



**PARLIAMENTARY ASSEMBLY OF THE MEDITERRANEAN**  
**ASSEMBLEE PARLEMENTAIRE DE LA MEDITERRANEE**  
**الجمعية البرلمانية للبحر الأبيض المتوسط**

**2<sup>nd</sup> Standing Committee**  
**on Economic, Social and Environmental Cooperation**

Special Task Force on Environment and Climate Change

**Rapporteur: Mrs. Elsa Papademetriou (Greece)**

*Report on Environment and Climate Change [adopted by consensus  
by the Assembly at the 3<sup>rd</sup> Plenary Session,  
14 November 2008, Monaco]*

## **I. Introduction**

The Special Task Force (STF) on Environment and Climate Change was established by the 2<sup>nd</sup> Plenary Session of the PAM in Malta in November 2007 and is linked to the 2<sup>nd</sup> Standing Committee of the PAM. The 2<sup>nd</sup> Standing Committee adopted the Terms of Reference (ToR) of the STF on its 2<sup>nd</sup> meeting in Malta (13&14/3/08).

**The Rapporteurs of the STF on Environment and Climate Change** were appointed by the 2<sup>nd</sup> Standing Committee for a 2 years term as follows:

- 1. Mrs Elsa Papademetriou (Greece) as a Rapporteur,**
- 2. Mr Bechir Mejdoub (Tunisia) as a Deputy Rapporteur**

Environment and Climate Change is a top priority issue at the agenda of the Committee on Economic, Social and Environmental Cooperation for 2009.

The **members** of the Special Task Force are: **Algeria, Egypt, Former Yugoslav Republic of Macedonia, Greece, Malta, Monaco, and Syria.** However, the sessions are open to any member interested to participate, given prior notice.

## **II. Work to date**

The newly established Special Task Force held its 1<sup>st</sup> meeting on the 3<sup>rd</sup> of April in Athens and was hosted by the Greek Parliament. It is noted that it is the first time that the work of any Committee or any Special Task Forces is carried out outside Malta.

**The members that took part in the session were: Algeria, Egypt, Greece, Italy, Portugal, Tunisia and Turkey.**

The key speakers invited to contribute to the work of the Special Task Force were:

1. **Mr Paul Mifsud**, Coordinator of the UNEPMAP,
2. **Dr Michael Scoulos**, President of the MIO-ECSDE,
3. **Dr Galal Osman**, Vice President of the World Wind Association.

The Deputy Rapporteur, Mr Bechir Mejdoub, did not participate in the session and had neither contributed to it nor collaborated with the Rapporteur prior to the meeting.

Mrs Papademetriou was acting President of the session besides being a Rapporteur.

The session started with Mrs Papademetriou presenting a detailed report on Climate Change driven by anthropogenic activities, including the latest scientific evidences, focusing on the Mediterranean region. The President spoke about the lack of political will in both sides of the Mediterranean to tackle the issue.

Moreover, Mrs Papademetriou undertook the initiative of drafting a Declaration on “environmental refugees”, which was unanimously adopted by the members of both Special Task Forces on Environment and Climate Change and Energy.

Mr Mifsud and Mr Scoulos referred to water scarcity problems, presented the job carried out by the Institutions they represent and drew valuable conclusions. Dr Osman highlighted the use of renewable energy as a solution to climate change. The Italian as well as the Turkish delegation contributed to the discussions.

The draft report on Environment and Climate, which is following (part IV) is an outcome of consolidating the work of the Rapporteur with the inputs given by the key speakers and the points made during the general debate. Mrs Papademetriou work was previously released for the purpose of the 4<sup>th</sup> Euro-Mediterranean Assembly, held in Athens on the 27<sup>th</sup> and 28<sup>th</sup> of March 2008.

At this point, we should stress out the fact that the work of the three Special Task Forces of the 2<sup>nd</sup> Standing Committee (Environment and Climate Change, Energy and Integrating Resource Management) while complementary, involves crossing issues, and thus, references to all three topics can not be avoided.

A media information document was released by the Greek Parliament on the 3<sup>rd</sup> of April as well as the Parliamentary Assembly of the Mediterranean on the 7<sup>th</sup> of April. The PAM’s press release is available on the recent developed web site of the Assembly.

### **III. Future work**

**It was agreed that, according to the rules of the PAM, Mrs Papademetriou will prepare a draft report and a draft resolution which will be submitted to the 2<sup>nd</sup> Standing Committee with the view of being adopted by the next Assembly.**

In addition, **the Rapporteur undertook the responsibility to draft a resolution on environmental refugees, a phenomenon caused by climate stress, whose status is not recognised.**

The next meeting of the Task Force was not determined and is left to be decided in future.

Mr Piazzzi, the Secretary General, asked the delegations for guidance, in order to engage NGOs and civil society in the future work of PAM. This could be translated in holding seminars or round table, aiming at the increase of public awareness.

The Turkish delegation invited the members of the STF to attend the 5<sup>th</sup> World Water Forum which will take place in Istanbul on the 16<sup>th</sup> to the 22<sup>nd</sup> of March 2009.

#### **IV. Draft Report**

After the publication, on 17 November 2007, of the 4<sup>th</sup> Report of Working Group 1 of the Intergovernmental Panel for Climate Change (IPCC) that confirmed the severe threats posed on our Planet, the UN invited the International community to hold in Bali Indonesia, from 3 to 14 December 2007, the 13<sup>th</sup> Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), in order to review the Kyoto Protocol's Implementation, report on the present State of the Environment and inform all mankind that it is possible to save the planet from a climate change catastrophe. We should only consider seriously that we have just five years to do so: **the required changes in the energy patterns need to be made before 2012.**

Ten thousand participants, representing 180 countries, all –but one!- having ratified the Kyoto Protocol, left Bali having achieved an outcome that was better than any one could have reasonably expected and includes:

- Agreement in principle on a 2050 target of halving emissions.
- Agreement to negotiate a binding deal in 2009 and short-term targets back on the table.
- Agreement to provide assistance to developing countries both for mitigation and adaptation.
- Agreement by China to pursue emissions-cutting action that are “measurable, reportable and verifiable”.

The Conference concluded with a post-Bali roadmap that charts the course for a new negotiating process to lead by 2009 to a post-2012 international agreement on climate change, in the hope that with a new U.S. administration, the greatest pollutor-country

of our planet (responsible for ¼ of the total emissions), will join the global effort. It is also worth mentioning that major innovative decisions were taken, as core elements of the roadmap, as the launching of the **Adaptation Fund** (program of technology transfer and on reducing emissions from deforestation).

### **Bypassing last century's sceptics**

Climate change is no more the concern of small groups of activists. We had, for decades, weakened our reflexes, considering arguments used by global warming sceptics who attributed the phenomenon to the possible impact of cosmic radiation on climate: This hypothesis stated that interstellar cosmic rays are mainly responsible of creating the earth's cloud cover, which protects the planet from over heating. Increased solar activity, on the other hand, reduces the intensity of cosmic radiation and, consequently, weakens the cloud cover. Some solar physicists even claim to have determined, during the last century, the correlation between the decreased cosmic ray intensity and the rise in average temperature. The conclusion, therefore, was that global warming is not a man-made effect. This argumentation was widely challenged and then declared wrong: many centers of research proved that solar activity has declined for the last two decades and thus, can not account for rises in temperatures.

One should also mention that the credibility of certain sceptics was shattered once the international community found out that their research was mostly financed, with millions of dollars, by world's largest oil and gas companies!

Today, Climate Change is a mainstream global issue. It is consistently the most loudly articulated theme in international political discourse. **It is a MUST, therefore, for the Parliamentary Assembly of the Mediterranean**, a political body uniting the elected representatives of a most vulnerable, to C.C's impacts, part of the World, the Mediterranean, **to put the issue on its agenda and give it first priority**. Within our competence we have to contribute to the global efforts on this front, starting with wide spreading the alarming warning that, if our planet warms up, during the course of the 21<sup>st</sup> century, by 2°C or more as is most plausible, the phenomenon will become uncontrollable and whatever effort will then be applied is bound to prove void. Embedding this threat could transform our peoples, from indifferent polluters or passive sceptics, to conscientious champions of urgent action.

### **Basics**

The **Greenhouse Effect** is not new! It is 4 billion years old. GHGs absorb infra-red radiation (what heat is reflected by earth) without which the earth would have a temperature of -18°C. Carbon dioxide (CO<sub>2</sub>) works as a thermostat mechanism: when the Earth cools, less water will evaporate, it will rain less and less CO<sub>2</sub> will be removed from the atmosphere. Conversely, when the Earth is hotter, more rain falls in order to remove CO<sub>2</sub> from the atmosphere.

The above simple natural phenomenon is greatly disturbed by anthropogenic interventions, when applied beyond a sustainable level. Turning on a light, or air-conditioning, or any of our distributed around the planet commodities, every time we travel by all kinds of motorized transport, we generate CO<sub>2</sub>, the principal contributor to global warming.

Among Greenhouse Gases (GHGs), CO<sub>2</sub>—principally produced by fossil fuel burning, wood fuel, cement manufacturing and of course land-use change, contribute to global warming by 55%. The remaining 45% is contributed by methane (coming from gas/oil/coal production, the bowels of ruminants, landfill waste etc.), by chlorofluorocarbon (CFCs, from solvents, refrigerants and aerosols and by nitrous oxide (N<sub>2</sub>O from fertilizers), deforestation, agriculture and fossil fuel burning.

The negative quantitative link between CO<sub>2</sub> and Climate was first revealed in 1896 by Svante Arrhenius, predicting that the doubling of the CO<sub>2</sub> concentration in the atmosphere would produce a rise of temperature by 5-6° C.

Later, and around the seventies, we discovered the “ozone hole” while in the nineties we were shocked to assess the CO<sub>2</sub> concentration as 30% above pre-industrial levels.

The middle range scenarios present a doubling of pre-industrial carbon concentration by 2050, and warming by 1.4° C to 5.8° C, which is equivalent to the increase in temperature as that since the last glacial era, but 100 times more rapid.

Climate change is a global phenomenon but it affects the world’s regions in many and different ways, depending on various criteria that scientists try to identify in order to understand, and forecast in precision, the projected impacts: latitude, latitude-dependant precipitation, oceans and mountain ranges are basic factors, but yet, it is difficult to assess their variability. Moreover, each specific region, of any scale, has its own vulnerability that influences its capacity to cause, to prevent, to anticipate and to cope with climate change’s effects or disasters.

Glancing at EEA’s (European Environmental Agency’s) projections for Europe we should seriously consider the following:

- Europe is warming more quickly than the rest of the world,
- The changes, recorded at different levels, show that these are deviant from possible exceptions. Among the changes we can highlight:
  1. European air temperature: over the past 100 years, it has warmed 0.95°C over a global average of 0.2-0.7°C.
  2. Precipitation: annual trends in Europe for the period 1900-2000 show a contrasting picture between Northern Europe (10-40% wetter) and Southern Europe (up to 20% drier).
  3. Weather extremes: In the past 100 years number of cold and frost days has decreased in most parts of Europe, whereas the number of days with temperatures above 25 °C and of heat waves has increased.
  4. Snow cover: the northern hemisphere’s annual snow cover extent has decreased by about 10% since 1966. The snow cover period in the northern hemisphere shortened by a rate of 8.8 days between 1971 and 1994.
  5. Glaciers: eight out of nine European glacier regions are in retreat, which is consistent with the global trend. From 1850 to 1980, glaciers in the European Alps lost approximately one third of their area and one half of their mass. Since 1980, another 20-30% of the remaining ice has been lost.

Current glacier retreat in the Alps is reaching levels exceeding those of the past 5.000 years.

6. Sea surface Temperature: since the late 19<sup>th</sup> century the global average sea surface temperature has increased by 0.6 °C, consistent with the increase in global air and temperature. The Baltic, the North Sea and the Mediterranean show a slight warming over the past 15 years of about 0.5 °C.
7. Sea-level rises: sea-levels around Europe increased by between 0.8 mm/year and 3.0 mm/year in the last century.
8. Plant species composition: climate over the past three decades has resulted in decreases in plant species across Europe, and many species migrated northwards.

It is also worth making a reference to some recent catastrophic events in Europe that are most likely linked to climate change:

- The heat wave of 2003 (the hottest summer in 500 years) that killed 33.000 people and caused a 13 billion euros damage.  
Parallel impact: loss of large ecosystems, fearful forest fires, 1/10 reduction of the Alpine glaciers.
- Italy, August 2004: the collapse of the most famous peaks of the Dolomites.
- Northern Europe 2005: fierce storm leaving 7 countries without power and causing the worst flooding in decades
- Romania 2006: the worst ever flood leaving 35.000 farmers houseless and a billion euros of damages.
- Greece 2007: a national mourning over the fiercest forest fires that also devastated crops, tens of villages and had a serious human toll.

### **Consequences of Climate Change (CC) impacts:**

The whole world is witnessing, for years, the consequences of CC's impacts:

- Water shortage (domestic, rain-fed and irrigated agriculture, industry, energy), while the needs increase.
- Infrastructure damages (settlements, sanitation, industry, transport, dams, energy).
- Salt water intrusion/ ground water degradation, soil erosion, loss of ecosystems, desertification.
- Loss of inhabitable and arable lands.
- Health risks (epidemics, insect invasions, water bourne diseases-climate shocks).
- Energy linked damages (bio-fuels, hydroelectricity).
- Damage to Ecosystems (species migration, invasive species).
- Food shortage.
- Poverty, thirst, hunger, social disruption.
- Degradation of human habitats (especially by cities' peripheries)
- Crime, insecurity, violence, racism, xenophobia.

### **Environmental migration**

All the above consequences establish a direct linear causative relationship with some even more serious ones that are usually ignored or neglected when addressing the issue and mainly when formulating policies to face them.

The greatest single impact of climate change is, and certainly will more evidently be, on **forced migration**. Conflicts and needs for relocalisation of people and communities are already on record, while the U.S. and Great Britain urge the U.N. Security Council to address Climate Change as an issue of serious implications for international peace and security that should become a feature of military planning.

Shoreline erosion, floodings, desertification or agricultural disruption and tens of other side effects are driving the scientific community to already define a much smaller world to host human habitats. And all that combined with the undiminishing trends of ever-growing population! The future flows of climate migrants (or climate refugees?) are predicted to reach 200 millions by 2050, and one can not ignore that the toll is to be paid by those who are least responsible for the murderous emissions of Greenhouse gases.

Migration is the obvious adaptive response to climate stress but it is very difficult, for the moment, to predict its flows as the two basic parameters, time (the speed of change) and scale (the numbers of people involved) are “unknowns”. As unknown also is the “bearing capacity” of each stressed region, a coefficient that has more than spatial and economic dimensions. Forced environmental migration will hinder all the developed world’s “development plans”, and we can no longer remain blind to it. **All national and regional adaptation plans to climate change should incorporate the “migration coefficient” in order not to be driven to failure of “adaptation”.**

### **Focusing on the Mediterranean**

The Mediterranean, the historic crossroad between the East and the West, considered being one of the richest regions of the world, in biodiversity, habitats, dramatic landscapes, and then, history, culture and multi-sectorial resources.

The environmental richness of the Mediterranean has been harmed and gets further threatened by our indifferent and passive behavior, over the past years. It is high time to respond to the climate change effects.

The vulnerability of the region has indeed increased dramatically. The ever-growing tourist flows (300 million tourists are expected to visit coastal areas in 2025, compared to 175 millions in 2000) and the uncontrolled development of tourist infrastructure are added to the existing coastal zones urbanization’s problems, due to major demographic shifts from rural areas.

The continuous growth of coastal population is aggravating the existing sanitary infrastructures (sewage networks, wastewater treatment plans) which were, either way, insufficient. In many Mediterranean coastal cities, there is no integrated water strategy applied (16% of the region population is lacking adequate access to safe drinking water) while, in addition, the effluents are deposited in dumping sites without any sanitation measures being undertaken. Where the location of the dumps is on the

coastline, the marine environment is dangerously threatened. Industrial wastes and chemicals, directly or indirectly, through rivers and run-offs cause additional pollution to the marine environment, threatening the viability of the Mediterranean's ecosystems and the health of the population, through the consumption of toxic algae seafood.

Of course, we could not avoid mentioning the serious degradation that the Mediterranean marine environment has been facing due to pollution caused by the marine transport. It is estimated that 250.000 tonnes of oil pollution is caused by operational activities, 80.000 tonnes of oil have been spilled from shipping accidents (1990-2005), while 120.000 tonnes of oil are discharged at land based installations and oil terminals.

Although the Mediterranean is not a high emitter of GHG (7% contribution of total GHG emissions), it is a region extremely vulnerable to Climate Change. The energy consumption has doubled since 30 years. The encouragement for renewable sources of energy is insufficient, in spite of its great potential (sun, wind etc). The pricing and tax structures are not conducive to energy saving.

But, one should also stress that if the bad climate change scenarios cannot be avoided, the Mediterranean will be among the first regions to be hit hard. The projections, at the end of the 21<sup>st</sup> century, if GHGs emissions continue their growing trends, show that the region will suffer from a 5°C rise in summer temperature, the summer rainfall will decrease by 30%, the sea level will rise by 20 to 60 cm, experiencing very hot summers and long drought periods. In particular, the negative effects of CC in the Mediterranean could be categorized as follows:

#### A. Water resources

- annual average rainfall to decrease by 24%
- extremely dry summers
- significant increase of drought
- increase from 170 million to 290 million of people suffering from water scarcity
- rise of conflicts

#### B. Coastal and marine biodiversity

- sea level rise and respectively increase of damage from tsunamis and storm surges (significant impact on coastal cities and biodiversity)
- increased salinity and lower volume of water in land waters
- disappearance of aquatic ecosystems

#### C. Forests

- increased forest fires frequency
- exacerbation of drought conditions and increase of fire risks
- human loss and socio-economic costs

#### D. Agriculture

- reduce of productivity for major crops
- increase of the water requirement (currently 80% of the water demand is used for agriculture)
- increased demand for irrigation

### E. Coastal Tourism

- 1°C increase in temperature by 2050 will result in 10% decrease in tourists in South Med countries (currently hosts 30% of international tourism)
- vulnerability of coastal infrastructure by the sea level increase

### **Political challenges**

One should not ignore that the Mediterranean States are receiving already and will go on receiving great pressure from environmental migrants.

Therefore, we are doomed to become the pioneers for saving the entire globe as we cannot, for the best or the worse, save only our region. We should start with: improved data collection and monitoring systems, promotion of technology transfer for analysis, risk assessment and adaptation of the infrastructure needed for managing water resources, development of water saving and re-use programmes, protection and restoration of forests, promotion of eco-tourism, and above all, better management of energy demand and enhancement of renewable energy resources. Replacement of carbon by renewable energies is, also, the key message of the Stern report!

It is noted that several countries have already started exploring the tremendous potentials existing in reducing energy demand and consumption, in designing of new buildings and in the retrofitting and restoring the old ones. Banks have started to offer support to such changes on the condition their capital is paid back solely through the electricity bills for a period of 6-9 years. This is most easily applicable in large administration and other public buildings, hospitals, universities etc.

The Mediterranean region should, also, capitalize on its unlimited potential of generating energy from renewable sources, such as the sun and the wind low or no carbon technologies, which if developed further could produce energy at comparative costs as fossil fuels. The geothermal and wave energy options should be seriously further explored. Hydrogen powered cars should be tax exempted to replace the old ones. Nuclear energy should be the last option to be considered, in view of the issues of safety and radioactive wastes.

The protection and restoration of forests, including the prevention and abatement of forest fires and a sound forest management with emphasis on reforestation and practices such as managed grazing, should be combined with opportunities to capture CO<sub>2</sub> through photosynthesis. This helps a lot also the improvement of microclimate, living conditions and water retention and maintenance of the biodiversity.

Learning from best experiences is essential: Denmark has maintained its energy consumption constant since 1972 whilst has more than doubled its GNP!

One challenge Mediterranean has to respond to is the lack of homogenous policies and commitments undertaken vis à vis Climate Change. Several countries are not member of the Kyoto Protocol. In addition, ratification of protocols (Dumping

Protocol and Emergency Protocol) and of the Revised Barcelona Convention is still a challenge for most countries of the region.

We are all at the point of realizing that our blessed Sea and its riparian states are developing at the expense of the environment and its future sustainability. The EU has provided for an adequate legal framework (20% cut of CO<sub>2</sub> emissions or 30% cut if global targets can be agreed on, and 20% target for the use of renewable energy sources by 2020), as well as for the financial instruments (amongst others, also through the European Neighborhood Policy, the Euro-Mediterranean Partnership, the National Action Plans driven by the Revised Lisbon Strategy), to develop and implement strategies towards pollution management.

However, the political will to enforce environmental legislation is lacking on both sides of the Mediterranean. Ministers of Environment depend on ministers of Finance which has led to the embarrassing situation where only 1% of the countries' GDP is spent on environmental protection. This is why the voices of other forces, mainly of the parliamentarians, need to put forward the environmental issues.

To slow and limit Climate Change requires a determined international effort. The guide book exists and it is the UN Framework Convention on Climate Change. Its declared objective is "...stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system...within a time-frame sufficient to allow ecosystems to adapt naturally to climate change to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner". The developed countries' co-signers agreed to strive for this objective and to also provide technical and financial assistance to the developing countries helping them to address their share of responsibility.

Some progress has been made, by industrialized countries, in curbing GHG emissions since 1990. Policies applied included emission trading schemes, CO<sub>2</sub> and green energy taxes, voluntary measures by industry to address GHG emissions, targeted regulation, and collaborative research and development programmes. However, the most important of course **political duty is the integration** of climate change into existing policy frameworks: reinforcing policies on integrated water resources management, on waste minimization, landfill gas recovery, agriculture fertilizer management and, especially, accelerating investment in energy efficiency.

Governments have to comprehend, and to also inform the citizens that the collective economic cost-surely not insignificant- is realistically manageable, but what is more important is that today's cost is much lower compared to what will be demanded tomorrow for restoring the damages. Inaction is today the most costly attitude. Public awareness should be raised through public dialogue.

There is no need for establishing new Organisations. Existing initiatives should be explored furthermore, with the view of developing partnerships and avoid duplication.

To this end, it is worth mentioning the excellent work so far conducted by the MAP (Mediterranean Action Plan) which is an action for sustainable development in the Mediterranean region, under the auspices of the UN. Its legal instruments are the

Barcelona Convention and the 7 Protocols for protecting the environment. The MAP addresses environmental issues in four sectors: the land base pollution, the sea base pollution, the biodiversity and the coastline management. Its objectives are a) to help the countries to achieve the targets set by providing them with technical assistance, with capacity building and with strengthening the legal and institutional frameworks, and b) to assist individual countries to make investments in limiting transboundary pollutants to acceptable levels, meeting the targets set in the Strategic Action Program.

The MIO-ECSDE (Mediterranean Information Office for Environment, Culture and Sustainable Development) is another initiative which main objective is the development and promotion of policies for the protection of the environment and the cultural heritage as well as for the sustainable development of a peaceful Mediterranean region. The MIO facilitates 3 stakeholders' networks: a) the e-network of Educators for environment and sustainable development (MEdIES) b) the Circle of Mediterranean parliamentarians for sustainable development (COMPSUD) and c) the Circle of Mediterranean journalists for environment and sustainable development (COMJESD).

Cooperation between governments, parliaments, local Authorities, NGOs (Non Governmental Organisations) and GOs (Governmental Organisations), on an equal partnership basis has to be promoted. Better governance based on robust Institutions at all levels is a key element in order to address environmental issues.

We have made an alarming journey through the preceeding pages:

- as earth's inhabitants feeling that our home is shaking,
- as parents fearing that our children's generation will be cursing our neglect

**Yet, we are optimistic,**

- as legislators willing to undertake **responsibility to act,**
- as elected representatives wanting to honor the **democratic principle,** through an overdue political strive for the protection of our peoples' **Human Right to a healthy environment.**