Moreover, although indicators have been developed, there is still no adequate mechanism for utilising these within a long-term policy-making process.

- Civil society in most Mediterranean countries is still not fully accustomed to active participation in public affairs. There are difficulties in mobilising it to contribute to the task of governing coastal areas.

### Need for a New Regional Legal Instrument

Although coastal zones have been at the heart of the policies put forward by the Contracting Parties to the Barcelona Convention, in particular since its revision in 1995, these policies were translated mainly into various guidelines, recommendations and action plans. Although important, these documents were, in fact, only “soft” laws, not usually binding for the States. Such instruments are characterised by their simplicity and flexibility, being easy to adopt and modify without specific procedures. But they are still optional, and their application is voluntary and unbinding for States. It became obvious that no real progress would be achieved in the field with new ICZM recommendations or guidelines alone, since these would only be repetitions of what already exists. The time had come, therefore, to take one further step, ensuring more effective application in the field of ICZM. To this end, the twelfth meeting of the Contracting Parties to the Barcelona Convention, held in Monaco in November 2001, approved a recommendation to prepare a Feasibility Study “concerning a regional legal instrument on sustainable coastal zone management”.

The Study was carried out in 2002 and 2003.<sup>22</sup> It demonstrated the technical and environmental need for a regional legal instrument, which would be binding on the Parties. It provides three broad justifications for the new regional legal instrument: environmental, legal, and one related to the drawbacks of the *status quo* option.

### Environmental Justification

The Study finds that, in view of the most recent diagnostics, the following problems of coastal zones in the Mediterranean are particularly acute: erosion and desertification, water pollution, inappropriate solid waste disposal, decline of renewable resources, loss of biological diversity, disappearance of wetlands, and destruction of landscapes. Causes have also been identified: tourism, increased coastal population, intensive agriculture, land pressures, absent or poorly applied planning, *etc.* New risks have also been highlighted, such as: higher sea levels, floods, tornadoes, changes in water temperatures and saline content. This situation requires more than just awareness enhancement and information on ICZM. It requires the “promotion” of integrated management, based on national and international initiatives, with the objective of implementation of coastal zone management, which is environmentally sustainable, socially responsible, institutionally efficient, and adapted to cultural realities. Any strategy must integrate the marine and land components

of the coasts, be based on a global rather than a sectoral vision, and be supported by coordination mechanisms for institutions and decisions. This implies governance based on the appropriate information and involvement of all stakeholders, on impact assessment studies of plans and works impacting the marine environment and the coastal zones, regular monitoring of progress, analysis of successes and failures, and close cooperation between local authorities and the State, demonstrating the common determination of Mediterranean States.

### Legal Justification

The Study stresses that all previous reports and assessments on ICZM initiatives unanimously agree on the significant absence of any legal framework in this field. While legislation covering coastal zones exists in a number of States, only a few have legal instruments adapted to integrated management at the territorial (breaking the barriers between land and sea) and institutional levels, as well as from the standpoint of global strategy, programme development and decision making on coastal areas. They have regularly been taken into account in the international Law of the Sea, in particular since Chapter 17 of the Rio Agenda 21 emphasised the positive contribution of such territorial integration to sustainable development. The Barcelona Convention itself serves as a legal basis for the formulation of a regional legal instrument on coastal zones. The Convention, amended in 1995, bears on the protection of the marine environment and the coastal zones. Paragraph 5 of article 4 establishes the legal basis for the adoption of protocols, ensuring the application of the Convention. Therefore, a protocol on coastal zones would in fact only be, from a legal standpoint, the manifestation of compliance with the Convention and, more specifically, the legal expression of its implementation. In the European Union, the laws which apply to marine and land coastal zones are dispersed across several different sectors. This is why the European Parliament and Council made a recommendation in May 2002, to stimulate the implementation of an ICZM strategy. The European Community, Party to the Barcelona Convention, has accepted the 1995 amendments to the Convention, thus acknowledging the legal basis for a protocol and the resolve in favour of the inclusion of coastal zones to the field of application of the Barcelona Convention.

### The Drawbacks of the *Status Quo*

The Study finds that the decision to do nothing about coastal management would be disastrous in the short and long term. It is utopia to wait for States to voluntarily adopt guidelines for ICZM in their national legislation, although this solution is more comfortable in the short term. It is well known that rapid deterioration of coastal zones is an on-going process, despite pilot initiatives and projects which have always remained quite local. It is worth keeping in mind that protected areas are not under threat, as they are already covered by relevant laws, which in general are adequately implemented in most countries. It is the unprotected zones (sand dunes, estuaries, wetlands, deltas, coastal landscapes) that are subject to the direct



pressures. If new collective and global measures are not taken, to set shared protection objectives for all States, deterioration will continue, and will impact the long-term economic and social development of the region as a whole. Without clear regional strategies, uncontrolled competition will lead to increased pressures on some zones, encouraged by the inertia of authorities and generalised *laissez-faire*. There is a great danger that chaotic and uncontrolled development will trigger irreversible situations in the Mediterranean environment. In the long term, the cost of the absence of mandatory rules and control would be much higher, making all talk of sustainable development useless. Finally, the choice of a regional legal instrument rather than that of a new recommendation would also demonstrate the political resolve to establish means to combat coastal deterioration. This choice presupposes doing away with the worst scenario, *i.e.*, lack of action.

The Study concludes that there is no single model for a protocol, particularly in the highly complex field of coastal zones. There is also no precedent in any other regional sea of the world, which could be used as a model. Thus, the Study proposed three options:

- a protocol with general minimal content or framework protocol;
- a more complete and detailed protocol, to better cover the issues;
- an intermediate protocol.

At the subsequent Contracting Parties Meeting in Catania in 2003, the Parties adopted the Feasibility Study, agreed that the protocol is the best legal option, and concluded that the protocol should be neither too general nor too detailed and that an intermediate version would be most appropriate. It should be as detailed as possible to establish the legal framework for the methodological requirements of integrated management for the complex sea-land zone. The Parties also stressed that this protocol is a new departure and must be carefully drafted to take into account existing conventions and protocols, assessments of the different initiatives and national legislation. The content of the protocol may be more or less flexible, while remaining binding. Nonetheless, the content must be substantial enough to allow concrete application and to stimulate the Parties and all social and economic stakeholders.

### The Consultation and Negotiation Process

In Catania in 2003, the Contracting Parties also decided to "...prepare a draft text of the regional protocol on integrated coastal management, on the basis of a broad process of consultation among experts and all other interested parties in view of its consideration by the Contracting Parties".<sup>23</sup> To that end, PAP/RAC was entrusted to conduct all relevant activities in order to present the draft text at the next Contracting Parties meeting in 2005. The

first step in the consultation process was organisation of the Regional Stakeholders' Forum "Integrated Coastal Management in the Mediterranean: Towards Regional Protocol" held in Cagliari, Sardinia (May, 2004). The main objectives were to present the Feasibility Study; to open a wide debate among authorities and stakeholders in the region on the contents for a new legal instrument; to receive inputs for the drafting of the Protocol; and to propose the Protocol's "roadmap". The Forum provided PAP/



Lavsa Island in Kornati National Park

Courtesy: Wikipedia

RAC with valuable suggestions and recommendations on how to draft the Protocol, more specifically, on its structure and level of detail of its legal provisions in order to achieve a well balanced and harmonised text.<sup>24</sup>

At the meeting that took place in October 2004 in Split, a Working Group composed of five legal and technical experts was established to prepare the text of the ICZM Protocol. The meeting discussed the structure and the contents of the Protocol, its "road map", possible obstacles, as well as experience with other MAP Protocols. By mid-December 2004, the first draft had been prepared.

By February 2005, the Working Group had prepared the second version of the draft Protocol. This improved version was discussed at the third meeting of the Working Group in Paris in February 2005. Soon after that meeting the third version of draft text of the Protocol, together with the Commentary text explaining particular articles, was prepared. As a part of the consultation process to improve the draft, PAP/RAC organised a Regional consultative expert workshop in Torregrande-Oriстано (June, 2005).<sup>25</sup> On the basis of the very fruitful discussions and presentation of national views, all these proposals and suggestions for the improvement of the draft Protocol were taken into consideration by the group of experts when preparing the final draft.

At their Fourteenth Ordinary Meeting in Portoroz (November, 2005), the Contracting Parties to the Barce-

lona Convention decided to "...establish a Working Group of legal and technical experts to develop a draft text of the ICZM Protocol with a view to its consideration and possible approval by the Fifteenth Meeting of the Contracting Parties".<sup>26</sup> It was also decided to convene a diplomatic conference for the adoption of the Protocol to be held immediately following the Fifteenth Meeting of the Contracting Parties. The Working group held five meetings before all experts agreed upon the final text of the Protocol, which was presented, adopted and prepared for signing at the Fifteenth Ordinary Meeting of the Contracting Parties in Almeria in January 2008.

The signing of the Protocol came after a six-year process of consultation, negotiation and refinement of the Protocol layout and dedicated work of all the Parties. It was signed in Madrid on 21 January 2008 at the Conference of the Plenipotentiaries on the Integrated Coastal Zone Management Protocol. Fourteen Contracting Parties to the Barcelona Convention signed the Protocol at the Conference, and the others undertook to do so in the very near future. The Parties are now urged to ratify the Protocol so that it enters into force as soon as possible. The ICZM Protocol has become the seventh Protocol in the framework of the Barcelona Convention and represents a crucial milestone in the history of MAP. It completes the set of Protocols for the Protection of the Marine Environment and the Coastal Mediterranean Region. It will allow the Mediterranean countries to better manage and protect their coastal zones, as well as to deal with the emerging coastal environmental challenges, such as climate change.

### The Structure of the ICZM Protocol

The text of the Protocol<sup>27</sup> emphasises that the Parties should define a common regional framework for integrated management of the Mediterranean coastal zone and should take the necessary measures to strengthen regional cooperation for this purpose. The Protocol should ensure sustainable development of the coastal zone, sustainable use of natural resources and integrity of coastal ecosystems, landscapes and geomorphology. It should help protect the coastal zone, prevent the effects of natural hazards, and achieve coherence between public and private initiatives. The Protocol is composed of seven parts and 40 articles:

- Part I: General Provisions (general obligations; definitions; geographical coverage; preservation of rights; objectives of integrated coastal zone management; general principles of integrated coastal zone management; coordination)
- Part II: Elements of Integrated Coastal Zone Management (protection and sustainable use of the coastal zone; economic activities; specific coastal ecosystems; coastal landscapes; islands; cultural heritage; participation; awareness-raising, training, education and research)
- Part III: Instruments for Integrated Coastal Zone Management (monitoring and observation mechanisms and networks; Mediterranean strategy for integrated coastal zone management; national coastal strategies, plans and programmes; environmental assessment; land policy; economic, financial and fiscal instruments)

- Part IV: Risks Affecting the Coastal Zone (natural hazards; coastal erosion; response to natural disasters)
- Part V: International Cooperation (training and research; scientific and technical assistance; exchange of information and activities of common interest; transboundary cooperation; transboundary environmental assessment)
- Part VI: Institutional Provisions (focal points; reports; institutional coordination; meetings of the parties)
- Part VII: Final Provisions (relationship with the convention; relations with third parties; signature; ratification, acceptance or approval; accession; entry into force; authentic texts)

While it is too early to evaluate the implementation of the Protocol, since it still has to enter into force (it is expected that six countries, needed for the Protocol to enter into force, will ratify it during 2008), it is possible to make an early assessment of its impact. Above all, the Protocol is bold. It is the first international legal instrument that, firstly, provides a clear definition of the coastal zone and, secondly, that requires coastal "setback" (see below). During the negotiation process these were the two major points of contention, but a majority of the countries were ultimately united around the position that if these two points were not adopted the protocol would lose much of its sharpness.

The Protocol is innovative. Even if we do not take into consideration the fact that there is no international precedent at this legislative level, it is still innovative because it tackles a number of issues for the first time ever in the field of ICZM legislation, in particular: islands; cultural heritage; land policy; economic, financial and fiscal instruments; natural hazards; and coastal erosion. Not only does the Protocol mention these issues, but it also puts forward specific requirements that the Contracting Parties will have to fulfil.

The Protocol is forward-looking and proactive. It aims at preventing and not only reacting to coastal problems. It sets a number of objectives that the coastal economic sectors will have to achieve (agriculture, industry, fishing, aquaculture, tourism, utilisation of natural resources, infrastructure, energy production, and maritime activities) in order to avoid the emergence of problems.

The Protocol is comprehensive because, in addition to the issues that are "traditionally" contingent to ICZM, it covers a number of new issues that are considered as crucial for the coastal environment and its protection in the 21st century. In this respect, the issue of risks affecting the coastal zone deserve special mention. Parties are, thus, required to develop policies for the prevention of natural hazards, as well as "...undertake vulnerability and hazard assessment of coastal zones and take prevention, mitigation and adaptation measures to address the effects of natural disasters". The Protocol is also very specific on coastal erosion, which is a growing problem in the majority of Mediterranean countries.

Finally, the Protocol is integrated. It sets to ensure institutional coordination, coordination of national, regional and local authorities, involvement of NGOs and other

competent organisations, as well as the integrity of sea and land areas. Major instruments to achieve this objective are: training and research; scientific and technical assistance; exchange of information and activities of common interest; and transboundary cooperation in environmental assessment.

The Protocol is very precise on a number of specific issues, namely:

- defining “coastal zone” as “...the geomorphologic zone either side of the seashore in which the interaction between the marine and land parts occurs in the form of complex ecological and resource systems made up of biotic and abiotic components coexisting and interacting with human communities and relevant socio-economic activities.”
- defining “[i]ntegrated coastal zone management” as “...a dynamic process for the sustainable management and use of coastal zones, taking into account at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the marine and land parts.”
- defining the setback as “...a zone where construction is not allowed. Taking into account, *inter alia*, the areas directly and negatively affected by climate change and natural risks, this zone may not be less than 100 meters in width...”
- formulation and development of coastal strategies, but also land-use strategies, plans and programmes covering urban development and socio-economic activities, as well as other relevant sectoral policies.
- application of environmental impact assessment for public and private projects, and strategic environmental assessment of plans and programmes which affect the coastal zone.
- developing policies for preventing natural hazards, particularly those resulting from climate change.
- applying the ecosystem approach to coastal planning and management so as to ensure the sustainable development of coastal zones, taking into account specificities of coastal ecosystems, in order to preserve coastal natural habitats, natural resources, ecosystems and landscapes.
- reporting on the implementation of the Protocol, including measures taken, their effectiveness and the problems encountered upon their implementation.

## Conclusions

Control of coastal development is a major issue in the Mediterranean basin, since in most of the countries a high percentage of the population lives on the coast, and many economic activities are located there. Countries were not lying idle in trying to reverse the prevailing coastal development trends. In some countries there is specific legislation to control coastal development. A number of activities were more concrete, such as coastal zone management plans, specialised agencies for the protection and management of the coastal zone, surveillance and monitoring systems, tourism development controls, economic

instruments for the promotion of coast-friendly economic activities, *etc.*

Yet, problems in coastal areas still persist. The burden of integrated coastal zone management, from an institutional perspective, falls on national governments in spite of the fact that many problems might be regional (sub-national) or local in character. National coastal policies of the Mediterranean countries are typically more prescriptive than facilitative. There are few examples of comprehensive coastal management policies at the national level in the Mediterranean, and even fewer applications. Unfortunately, even when they exist, these policies still rely more on the traditional roles of government than on a wider-based coastal governance. Process rather than outcome-oriented approaches, and participatory management, are rare.

Although many problems of coastal areas are highly localised, there are strong grounds for supporting shared action. Shared action requires a common framework so it is necessary to develop a vision of the future for the region. The countries generally agree that the Barcelona Convention is a common and acceptable framework for legislative and operational action. It is also, by nature, an evolving and operational system. ICZM is one of the general obligations for the Parties to the amended Convention, and the development of the ICZM Protocol has been a natural legal route to take, to ensure the application of the Convention. The Mediterranean Integrated Coastal Zone Management Protocol presents a new step in the continuous evolution of the Barcelona system.

The major value added of the Protocol is that it will help mitigate the risk of *status quo*, which is reflected in:

- the danger that the environmental deterioration will continue;
- the fact that states would not voluntarily adopt ICZM guidelines in their national legislation;
- the need for collective and global measures to change the prevailing coastal development trends; and
- the need to have a clear regional coastal sustainable development strategy.

Another value added is reflected in the very process of the protocol development. It is more than six years since the formal inception of the idea that a “regional legal instrument” is needed. The states have shown a great degree of willingness to have such a document, as well as flexibility while negotiating it. Therefore, they wanted a protocol and not recommendations or guidelines. They wanted a protocol as a legal measure with all the repercussions it might bring.

The protocol is a unique endeavour on a world scale. There has been no precedent, and that made the task of its drafting, negotiation and adoption more difficult. Then, why have the Parties undertaken this task? It is well known that ICZM is a process which is: costly; technically, institutionally and administratively very complicated; time consuming; not always easily understood by all the actors; and which attracts many opponents and scepticism. In addition, we all know that the situation in the Mediterranean coastal areas is not very good. But, in spite of all the



odds against ICZM, there is a common understanding that ICZM is not an option but a necessity. The Contracting Parties have understood it well, and this is another value added from the protocol development process.

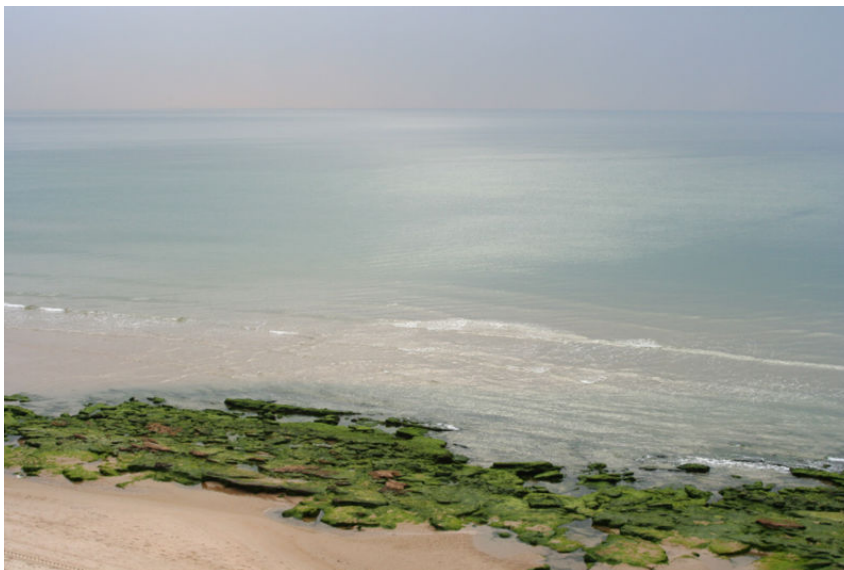
Although discussion on the value added of the protocol at this moment is highly hypothetical, the efforts undertaken so far, at the regional Mediterranean, but also national, level in many countries, show that the Contracting Parties are on the right track, and that with the protocol they are doing something they want and not something that has been imposed on them. This is the best guarantee that the fruits of this endeavour will soon be seen.

Finally, it needs to be repeated that ICZM is an evolving field. Although the ICZM Protocol covers most of the subjects at the core of the present interests of the Contracting Parties, a range of new topics have emerged recently, which deserve more thorough study in the near future before being integrated into some future version of the protocol. These include:

- *Improving integrated coastal governance*, which will lead towards new interwoven relations among the public sector, private actors and NGOs, expanding thus the management focus towards negotiation and coordination, away from exclusively technical aspects of coastal resource management.
- *Local management and sustainable development of coastal zones*, which is becoming a key

issue for the Mediterranean, particularly since there is a common agreement that ICZM is a highly localised affair, albeit operating within the national and international institutional and legal context.

- *Marine spatial planning*, which will place a greater emphasis on sea use, integration of marine and terrestrial segments of the coastal zone, and reconciliation of the regulatory split which exists today between the respective coastal terrestrial and marine legislation.
- *Integration of cultural identity issues*, in particular coastal landscapes, into ICZM. Analysis of cultural values for sustainable development will bring an additional local dimension to coastal management.



Sharon Coast, Israel

Courtesy: Wikipedia

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ESCWA

## Strategies and Goals for Environmental Sustainability

by Bader Al-Dafa\*

Most countries within the United Nations Economic and Social Commission for Western Asia (ESCWA) share, to some extent, similar problems in the area of environmental sustainability, such as water scarcity and pollution; exhaustion of natural resources; land degradation and desertification; fast urbanisation and deterioration of air quality in mega-cities; marine pollution and reduction in bio-diversity. What is also clearly evident among most

ability to realise environmental sustainability. Progress has been achieved in managing the environment, although primarily from a sector perspective (e.g., air quality, water quantity). It has also been somewhat effective in identifying environmental problems at the source (e.g., industry, agriculture). Little advancement has been made as yet in fostering a multi-disciplinary integrated approach towards environmental sustainability. This lack of progress is attributable to the existing environmental regime's focus on an outdated sector-based approach to the environment.

The concept of environmental sustainability involves numerous complex multi-disciplinary and overlapping issues such as poverty; social inequality; health; trade; tourism; industrial and agricultural development; and education which run beyond the scope of any single sector. Governance for sustainability thus requires countries of the region to undergo institutional and legislative reforms to move beyond the traditional concepts of environmental management towards sustainability.

As Executive Secretary of ESCWA, it is my intention to develop and disseminate feasible and acceptable integrated mechanisms to ensure environmental sustainability in ESCWA member countries during my tenure.



Map showing ESCWA members

Courtesy: ESCWA

ESCWA countries is that despite the increasingly multi-sectoral scope of issues related to *sustainable development* platforms, environmental sustainability is still considered as a purely environmental issue.

It is important to note that environmental thinking in the ESCWA region has undergone a significant evolution over the last three decades. Initially, environmental goals were thought of as a public health and environmental management issue. Subsequently, the region has paralleled the global reorientation towards integrating the environment with socio-economic development to attain sustainable development. To that end, governments in the region have developed integrated national environmental strategies and action plans, promulgated numerous laws and regulations to support environmental sustainability, and ratified a number of multilateral and regional environmental agreements. These legal and regulatory measures have led to the establishment of new environmental institutions, creating a beachhead within governments.

Despite these improvements in environmental governance, governments in the ESCWA region still lack the

### Challenges

The ESCWA region faces a particularly difficult combination of obstacles on its path towards environmental sustainability. The region suffers from high population growth rates, severe water stress, political instability, centralisation and limited involvement of civil societies. The growing population increases food demand, placing pressure on the limited water resources and arable lands. Urbanisation, industrial activity, infrastructure and tourism further exacerbate the pressures on the land and ecosystems. Relations between nations within and outside the region greatly affect environmental sustainability, especially considering that 80% of the region's renewable water resources originate from outside the region.

Effective progress toward environmental sustainability necessitates the articulation of a clear and concise political platform that defines relevant goals and establishes related priorities for action. While policy platforms are often articulated mentioning environmental sustainability, goal and priority setting are not always well applied in the ESCWA region. Instead, issues are often listed in ways that lack hierarchy or means of implementation. Furthermore, national goals and priorities tend to emerge from traditional paradigms premised on national security, economic growth and cultural preservation.

\* Executive Secretary to the United Nations Economic and Social Commission for Western Asia.

## ESCWA Goals and Strategies to Achieve Environmental Sustainability

ESCWA, in partnership with other regional organisations, mostly, the League of Arab States (LAS), the Council of Arab Ministers Responsible for the Environment (CAMRE) and United Nations Environment Programme – Regional Office for West-Asia (UNEP-ROWA), is aptly suited to promote environmental sustainability in the West Asia region. The *goals* to which we aspire for achieving sustainability for the region include:

- adopting Integrated Water Resource Management (IWRM) as a concept, including the implementation of total catchments management strategies.
- developing and implementing energy conservation policies for various sectors, using clean fuel and disseminating renewable energy technologies.
- undertaking socially and politically acceptable legislative and institutional reforms for the realisation of multi-sectoral ES.
- meeting the environmentally related Millennium Development Goals (MDGs) through the provision of clean, safe water and sanitation.
- achieving the capacity to develop non-conventional water resources in an energy-efficient, cost-effective and sustainable manner through a variety of processes, including desalination of seawater, rainwater harvesting, waste water reuse and water recycling.
- adapting environmentally sound technologies in all sectors, particularly in exploration, extraction and processing of oil and gas resources.
- promulgating adequate environmental legislation and ensuring compliance by developing adequate capacities for monitoring, inspection and enforcement.
- developing and implementing Environmental Impact Assessment (EIA) policies including at a strategic level.

- incorporating environmental dimensions including mitigation of greenhouse gases (GHGs) in all national, regional and local development plans.

In order to be effective, ESCWA's strategy seeks to develop environmental sustainability platforms at the national and regional levels based on national interests and identified priorities for action in both the short and long terms. Institutional responsibilities will then need to be reformed and arranged in a horizontally integrated manner that provides balance between the important roles that environmental and other institutions play in achieving environmental sustainability. This requires an integrated



UN / ESCWA Headquarters

Courtesy: Embassy of Lebanon

approach towards thinking about environmental sustainability that highlights the importance of addressing economic and social issues alongside environmental priorities, without downplaying the role of environmental institutions in the process.



EU

## The New Emissions Trading Scheme: Airlines – Is it Extraterritorial? –

by Ruwantissa Abeyratne\*

This article examines the EU's Emissions Trading Scheme (ETS) against the backdrop of the issue of the legal capacity of the EU to assume extraterritorial jurisdiction by unilaterally imposing an emissions trading scheme on airlines of non-EU member States. For this purpose, the legal principles applicable to extraterritoriality, along with *cursus curiae* which attenuate instances where the exercise of extraterritorial jurisdiction

may be deemed justifiable, are discussed. It concludes by positing that principles of international law and the nature and purpose of ICAO as a global forum for civil aviation strongly militate against the exercise of extraterritorial jurisdiction by a State or group of States unless there are certain compelling circumstances recognised at law.

### The Background

It is said that the Earth's atmosphere is so thin that we have the capacity to dramatically alter the concentration of some of its basic molecular components.<sup>1</sup> With this ability we have vastly increased the amount of carbon dioxide (CO<sub>2</sub>) – the most important of the so-called "green-

\* The author is Coordinator, Air Transport Programmes at the International Civil Aviation Organization. He teaches aero politics, law and policy at the John Molson School of Business, Concordia University, Montreal. The author has written this article in his personal capacity and views herein should not necessarily be attributed to the ICAO Secretariat.

house gases" (GHGs)<sup>2</sup> that contribute to the greenhouse effect.<sup>3</sup> The increase in GHGs, particularly CO<sub>2</sub>, causes global warming which threatens the ecosystem and causes alterations of weather. With the warming of the earth, even by moderate levels, sea levels could increase by some 40cm and the number of people at risk from floods could go up from 75 million today to around 250 million.<sup>4</sup> The rise in sea level could also pollute the drinking water in cities such as Shanghai, Manila, Jakarta, Bangkok, Kolkata, Mumbai, Karachi, Lagos, Buenos Aires and Lima.<sup>5</sup>

The West Antarctic ice sheet could, if it melts as a result of global warming, raise the sea level high enough to flood parts of New York, London, Tokyo and Mumbai.<sup>6</sup> This looks ominously real in the face of the fact that in 2003 Europe was hit by a massive heat wave that killed 35,000 people and 2005 was the hottest year recorded during the period 1860 to 2005.<sup>7</sup>

As a legal matter, the concept of extraterritoriality denotes the use of domestic laws by a State to regulate conduct beyond that State's borders. This is called "extraterritorial application". Principle 12 of the *Rio Declaration on Environment and Development* signed at Rio de Janeiro in June 1992 provides that States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. It goes further to say that trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

Principle 12 also provides that unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus. Based on this, and purely from a policy perspective, most States disapprove of the use of unilateral actions to protect the global environment. At the thirty-sixth Session of the Assembly of the International Civil Aviation Organization (ICAO) the European Union presented the European Community's Emissions Trading Scheme as the largest multi-sector, operator-level emissions trading scheme in the world which was central to the European Community's efforts to address climate change. The Assembly was advised that the European Community is currently considering legislation to bring emissions from international aviation within the Scheme, taking into account, as appropriate, ICAO guidance. It was the EU's contention that this would contribute to the European Community's share of its collective obligations to take a lead in addressing emissions from international aviation under Article 2(2) of the Kyoto Protocol<sup>8</sup> to the United Nations Framework Convention on Climate Change by implementing action which is based on an approach worked out in ICAO. The EU claimed that it would also ensure that increased emissions from international aviation do not undermine emission reductions made by other sectors. Therefore, in order to ensure that such an endeavour was effective and to avoid dis-

crimination, as the Chicago Convention required, it was fundamental that the measure be applied to all airlines operating within the scope of the scheme without distinction as to nationality.

It was against this backdrop that the Committee on Aviation Environmental Protection (CAEP) – a technical group of experts forming a committee of the Council of the ICAO<sup>9</sup> – held its seventh meeting (CAEP/7) in Montreal from 5 to 16 February 2007 to respond to the decision of the thirty-fifth Session of the ICAO Assembly, held in September/October 2004, which encouraged States and other parties involved to limit or reduce international aviation emissions through voluntary measures and urged the Council to facilitate actions by making available guidelines that ICAO had developed for such measures.<sup>10</sup>

The CAEP/7 meeting followed a year designated the *International Year for Deserts and Desertification* by the United Nations. 2006 was a year in which environmentalists made the frightening but accurate claim that the vastly increasing levels of carbon dioxide we produce can thicken the atmosphere so that the rays of the sun which fall on earth and bounce back as infrared rays beyond the atmosphere cannot escape the thick atmospheric layer at the rate they did before and are trapped within, making the world warmer.

One of the major issues addressed by CAEP/7 was emissions trading, resulting in guidelines presented by CAEP to the ICAO Council, which would in turn be presented to the thirty-sixth Session of the ICAO Assembly in September 2007 for consideration by its 190 member States. In this regard a major contribution to CAEP/7 was a proposal presented by the European Commission calculated to include aviation activities in the scheme of greenhouse gas emission allowance trading within the Community. From a legal perspective, such a proposal would present issues that would attract discussion on perspectives of international law and policy.

## The Scheme

The Scheme<sup>11</sup> broadly proposes that operators be allocated allowances, each giving them a right to emit one tonne of carbon dioxide per year. The total number of allowances allocated sets a limit on the overall emissions from the activities covered by the Scheme. By 30 April each year, operators must surrender allowances to cover their actual emissions. Operators can trade allowances so that emissions reductions can be made where they are most cost-effective. In addition to allowances allocated under the Scheme, operators can also use credits from emission-reduction projects under the Kyoto Protocol (Joint Implementation and Clean Development Mechanism) to cover their emissions.

Under the Scheme, each participating country has a National Action Plan (NAP) specifying caps on greenhouse gas emissions for individual power plants and other large point sources. Each facility gets a maximum amount of emission allowances for a particular period (e.g., 2005–2007). To comply, facilities can either reduce their emissions or purchase allowances from facilities with an excess of allowances. Progressively tightening caps are fore-



seen for each new period, forcing overall reductions in emissions. Initially, in 2011, only flights between EU airports would be included in the Scheme. From 2012 this would be extended to all flights arriving at or departing from an EU airport. Where a third country puts in place measures to reduce the climate change impact of aviation, the Scheme would not apply to flights arriving from that country.

The key aspects of the proposal are that aircraft operators would be the entities responsible for complying with the obligations imposed by the Scheme. The Scheme would exclude flights by State aircraft, flights under visual flight rules, circular flights (“circuits”), flights for equipment testing or training, rescue flights and flights by aircraft with a maximum take-off weight of less than 5,700kg.



Courtesy: abenews

Under the proposal, each aircraft operator, including those from third countries, would be administered by one Member State only in order to avoid duplication and an excessive administrative burden on aircraft operators. The Scheme would only cover CO<sub>2</sub> emissions. The Commission will carry out a thorough impact assessment and will put forward a further proposal to address nitrogen oxide (NO<sub>x</sub>) emissions by the end of 2008.

The Scheme requires aircraft operators, like other participants in the Community Scheme, to monitor their emissions of carbon dioxide and report them to the competent authority of their administering Member State by 31 March each year. The reports would be independently verified to make sure that they are accurate. The basic principles for monitoring, reporting and verifying emissions set out in the proposal would be elaborated by guidelines. If necessary, aircraft operators would be able to buy allowances from other sectors in the Scheme to cover increases in their emissions. Aircraft operators would also be able to use project credits – so-called Emission Reduction Units (ERUs) and Certified Emission Reductions (CERs) – from the Joint Implementation or Clean Development Mechanisms (JI/CDM) provided for in the Kyoto Protocol up to a harmonised limit equivalent to the average of the limits applied by EU Member States for other sectors in the EU ETS. The Scheme would also apply to domestic aviation

which would be treated in the same way as international aviation.

### Extraterritoriality and the United States

The main complaint levelled against ETS is that the European Union is attempting to exercise extraterritorial jurisdiction by extending the scheme in 2012 to all flights arriving at or departing from an EU airport and exempting flights arriving in the territory of the Union membership from a third country which puts in place measures to reduce the climate change impact of aviation. This creates the need to inquire into the status of the European Union as well as the issue of extraterritoriality in the context of the applicable principles of public international law.

The European Union was created as a political and economic community with supranational and inter-governmental features. It is composed of twenty-seven member states primarily located in Europe. The member States which created the EU contemporaneously delegated to the Union the exercise of certain national competencies. In 1963 the European Court of Justice handed down a decision which *inter alia* confirmed that the EC Treaty which established the Union went beyond the boundaries of an international agreement that confers mutual obligations between States by constituting a new order of international law.<sup>12</sup> Member States have, by this act, transferred certain powers to the European Community, thereby creating a community that can legally represent member States in the international scene, having its own institutions and legal capacity. In effect, the member States have limited their sovereign rights in certain fields by creating a body that limits the exercise of their national competencies in particular areas and binds themselves and their nationals.<sup>13</sup> The European Union works through the European Community<sup>14</sup> which was created by the Treaty of Rome<sup>15</sup> and exercises the competencies of the EU.

Extraterritorial jurisdiction is exercised when a State (or in this case a community of States) seeks to apply its laws outside its territory in such a manner as may cause conflicts with other States.<sup>16</sup> The ETS is controversial when it comes under the “effects theory” of extraterritorial jurisdiction, beyond the principles of sovereignty. This theory relates to a situation where a State assumes jurisdiction beyond its territorial limits on the ground, so that one Party is thought to adversely affect the interests of the other by producing “effects” within the other’s territory. It does not matter whether all the conduct and practices take place entirely in the other State or whether part is within the legislating State. In the latter instance, the conduct of the party would come under the “objective territorial principle” where part of the offence takes place within the jurisdiction. In the case of aircraft engine emissions, the applicable principles would come under both headings as transboundary pollution of the environment by an aircraft which flies into Europe may involve the emission of gases in one State that could cross boundaries and affect Europe.

The effects doctrine has been robustly applied in the United States particularly in the field of antitrust legisla-



tion.<sup>17</sup> Judicial recognition of the principle lay in the premise that any State may impose liabilities, even upon persons not within its allegiance, for conduct outside its borders that has consequences within its borders which the State reprehends.<sup>18</sup> This blanket principle was later toned down within the United States to acknowledge growing international protests against the wide ranging and arbitrary manner in which the principle could be applied. The modification involved the need to prove intentional conduct and the fact that the effect should be substantial for the doctrine to be applied.<sup>19</sup> In addition, courts began to insist on a jurisdictional rule of reason that involved consideration of interests of other nations and the nature of relationship between the USA and the other actors concerned. It is also noteworthy that the *Third Restatement of Foreign Relations Law* provides that a State may exercise jurisdiction based on the effects in the State when the effect or intended effect is substantial and the exercise of jurisdiction is reasonable.<sup>20</sup> Reasonableness is based on the extent the enacting State limited its jurisdiction so as to obviate conflict with the jurisdiction of the State affected to the extent possible.

The 1984 case of *Laker Airways v. Sabena*<sup>21</sup> held that once law was declared applicable it could not be subject to qualification or ignored by virtue of comity.<sup>22</sup> However, changes could be effected through diplomatic negotiations. The United States Supreme Court ruled in 1993 that US legislation (in this case the *Sherman Act*) could apply to foreign conduct that was meant to produce some substantial effect in the United States.<sup>23</sup> Extraterritorial application of laws can be effectively rendered destitute of effect by blocking legislation<sup>24</sup> which a State can enact to preclude the application of a foreign law to citizens of that State.

In several instances, the United States has controlled or influenced activities occurring outside its borders which are calculated to harm the environment. For example: Congress passed a law prohibiting persons and vessels subject to the jurisdiction of the United States from "taking" (killing or injuring) marine mammals on the high seas; the EPA issued subpoenas to American companies demanding information on the use and release of chemicals from companies operating in Mexico, with a view to curbing pollution from the New River in Mexico from flowing into the United States; and Congress passed a law banning the import of ivory from countries that did not have an elephant protection programme, so that the numbers of elephants in Africa and Asia would not decrease due to poaching.

The United States has also used trade and investment measures to influence the conduct of other States. For example, during the 1990s, Congress drew a link between the human rights record of China with most-favoured nations treatment by the World Trade Organization. There have also been instances where goods from States are banned from importation to the United States unless that State complies with certain standards set in US law. Conversely US exports are banned from import into those countries.

In every instance of extraterritorial jurisdiction, there are two issues to be considered: the first is whether the

State or group of States has the authority to exercise extraterritorial jurisdiction; and the second is, is the exercise of that authority reasonable (taking into consideration the law concerned and the potential foreign policy conflicts).

### The Position of the EU

Clearly, as regards the first issue, the European Union has the jurisdiction to exercise extraterritorial jurisdiction, as it has jurisdiction to prescribe in the form of authority to enact and apply its laws over its members. It also has legal status as a community of nations. Secondly, the "effects principle" which has already been discussed provides a basis for the EU to extend its jurisdiction to activities occurring outside its territories that are intended or calculated to have a substantial effect within the EU's territory. The discussion in this article with regard to the United States is an analogy of applicable common law principles in this regard.

The real question lies in the second issue, as to whether the EU ETS is reasonable. In this context, it must be mentioned that Principle 7 of the Rio Declaration calls for states to cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the earth's ecosystem. Principle 13 of the Declaration provides that states shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. This provision urges states to collaborate in developing international law regarding liability and compensation for environmental damage to areas beyond their jurisdictions, where such damage is caused by activities within the state's own jurisdiction or control. Nations are exhorted to collaborate with each other as well as protect their territories against environmental damage. The principle of state responsibility is a two-edged sword which, on the one hand, ascribes some legal legitimacy to the ETS while on the other admonishes against taking unilateral action that might effectively preclude any cooperation among states.

On the flip side of the coin is the "polluter pays" principle which militates against any obstacle posed by the principle of mutual agreement if such were to preclude the imposition of costs on the polluter. While principle 16 of the Rio Declaration notes "that the polluter should, in principle, bear the costs of pollution, with due regard to the public interest and without distorting international trade", Article 130(2) of the European Commission Treaty stipulates that Community policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. Such policy is based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source, and that the polluter should pay. The provision also states that environmental protection requirements must be integrated into the Community's other policies.

One of the compelling considerations of "reasonableness" of the ETS lies in Resolution A36-22 (Consolidated Statement of continuing policies and practices related to environmental protection) adopted by the thirty-sixth Ses-

sion of the ICAO Assembly which was held in Montreal from 18–28 September 2007. The Resolution, while recognising *inter alia* that the majority of the Contracting States endorses the application of emissions trading for international aviation only on the basis of mutual agreement between States, affirms the continuing validity of the Resolution of the ICAO Council of 9 December 1996 regarding emission-related levies. In its Resolution, the Council reaffirms that ICAO is seeking to identify a rational common framework as a basis for States wishing to introduce environmental levies on air transport. Additionally, Resolution A36-22, in Appendix L, also “[u]rges Contracting States not to implement an emissions trading system on other Contracting States’ aircraft operators except on the basis of mutual agreement between those States”.

### Conclusion

In terms of the validity of the ETS as a unilateral and globally applicable instrument, the question is whether, when an ICAO Resolution urges mutual agreement between States, it is reasonable for a State or group of States to go against such a request. Although in this case the EU States recorded their reservation to Appendix L of Resolution A36-22, it is incontrovertible that the solidarity shown by the majority of States in adopting the



Courtesy: abcnews

Resolution could well generate a request by those States for dispute resolution in the Council of ICAO in the event of a breach of the Resolution. In this context the status of ICAO cannot be underestimated. The universal solidarity of ICAO Contracting States that was recognised from the outset at the Chicago Conference brings to bear the need for States to be united in recognising the effect of ICAO policy and decisions.

It should be noted that ICAO does not only derive implied authority from its Contracting States based on universality but it also has attribution from States to exercise certain powers. The doctrine of attribution of powers comes directly from the will of the founders, and

in ICAO’s case, powers were attributed to ICAO when it was established as an international technical organisation and a permanent civil aviation agency to administer the provisions of the Chicago Convention. A significant issue in determining ICAO’s effectiveness as an international organisation is the overriding principle of universality and global participation of all its 190 Contracting States in the implementation of ICAO policy. In addition, ICAO could lay claims to what are now called “inherent powers” which allow it to do all that is necessary to attain its aims, not from any specific source of organisational power, but simply because of its existence (and its nature and structure) as an organisation. A good case in point is the *hush-kit* issue where the USA lodged a complaint with the ICAO Council against a unilateral requirement introduced through an EU directive that imposed certain conditions on the registration and operation within the Community of certain types of civil subsonic jet airplanes, banning the so-called *hush-kitted* aircraft in Europe. As a result of the hearing in Council of this complaint, the ICAO Assembly adopted a resolution advocating a so-called “balanced approach” which prompted the EU to reverse its regulation.

It is an established fact that States retain the powers to act unilaterally and they are not bound to comply with obligations flowing from the Organization’s exercise of conferred powers. A State could also distance itself from the State practice of other Contracting States if such activity is calculated to form customary international law that could in turn bind the objecting State if it does not persist in its objections.<sup>25</sup> However, it is implicitly recognised by the international community that every State has the duty to carry out in good faith its obligations arising from treaties and other sources of international law, and it may not invoke provisions in its constitution or in its laws as an excuse for failure to perform this duty. Also, every State has the duty to conduct its relations with other States in accordance with international law and with the principle that sovereignty of each State is subject to the supremacy of international law.<sup>26</sup> In this context, ICAO remains the only binding link of international obligations between its 190 member States that would forge mutual agreement and will continue to provide a global forum to these States in its triennial Assembly.

One could of course argue that Resolution A36-22 merely urges States not to implement an emissions trading system except on the basis of mutual agreement between States. However, in the final analysis the ETS is both a legal and policy issue and the onus is on the EU to prove to the international community that the ETS is a measure that obviates adverse effects on Europe and that these effects are substantial.

This issue also brings to bear the compelling need to recognise ICAO’s role. From a purely practical perspective, the aviation community must act as a whole to the extent possible and make their own choices that will work globally. For example, on a contentious issue such as the

imposition of an aviation emissions trading scheme by one region over the rest of the world, or the rejection of certain airlines based on a unilateral safety standards regime, common elements must be identified in minimum global standards. There must also be partnerships among governments that would build bridges of assistance with a view to raising the safety, security and engine emissions standards of airlines of poorer countries. ICAO, being the global forum for aviation (as stated in its Mission Statement), should be the convenor and coordinator of this process.

The bottom line is that unilateral rules can no longer be imposed on the basis of sovereignty on a world community that is neither ready nor willing to receive them, since sovereignty in the modern context is the sum total of allocation of government decision-making power, which has to take into account the operational functions of international fora. It is arguable whether a mere reservation to an ICAO Assembly Resolution would give the EU the right *ipso facto* to impose unilateral extraterritorial jurisdiction.

## Notes

<sup>1</sup> Al Gore, *An Inconvenient Truth*, Rodale:New York, 2006 at 25.

<sup>2</sup> Greenhouse gases are components of the atmosphere and contribute to the Greenhouse Effect (*infra*, note 3). Some greenhouse gases occur naturally in the atmosphere, while others result from human activities. Naturally occurring greenhouse gases include water vapour, carbon dioxide, methane, nitrous oxide and ozone. Certain human activities add to the levels of most of these naturally occurring gases.

<sup>3</sup> When sunlight reaches the surface of the earth, some of it is absorbed and warms the earth. Because the Earth's surface is much cooler than the sun, it radiates energy at much longer wavelengths than the sun. Some energy in these longer wavelengths is absorbed by greenhouse gases in the atmosphere before it can be lost to space. The absorption of this long-wave radiant energy warms the atmosphere, which is called the Greenhouse Effect.

<sup>4</sup> IPCC, 2001, Working Group II, *Impacts, Adaptation and Vulnerability*, [http://www.grida.no/climate/ipcc\\_tar/wg2/005.htm](http://www.grida.no/climate/ipcc_tar/wg2/005.htm).

<sup>5</sup> Conference of the International Association of Hydrologists, reported by Fred Pearce, "Cities May be Abandoned as Salt Water Invades", *New Scientist*, 16 April 2005 at 2.

<sup>6</sup> George Monbiot, *Heat – How to Stop the Planet from Burning*, Doubleday Canada, 2006 at 8.

<sup>7</sup> Al Gore, *supra*, note 1 at 73. Gore goes on to say that science textbooks had to be re-written in 2004. They used to say "It's impossible to have hurricanes in the South Atlantic". But that year, a hurricane hit Brazil. *Id.* 84.

<sup>8</sup> The Third Conference of the Parties to the United Nations Framework Convention on Climate Change (Climate Change Convention) was held from 1 to 11 December 1997 at Kyoto, Japan. Significantly the States parties to the Convention adopted a protocol (Kyoto Protocol) on 11 December 1997 under which industrialised countries agreed to reduce their collective emissions of six greenhouse gases by at least 5% by 2008–2012. The Kyoto Protocol to the Climate Change Convention is an amendment to the international treaty on climate change, assigning mandatory emission limitations for the reduction of greenhouse gas emissions to the signatory nations. Article 2.2 requires Parties included in Annex I to pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively. See Kyoto Protocol to the United Nations Framework Convention on Climate Change, UN Doc. FCCC/CP/1997/L.7/Add.1.

<sup>9</sup> ICAO is the specialised agency of the United Nations handling issues of international civil aviation. ICAO was established by the Convention on International Civil Aviation, signed at Chicago on 7 December 1944 (Chicago Convention). One of the overarching objectives of ICAO, as contained in Article 44 of the Convention, is "to foster the planning and development of international air transport so as to... meet the needs of the peoples of the world for safe, regular, efficient and economical air transport". ICAO has 190 member States,

who become members of ICAO by ratifying or otherwise issuing notice of adherence to the Chicago Convention.

<sup>10</sup> It must be noted that the 33rd ICAO Assembly held in 2001 endorsed the development of an open emissions trading system for international aviation and requested the Council to develop, as a matter of priority, the guidelines for open emissions trading for international aviation, focusing on establishing the structural and legal basis for aviation's participation in an open trading system, and including key elements, such as reporting, monitoring and compliance, while providing flexibility to the maximum extent possible consistent with the United Nations Framework Convention on Climate Change (UNFCCC). *Supra*, note 8. Subsequently, at its 35th Assembly session, held in 2004, ICAO endorsed the further development of an open emissions trading system for international aviation and requested the Council, in its further work on this subject, to focus on two approaches, namely to support the development of a voluntary trading system that interested Contracting States and international organisations might propose and to provide guidance for use by member States, as appropriate, to incorporate emissions from international aviation into member States emissions trading Schemes consistent with the UNFCCC process.

<sup>11</sup> For a detailed discussion on the ETS see Abeyratne, R., "Emissions Trading – Recommendations of CAEP/7 and the European Perspective", *Air and Space Law*, Vol. XXXII, No. 4–5; September 2007, 358–375.

<sup>12</sup> Case 26/62, *N.V. Algemene Transport en Expeditie Onderneming Van Gend & Loos v. Nederlandse Administratie der Belastingen* [1963] ECR 1 at 122 (Van Gend en Loos).

<sup>13</sup> See Case 6/64, *Flaminio Costa v. Ente Nazionale Energia Elettrica* [1964] ECR 585, at 53 (*Costa v. ENEL*).

<sup>14</sup> The European Commission (formally the Commission of the European Communities) is the executive body of the European Union. Alongside the European Parliament and the Council of the European Union, it is one of the three main institutions governing the Union. Its primary roles are to propose and implement legislation, and to act as "guardian of the treaties" which provide the legal basis for the EU. The role of the European Commission has many parallels with the executive body of a national government, but also differences.

<sup>15</sup> The Treaty of Rome established the European Economic Community (EEC) and was signed by France, West Germany, Italy, Belgium, the Netherlands and Luxembourg (the latter three known as the Benelux countries) on March 25, 1957.

<sup>16</sup> There is a general common law presumption against the extraterritorial application of legislation. See the House of Lords decision in *Holmes v. Bangladesh Biman Corporation* [1989] AC 1112 at 1126; 87 ILR 365 at 369. Also, *Air India v. Wiggins* [1980] 1 WLR 815 at 819; 77 ILR 276 at 279.

<sup>17</sup> See The US Sherman Antitrust Act 1896 15 USC paras 1ff.

<sup>18</sup> *US v. Aluminium Company of America*, 148 F.2d 416 (1945).

<sup>19</sup> *Timberlane Lumber Company v. Bank of America* 549 F.2d 597 (1976); 66 ILR, 270. Also, *Mannington Mills v. Congoleum Corporation*, 595 F.2d 1287 (1979); 66 ILR 487.

<sup>20</sup> The Third Restatement constitutes a comprehensive revision of the earlier (1965) Restatement, covering many more subjects, and reflecting important developments in the intervening decades. This Restatement consists of international law as it applies to the United States, and domestic law that has substantial impact on the foreign relations of the United States or has other important international consequences.

<sup>21</sup> 731 F.2d 909 (1984).

<sup>22</sup> Comity, at law, refers to legal reciprocity where one jurisdiction will extend certain courtesies to other nations, particularly by recognising the validity and effect of their executive, legislative and judicial acts. The term refers to the idea that courts should not act in a way that demeans the jurisdiction, laws, or judicial decisions of another country. It is especially important in the application of principles of public international law. Part of the presumption of comity is that other nations will reciprocate the courtesy shown to them.

<sup>23</sup> *Hartford Fiore Insurance Company v. California*, 113 S. Ct. 2891 (1993) per Souter, J.

<sup>24</sup> The most common instance of blocking legislation concerns the prevention of private information being demanded and obtained from nationals of a State by another State. Several countries have enacted so-called "blocking legislation". Blocking legislation mandates the confidentiality of information and documents, and attempts to block foreign efforts to obtain evidence from residents of the enacting jurisdiction. It is often enacted by countries seeking to foster banking and financial industries, such as Switzerland, the Bahamas, Panama and Vanuatu. It generally prohibits residents of those countries and corporations doing business there disclosing confidential business information about others doing business there.

<sup>25</sup> See Sarooshi, D., *International Organizations and Their Exercise of Sovereign Powers*, Oxford University Press: 2005 at 110.

<sup>26</sup> Draft Declaration of Rights and Duties of States of the International Law Commission (1949), Articles 13 and 14. See [http://untreaty.un.org/ilc/texts/instruments/english/draft%20articles/2\\_1\\_1949.pdf](http://untreaty.un.org/ilc/texts/instruments/english/draft%20articles/2_1_1949.pdf).

## Sectoral Emission Agreements

### – Can they Address Leakage? –

by Michel Colombier and Karsten Neuhoff\*

The objective of European climate policy is to deliver emissions reductions associated with European economic activity. A carbon price signal created from the European Emissions Trading Scheme (ETS) is an important component of the policy mix required to deliver these reductions.

For some sub-sectors, like cement or semi-finished steel, there are concerns that if only some regions implement strong CO<sub>2</sub> price signals, leakage from relocation of activities towards regions with no or low CO<sub>2</sub> price signals would become a substantial issue. This paper offers a discussion of two possible approaches to avoid this type of leakage.

The first approach assumes that output-based allocation is used to distribute allowances to a specific process, conditional on current or recent production volumes. Thus the marginal costs of CO<sub>2</sub> allowances for production are reduced. We discuss the extent to which this can address leakage, and what the implications are for innovation, efficiency improvements and substitution towards lower carbon technologies.

The second approach involves sectoral agreements that offer the opportunity to enlarge the scope of current instruments and cover firms located in countries with no or limited current carbon policy. The larger the number of potential competitors that are covered by the sectoral agreements, the less the risk of leakage and relocation of production towards sites or countries not covered by the sectoral agreement. This is because there are fewer places which industries can relocate to, and also because leakage effects are spread across a larger number of participating countries, and thus the impact is smaller for any one.

This article discusses what type of agreements could contribute to reducing leakage effects. While sectoral agreements might offer opportunities to engage other countries in more stringent climate policy, this wider – and potentially more important – policy objective is not the subject of this discussion in order to retain the focus on leakage aspects.

### Output-based Allocation

The principle underlying output-based allocation is that the volume of free allowance allocation is calculated by multiplying the production volume of an installation with a benchmark allocation rate. This is not permitted under the current EU Directive, as it is classified as ex-post adjustment. Closure rules in national allocation plans stop or reduce allocation if production volumes or emissions fall under certain thresholds. However, *de facto* these rules implement some aspects of output-based allocation.<sup>1</sup> Fur-

thermore, if market participants believe that governments will allocate allowances in future allocation periods based on their current production volumes, this can create similar incentives to use output-based allocation.<sup>2</sup>

### Options for Implementation of Output-based Allocation

Three main parameters can be decided when determining output-based allowance allocation. First, the process step (or equivalent intermediary product) at which the benchmark is to be applied. The benchmark can, for example, be applied to the intermediary product (clinker), or cement production, semi-finished steel or steel production. Second, the level at which the benchmark is to be set, *e.g.*, average emissions of the industry, best available technology or lower. Third, the time delay between production and allocation. The current directive does not, for example, allow for ex-post adjustment, therefore the output-based allocation would have to be implemented in the subsequent allocation period, resulting in some discounting of the value due to the time delay and possible regulatory uncertainty.

Thus, governments have extensive flexibility in implementing output-based allocation. This is certainly a drawback if the objective is to develop emissions trading schemes that might eventually be internationally harmonised and integrated. See Baron and Bygrave (2002) for a discussion of linking emissions trading schemes in the presence of output-based allocation.

### Does Output-based Allocation Avoid Emissions Leakage?

Output-based allocation reduces leakage if applied directly to the first tradable intermediary product after the CO<sub>2</sub> intensive process, *e.g.*, semi-finished steel, clinker, raw aluminium. If output-based allocation is applied to later stages of the product, the risk remains that intermediary products are imported and production is relocated, *i.e.*, output-based allocation based on the production volume of cement allows producers to import the CO<sub>2</sub>-intensive intermediary product clinker, while retaining the free allowances.

### Output-based Allocation Weakens Economic Incentives

*(a) No economic short-term incentives for more efficient use or substitution*

The output-based allocation compensates for the (opportunity) costs of emissions associated with the production of the marginal unit. Thus, the product price will not reflect the carbon costs of the product. In this scenario the incentive to substitute the product against lower carbon alternatives is eliminated. This discussion highlights the importance of empirical evidence on the substitution

\* Michel Colombier is deputy director of the Institute for Sustainable Development and International Relations (IDDRI – Paris). Karsten Neuhoff is senior research associate at the Faculty of Economics, University of Cambridge.

effect between intermediary products in response to (energy) price changes.

*(b) No long-term incentive for innovation in the process, the final product and substitution products*

As output-based allocation removes the carbon price signal from intermediary products, it also eliminates the incentive to innovate to find other processes that allow for a more carbon-efficient production of the final product. For example, if output-based allocation is based on the clinker production, then only incentives to reduce the CO<sub>2</sub> intensity of clinker are created. If the allocation is based on the cement production, then there is also an incentive to reduce the clinker content of cement. In the steel sector, one could envisage that higher costs of semi-finished steel induce the development and use of new varieties of steel and steel products, perhaps using composites, which allow for more efficient use of the material and final products. As the final product does not reflect the carbon price, no new opportunities are opened for lower carbon alternatives (products and services) to be developed and commercialised.

### Output-based Allocation Creates Administrative Disincentives

*(a) Micro-management of production undermines innovation*

Where governments pursue output-based allocation, they risk becoming involved with micro-managing production processes. For example in the cement case, where output-based allocation is related to the cement and not the clinker production, would have to companies use clinker produced in the area covered by the emissions trading scheme to qualify for free allowances allocation. The administrative constraints created by a definition which carefully and specifically identifies the intermediate products that qualify for free allocation mean that the freedom of innovators to improve the product is restrained, as they might not be captured by the definition and not receive free allowance allocation (see Walker and Richardson (2007) for a discussion of options to reduce carbon intensity of cement). In addition, the extent to which these

issues imply discrimination against foreign intermediary products raises questions about WTO compatibility.

*(b) Metrics that have worked for performance tests may not perform to regulate the industry*

Metrics that have worked for decades as input for internal benchmarking and government statistics are not necessarily good metrics to allocate financial benefits. The private sector is rather creative in altering production processes in order to receive more benefits, even when the resulting physical outcomes and changes are inefficient from the perspective of the wider economy. The product used as metric for the free allocation has to be carefully defined. For example, if free allowance allocation is proportional to the clinker production, then the nature of clinker has to be carefully defined. Otherwise clinker producers have an incentive to increase the weight of clinker and thus increase the allowance allocation. It may be financially viable for the individual firm to do so, even though this might reduce overall efficiency and create welfare losses.

### Evaluating Output-based Allocation

Output-based allocation aims to prevent leakage by limiting the CO<sub>2</sub> price signal to the direct CO<sub>2</sub> emissions and not allowing the signal to feed through to product prices. Implementing output-based allocation therefore imposes a trade off between the reduction of leakage concerns, and the correlative weakening of the instrument. For most production processes one has to decide what stage of the production value chain will be the basis for the allocation. If the allocation is early in the value chain (see Table 1 for the example of clinker), then incentives to reduce clinker consumption in cement production are eliminated. If the allocation is based on the cement production (Table 2), then additional administrative constraints are required to avoid emission leakage at the clinker stage. In both cases, output-based allocation will eliminate incentives for innovation. Substituting cement with alternative commodities that could provide the same service (*e.g.*, wood, steel, more labour-intensive structures) may have impacts for products further down the value chain.

**Table 1.** Output-based allocation based on first tradable intermediary product after CO<sub>2</sub>-intensive production process (semi-finished steel, clinker *etc.*)

	Production		Sector	Economy
	Stage 1 (clinker, semi-finished steel)	Stage 2 (cement, steel)	Construction of houses, cars	
Emissions leakage	Avoided	No	No	No
Economic incentive for substitution	No	No	No	No
Economic incentive for innovation	Yes	No	No	No
Micro-management	Definition of clinker	No	No	No
Administrative constraints on innovation	Limited, as long as within narrow product definition	No	No	No

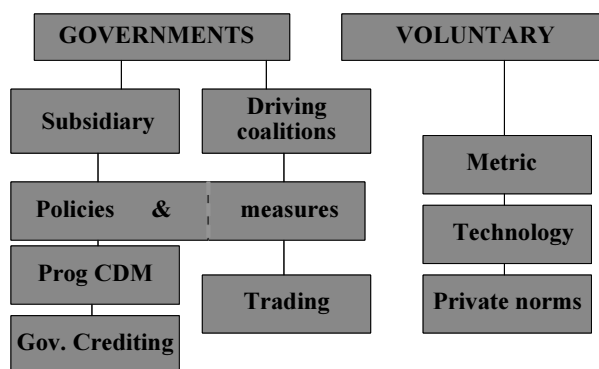


**Table 2.** Output-based allocation based on subsequent product (steel, cement, *etc.*)

	Production		Sector Construction of houses, cars	Economy
	Stage 1 (clinker, semi-finished steel)	Stage 2 (cement, steel)		
Emissions leakage	Yes – unless specific allocation provisions in cement	No	No	No
Economic incentive for substitution	Yes – if not restraint by cement allocation provisions	No	No	No
Economic incentive for innovation	Yes	Limited, within narrow product definition	No	No
Micro-management	Likely required	Likely required	No	No
Administrative constraints on innovation	Probably	Probably	No	No

## Sectoral Agreements

There is still a distinct lack of clarity about what sectoral agreements (SA) would involve. The most extensive survey of existing and evolving sectoral agreements, and various approaches towards their classification, is coordinated by the IEA (see Baron *et al.*, 2007). For our discussion a simplified structure, as presented in Figure 1, illustrates the main dividing line between government-led and voluntary sectoral agreements.

**Figure 1**

The main purpose of sectoral agreements is to secure the engagement of countries (particularly developing countries) by targeting specific sectors:

- realise abatement potentials;
- transfer technology;
- incentivise implementation of domestic policies and measures;
- create the dynamics to support engagement.

This paper aims neither to evaluate these objectives, nor to assess how sectoral agreements can contribute towards achieving these objectives, but aims to further investigate whether sectoral agreements could also address

leakage. Could they be structured to allow countries to expose the industry to the full CO<sub>2</sub> price?

## Internalise CO<sub>2</sub> Costs for a Sector in Participating Countries

From a climate policy perspective, if a sectoral agreement results in policies that ensure that CO<sub>2</sub> environmental costs are reflected in product prices, a more level playing field should be ensured. This would address leakage concerns. This is far from a trivial objective at this stage, especially when one considers the starting point for internalising CO<sub>2</sub> costs: EU ETS and the related costs, the absence of CO<sub>2</sub> price internalisation in most non-EU Annex I countries, and CDM, *i.e.*, a subsidy to modernisation in developing countries.

(a) *Could private sector-led (voluntary) sectoral agreements achieve price internalisation?*

Private sector-led agreements can respond to three motivations:

- First, adopting demanding common objectives, rules or standards can create a competitive advantage for a “club” of participating firms. Global firms might find motivation to adopt voluntary, meaningful targets. However, this would certainly not be a widely shared objective. In particular, it is difficult to see how firms exposed to CO<sub>2</sub> price signals in their countries could convince possible competitors to share the competitive disadvantage of price internalisation.
- Second, adopt minimum standards of “good practice” that can be more widely shared (see the “Global Compact”). However, this re-raises the issue of whether the more carbon-intensive firms would have an incentive to join if they could find a competitive advantage in their current situation. Such minimum standards are also unlikely to be stringent enough to create a level playing field with future ETS requirements.
- Third, in anticipation of a “potential” intervention by government. Private-led agreements can thus allow a sector to escape from a public policy. In this case

potentially all firms present in the sector would “voluntarily” join the agreement.

Such agreements are observed on a national level but would require a credible threat so that governments could coordinate on jointly implementing a public policy if a sectoral agreement is not stringent enough or fails to deliver. The central element is the (potential of) government leadership. In the absence of global government, the only way of creating “potential regulatory pressure” is to include national governments in the design and the implementation of sectoral agreements. This will be discussed in the next section.

If voluntary agreements can play an important role in the global agenda in terms of technical and managerial innovation and enlargement, they offer no clear protection against outsiders to industries covered by a regional C&T instrument, and would certainly not offer sufficient attractiveness to governments to allow participating firms to opt out from the ETS. Note that most designs advocated by the private sector for voluntary agreements are based on specific emissions levels (*i.e.*, they would not internalise the CO<sub>2</sub> cost).

*(b) Could government-led sectoral agreements achieve price internalisation?*

The participation of governments in the establishment, and possibly but not necessarily, the governance of sectoral agreements would ensure that all firms in the participating countries would be covered. There are two possible tracks to consider. One proposed, and accessible, design would be to “carve out” industrial sectors and get an international agreement under governmental pressure, so ensuring coverage of all firms, based on performance indicators. One of the elements in favour of SA is that industrial production is concentrated within various countries. Thus an agreement between Annex I countries and the main developing countries would cover more than 90% of production. This would not directly protect participating firms from new investments dedicated to exports in neighbouring countries (*e.g.*, clinker projects in Tunisia), but would certainly create a strong case in favour of targeted border adjustment measures with the WTO.

Assuming that the geographical coverage is sufficiently wide, this type of sectoral agreement would address leakage (by reducing/avoiding price internalisation). However, the paradox is that, according to the design, reallocation of production within the covered countries would still be an option for global firms to comply with their objectives.

This first approach, which “carves out” specific sectors from the impact of a CO<sub>2</sub> price signal, provided for example by the EU ETS, would also present strong disadvantages. There is a risk of “path dependency” with a design where CO<sub>2</sub> externalities would not be internalised in the economy, and thus substitution effects could not fully contribute to emissions reductions. In addition, where only some products reflect the carbon costs in their prices, this could result in perverse substitution effects towards

carbon-intensive products which are excluded from EU ETS. Where individual sectors are initially excluded, the relative efforts required for each sector, and possibly for each region of the world, would be progressively harder to negotiate.

The second approach, which one can also find in the literature, optimises designs based on sectoral agreements ensuring price internalisation (through emissions trading schemes or tax instruments deployed in a harmonised manner across participating countries). These designs provide a full economic interface with national economies and domestic policies in the non-covered sectors. However, the implementation of such transnational sectoral agreements will face severe obstacles: free allocation in the ETS does not set a good precedent. Also it is not clear whether emerging (and possibly other) economies are politically and institutionally ready to efficiently internalise costs. The instrument is certainly attractive, but will require further work and careful negotiation if it is to be a “next step” in the international regime. Some of these concerns could be addressed as follows:

- China and other developing countries might appreciate taxing energy-intensive activities in order to reduce energy consumption, and thus increase security of supply. Some countries have recently reduced their export incentives in energy-intensive sectors for this reason.
- Historically energy-intensive industries have been excluded from energy taxation because of international competitiveness concerns. Climate policy might offer a coordination mechanism to overcome this effect.

**Drivers for Government-led Sectoral Agreements**

The design of government-led sectoral agreements considered above, assumes that all participating countries enter the agreement on an equal footing (driving coalition, the ETS being an example of such an international multi-sectoral agreement). However, sectoral agreements are also important in the context of attracting developing (mostly emerging) countries to more ambitious sectoral policies, a step towards possible future country commitments. These subsidiary agreements (being project-based, programmatic or sectoral) assume a linkage with existing markets (*i.e.*, the ETS), and create incentives through a crediting approach. How could such sectoral agreements be designed and pursued so as to incentivise the adoption of national policies with a medium-term objective of price internalisation?

*(a) Financial incentives*

In principle, financial incentives offer a direct and open driver to engage additional countries. Such incentives raise the question of who pays and who should receive the funds. Project-based mechanisms (CDM, JI) are increasingly perceived as offering an attractive option. They raise private sector money and expertise in developed countries and engage a wider set of stakeholders in countries where the projects are realised. However, financial incentives do generate additional concerns about leakage.

Financial streams and technology transfer towards developing countries, *e.g.*, from CDM credits, could create additional costs for industries in developed countries, whilst simultaneously reducing time costs for their competitors in developing countries. The additionality criterion for CDM credits reduces this risk, as projects are only approved where they create additional emissions reductions relative to conventional investment choices and cover additional costs. However, in practice while a low carbon option might be more expensive than the business-as-usual option, the extra costs incurred might be below the CDM credits received. Also the definition of additionality is controversial and the ability of specialist companies who validate and verify the CDM projects is sometimes debatable.<sup>3</sup>

Payments introduced at a more sectoral level, if received by sectors that are producing products traded in competitive international markets, might also result in competitive distortions. We are also concerned that if payments are received by CO<sub>2</sub>-intensive sectors, then they may easily constitute subsidies for this sector. While such subsidies may accelerate improvements in the specific (intermediary) products, they may also undermine emissions reduction potentials that could result from substituting the (intermediary) products with lower carbon options. Once such subsidies are established – or sectors are excluded from emissions trading – it might be difficult to revert to an efficient solution after the initial motivations to address leakage concerns are no longer valid.

In contrast, if payments are directed to the following sectors, then they are unlikely to create distortions:

- Government – in order to be politically acceptable in a “donor” country, crediting should be explicitly conditioned to the implementation of measurable (performance-based) sectoral domestic policies.
- Sectors not part of international competition; for example, housing, transport and agriculture.

#### (b) Industry drivers

There is, at least in the northern hemisphere, a trend towards national policies involving emissions trading or tax instruments. Full harmonisation is not required in order to address long-term leakage issues. Short-term arbitrage based on production capacity and cost differential will remain but in this case CO<sub>2</sub> prices are only one of many drivers. Transnational firms might increasingly ask for harmonisation or integration of the schemes, and sectoral agreements might be a step in that direction.

#### (c) Using border adjustments to reduce disadvantages from joining sectoral agreements

Countries joining a sectoral agreement that involves exposing their industry to CO<sub>2</sub> prices face industry opposition. The higher production costs might result in leakage and overall demand reduction. Demand reduction results in substitution towards increased consumption of less CO<sub>2</sub>-intensive products, and might thus offer benefits for other sectors. Leakage effects, however, result in relocation of jobs, profits and taxes, and can thus constitute a disincentive for joining a sectoral agreement. Border

adjustments for the specific product covered by the sectoral agreement (clinker content, semi-finished steel) can avoid leakage effects and thus simplify government-led sectoral agreements. An additional benefit of this approach is that border adjustment will explicitly be used as a part of an international strategy, rather than only being pursued by an individual region.

If the sectoral agreement results in a similar carbon price in all participating countries, then it only needs to be applied to trade with third parties. However, where the sectoral agreement involves policies and carbon prices that vary significantly across the participating countries, then it might also be part of the internal trade between the countries.

#### Dynamic Considerations about Sectoral Agreements to Address Leakage

If sectoral agreements increase the likelihood of future price internalisation by all engaged countries, then this can address leakage concerns. The analysis of Hourcade *et al.* (2008) suggests that the biggest concern is a sustained price difference. If the private sector is confident that price differences are not sustained, then re-location is not an attractive option.

#### Summary on Sectoral Agreements to Address Leakage

Our preliminary analysis suggests that where leakage concerns are strong, voluntary sectoral agreements are unlikely to succeed in addressing these. Sectoral agreements involving governments of participating countries might offer a better opportunity to address leakage. In this case incentives might be required to induce countries to participate. These could involve (i) transfers to attract countries to participate, or (ii) measures to address disincentives, which discourage participation, for example border adjustment to create a level playing field. If sectoral agreements increase the confidence of market participants that CO<sub>2</sub> prices will be internalised in other countries in due course, then this will address many of the competitiveness distortions.

#### Conclusion

Previous studies have identified concerns that significant asymmetries in carbon prices could result in some leakage of emissions for specific sectors where emissions reductions are intended. We discuss two policy options that are frequently envisaged to address these concerns. First, free allowances could be allocated proportional to current or recent production volumes of installations (*e.g.*, power, clinker, steel). Such an approach could, where carefully implemented, avoid emissions leakage. However, it would also eliminate the economic incentives to move towards lower carbon processes, products and services, and limit the incentives for innovation in lower carbon alternatives. The administrative procedures that will be required might result in micro-management and may further constrain the innovative activities of industry. Where several countries pursue output-based allocation to address leakage concerns, they may become locked

into an inefficient emissions trading scheme design. The European policy process has invested a lot of effort and time into implementing a policy tool that delivers a price of carbon that can feed through the economy. We think this is a valuable outcome that should be protected, and not sacrificed in order to address leakage concerns by the use of output-based allocation.

Second, we discussed sectoral agreements that are frequently mentioned in the context of leakage concerns. We find that industry-led or voluntary sectoral agreements are unlikely to directly address leakage concerns. Only government-led agreements will result in the imposition of similar carbon price levels or similarly stringent caps for all participating countries.

In the current discussion, government-led sectoral agreements are usually referred to in the context of intensity-based targets. Such intensity-based targets have the same features as emissions trading schemes using output-based allocation. The benchmark of the intensity-based target equals the volume of free allowance allocation per unit of production. This re-raises the same concerns about economic efficiency and administrative constraints as output-based allocation. We would thus advise caution in order to allow sectors that are currently covered by the EU ETS to migrate to sectoral agreements, even ones which are government-led, if these agreements envisage intensity-based targets.

While we think that sectoral agreements will not completely address leakage concerns, they could play a role in the transition towards a wider regional coverage of climate policies. As sectoral agreements revolve around the expectation that more countries will implement carbon pricing policies, they reduce the incentives for firms to (re)locate production facilities based on carbon price differentials. After all, the main concern identified in other studies relates to the long-term strategic decisions of new investment. These investments would only be viable if there is a long-term confidence in cost difference. With increasing confidence that climate policy with a carbon price component will become a global feature, investors will increasingly look for countries with a robust and predictable climate policy framework.

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## Notes

- 1 New entrant allocation provides subsidies for investment and can thus also induce various distortions.
- 2 Assume the allocation in the subsequent five-year period is based on the average production volume in the current five-year period. Then increasing today's production will increase future allocation. Assuming allowance prices increase at 5% per year and firms discount the value of future allocation at 10%, then this creates  $100\% \times (1.05/1.10)^5 = 80\%$  of the incentives direct output-based allocation would create.
- 3 CDM EB Report during Nairobi COP/MOP.



# Climate and Energy Developments

by Joanna Depledge\*

On 23 January 2008, the European Commission presented its "Climate action and renewable energy package", a set of proposals<sup>1</sup> aimed at implementing the EU's commitment to cut its greenhouse gas emissions by 20% from 1990 levels by 2020, rising to 30% if part of a (yet to be negotiated) international agreement.

The main pillar of the Commission's proposals is to strengthen the EU Emissions Trading Scheme (EU ETS),<sup>2</sup>

which covers around 40% of the Union's greenhouse gas emissions. By the EU's own admission, the impact of the EU ETS so far has been "cushioned" by generous allowances granted to governments during the first phase (2005–2007). Although allocations in the second phase (2008–2012) are more stringent, they are still based on national estimates of emission needs and trends, which opens up considerable room for special pleading on the part of industry and governments.

The Commission proposes a different approach post-2012, whereby the EU ETS would be based on a single

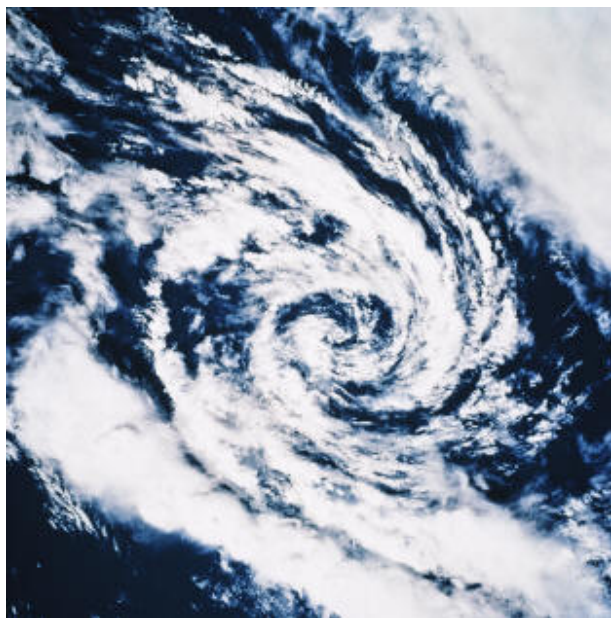
\* PhD, Sutasoma Research Fellow, Lucy Cavendish College Cambridge University, UK. Regular contributor to *Environmental Policy and Law*.

EU-wide cap (as opposed to 27 national ones). This EU-wide cap would decline annually over an eight-year period (2013–2020), to achieve a 21% cut in emissions covered by the EU ETS from 2005 levels by 2020.

The Commission also proposes to extend the *auctioning* of allowances, gradually replacing free allocation, which is currently the norm. Allowances for the power sector would all be auctioned immediately in 2012, with full auctioning for other sectors achieved by 2020. This means that industries and businesses would have to bid, and pay, for their allowances, thereby greatly increasing the incentive to slash their emissions. During the transition to full auctioning, free allocation will be subject to new EU-wide harmonised rules.

The Commission plans to extend the scope of the EU ETS to also include nitrous oxide emissions from acid production and perfluorocarbon emissions from aluminium smelting (up to now, the EU ETS had only covered carbon dioxide). All industrial and power installations emitting over 10,000 tonnes CO<sub>2</sub> will now be required to participate. However, in order to minimise administration costs, smaller installations could be exempted, so long as measures are in place to achieve comparable emission reductions. Companies will still be able to meet part of their reduction targets by purchasing emission credits from the Kyoto Protocol's Clean Development Mechanism (CDM), but the amount of credits permitted would be capped at current levels. Plans are also underway to add emissions from aviation to the EU ETS.

The second pillar of the Commission proposal concerns those sectors not covered by the strengthened EU



Courtesy: EU

ETS (agriculture, households, transport, waste, exempted small installations), which will still account for over half the EU's emissions. These sectors would be subject to an EU-wide 10% cut from 2005 levels, as part of their contribution to the 20/2020 target. Each member state would have its own national target adding up to the overall 10%

cut, according to an "effort-sharing" agreement.<sup>3</sup> The proposed targets range from a 20% decrease (*e.g.*, Denmark, Ireland) to double-figure rises for several eastern European states, up to +20% (Bulgaria). Member states would prioritise and implement their own domestic measures



Courtesy: EU

targeting these sectors, although existing EU initiatives (*e.g.*, on automobile fuel efficiency) will also help to achieve the required emission reductions.

The Commission proposal discusses possible strategies for addressing competitiveness concerns, notably with regard to energy-intensive industries (*e.g.*, paper and pulp) that are subject to competition from countries without emission targets. In the absence of a comprehensive international agreement, the Commission says it would be prepared to introduce measures to protect competitiveness, if concerns can be substantiated, such as allocating allowances for free, or requiring foreign importers to also purchase allowances.

The Commission package also addresses the EU commitment to raise the share of renewable energy across the EU to 20% by 2020 (from 8.5% today).<sup>4</sup> National targets are proposed for each EU member state, determined primarily according to capacity to generate renewable energy, and GDP. These range from a 49% renewables share for Sweden, down to 10% and 11% for Malta and Luxembourg. The proposal also includes a separate target of 10% for the use of biofuels in transport, applicable to each member State. Minimum criteria on the environmental performance of biofuels will apply.

The Commission's proposals are now being considered by the European Parliament and Council of Ministers.

For more details, see [http://ec.europa.eu/environment/climat/emission/ets\\_post2012\\_en.htm](http://ec.europa.eu/environment/climat/emission/ets_post2012_en.htm).

## Notes

<sup>1</sup> See "20 20 by 2020 – Europe's climate change opportunity", COM (2008) 30.

<sup>2</sup> See "Proposal for a Directive amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading system of the Community", COM (2008) 16.

<sup>3</sup> See "Proposal for a Decision of the European Parliament and of the Council on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020" COM (2008) 17.

<sup>4</sup> See "Promotion of the use of energy from renewable sources", Communication from the Commission, COM(2008) 19.