

World Jurist Association Hosts Climate Change Conference

Providing Voice to the International Legal Community

Report of the World Jurist Association's

Lisbon Conference:

Climate Change: The International Legal Community Conference

Lisbon, Portugal ♦ November 25 – 29, 2007

Climate Change.

The debate appears to be over, scientists the world over have established that the earth's environment is changing, and the cause is, at least in part, due to human behavior, and left unchecked the earth will rapidly become uninhabitable. Finally, the voices of these scientists have gained the ear of the decision makers at local, national and international levels, in both the public and the private sectors. During November 25-29, 2007, the World Jurist Association provided a forum for the legal profession to enter into this dialogue. The *Climate Change: The International Legal Community Conference*, held in Lisbon, Portugal brought together nearly 250 individuals - lawyers, judges, law professors, and representatives from ministries of environment from 29 countries to discuss the issues, challenges, and possible solutions needed in order to address the impacts of climate change. The attendees came from wealthy nations, developing countries, coastal/island regions, inland deserts and rainforests. They took up the issues of sustainable development, commoditization of resources such as air and water, access to clean water, provisions for alternative energy, carbon trading and insurance. The following report, provided by **Sona N. Pancholy**, WJA Development Director and **Professor Joseph W. Dellapenna**, Professor of Law, Villanova University highlights the discussions and conference program.

The Conference began on Sunday, November 25, 2007 at the Hotel Tivoli Lisboa, with the arrival of over 250 delegates from 29 countries around the world. The delegates enjoyed a Panoramic City Tour of the beautiful city of Lisbon prior to gathering for the Opening Ceremonies on Monday, November 26, 2007.

OPENING CEREMONIES

The Opening Ceremonies were presided over by **The Hon. Luís Noronha do Nascimento** (Portugal), President of the Portuguese Supreme Court of Justice and attended by **His Excellency Dr. José Conde Rodrigues** (Portugal), Deputy Minister of Justice of Portugal; **Dr. José Sá Fernandes** (Portugal), Member of the Executive Council of the Municipality of Lisbon, on behalf of His Excellency Dr. António Costa, Mayor of Lisbon; **Dr. António Gonçalves Henriques** (Portugal), Director-General of the Portuguese Environmental Agency of the Ministry of Environment of Portugal; **Mr. Ronald M. Greenberg** (USA), President, World Jurist Association; and **Dr. José Alves Pereira** (Portugal) National President of the World Jurist Association and Chair of the Host Committee.

During his welcoming remarks, **Dr. Pereira** recalled the most recent headlines – violent cyclones in

Bangladesh, record number of hurricanes and tropical storms in the Caribbean, and forest fires in California. The impacts of climate change were once only seen by the scientists in small incremental changes, such a degree increase in ocean temperatures; but today, noted Dr. Pereira, such dramatic extreme weather occurrences are evident to all of us. The World Jurist Association convened the Climate Change Conference to “bring the voice of the legal profession to these matters.”

Nine thematic panels covered topics of interest to both developed countries and developing regions.

Dr. Pereira noted that the goal of the WJA’s conference was to provide the delegates with increased knowledge and new ideas about climate change and the legal community’s response – to take back to their own practices and work.

Mr. Greenberg then took the opportunity to thank Dr. Pereira for his leadership, assistance, and hard work in hosting the Conference. On behalf of the WJA, Mr. Greenberg welcomed all of the delegates; he noted that hardly a day goes by when there is not a news article or report on climate change and its impact on our world. He introduced the Conference as a way to address these issues, namely:

“Are the doomsday predictions real or imagined? Can we alter the course of climate change, when we know there have been significant climate changes in our planet before? If we can, what must we do? Over the next 3 days these issues will be presented for consideration. The Format is simple. We will define the issues, then look at the international efforts to respond to these issues. How do we balance the interests? We will also discuss the role of local governments in dealing with these issues, in the US these governments are actively involved primarily because the national government hasn’t figured out what to do. The impact on lawyers practicing civil and criminal matters, the role of lawyers will be discussed. We will also talk about what alternative energy sources are available and viable to us. And what is happening to our most vital resource – water. Finally how all of these issues will impact business and the importance of insurance will be addressed.”

Mr. Greenberg concluded by emphasizing that it is the hope of the WJA that this conference would cause each of the delegates to reflect on what was said, question what was unclear, and provide an opportunity to dialogue, discuss, and debate. For, “as informed persons we can all make the best decisions possible.”

On behalf of the City of Lisbon, Dr. Fernandes welcomed the delegates and noted that Lisbon was (as of the time of the Conference) undergoing great changes and becoming a greener city. He verbalized his hope that Lisbon would become the Green Capital of Europe. He expressed anticipation that the time has come for lawyers to accept the challenge of bringing about such changes.

On behalf of the government of Lisbon and the Minister of Justice, **His Excellency Dr. Rodrigues** greeted the delegates and noted that from the moment people became aware that human intervention is transforming the environment in a significant way, governments have been pressured to find a response. Therefore the demand upon governments, courts, and international bodies to find a solution to the impacts of global warming is increasing. He expressed hope that the WJA’s Conference

would begin to meet that need.

Justice Nascimento concluded the Opening Ceremonies by stating:

Suddenly the earth has become a condominium shared by all; we no longer have separate worlds. We are all in the same boat and within the reach of anyone. Just over 5 centuries ago we were divided by various oceans and the meetings among these worlds were far and few and rather superficial. Today the world is smaller and smaller, not only because of demographic growth but also because the technology has brought us all closer. The invention of cannons of the World War I is an example of this transformation. Planet Earth has perhaps a fixed course. But what Man has done is massive.

Transcontinental migration is one result, industrialization in more compact areas, etc. all lead to global warming in increased efforts. Asia and Africa may be more disproportionately affected but we can not say that it won't impact the rest of the world. We need a more defined environmental defense plan. Can we set up a framework where the causal link will replace the difficult standard of proof? Can we mandate changes or will it be voluntary? . . . There are not simple answers but this forum will provide an opportunity to debate these questions.

KEYNOTE ADDRESS

Following the Opening Ceremony, the Keynote Address was delivered by **Professor Carlos Borrego** (Portugal), of the Department of the Environment and Planning, University of Aveiro. Professor Borrego's topic was: *Climate Change – the Global Challenge*. Professor Borrego opened with a profound statement – “Air is a unique resource.” Central to his presentation was the thesis that air should be considered as unique and managed as a resource. It is everywhere and everybody can use it for free. People think that particles released will disperse into an infinite atmosphere but the atmosphere is not infinite. It is in fact limited.

Professor Borrego explained that when we think about the atmosphere as infinite we remain unaware of climate change. We think about ice melting, flood, droughts, but to understand climate change we must also look further. He began by examining the acceptable temperature deviation in the atmosphere and found that we are for the first time looking at consistent increase – an unusual occurrence. If we look during the last 1000 years, it is evidence that we are steadily increasing. This is not a natural change. There are natural changes, but something more is happening now. Again we recognize that the main driving force for global warming is carbon dioxide (CO₂). CO₂ levels were more or less stable until the beginning of the industrialized era and now the concentration has reached 375 parts per million and this is expected to continue increasing. How much it will increase is the only question left to be determined.

As proof that human behavior is a significant cause of climate change, he noted that today we burn everything – petrol, heating fuel, lighting electricity, gas stoves, etc. So, it will be very hard to lower

the CO₂ concentration. He explained that some people are dependent on various drugs, but we are ALL dependent on combustion. Combustion causes greenhouse gasses: electricity and cars cause 80% of combustion, industrial waste contributes 7% and agriculture contributes 9%.

He raised the question: what is the impact? The impact on health, agriculture, forest, water, coastal areas, and flora and fauna are already becoming evident. But the impact is more far-reaching than just the climate. This past decade has made us aware of the tremendous economic impact of global warming. For example the increase in extreme weather results in losses of property, human life, resources, etc. There is a further impact on people – the increase on the number of refugees left homeless and forced to migrate because of environmental changes.

Professor Borrego then provided a history of the efforts to understand, increase awareness of, and address climate change. In 1979 the first world conference on climate change introduced the idea that something was changing beyond just the natural tendency. In 1988 the Intergovernmental Panel on Climate Change (IPCC) was created and in 1990 the second world conference was convened. This was followed by the Earth Summit in Rio in 1992, and the adoption of the Kyoto Protocol in 1997. In 2002 the so-called, Rio +10 meeting was held in Johannesburg, South Africa and finally the European Union approved the Kyoto Protocol. In February 2007 in Paris, the IPCC presented its 4th Evaluation Report. The three highlights of the report were: (1) Climatic system heating is unequivocal; (2) It is very likely that the increment of greenhouse gasses anthropogenic emission has caused the rise of the local average temperatures since the second half of the century; (3) It is extremely unlikely that the heating is due solely to natural climatic variability.

The projections show that for this century the global heating will be most accentuated between 1.8 to 4.0 c in 2100. The northern hemisphere will suffer more – in the Arctic expect 6 degrees variation. Extreme climate events will increase and standards of regional atmospheric circulation will be modified.

Professor Borrego went on to note that even if we shut off everything today the heating will not stop because the quantity of greenhouse gasses already in the atmosphere is sufficient to continue a climate change regardless. We are not in a position to only stop emission and think that things will return to their previous levels. Our goals must now be to mitigate the impacts and adapt to the changes in order to prolong our sustainability. Professor Borrego then outlined methods for mitigation and adaptation.

The Kyoto Protocol is one of the methods for mitigation. The Target is to reduce greenhouse gasses by 5% from the established baseline by 2008-2012 – a deadline that is rapidly approaching. The European Union increased that target to an 8% reduction when it ratified the Protocol in 2002. The Protocol came into force on February 16, 2005 with Russia's ratification.²

Another important mechanism the Professor discussed was the Emission Trading mechanism by which a central authority sets a permissible amount of emissions. The companies are issued permits and if they want to increase their credits they must buy them from the other companies. The idea is that those who can decrease cost effectively will do so and then will sell their credits and thus lower the economic impact while reducing emissions.

Similarly Joint Investment can be used – the buying and selling of credits between countries.

He also described the Clean Development Mechanism – an arrangement that allows industrialized

nations to invest in projects that reduce emissions in developing countries.

Professor Borrego explained that in the European Union, it is clear that without any policy changes the target of an 8% reduction by 2012 will not be met.

One example of the strategies being used in Europe is the European Commerce of Emission Licenses (ECEL), the first multi-state and multi-sector system of emissions commerce. Examples such as these demonstrate that money is being used as an incentive to manage reductions, and therefore, returning to Professor Borrego's theme - the atmosphere is no longer free for everyone. Carbon is now a commodity.

Another aspect to look into is the need to increase efficiency and look for renewable and clean energies. None of these are solutions because as the Professor explained there is no magic bullet, there are only several solutions that collectively can result in a change.

On the other side of the same coin is adaptation – and the strategies that individuals and governments must implement to react to, handle, and manage the impact of global warming. For example in the Netherlands they are now (as of the time of this Conference) trying to increase the capacity of their dykes – the investment is necessary to maintain and sustain life there. They learned that they can not wait for events like the Katrina Hurricane in New Orleans. Ultimately, argued Professor Borrego, to implement adaptation measures is cheaper than to do nothing.

Professor Borrego concluded by noting that the next round of discussions on the tools available to decision-makers will come from the United Nations Climate Change Conference in Bali, Indonesia, December 3-14, 2007, which will seek to further the work of the Kyoto Protocols. Professor Borrego opened the floor to the first of the nine panels of the WJA Conference.

PANEL ONE: SUPRA-NATIONAL EFFORTS TO PREVENT AND COMBAT CLIMATE CHANGE: PROTOCOLS AND TREATIES

Professor Ved Nanda (USA), WJA Past President, Vice Provost for Internationalization, University of Denver, introduced the panel by stressing the unequivocal nature of the evidence for global warming and the imperative to address the problem. In the beginning, soft law approaches raise global consciousness that leads then, after years of negotiations to treaties and protocols. He remarked that the 1992 Treaty and 1997 Protocol were not sufficient so we need to develop yet another agreement.

Dr. Paulo Magalhães, Legal Coordinator of Quercus, the leading Portuguese environmental organization, delivered a paper entitled, *The Earth Condominium: A Suggestion for a New Planetary Legal Structure to Face Climate Changes*. He addressed the question of how to organize the global neighborhood and began by stating that “we cannot solve the problem by using the same tools that created the problem.” The solution, he argued, is a global condominium, comprising both private property and common property elements. The most important thing is to create a regime of adaptive management.

Dr. Magalhães stated that we are only just realizing that the environment is global and interdependent, and we must adapt ourselves to this reality, for it will not adapt itself to us. The economy does not take place in a laboratory; economic externalities therefore really are global internalities, internal to the system – a closed planetary system.

It is critical to distinguish the sovereignty or property held in ecosystems from the services that those systems provide. These common interest services are the concern of the entire planet. By conceiving of forests solely as private property, they only have economic value when transformed into wood or other products. Their ecological services should be recognized as valuable and must be compensated by those who benefit from the services.

Legal abstractions (borders) lead to confusing this representation of reality with reality itself. Thus when a ship began spilling oil off the coast of Spain, it sought to send the ship to Portuguese waters, which Portugal rejected, yet both missed the reality that the spilling oil did not follow borders. Early attempts to place responsibility for environmental damage on a particular source failed because of the complexities of the cumulative reality of pollution. Class actions suits really did not solve the problem.

He summarized that the characteristics of pollution are cumulative, lasting, global, and combined. The consequences are similarly complex—greenhouse effect, the hole in the ozone, climate change, and the destruction of biodiversity.

Dr. Magalhães used the example of a condominium as an analogy to the way in which private and public interests get parsed out. It organizes the mess. Dr. Magalhães urged for a more complex concept of sovereignty – with shared sovereignty over the hydrosphere and the atmosphere, which are shared by all people on the planet. There must be a reconciliation of the economic and juridical valuation of global interdependence, including financial compensation for peoples who forego development in order to protect ecosystem services. Those who use more should pay more.

He noted that today there is a gap in the market because the cap and trade system does not provide compensation to those who maintain the forests. In conclusion, Dr. Magalhães stated that we need a market that recognizes our common condition of being global neighbors – who must necessarily share in the atmosphere, the hydrosphere, biodiversity, etc., and whose conduct affects those assets. This requires recognition of their unavoidable common ownership and the need for their common administration.

For more information see www.earth-condominium.com.

The next speaker, **Dr. Luis Nobre Guedes**, Ex. Minister of the Environment of Portugal addressed *International Protocols and Treaties: Successes and Failures*.

According to Dr. Guedes, much of environmental law has focused on protecting economic activity as it exists (the consumption society),; and, governments must now take brave, bold, and necessary steps to protect the planet. He stated that these matters should be of concern to us all and not just one political group.

Thus far, Dr. Guedes said, we have actually done little internationally. The Framework Convention on Climate Change of June 1992 recognizes that the most developed countries are mostly responsible for the problems and thus should do the most to put greenhouse gas levels back to the levels of 1990. The Convention was subscribed to by 180 countries. Succeeding conferences of the parties, every two years beginning in 1995, led to the Kyoto Protocol of 1997 intended to produce more practical measures. It was only signed by 100 countries, and only came into effect in 2005 with Russia's ratification.

The Kyoto protocol set a global goal of reducing greenhouse gas emissions by 5%, with differing responsibilities on differing countries—Europe, 8%, the US 7%, etc. Some countries could even increase their emissions. The Marrakesh Agreement first established emissions permit trading as the

primary mechanism for managing greenhouse gas emissions.

In evaluating the Protocol's effectiveness, Dr. Guedes highlighted five key points: (1) Trading emission permits, based on a US model, was very difficult to transfer to other countries; (2) Many countries, particularly in eastern Europe, lack the means for measuring their emissions; (3) The agreements, as they become more effective, will create a lot of work for lawyers in holding wrongdoers accountable; (4) The entire system is becoming highly legalized; (5) Many doubt whether these control systems will last very long.

Dr. Guedes concluded by expressing his doubt that progress has been made. But there is hope. For instance, the new president in the United States (following the 2008 election) will allow positive change. After 2009, most countries will begin to take steps that were unthinkable a short time ago. In France, there is a green revolution in politics. President Sarkozy appointed a group of experts that have recommended not building any new roads or airports, and no more nuclear plants. Portugal has not begun to think along these lines. Many people support a third car bridge at Lisbon, when what is needed is the development of rail transport. But obstacles still exist such as President Sarkozy's desire to help build nuclear plants in China. Dr. Guedes' final thought was to invoke the teachings of Mahatma Gandhi, stating that two of his seven "social sins" are relevant—to make policy without principle and to educate without character. Today, he might add an eighth sin—to ignore the circumstances surrounding society. Treaties will never be sufficiently binding to solve these problems. Nations must change themselves.

The final presentation, entitled *International Environmental Liability of States and the Jurisdiction of International Court*, was delivered by **Professor Luis Eduardo Boffi Carri Perez** (Argentina), WJA President for the Americas. Professor Boffi began by stating that the environment is an asset that must be protected – by legal responsibility if necessary. He stated that we must begin as the Roman law makers did, extracting answers from the whole body of law for novel situations. A State's constitution is one tool; it embodies the rights and duties of the State to its citizens and their rights and duties to the State. This embodies the human rights or natural rights of people to freedom, a family, property, and contracts. Professor Boffi added that we should list a right to an adequate environment. He noted that Article 66 of the Portuguese Constitution expressly provides legal right to a healthy and safe environment and imposes duties on the State to fulfill these rights.

Professor Boffi went on to say that States also have international responsibility from the treaties or conventions. They are responsible if they cause damage in or to another state. Without damage there is no claim. One example is the Argentine Civil Code which imposes higher responsibility the more certain injury is and the greater the nature of the injury. Foreseeability is the key concept; accountability ought to attach when injury is foreseeable even if it was unavoidable. Thus a state that builds a plant that will cause injury in or to another state should be responsible regardless of intent or fault as long as the injury is foreseeable. International tribunals, however, are not very good at addressing these concerns because of their lack of compulsory jurisdiction and their inability to enforce their judgments. At least, the judgments of international courts should be made enforceable in national courts.

In conclusion, Professor Boffi stated that all law is built around three principles—live honestly, give to each his own, and avoid damaging another. These principles should govern in international law as well. The State should respect the rule of law and courts should have the courage and independence to reestablish the rule of law when states violate it without waiting for treaties.

Ved Nanda closed the panel by referring to the success of the Ozone Depletion protocol.

PANEL TWO: THE NORTH AND THE SOUTH: STRATEGIES AND TRENDS IN ENVIRONMENTAL SUSTAINABILITY

Ms. Ethia Simha (Israel) served as the moderator for the second panel.

The first speaker, **Professor José Lamego** (Portugal), Ex. Secretary of State for Foreign Affairs, President of OIKOS, an NGO for Development, discussed *The Dialogue North-South in the Field of Climate Change*. He first explained that Oikos means “home” in Greek, and the organization he represents believes that we, all humanity, live in a common home. Their foreign policy advocacy is directed towards common/mutual efforts to bring countries together. They work to implement the millennium development goals. In addressing the North-South dialogue, he opined that while there may be one north, there are now many souths. The different patterns of developments are revealing differences. Some of the so called “South” - India, Brazil, and South Africa, China, etc. defy the convention that developed countries are in the geographic north and underdeveloped countries are in the geographic south. Globalization has different impacts in different nations.

He began by noting that climate change affects everybody, but it mainly has a disparate impact on the developing nations. Sanitation and water supply / management are examples of the critical problems of climate change that OIKOS works on from the perspective of development. In rich countries sometimes irrational measures receive public support. For example Portugal benefits greatly from the actions of the European Union, but that does not prevent us from identifying some points of irrationality – i.e. agricultural policy.

Professor Lamego was an MP in service when Professor Borrego was Minister. OIKOS continues to monitor the developments of the Rio Convention at the international level. OIKOS looks particularly at inefficiencies and poor management of resources.”

He expressed concern that there is not enough common action to fight climate change. Everyone is aware of the Kyoto Protocol, it is an important step forward and he is hopeful that in the near future there will be a change in the position of the United States vis-à-vis this Agreement, because the US is a force for the good in many directions. China, India, etc are also necessary to carry us forward from just dialogue to common action. In conclusion, Professor Lamego stated, “Climate Change is not just for activists anymore, this is not about creating strategies.” OIKOS works very closely with the United Nations and is the official advocate of the millennium development goals in Portugal. Professor Lamego conveyed OIKOS’ commitment and honor to welcome the WJA Conference.

Professor Ved Nanda (USA), Past President, World Jurist Association, Vice Provost for Internationalization, University of Denver, spoke on *Environmental Sustainability: The Common Thread Binding the North and the South*. He first took a moment to contemplate the meaning of sustainability. And concluded with a discussion about the increasing realization that there is a common interest between North and South.

When the first UN Conference was held in 1972 there was a great divide between North and South. The South blamed the North for environmental degradation and thus the North should be tasked with solving it. They argued that at that time, the South needed its own economic growth; and, any

environment restrictions that would hinder the South's development goals met resistance from those countries.

The critical theme of Professor Nanda's discussion was that today we know that these interests are closely linked; they all converge so that these two spheres (North and South) must work together.

With regards to sustainability, Professor Nanda refreshed the delegates' memories that in 1980 the idea of sustainability was introduced as part of the world conservation strategy. The International Union for the Conservation of Nature and many others set this forward. Six years later organizations introduced steps to be taken.

The Bertland Report talked about sustainability that meets the needs of the present without compromising the ability of future generations to meet their anticipated needs. As a result, people talked about sustainability as lacking content and depth, sustainability became a catch word without any practical application. Professor Nanda suggested that it is not a precise term, but sustainability today is better defined, having a great deal of appeal and binding together the North and the South. He noted that we started by just recognizing human environment as a topic, then in 1992 the link between environment and development took forefront, as we moved forward the concept of sustainable development became part of the terminology. The contribution of non-governmental organizations (NGOs) and civil societies have been significant and today we understand that the North and South can work together and sustainable development has real meaning.

Professor Nanda offered two important thoughts regarding the current situation:

First, should emissions be capped? The US criticizes India and China for not capping and states that the discussion of environmental justice calls for a realization that we are all in it together. Emissions must be capped by not just countries in the North but in the South also. North and South both have realized that they need to work together. Capping by just the North isn't going to work. While many of the countries of the South do not currently emit at the rate the North does, their rate of emission is increasing at an alarming rate. The data is unequivocal – by 2050 the countries in the South are going to emit much more than the countries in the North if they continue on their current path.

Professor Nanda then considered trade and the trading of emissions credits. Europe has accepted it but many developing countries have indicated that this is creating a property right in emissions and they are opposed to it. Professor Nanda urged that the time has come when we must work together and this is in fact one of the solutions. In order to have sustainable growth we must have a more collective organization. Additionally the time has come when NGOs like the WJA must work collectively to create an increased civil society effort.

Professor Nanda concluded that all science points to this being a problem that must be addressed, now. Not by just a few, but by every country. "At the present time we do not have an option, we must act, time is running out."

The final speaker, **Professor Monica Grill** (Argentina), of the Environmental Direction of Foreign Affairs, Professor of Private International Law, Buenos Aires University spoke on *South Measures Implemented to Comply With the UNFCC*. Professor Grill used the implementation strategies in Argentina as a case study to discuss the responses to the UNFCC.

She began by recognizing that climate change today constitutes a major and shared dilemma. Recent studies show that both countries in the North and South sustain the impact of global warming. She

noted that Argentina is particularly vulnerable to climate change, because a high percentage of the economy depends on agriculture and hydropower is used to generate electricity.

Professor Grill urged that adaptation measures were needed immediately. However, she cautioned, it can not be overlooked that due to the significant climate change some adaptations are already happening. They are generally successful, but they may be causing new environmental damages.

Additionally Professor Grill discussed some of the mitigation efforts in Argentina, noting that the country is not obligated to comply with the UN conventions because the Kyoto Protocol only applies to developed countries.

The first working day of the conference concluded with a special reception hosted by the law firm of Alves Pereira & Texeira de Sousa

PANEL THREE: GREENING CITIES: THE ROLE OF MUNICIPAL GOVERNMENTS IN ADDRESSING CLIMATE CHANGE

Moderator: Charles W. Thompson, Jr. (USA), Executive Director & General Counsel, International Municipal Lawyers Association

Dr. José Sa Fernandes (Portugal), Member of the Executive Council of the Municipality of Lisbon, discussed *Greening Lisbon* and provided a summary of the efforts currently underway there to make the city more “green” and environmentally sustainable.

He began by noting that Lisbon has numerous small watersheds leading down to the Tejo River, with much construction occurring too close to the small streams or even in the streambed, leading to numerous unexpected flood events, sinkholes, etc. that cause unnecessary losses. Lisbon also does not have many green areas. Part of the solution is to increase the green zones and link them up. “We plan to link all the green areas in the city with ‘greenways.’”

Continuity will reduce the cost of maintenances of the parks, improve the flow of air, and improve conditions for pedestrians and bicyclists with car free paths. Also, the green plan will reduce the need for irrigation and improved diversity of local flora and fauna. The plan will increase CO2 capture by vegetation, allow filtration of pollution by vegetations, reduce flooding, etc. The first major projects will be done within two years, centering on Avenida de Liberdade.

Another project will link the ghettos on the east side of Lisbon where poor people live; this will change the social conditions for these people. Also, it will link this forgotten bit of the city to the rest of the city. People often do not have a single tree in their part of town, and this project will create parks for children as well as traffic free walkways or bicycle paths. Even if the greenway goes under bridges, the people will feel more connected to the city. Lisbon will also develop vegetable garden areas in the city, important for creating joint activities among neighbors and reducing the cost of transporting fresh vegetables into the city.

Dr. Fernandes also mentioned that Lisbon plans to convert some streets into pedestrian only zones, with public transport allowed in the street. There will be bicycle lanes as well as public transportation. The city also will invest in tramlines to allow greater mobility with attractive views for the passengers.

He acknowledged that as Lisbon loses population to its suburbs, social problems move into the suburbs. Lisbon needs to think regionally and not just within the city limits. The greenways should

extend at the least into the northern suburbs. This will improve air circulation, reduce heat islands, etc. In certain areas there is a need to forbid any new buildings, especially high rises.

Further, he stated that Lisbon will improve panoramic points of view as part of the preservation of historic cities and public spaces. Many of these panoramic viewpoints today are rather run down, but within two years they will be restored. Also, there is a need to restore and preserve small, neighborhood green spaces in the city. Some new buildings should be removed to allow for scenic views and to open hidden architectural treasures to view.

Dr. Fernandes concluded by explaining that the city is also promoting solar energy and energy conservation.

Mr. Robert Alfton (USA), Former President, International Municipal Lawyers Association, Of Counsel, Miller O'Brien delivered a paper entitled, *Greening Cities in the United States*. He began by noting that he is the former city attorney for Minneapolis, Minnesota, USA, a city with five large lakes which is located near the top of the Mississippi River. A hundred years ago, Theodore Worth designed parkways to link parks along the river and around the lakes, with a plan for people to live in concentrated housing with ready access to a parkway.

Mr. Alfton then began his presentation by summarizing the Kyoto Protocol and its results. He noted that there are currently more than 700 registered clean development projects under the protocol, with another 1300 in the pipeline to be registered. The result is an international carbon market amounting to US \$30,000,000,000 in 2006. The Protocol was rejected by the US Senate by a vote of 95-0, because of the lack of controls on greenhouse gas emissions in developing countries, including China and India. However the United States has signed the Asian-Pacific conference (AP6) agreement on climate that commits each country to set its own reduction targets without any enforcement mechanism.

And yet, in the US, explained Mr. Alfton, cities have to some extent taken the lead. They are exercising their police (regulatory) powers, their licensing powers, and their franchising powers (for public utilities, for example). Cities also declare improper activities to be a nuisance. Cities act like a large corporation and operate a lot of vehicles to accomplish the goal of reducing global warming. Led by Mayor Nichols of Seattle, numerous cities have joined a grass roots effort to reduce global warming. Mr. Alfton concluded by discussing the results of a survey and the compilation of resources made available by the US Conference of Mayors. Mr. Alfton noted that the US Conference of Mayors (more than 1,139 members, representing cities of more than 30,000 people) has called for a national commitment, and more than 700 mayors signed an agreement to reduce greenhouse gases. The Conference has produced a document on best practices on climate change issues. ??

He concluded his remarks noting the LEED program – an initiative of the United States Green Building Council, working to promote buildings that are sustainable, efficient, healthy, and profitable. They certify buildings according to their qualities. Forty-six percent of the certified buildings in the United States are owned by the federal, state, or local governments. This certification, sometimes directly and sometimes indirectly, results in tax credits in state, local, or federal taxes. Certification also can mute political opposition to new buildings. Twenty-eight cities have adopted building codes based on LEED standards. The National Association of Homebuilders has now announced that they will set up their own rating program, as well as a federal “energy star” program.

The final presentation was delivered by **Justice Timothy Oyeyipo** (Nigeria), National Judicial Institute. Justice Oyeyipo presented the Nigerian case study, explaining that climate change is a front-

burner issue for the country. Nigeria, with 140,000,000 people has the largest black population in the world. Nigeria's main product is oil, and a great deal of petroleum resources is consumed. Yet, only 1% of natural gas produced is consumed; the rest is flared. Nigeria supports the Kyoto protocol. Nigeria needs to reduce gas flaring in order to promote the goals of the Kyoto protocol, but it is not easy to achieve. The federal government of Nigeria has enacted gas flaring regulations that will come into effect in 2010.

Justice Oyeyipo also explained that reforestation is underway in Nigeria to counter the extensive destruction of forests over the last century.

He concluded by noting that climate change is often seen as a kind of aggression by the industrial North against the global South. Confronting climate change is a common thread that binds North and South together.

During the follow up question and answer period, Mr. Thompson noted that often there are existing regulations, such as zoning laws in cities in the US, that are preventing environmentally friendly development. Several delegates offered thoughts furthering this concept and pondering the need to address these challenges.

A delegate from the US noted it is often not easy being green. In some cities, they will pay the homeowner to use solar panels. While the cities derive their powers from the state, the money usually comes from grants from the federal government, which gives the federal government real control over what cities do. And while 728 cities have signed the mayors' agreement on reducing greenhouse gases, they actually have no idea what their 1990 emissions were and they need federal grants if they are to fulfill the commitments in their agreement.

Mr. Alfton responded that not only do cities not know what their emissions were in 1990, they also do not have a standard model of how to achieve the reductions. Cities also have problems selling their green programs to the voters.

A delegate from Spain explained that his country has problems coordinating different levels of government: municipal, regional, and national; and sometimes utilities companies must also accept the project. These complexities can delay a project for 3 or 4 years. There are a huge number of rules impeding the greening process.

PANEL FOUR: REGULATION SCHEMES: LOCAL, REGIONAL, AND NATIONAL PERSPECTIVES

In introducing this panel, **The Hon. Justice Aurora Lagman** (Philippines), Associate Justice Court of Appeal, reminded the delegates that climate change is not the sole concern of developed countries, but is also a problem for developing countries like the Philippines.

Professor Branca Martins da Cruz (Portugal), Law University of Oporto spoke on *The Environmental Liability in Portugal and in the European Union*. She started by noting that after 30 years of discussion, the topic is finally bearing fruit

In 1993, the Council of Europe adopted the Lugano Convention on civil responsibility, with had three key principles: 1) liability for damage caused; 2) mandatory insurance; and 3) liability based upon

probabilities rather than direct proof. The Lugano Convention was not ratified, and was later replaced with an EU directive in 2004 that was approved by the European Parliament in April of that year.

On the other side, Professor Martins said, Portugal's base law on environmental liability dates back to 1987. Article 41 imposes civil liability for injury to the environment, and this was reaffirmed in Article 66 of the Constitution. Additionally, a 1995 law created "civil popular suits" allowing any citizen or NGO to sue to enforce environmental laws. The law also requires mandatory insurance and full reparation for damage to the environment.

However, she expressed concern that twenty years later, there still are no specific standards for enforcement or implementation. Cases are divided over whether such suits apply only to damage to private property or if it encompasses injuries to the environment generally. The environment is an "abstract good"—it cannot be appropriated to private use or ownership. The base law vindicates the public right to a safe and healthy environment even without injuries to private interests. In fact, the civil code already provides full coverage for injuries to private property, so, Professor Martins opined, the only function of Article 41 must be to provide a remedy for injuries to the environment generally. It is a public law principle, but it functions entirely within the field of private law through the mechanism of civil liability. Damages covered under the "civil popular suits" include injury to species, water, and the soil, if the damages affect human health. Other damages, including to the atmosphere, are not covered.

Furthermore, damages not covered are remediable in a legal action by the government's Institute on the Environment. Those decisions can only be challenged through an administrative proceeding, although administrative tribunals are ill-suited to judge causal links or to value environmental damages. Law courts have recourse to expert opinions that civil servants on administrative tribunals cannot access. Ultimately, she argued, this imposition of civil liability should be a matter of private law in the law courts and not in the public law sphere of administrative tribunals. Further complicating this problem, as shown by climate change, is the long duration of chains of causality in environmental cases that administrative tribunals cannot handle.

Turning to the EU directive, Professor Martins noted this gives rise to a new law in member states. The new laws will be difficult to reconcile with existing Portuguese law. The Professor concluded with a note that other member states have had serious problems in applying the directive. Spain has gone against the very grain of the directive because of the problems, while Italy and France have been very literal in applying the directive. And Portugal has still to complete the application of the directive.

Providing a look at *The Philippine Case Study*, **Atty. Pete S. Principe** (Philippines), President, Integrated Bar of the Philippines, Balacan Chapter, began with a careful explanation of the relevant constitutional provisions in his country. Articles 10 and 14 of the Philippines Constitution commit the State to give priority to science and technology development, training, and education for the benefit of the Philippines and the world. Armed by these provisions, the Philippines joined the 21-member APEC declaration on the need to combat global warming. The people in the Philippines are already suffering badly from climate change, such as by massive flooding and the Philippines now strongly supports supra national efforts to combat climate change.

However, Mr. Principe noted that constitutional protection of private property, which cannot be taken without compensation, prevents some measures to combat climate change. The Philippine people now demand action in the face of the disappearance of the water supply, floods, etc.

Finally, he commented that the Catholic Church is playing a leading role in mobilizing the people and in praying for rain during a drought. Religion must be enlisted in the fight against climate change just as the prayers for rain ended the drought.

Mr. Principe concluded that the Philippines is taking steps to protect the ecological balance of the nation. The government and the private sector should join hands to fight climate change.

Providing a look at the Brazilian experience, **Professor Josilda Lima** (Brazil), UNEB University, discussed *The Climate Change Challenge: The Brazilian Examples of Bahia and Parana*. Professor Lima is a biologist and studies the environmental impacts throughout the Bahia state. The University of Bahia is a multi-campus university with 24 campuses serving more than 40,000,000 residents of the state. The University has numerous academic programs that study environmental impacts throughout the state. Professor Lima endorses the common nature of the hydrosphere, the atmosphere, and biological diversity and works to support the concept of the earth as a condominium.

He stated that our human insistence on forcing nature to adapt to our needs leads to the cutting of the Atlantic forest to make room for golf courses. “We must learn to minimize our impact on the environment, and laws must play a role in this.” He opined that the growth of biofuels in Brazil simply supports more cars and we have too many already. We need to eco-train our students. We eat too much meat, and suffer cardiac problems as a result. Some people eat as much as 1 kilo of meat per day when they only need about 100 grams.

Professor Lima hailed Curitiba as the greenest city in the world, with good projects on biodiversity. For example: Invasive species are removed from gardens in the city, bringing back native species even if they are less attractive; green areas are being built; and eco-education is developed to create ecological literacy to the people.

He concluded by noting that some believe that something that is born wrong will never get right. We use this as an excuse to do nothing, but we can change and we must change. We must learn from nature and not just impose ourselves on nature.

During the question and answer period Professor Lima was asked whether Brazil can convert coffee into biofuel. He responded that he is against biofuels; expressing instead a need for approaches that do not depend on monoculture agriculture. Wind energy, hydroenergy, and solar panels would be better alternatives, but there are large interests in society that oppose clean energy.

PANEL FIVE: LEGAL PREVENTION AND PUNISHMENT FOR DAMAGING CRIMINAL BEHAVIOR

This panel was moderated by **Ulrich Simon** (Germany), *Wissenschaftlicher Mitarbeiter*, and began with a presentation on *Causation in Environmental Civil Liability*, by **Dra. Ana Perestrelo de Oliveira** (Portugal), Law University of Lisbon. She explained the theory of risk connection under Portuguese law and the areas where current law impedes the ability to apply civil liability in many environmental justice cases.

Procedures for establishing proof are cumbersome and the idea of ascribing liability on the theory of risk provides the solution. Proof is also an important consideration. Under common law systems, she noted, market share liability and other theories are being used. But, there is a need to find different

ways of finding proof. In Portugal, she noted, “We do not have other ways.” Case law can work in this area regardless of the legislature. Dr. Perestrelo noted that there have been those who speak against the possibility of presenting these presumptions but if it is truly grounded then there is no reason it should not be used.

To test this theory, Dr. Perestrelo discussed a hypothetical case of multiple causation, i.e. cases where damage is not produced by a single agent but by multiple agents. Currently in Portugal the agent must be shown to have had knowledge that he was polluting, and then it must be established that that agent released an amount in such a quantity then he can be liable. However the problem is that in some instances environmental justice may require holding multiple pollutants liable. Here Portuguese law does not allow for such liability.

Another issue is that in cases of alternative causation – cases in which one or more actors caused damage – there is doubt whether to ascribe liability to one or to all. In Portugal, stated Dr. Perestrelo, they do not ascribe at any liability because the court can not know for certain who has caused the harm. This can have a detrimental effect with regards to curing environmental damage.

She concluded with a brief note – if we work with the dogmatic instruments we can find solutions but legislations are necessary. “I have not seen the draft language but I hope this will be taken care of.” The Portuguese legislature should consider how civil and criminal remedies can be applied to the environmental liability cases.

The next speaker, **Klaus-Guenter Neumann** (Germany), Neumann & Dickersbach, furthered the discussion of liability by presenting a paper on the *Possibilities of Legal Protection against Environmental Damages*. Mr. Neumann stated that preventing damaging behavior necessarily required influencing human behavior and so he would focus on examples of environmental policies in Germany and the EU which try to change human behavior in a democratic and free market system. In a free society, there are two tools available – laws, which use sanctions and incentives to bring about the desired behavior; and the market where behaviors are ascribed a price and the willingness to pay drives individual behavior. The question remains: How far will the State go to stop damaging behavior? If there are no rules then the market takes control.

Both laws and the free markets may be used as tools to prevent damaging behaviors. The question before the delegates today is which method better meets the needs and principles of democratic and free societies. Human behavior is directed by law or markets – it is one of the fundamental principles of a constitutional state that any resolution affecting rights must be based on a democratic decision making process. As a consequence of increasing awareness of environmental damage, today every political party in a democracy must propose solutions. As a result the number of legislations in the German parliament, seeking to impact the damaging behavior, has dramatically increased.

Additionally, Mr. Neumann described the stepped up activities at the European Union, noting that under that system there is a preference for setting up standards and values. The EU has passed numerous directives that provide for maximum emission levels and create State consequences for non-compliance.

on. For example, since January 2005 the concentration of particle matter in the air may only exceed 50 micrograms during a limited number of days. Unfortunately, in reality this is rarely met by the member States.

Turning more directly to specific measures, Mr. Neumann noted that there are several ways legislatures

seek to protect the nature - through laws that either prevent the damage from occurring or apply punishments after the fact. He discussed law's ability to control through permitting schemes.

In Germany activities generally require a permit if they may have an impact on 3rd parties, for example, building codes. Permits can seek to restrict bad behavior or can be used to encourage good behaviors for example wind energy turbines are increasingly being built. Generally rural areas can not have any building, but there are exceptions in Germany for power plants and other such things which are promoting the use of wind energy.

Noting that legal control of behavior is brought about in a variety of ways – the requirement of permits is an example of direct State intervention; additionally individuals will control behavior, i.e. the self-interest of an individual to report and monitor harm to their environment; and lastly associations (defined broadly) will foster controls.

Mr. Neumann noted that in Germany, individual and association activities are now demanding local governments provide a plan of action to protect the environment. A lawsuit is currently pending before the European Court of Justice to determine whether individuals can sue demanding such governmental action. There is an emerging trend in law controls.

And if we turn from legal controls, noted Mr. Neumann, there are market influences on behavior, for example through price designs (tax rates, raising demand) or creation of markets (remove access barriers). The environment provides for the basis of our existence and therefore is an economic good. "It is available for everyone and no one has to pay for it." Normally the market price of a product reflects the use / demand for a product. But since the environment is a public good, currently the price we pay for it doesn't take into account the cost to maintain, create, provide, etc. Against this it might appear sensible to use market forces to make environment a commodity and put a price on it.

Mr. Neumann examined the sale of pollution licenses and the creation of carbon and other new markets which influence human behavior towards environmental protection.

He concluded that there are several ways to influence human behavior and prevent damaging behavior with respect to our environment. We must find a method that will respect free markets and still result in a change of behavior. The political will now exists to discuss and proliferate the legislative effort; but, these measures are often not bringing about the changes we are seeking. And so, we must continue to seek the right balance and set of solutions.

During the comment period there was a focus on comparing the various liability systems around the world. A delegate from the United States noted the example of groundwater contamination in the US, and cases involving multiple pollutants. Under the US scheme the government can pick one agent and seek damages. Then that party may chose to sue all the other pollutants. The government simply goes after the wealthiest and the agent most capable of cleaning up damage.

Additionally a Spanish delegate noted that the laws in his country are very restrictive. And, a delegate from Malaysia noted that common law countries have the principle of duty of care – whoever breaches the duty of care is liable in negligence.

PANEL SIX: CIVIL REMEDIES – THE ROLE OF LAWYERS

While introducing the next panel, the moderator, **Dr. José Alves Pereira** (Portugal), WJA National President, Host of the Conference Committee, noted that the members of the news media had asked

him why lawyers were interested in climate change – in other words, what is the business opportunity for an association of lawyers? Dr. Pereira responded that lawyers have long filled the role of defenders of the public interest. The WJA is a unique organization because it is not just an association of lawyers, but of “jurists” and therefore the whole of the legal profession is represented.

He then turned to introduce the topic of class actions, noting that the concept is very different in Europe – there are no contingency fees, no punitive damages, and damages are not awarded by the jury, but by the judge only.

Professor Miguel Teixeira de Sousa (Portugal), Law University of Lisbon spoke on *Popular and Class Actions as Civil Remedies*, providing a continental view of class actions, or popular actions as they are known in Portugal. His speech focused on diffused interest, jurisdictional analysis, and a continental perspective.

He defined diffused interest as those interests that belong to each and every member of a class or group, but are not owned individually by any of these subjects. Diffused interests belong to all and to no one. The legal assets, environment, heritage, etc. can not be held exclusively by any subjects. Based on this definition, these interests also have a super human dimension, they are supra-individual.

Diffused interests, explained Professor Teixeira, can be used by any person without this person actually owning the property to which it refers. The property of these diffused rights is quite unique. Article 53 of the Portuguese Constitution establishes the right to popular action in those cases which are duly laid out by the law. A list of the popular action cases is provided. The goal of this provision is to prevent and end further damage to the public health, environment, etc. In order to protect these rights according to the law popular actions are available.

Public actions, as foreseen by Portuguese law, may be brought by associations – an individual or a group can be the plaintiff to the action. The constitutional provisions were implemented through further regulation, including a law of August 31 which is of paramount importance to understanding the scope of popular actions. Briefly, Professor Teixeira spoke more about the object of class actions. Article 1 of Law 83/95 lists the interests to be defended by popular actions, and includes those interests involving public property, public interest, etc. The list is not exclusive but provides an example of the types of interests protected.

He provided a comparison between two interests envisioned by diffused interests. The first is the prevention of any infraction to the diffused interest. In other words, it may include any condemnation to inhibit any practice that may damage the consumer. But it can also envision the payment of a certain indemnity.

Diffused interest, noted the Professor, may be sought in civil and administrative cases in Portugal. The goal is to protect assets that belong to the public.

Professor Teixeira next turned to a discussion about indemnity, which are possible objects of popular actions. Article 23 of the implementing legislation provides indemnity for objective liability and within the framework of continental law. This is liability which exists regardless of guilt. In this light the court may establish a so-called global indemnity. Article 22 of the same law provides that holders of identified rights are entitled to the corresponding remedy as within the civil remedy. There is a distinction between global indemnity and that which is ascribed individually. The acceptance of a global indemnity right is not the single advantage of popular action, but it entails some important advantage in terms of proof. This global indemnity also relies on statistical links between causes and

damages. He noted that if one analyzes this principle case by case, we find that global indemnity may be granted and determined according to assumptions of liability based on statistical causal links.

Global indemnity may bring about some other difficulties and the most direct one refers to quantification. Quantification is very difficult in the field of environment. For example, there is a classic problem of how to quantify damages caused to the eco-systems. Many of the natural components do not have any market value and may not belong to the public sphere.

It may be interesting, commented Professor Teixeira, for North American jurists to note that under this framework punitive damages are emerging in Portuguese law – seeking some remedy under this context introduces a certain punitive element in ecological damages.

Under Portuguese law a popular action may be submitted by any individual person as part of his civil and political rights. The resolution of popular actions as a double advantage – they allow the avoidance of many actions, and lessens the problems of immobilization of all the interested parties.

Popular actions, anticipate that there will be an altruistic person to take forward an action and others will wait to see if they can benefit from such an action. Under Portuguese law, the public prosecutor's office does not have the authority to take these actions to courts; meaning that we are within the scope of class actions that is actions whose initiative belongs to civil society. That is what we want – not to have public prosecutors to have these actions, but have civil society take up these responsibilities.

Professor Teixeira then explored the similarities between class actions in the US and in Portugal – notably the absentee party. Under Rule 23 of the US Federal Rules of Civil Procedure provides that after the petition is received, the holders of the rights are notified and given an opportunity to become full fledged parties to the action. They have a choice to either exclude themselves or accept the representation of the petitioner. In other words, it is an “opt – out system.” Everyone with an interest is included unless they opt-out. This coincides with Portuguese law.

He then focused on the scope of res judicata and asked, what is the binding action that would invoke res judicata? Portuguese law was inspired by Brazilian law where the rule was established that the sentence handed down by the court is binding to the interested parties. One of the advantages of popular action is that any entity damaged by the infringement is affected by the decision taken in this civil action.

Professor Teixeira's final comment acknowledged that class actions or popular actions and other efforts to regulate supra-individual interests always require a balance between justice and efficiency. In some way individual rights are sacrificed in an effort to achieve efficiency to resolve the problematic behavior. And yet, justice can not be completely put aside, so some measure of efficiency is compromised in order to achieve justice.

The next speaker, **Mr. Ronald M. Greenberg** (USA), WJA President, focused on *Climate Change Issues and the Judiciary in 2007*. Reflecting on the comments of Professor Teixeira, Mr. Greenberg briefly described the class action litigation process in the United States. He noted first that in class actions, contingent fees are generally not available. The right to attorney fees is governed by statute and the court will decide what is a reasonable fee to award. Furthermore punitive damages are available in tort litigation, as most class actions involve contractual damages, punitive damages are not available. And finally while juries award damages, attorney fees specifically are determined by the judge.

The European Union is now seeking to create a class action system that would allow persons from different member states to join into a class, but concern has been expressed about adopting a structure like the US system because they perceive the system encourages “blackmail” of companies by litigious plaintiffs.

Mr. Greenberg observed that there are significant distinctions between litigation in the US, Europe and England. One example is discovery rights; the prevailing party’s right to attorney fees. Specifically in regards to class actions there are a few types in the US.

- 1) The Class Action – individual complainants join together in one lawsuit and bring suit on behalf of themselves and others similarly situated.
- 2) Consolidated cases - multiple plaintiffs consolidated into one case – still represent only their own interests but suit brought together.
- 3) The Attorney General – an Attorney General can bring suit on behalf of the people.

A subset of this is that a private individual can act as a private attorney general, enjoining or seeking to prohibit an unfair business practice, i.e. no damages, in such cases.

Also it is important to note that there are two systems in the US - federal and state – and they differ as far as how you can get a class certified. For example, in the federal system, states can no longer get securities class actions because of federal law.

In California, explained Mr. Greenberg, you need an ascertainable class (identify the group), a well defined community interest, and a demonstration that the class representative can adequately represent the class and has damage typical of the group. Liability and damages can be treated separately so that as long as liability is similar then the damages can be determined based on the individuals of the class. He went on to state that even in arbitration you can have class actions.

Mr. Greenberg touched upon some of the aspects of class actions. He noted that as an individual plaintiff you control when, how, and for how much to settle a matter. Once you bring a class action, all settlements must be approved by the court. Mostly you will see class actions if the individuals have little individual interests at stake in the case. In a sense for many plaintiffs with relatively minor claims they could not go to court for any justice whatsoever, and they can get justice if they go for a class action.

He also observed that in the EU if you want to be part of the class you have to opt in, affirmatively respond to the notice. In the US it is usually opt-out.

Finally, class actions in the US typically involve securities, product liability, labor relations, and toxic torts. This is different than the environmental issues discussed in this panel.

Mr. Greenberg then turned to addressing the question of his paper - Where is the judiciary as we attempt to expand into public nuisance tort? He described the judicial trend by examining case law from the United States.

California, stated Mr. Greenberg, has taken the lead to address the impact of climate change. In a

recent United States Supreme Court decision,³ the issue was whether the United States Environmental Protection Agency (EPA) had properly refused a petition brought by a group of states, local governments and private organizations for rulemaking to regulate greenhouse gas emissions under the Clean Air Act. In a 5-4 decision the Court held this refusal was improper.

Mr. Greenberg commented on the disposition of the Court: “In the Court today, on any issue of public policy, we have a court of one – Justice Anthony Kennedy was in the majority in every one of the split decisions recently. We have four liberals judges, four conservatives and then there is Justice Kennedy.”

Mr. Greenberg provided a few comments from the Court – to begin with, why did the EPA refuse the petition for rule making? The Court reasoned that: (1) contrary to opinions of former councils, the Clean Air Act doesn’t allow EPA to make such a rule; and (2) even if they have the authority, it would be unwise to do so at this time. The Court had little trouble concluding that the EPA has such authority. The court then went on to criticize the EPA noting that the EPA has no reasoned explanation for its refusal to decide whether greenhouse gasses contribute to the climate change. The EPA will not issue rules; they must either say it doesn’t contribute to climate change or tell us why if it does.

The dissent found that global warming may be a crisis – even the most important environmental problem of our time. It may ultimately affect everyone on the planet. And, maybe governments have done too little. But it hasn’t escaped the attention of policy makers and decision makers in our government who continue to seek solutions. It seems that since the public couldn’t get their elected bodies to do what they want, they came to the court. This should be left to Congress and the Chief Executive not the courts.

In another recent example, the State of California sought damages against automakers for creating a public nuisance, i.e. the cars of these companies emit carbon dioxide and these emissions are causing global warming. The State claimed it spent millions of dollars as a consequence of this warming. The California Supreme Court dismissed the State’s lawsuit, finding that this was a political problem that required resolution by the executive and legislative branches.

Mr. Greenberg again provided some comments from the court. With respect to the jurisdiction of the court, the majority found that the federal government opposes the Kyoto protocol because it exempts 80% of the world’s population from compliance. This case requires the court to make an initial decision as to what is unreasonable with regards to emission. The court would be required to create a quota. The adjudication would require the court to set legislative decision and balancing. In taking note of the Supreme Court’s decision the court said that this type of policy should be set by the EPA and legislature. In this case by seeking to impose damages for the defendant’s actions, the nuisance claims implicate the political branch’s powers.

Mr. Greenberg observed that the real issue for the legal profession around the world is which branch of government will make the first decision in these difficult cases – maybe the courts are not in a position to do so, but that is the issue being put before them. Courts have acted in some cases – abatement of raw sewage, etc. But what the court said in California is that these cases are distinguishable because they involved equitable damages, rather than monetary damages.

The final case Mr. Greenberg briefly mentioned was also a damages case. This case was settled by the company. For plaintiffs, the key hurdle is the causal connection – tort claims require a wrong, damages and causation.

Amongst the comments raised by the delegates, was an observation by a Philippine delegate that

children are given the right to sue on environmental violations according to the Philippines Supreme Court. And a Spanish delegate observed that US-type class actions are probably 10-15 years away in the EU.

PANEL SEVEN: ALTERNATIVE ENERGY: PROPOSALS, SOLUTIONS, & LEGAL ISSUES

The final day of the Conference focused on practical solutions to doing business under the new concerns of global warming. The first panel of the day, moderated by **Iris J. Jones** (USA), Chief Business Development and Marketing Officer, Chadbourne & Parker, LLP, focused on alternative energy.

Robert H. Edwards, Jr. (USA), Partner, Hunton & Williams, LLP spoke on *Alternative Energy in the United States – the Changing Legal and Commercial Landscape*. He began by acknowledging that although the speakers had already addressed or touched upon the issues, these issues he was going to delve into them more deeply. Although the US has not ratified the Kyoto Protocol, it has been developing an alternative energy policy. There are many groups, factors, etc. pushing the country in this direction and it is important to the rest of the world to understand what the US is doing in this area.

He provided an overview of his discussion. Firstly, he would discuss renewables, working with a broad definition – the production of energy from wind, solar, etc. and also biofuels, ethanol, etc. The next section focuses on the federalism aspects of the efforts, a concept often difficult for non-US lawyers to understand. The effort to promote renewables in the United States is happening on the federal level and also on the local and state level. He outlined that he would begin by looking first at electricity production from renewable energy, the state portfolio standards, then touch upon bio fuels, then the California initiatives, and finally a look to the future.

Starting with the legal framework, Mr. Edwards noted that this is complex and changing. Companies interested in investing can not simply go and find one national policy; they must understand federal, state and local laws that can provide tax breaks, incentives etc. He speculated that it is likely that over the next several years, the legal framework will undergo significant change and will hopefully gain greater coherence. In light of this, investors must be sure to fully understand potential changes as well as current schemes.

First, began Mr. Edwards, the Energy Policy Act of 2005 provides federal policy. This was one of the first acts to attempt to comprehensively address incentives for renewable energy. It includes tax incentives, loan guarantee programs, research and development money and a variety of other initiatives. These initiatives are limited to 2 or 3 years because of the budget making process of the Congress, creating some uncertainty in the investment environment.

The most important tax policy at the Federal level to encourage renewable energy – tax credits – gives the producer of electricity a tax credit for every kilowatt hour of energy produced. This has permitted a number of very large renewable energy projects. The cost otherwise, is still not competitive, as compared to energy or electricity produced from coal fire plants. A new power plant must compete in the market place and these tax policies are a key way in which we can encourage these projects that otherwise would not be done. Currently they are due to expire at the end of 2008 and Mr. Edwards expects that it will be renewed.

He went on to opine that most commentators will conclude that, at the federal level, the US has not

implemented an energy policy or a climate change policy. Mostly because the current US administration has not fully recognized it as a problem and if it is a problem they argue the market place will take care of it or we can just produce more oil. Most of the world is aware that this will not work. The new US president (of the 2008 election) will be faced with these issues and we can expect to see a comprehensive policy begin to emerge then.

Mr. Edwards then turned to state renewable portfolio standards. A lot of the most important policies for renewable energy are coming from the states. About 50% of the states have created standards. The target is requiring the utilities that serve the customers in that state to procure a certain percentage of their electricity from renewable resources. Each year companies must increase the percentage of the electricity they sell in accordance with the standards. This can be achieved by building new plants, or by signing contracts with generating companies who are selling such electricity from across state lines, or they can buy renewable energy certificates (RECs). RECs are similar to the EU / Kyoto carbon trading credits scheme.

Mr. Edwards then discussed ethanol and biofuels, noting that President Bush is “a big fan of ethanol.” There has always been a huge political support in the US for ethanol and this has created an economic boom for corn farmers, with tax incentives and credits. Mr. Edwards noted that without the tax credit the price of ethanol will not be competitive with petroleum but that may change as petrol becomes more expensive. He went on to observe that the industry has gone from a mom-pop industry to one that now includes some of the biggest Wall Street companies. The industry is overbuilt and has excess capacity, which is pushing down the price of ethanol. The result is that in the US many plants are now facing bankruptcy. The cost of corn has risen. Many projects in development have been canceled. However, he opined, this is not the first time, this has happened in other industries in the US so the long term prognosis is good.

Another policy question is what will happen to price of food as biofuels are developed. And then there is the environmental impact - ethanol from sugar is greener than corn, but there is a tariff in the US that keeps Brazilian ethanol (made from sugar cane) out of the US.

Biofuels are in the infant stage in the US, noted Mr. Edwards. The main difference between the US and Europe is that in the US there are very few diesel passenger cars. The only market for diesel in the US is the trucking industry. So those markets are concentrated in certain geographic areas. But there is an increasing investor interest and so bio-fuels must be kept in mind when considering alternative energies in the US.

And finally looking to the future, Mr. Edwards briefly touched upon the Kyoto Protocol and various international regimes which specifically address reduction of greenhouse gasses. While the federal government has not moved on this, there are several initiatives at the state or regional level. They are not yet operational and will not be up and running until 2010 or 2012; but, we should watch them. They will serve as a model for the federal government to adopt and the groundwork is being laid. For example, California has implemented the Global Warming Solution Act of 2006, requiring the State to promulgate regulations to reduce greenhouse gas by 25% by 2020. The caps don't come into effect until 2012.

The California scheme will start by establishing a statement baseline from 1990 emissions. The cap will have to be set at such a level that it will reduce greenhouse gasses from the 1990 level. A parallel program on a regional basis is happening in the northeastern United States where the states there have come together to regulate the amount of emissions in their region. There are many legal challenges that

both state and regional systems must overcome. In conclusions, Mr. Edwards noted that in 2009 some important legislation can be expected from the new congress and the new US president; states will continue to develop regulation schemes and the investment in alternative energies will continue to be very attractive over the next decade.

The second speaker on alternative energy, **Professor Carla Amado Gomes** (Portugal), Law University of Lisbon delivered a paper on *Renewable Energy as Alternative: The European Challenge of Energy Reconversion and the Portuguese Response*. She began with an overview of the international points and then discussed the European Community law and concluded with a discussion of Portuguese law.

The problem of alternative energy was raised for the first time in the 1970s because of the oil crisis. At the time, the international community was made aware that there was an extreme oil dependency on the Middle East countries, and, fossil fuels were finite. A little later, in the 1990s, after the Rio conference, other concerns were raised regarding global warming.

At the Rio Conference, and previously in Stockholm, a declaration was issued which made an appeal for a more rational management of natural resources. Professor Gomes acknowledged that people need a certain time to really understand environmental issues. What the scientists said changed the way of life in the West. This was reiterated in Rio. These summits are held every 10 years but the progress is more discernable at the summits held every 20 years. For example, in Johannesburg, for the first time the international community recognized the need to develop an energy policy. What was forgotten in Rio was addressed in Johannesburg and specific measures were finally mentioned.

She went on to note that, in terms of the need to manage resources and minimize emissions, this international community really began to move and saw an increased awareness with Kyoto. The Bonn meeting on renewable energies was another significant event in 2004. A global cap was set in terms of the percentage of energy production by renewables. Although a consensus was not reached, the EU promoted a 20% target at this meeting and that is what it is currently seeking.

Turning specifically to the European Union, Professor Gomes noted that in the 1957 Rome Treaty there is no energy policy and today there still is not one. This has to do with the centrality of energy policy to affirm the sovereignty of states. The strength of the State depends on a strong energy policy and there is a fear of delegating power to a third party. Nonetheless, the treaty has evolved and powers have been shifting to the center. The Maastricht Agreement still left this off the table even while increasing the power of the EU.

So what is available to guide EU policy? Professor Gomes spoke about the theory of implied powers – when there are no set powers specifically in the treaty then Article 308 provides the standard which allows the organization to act. Under Article 308 the EU has taken some initiatives but they have no binding nature.

But, starting in 1987 the EU began to recognize a need to produce renewable energy, especially biofuels. Today there are many directives based on the need to protect the environment.

The ratification of the Kyoto Protocol was a significant step, and the same directive provides a list of renewable energy sources to be pursued by the member States. There are three key principles at the EU level: the guarantee of labeling; state support for renewable production – compatible with competition articles; and finally, the guarantee of non-discrimination.

When the Kyoto Protocol was enacted, it was thought that perhaps there could be a general legislative

framework. But in 2001 it was decided that there wasn't enough consensus and the development level of the various nations was too complex. So, a general legislative framework did not emerge at that time. Three years later the EU evaluated the developments and acknowledged that states were making efforts on their own but the purposes had not yet been met, and so, they recognized that they would need to adjust the target to an 18-19% rate. Professor Gomes observed that the directive is not a precise set of orders, but rather a guideline with margins of flexibility.

Focusing specifically on biofuels, the 2003/30 directive provided a list of resources. It is an open, and non-binding directive. The driving force behind this directive was the evidence that about 30% of final consumption of energy is in the transport sector and there needs to be a reduction of greenhouse gasses through conversion to renewable energy sources. Quality standards on these fuels are provided through the techniques in the directive. It also includes a strong evaluation of the environmental impact. Academics are aware that although investment in biofuels is increasing, biofuels are not harmless from a social or environmental perspective and future policy decisions will need to take this into account.

In addition to providing for a certain amount of energy through renewables, the EU also provides for labeling at points of sale so that consumers will know what they are purchasing.

Professor Gomes then turned to the Portuguese response. She noted that the country had implemented the directives a couple of years later, but it was not done by one single law. Various acts meeting the requirements of the directive were passed. The distribution of competencies is one of the negative aspects of this approach. Something more coherent is needed. She speculated that perhaps the legislators are waiting for the EU to draft a specific legislative framework to follow.

Since 1982 the Portuguese constitutional scheme provides for a close connection between energy policy and environmental policy. It recognizes the need to rationally manage the country's resources, and requires that the energy policy be rooted in these management principles. In 1988 the first act on the production of renewables was introduced; but, this was not a high priority and so this regulation was forgotten. It still exists today, but this decree law is disconnected and has been amended time and again with resulting laws that are inconsistent.

It is difficult to have a coherent view of the system – so there are many doubts on the way in which Portugal is meeting the EU challenges in this field. For example, the country still does not have a labeling system. An idea similar to the US model of providing green certificates was considered. But if you don't have labeling, you can't have certificates. Understanding the legal system poses a problem. The length of time it takes to navigate the system is another problem. Professor Gomes went discussed many of the efforts to comply and the obstacles facing possible investors.

She noted efforts to create tax benefits for biofuels, but explained the need for a comprehensive policy which would include State aid. She mentioned the German and French models as contrasting systems. However, despite such challenges, Professor Gomes concluded with hope – beginning in the 1980s there have been a lot of changes and improvements. The installed power of renewable energy accounts has increased about 10% per year. Wind energy has increased by 69%. Total increase of renewable energy power has increased by 40%. “We are making progress.”

Professor Eng. Luis Mira Amaral (Portugal), Ex. Minister of Industry and Energy, delivered the final paper on this topic, discussing, *Nuclear Energy as an Alternative to Fossil Combustibles*. He observed that the world is witnessing a new oil shock induced by the new demands of China and India. These countries will continue to have an increased need as they are the drivers of the economic world growth.

The world economy is no longer driven by the US economy. Oil is not yet exhausted but the time when oil was cheap has come to an end. Europe has not quite seen the negative effect yet, but that is false because of the dropping value of the US dollar. It is only a matter of time. Furthermore, stated Professor Eng. Amaral, natural gas is not a good alternative for Europe because it creates a dependence on Russia. And so, there is pressure to build up alternatives that do not leave countries dependent on others.

In order to reduce consumption of oil and gas, Professor Eng. Amaral proposed nuclear energy as an alternative. He noted that solar, wind, and renewable energies are intermittent and can not serve as permanent sources and urged that a dependable source is needed. The renewables are important but can not be the sole source and nuclear energy provides a real option to help reduce the dependence on fossil fuels.

Nuclear power would enable production of electricity without burning fossil fuels. It would also enable hydrogen production, which is currently not a viable way to produce energy. For environmentalists who don't like nuclear energy, the enhancement of hydro-power is a good alternative.

Professor Eng. Amaral noted that the discussions around nuclear fusion as an alternative are not realistic because it will still take 20-40 years to develop this technology and requires more energy to be produced. Other alternatives suggested include hydrogen batteries; but, these are not economically feasible. And coal releases CO₂ thereby continuing to exacerbate the greenhouse gas problem. Therefore nuclear fission energy is critical to the future of reducing greenhouse gasses, lessening dependency on fossil fuels and forestalling global warming.

He did acknowledge that having nuclear plants will not solve the transport problems – automobiles are not using nuclear energy and so we need alternatives. In Portugal they currently use natural energy for electricity. But natural gas is indexed to the oil prices so when oil prices go up, so do natural gas prices. A fully electric vehicle could some day run on nuclear plants. He commented on the anomalies in Portuguese policies whereby there are proposals to build high speed trains, but the source of energy needed to do so would not reduce the dependence on oil and gas.

Professor Eng. Amaral continued to discuss the criticisms toward nuclear energy. In particular, with regards to the risk, he noted that while environmentalists in Portugal protest the building of such plants, their neighbor in Spain has already built plants, and so the danger already exists. He argued that if we're going to live with the environmental risks, shouldn't we benefit from the power produced. He also noted that it is expensive to set up nuclear power plants and so it would make sense for regional systems to be created – such as an Iberian center. He urged that as the country acknowledges its growing consumption of energy, and the need to increase new sources of energy, nuclear power plants be among the elements of any solution.

Finally, Professor Eng. Amaral focused on his experience while serving in the government in the 1980s and 1990s. At that time they explored the nuclear option, but because the extent of the CO₂ problem was not fully recognized, and it was cheaper to build coal or natural gas plants, nothing was done regarding nuclear energy. But today things have changed.

A lively discussion, debate and series of questions followed these thought provoking presentations. The delegates and speakers commented that the US state governments are leading the effort to establish a new energy policy in the United States; reaffirmed the importance that the US must adopt the Kyoto Protocol, or sign onto the new standards anticipated in Bali; and that even countries such as China will

enter into the fold because of a growing middle class that understands the impact of a deteriorating environment on their living standards.

They also examined individual behavior, and what role government policies can play in providing the right incentives to influence this behavior. For example, one delegate noted that in the US, American car makers can build less efficient cars, but foreign cars are on the US market must meet greater fuel efficiency standards. Here market forces seem to be encouraging greater standards, as consumers demand this in their vehicles. But also, we understand that government behavior will impact the individual behavior. Another example – gas taxes – gas is still cheaper in the US and much higher elsewhere, therefore cars are more efficient, smaller cars, etc. in other countries because they feel the pinch in gas prices.

One speaker reminded the delegates that at some point individuals must also take responsibility. We could add something to these government-level efforts – think global, and act local. We have to join together; we have to teach our children to respect the environment and to be civilized toward future generations. It sounds poetic, but at the end it must come from us at the individual level. Kyoto is a great thing but it still leaves lots of ways in which pollution will not be controlled. It will not be enough. We must act at an individual level; we need to forget a bit of our western way of our life and begin to understand our relationship with nature.

With regards to the nuclear energy question, delegates raised several concerns – including the disposal of waste, the possibility of accidents, and the risk of the nuclear knowledge or dangerous byproduct falling into the “wrong” hands. Delegates noted that we must shift from oil and other fuels. There is no single solution. If we compare the other energies then we have pluses and minuses of all of them, noting that there is a need to compare the assets with the liabilities.

One delegate noted that nuclear energy is not insurable as evidence that the risk of such businesses is too high. It is further unsustainable because of the need for uranium which is not in infinite supply, and the heat that is generated cannot be used, rendering the plants somewhat inefficient.

PANEL EIGHT: CLEAN WATER AND SUSTAINABLE DEVELOPMENT

The next panel, moderated by **Atty. Gemma Leticia F. Tablate** (Philippines), WJA President for Asia, Chief Reporter, Court of Appeals, turned the discussion to clean water.

Professor Joseph W. Dellapenna (USA), Professor of Law, Villanova University, who assisted the WJA by organizing this panel, spoke on *Adapting Water Law to Climate Change and other Hydropolitical Stresses*. He first noted that the burgeoning population all over the world is increasing the stressors on water and thereby water law. Population has increased resulting in huge increases in the consumption of water. This has only been offset minimally by increased efficiency. Professor Dellapenna stated that the supply of water is at best fixed and in fact, thanks to pollution and over exploitation the availability may be declining. Climate change is an additional stressor on the supply of clean water.

What are the impacts of climate change on water? Professor Dellapenna explained that first we understand that extreme weather will become more common. If those were just isolated incidents it would be ok, but we now have a growing pattern – more severe storms and therefore greater problems. The result is that existing water management systems that have to be managed by law must take

climate change into account.

Professor Dellapenna noted that drier regions will grow larger. According to the IPCC weather circulation patterns will make those desert areas wider. This has already drawn the attention of planners in the southwestern United States, where we know the desert is going to get drier, and the entire region will soon have even less water. Another example focuses on the snow packs and glaciers. Although this won't matter in some parts of the world, in many it will have a dramatic impact. Glaciers are going to disappear. We know, he explained, that this summer (2007) for the first time there was an ice free passage across the northern part of Canada. Scientists are predicting that in 50 years the Arctic Ocean will be ice free. Polar bears will go extinct and these areas are all water sources. Most of us tend to quantify the amount of water that is stored for dry seasons as that which is in reservoirs behind dams; but, for many regions the snow caps are the source for this water.

So then, how does the law need to develop? In answering this question, Professor Dellapenna argued that more flexibility is needed than currently exists in most legal regimes. Currently national and local legal regimes, which for the most are designed to ensure a definite enforceable claim to use water, seek to legitimate the allocation of water. We need more flexibility than this; but, we need to balance the flexibility with investment certainty. The international regime, by contrast, is too flexible and needs to be stiffened. Professor Dellapenna suggested there is a need for a new balance system.

There are certain basic premises, which most legal systems do not embody. Water is essential to life; it is a public good; it is an ambulatory resource; it must be conjunctively managed, i.e. all sources of water must be cohesively managed; and we integrate its management with the management of other resources; and, it is subject to economic incentives.

By recognizing water as a public good, we can better understand that it is difficult to pay for investments in water – investors worry about free-riders, market failure, and the so-called tragedy of the commons. Furthermore economic principles will not work, because the transaction costs are too high for markets, equity precludes excluding people simply because they can not pay for water... the result is, explained Professor Dellapenna, water is the paradigm public good – it is not a marketable good.

He next explained that there are three patterns of property in water:

- 1) The common property – Under this pattern, each person with access can individually determine their use. The result is that when demand approaches supply we experience the tragedy of the commons. Each user realizes the full benefit of each increment of use but shares the cost with the community.

- 2) The private property – Here there is a well defined right to the use of water. The rights are defined as in time, location, purposes and amount. Priorities are established. But we must recognize that water is a peculiar form of private property. True markets remain rare and small. In reality, what passes for markets, are essentially state administration systems interfering with markets. The scheme freezes usage in place. For example, it results in a single use of water today to grow alfalfa, but growing alfalfa may be the least useful reason to use water.

3) The public property – This scheme is becoming increasingly common. The basic idea is that a state agency structures the use, makes a collective decision on how water should be used. This provides enough security for the user to make investments, without permanently tying up the water.

What we must recognize, argued Professor Dellapenna, is that water is an international resource – it ignores human boundaries.

But he also noted that the outlook is not all negative. It has been said that “water drives men to drink with their enemies.” Examples of cooperation in the Nile Valley, the Indus Valley, the Jordan Valley and elsewhere demonstrate that even where there is great conflict cooperation can be reached over water. But it does take laws and agreements to do this. We need to coordinate environmental law with water law. A new paradigm has been approved by the International Law Association in 2004 – the Berlin Rules of Water Resources, and this established the following State rights and duties applicable to all waters: (1) Participatory management, (2) Conjunctive management, (3) Integrated management, (4) Sustainability, and (5) Minimization of environmental harm. States have special rights and duties internationally

Professor Dellapenna concluded with a short remark about groundwater, noting that there is very little clear law on groundwater. He urged that it must be managed conjunctively with surface waters. The current Draft Rules on the Law of Transboundary Aquifers, as presently drafted will likely impede this effort, opined Professor Dellapenna.

Examining *Climate Change and Adaptive Water Management – How Much Adaptation Does EU Water Law Need?*, **Dr. Paulo Canela de Castro** (Macau, SAR), Faculty of Law, University of Macau, stated that the European Union authorities are very aware of the problem. They are trying to adapt to that. They are trying to devise adaptation strategies to deal with climate change and the water question. The water sector is a central sector with much impact on the whole economy. What the EU authorities are trying to do is to embed climate change strategies into water management.

In the past water management was based on guaranteed patterns of rainfall. Current water legislation ignores these problems as such but there is a – very desirable – possibility to integrate adaptation efforts.

Dr. Canela asked, “What is the key for following the Water Framework Directive?” This Directive brings in the so-called integrated water resources management and planning paradigm. The main goal is to ensure by 2015 that all European waters achieve good status and so the directive sets an objective with chemical, ecological and morphological indicators. To meet this goal authorities are required to set up river basin management plans and revise them periodically. Additionally the directive recognizes that the river basin (not the body of water, the reality of water) requires that there are synergetic catchment-wide schemes. These basins are therefore assigned to a district which must coordinate their management.

Another important instrument is the creation of the Program of Measures (PoM). This program requires definitions and implementation of the river basin districts. The PoM is the principal mechanism to implement the environmental objectives. It calls for characterization of the river basins and assessments of the risks to the basins. Currently, climate change is not classed as a “pressure” on the

river basin. But, of course, it will have an impact on the stressors. Although the directive doesn't reference climate change directly, it does talk about weather extremes and the goal to mitigate the negative effects of such.

Dr. Canela explained that River Basin Management Plans are a reporting mechanism and allow for public scrutiny. It provides an accounting of how the objectives are being met and when. This is reviewed every six years, which may be a short period of time, but at least it allows for a compilation of data. The directive also provides for public participation and wide involvement of the stakeholders.

Dr. Canela's conclusion was that the water framework directive is useful, it has many positive elements. On the other hand, it is rather rigid and doesn't allow for an element of flexibility. It would be helpful if climate change assessments could be included in the decision-making process.

The final presentation on this panel came from **Flavia Loures** (Brazil), Fresh Water Programme Officer, International Water Law and Policy, World Wildlife Fund, who spoke on *Adaptation to Climate Change in Transboundary Watersheds: What Role for the UN Watercourses Convention?* Ms. Loures explained that the United Nations Watercourses Convention is currently not in force; and, one of her responsibilities is to advocate for it and other treaties on climate change.

She asked why international advocates were now talking about adaptation. For many years advocates avoided talking about adaptation because they were afraid that States would use it as an excuse to avoid dealing with action. But today it is accepted that no matter what we do we are going to face consequences of climate change, so adaptation measures must be implemented as part of the climate change solution tools. At the moment, not enough attention is being paid to the adaptation needs in international and other laws.

Ms. Loures argued that the Watercourses Convention is the only treaty that addresses adaptation with regards to international watercourses. She explained the context and background leading up to the Convention. To start with there is a current lack of coordination among basin States. From a security perspective, which is an important part of the dialogue, this pressure is creating disagreements that may lead to violence if we do not begin to implement laws to address this. We need global legal solutions for a crisis of global dimensions.

There are more than 264 transboundary water basins; and, they impact 40% of the world's population. A global convention is necessary.

Currently, around the world, Ms. Loures observed that cooperation is at different levels. There is no solidarity culture over water. There is an assumption among states that the UN convention has no direct implications to them, and therefore some states have failed to take the lead in the ratification process. At the same time watercourse states insist that this is a regional issue and no one else should interfere. State sovereignty over water resources must be reviewed and some international law needs to be applied.

She explained that as we learn more about how climate change will continue to aggravate the water crisis, there is increased evidence of the need for a Watercourse Convention. Climate change will increasingly serve as a multiplier for water stresses. The existing climate change convention doesn't go far enough because many of the provisions are limited to national assessments. Ms. Loures concluded that the UN Watercourses Convention is an authoritative instrument evidentiary of the law of the non-navigational uses of international watercourses. No states are against it; the ratification process may be slow but it hasn't stalled.

PANEL NINE: BUSINESS RISKS, INSURANCE AND OPPORTUNITIES

The final panel of the Conference, moderated and organized by **Ronald Robinson** (USA), Berkes, Crane, Robinson & Seal, LLP, discussed transactional aspects of climate change – business risks, insurance and carbon trading.

Professor Dr. Peter Hoeppe (Germany), Head of Department, Geo Risks Research, Munich Reinsurance Company AG, introduced the topic by discussing *Climate Change: Risks and Opportunities for the Insurance Industry*. He stated that the insurance industry has been the first industry to consider global warming in their business practices. In the 1970s they started collecting and evaluating the data. Today they now know that the data is clear and there is an increase in global temperatures. From the beginning of our century there has been a continuous increase. The 6 warmest years have been 1998, 2005, 2003, 2002, 2004, and 2006. This phenomenon can not be explained by natural causes. Human activities, through the emission of greenhouse gasses, are contributing to these changes. Scientists have been able to study long term trends, dating back thousands of years by drilling into the ice pack at the polar caps. There have always been natural fluctuations. But now there are fluctuations that can not be explained by natural phenomena.

The reinsurance industry, explained Dr. Hoeppe, maintains records of natural disasters. In 2003, Europe experienced the hottest summer on record and over 70,000 people died, making it one of the largest natural human catastrophes in Europe. One year later the first hurricane ever was documented in the southern Atlantic Ocean. And a year after that the largest precipitation ever measured in one 24 hour period was recorded, with Alpine floods in the same year. In 2005, the world saw record extreme weather incidents. There were 28 named oceanic storms, the first ever hurricane made landfall in Europe, coming up the Iberian Peninsula. There was another heat wave in Europe in 2006. And so far, this year has been the most expensive winter. The industry data tracks more than 25,000 individual events documenting flood catastrophes, extreme heat, drought, etc. Significant weather incidents have caused a dramatic increase in losses, for example, over 90% of insured losses are now due to windstorms.

There are many factors contributing to increased losses from natural disasters. These factors include an increase in overall population, better standards of living, and an increase in insured property density. Per se, this is not a problem for the insurance industry as long as this is a proportional development, but in the last few years this gap has widened. The changes are making it problematic for the insurance industry.

In summary, Dr. Hoeppe noted that the insurance sector plays an important role in the discussion on climate change. It can provide data and help decision makers; it can promote decisions that can protect property and persons. The industry calculates premiums based on risk calculations. By developing innovative products the insurance industry can also promote change in human behavior. The industry can work with policy-makers to create a regulatory framework, abate regulatory restrictions on risk-adequate pricing and provide guidance on long-term CO2 targets.

Dr. Hoeppe concluded by discussing efforts within the Munich Reinsurance Company which demonstrate how seriously they take the climate change problem. They have incorporated an in-house strategy which includes management of assets, risk measurement/underwriting, and new markets/new products. They also have a goal of making the risks more manageable for poorer countries by finding

insurance related solutions for developing countries. To meet this effort they planned to attend the Bali Conference and bring these concerns to the attention of the decision-makers.

The next speaker asked whether we can attribute, or link, a specific event to a larger global event. **Dr. Celine Herweijer's**(UK), Principal Scientist, Risk Management Solution, Ltd., paper, entitled *Liability for Climate Change and the Emerging Role of Risk Attribution Science* argued that while climate change litigation may be in its infancy, it does pose a real and emerging threat for businesses and insurance companies alike. What are the issues we are likely to see in the cases? Who are the plaintiffs? And what evidence will be presented? Will science ever be a player in the blame game? These questions are the focus of Dr. Herweijer's research.

She noted that there are three broad categories of defendants – producers of fossil fuels, companies that burn them, and manufacturers of products that use them. Additionally there are indirect emitters, such as companies engaged in deforestation, and regulatory bodies that fail to protect the environment.

In reviewing the list of potential plaintiffs, she identified: property-owning plaintiffs, for examples those whose real estate prices were impacted because of a climate change occurrence; resource-using plaintiffs whose economic well-being is compromised; and the health/life-based plaintiff who experiences personal injury/loss of life directly from the extreme weather event.

Next, Dr. Herweijer turned to how causation might be established. A plaintiff must show that a specific injury resulted from the defendant's greenhouse gas emissions. The question will be asked, whether we can we attribute that emission to a particular impact (i.e. Katrina). Here we see a change starting and the emergence of probabilistic attribution science. With the development of this evidence we will be able to attribute global warming to man-made emissions.

This new methodology in the science field, first introduced by Professor Myles Allen uses a probabilistic risk-based approach to attribute risk for extreme weather events. Extremely powerful computers are allowing this kind of analysis.

By example Dr. Herweijer looked to the 2003 European heat-wave. By comparing the analysis of the risk of the heat wave occurring without the emission of greenhouse gasses and the risk with the gasses scientists were able to establish that the risk of the heat wave occurring was increased by 6-10 times. The threshold for civil liability with such analysis might be that plaintiffs demonstrate their individual injury was caused by the risk factor in question.

On the other hand, another example, flooding, is a much more complex scenario, but science models are being developed to establish that greenhouse gasses correlate with an increase in the return period of the floods.

In conclusion, Dr. Herweijer noted that the same scientific approach can be applied to study past events. The success of the technique varies by peril, region, and scale. Beyond litigation there are implications for analyzing and assessing business risks. Such information can help insurance agents advise companies on their climate change business opportunities and risks.

The last speaker to address the insurance industry responses to climate change was **Kim Quarles** (USA), Vice Chair, Defense Institute TRIA Subcommittee, who spoke on *The Insurance Implications of Global Warming*.

Keeping in mind that until recently global warming was still a hotly debated issue, and that the insurance industry generally only operates in the short-term, i.e. five years, and that global warming

requires long term planning, it is not a surprise that the insurance carriers are only now beginning to examine the risk management issues facing them. Ms. Quarles expressed hope that the carriers would recognize the opportunities, and those who are had been hiding out in the bushes waiting for scientific evidence will now have concrete science they can build upon.

She noted that carriers are interested because clients' interests are at stake. Property, life/health and liability insurance lines are all implicated. There is an emerging trend of the increased costs as a result of weather related incidents. The question before the carriers is whether they will go insolvent as claims continue to rise, or whether they will take a leadership role like they did with product liability and terrorism insurance. Ms. Quarles urged them to take a leadership role and develop products to address the human behaviors contributing to climate change.

She then examined what the US and global carriers have done. Each must be looked at separately; because, so far, they have not taken combined steps. The reason for this discrepancy is that overseas carriers have been studying this longer than in the US. Additionally, the industry in the US is more fragmented and some of the largest US carriers do not do business overseas. Finally there is a less adversarial relationship between European government regulators.

Ms. Quarles concluded her presentation, noting that risk management has often been about internal risk management, i.e. raise deductibles, exclude activities, etc. and the carriers did not think about outwardly addressing those issues. She urged them to adopt a more external risk management attitude because this would impact their ratings, ensure they remain solvent, and allow them to better prepare for litigation claims against their clients.

The final speaker **Dr. Pedro Barata** (Portugal), Company Director, Ecoprogresso, a consulting company for the environment and development, turned the dialogue from the insurance industry to the business opportunities created by global warming, such as *The Carbon Market*. The starting point for the dialogue on carbon markets is the Kyoto Protocol, it sets the targets for developed countries to reduce greenhouse gas emissions. These targets serve as caps. Ironically, noted Dr. Barata the caps systems were a feature promoted by the US during the Kyoto negotiations.

Dr. Barata explained that there are three mechanisms which generate different types of assets for carbon assets. All of these are Kyoto related. He detailed an example by which a project financed in Russia would allow a State to earn one ton of carbon reductions that can then be used to offset production in Portugal. A state can earn and spend credits. It can also transfer these units to the private companies and let them trade amongst themselves.

The European Union is taking a leadership role and creating an emission trading scheme which complies with the Kyoto Protocol.

Dr. Barata noted that CO₂ incorporates at least two characteristics that make it difficult to market: standardization and divisibility.

Continuing his explanation, of the cap and trade system, he noted that compliance is mandatory and can be achieved either by buying or selling credits. The system began in January of 2005 in Portugal and currently has about 12,000 installations. In the first year the fine for non-compliance was €40 Euro/ton and the fines increase along each phase. The total quantity traded in 2006 was 870 million tons. The current total volume of the carbon market is worth about €30 billion Euro.

Dr. Barata then discussed the participants in the carbon market. They are the utilities, cement plants,

steel production, pulp, paper, glass, banks, and hedge funds, amongst others.

The Carbon market has had a bumpy ride, he noted. The market is, basically, politically driven. During its creation the market was not fully understood so adjustments are still being made. But despite such fluctuations it is interesting to note that although the market may have initially collapsed, it did not go to zero. “Somehow we have managed to keep the price relatively steady for a good period.” The initial collapses caused some to say that it was proof that carbon trading will not work. But in reality that it is just a feature of the system set up in Europe – we could not trade across periods and this caused glitches. But today there are promising indicators in the futures prices, which are going up. In the market, investors are already expecting the price will go up in the coming years. The market is alive and kicking.

He also discussed some of the variables that influence the carbon markets, such as weather, energy demand, geopolitics, and macroeconomics.

In conclusion, Dr. Barata noted that the stock markets are taking an interest. All of the financial trading that occurs is matched with a transactional action. There are enormous liability issues to be addressed, for example at one point the Portuguese carbon market was offline for a day. Normally in the financial market this glitch would not cause a collapse, but in the carbon trading system, they had to cancel the transactions. He noted that carbon trading also has implications for the insurance industry. According to the Stern Report, there are opportunities for low carbon growth across the world and certainly one of the opportunities is for the insurance companies.

And finally he expressed the expectation that the European Union will begin to revise its targets regardless of the outcome of the Bali negotiations, and they hope to link the EU regime to an international regime and thereby.

The WJA Conference on Climate Change concluded with several important remarks by distinguished leaders of the legal profession in Portugal.

CLOSING CEREMONIES

Dr. Rogério Alves, President, Portuguese Bar Association, observed that laws may offer citizens and the individual persons a better quality of life. It is a distinctive sign of a democratic state that the will of citizens have increased the demand that governments pay attention to our environmental quality. We, the members of the legal profession, are of course amongst such citizens, and as such we pay attention to the vital need to take good care of those resources. We have to save them, safeguard them, protect them from the global warming threat. We must be able to distribute them amongst us all. We may be able distribute these resources so that we have the quality of life we want for ourselves and for our next generation.

He lauded the work of organizations, such as the WJA, which can be used as a seed capable of conveying that the matters of climate change are not just for closed-door science meeting.

H.E. Dr. Humberto Rosa, Secretary of State of Environment of Portugal, was represented by **Dr. António Gonçalves Henriques**, the Director-General of the Portuguese Environmental Agency for the Ministry of Environment of Portugal. Dr. Henriques greeted the President of the Supreme Court, the Dean of the Bar, the President and Vice President of the WJA and all the representatives.

He called upon the delegates to focus their efforts regarding climate change toward the future. The transitional period we are in sees changes at a pace never before observed. We are aware that the development models we have are not sustainable. We must change these models. In the past the policies were largely reactive; today we have to be proactive. The economic activities are an interesting turnabout. More and more policies must integrate environmental questions and economic issues to get the desired results.

He noted that until about 10 years ago we thought the conditioning factors were the fossil fuels; today we know that it is climate change. The atmospheric capacity is the critical question we must address. This change of paradigm, which will require changes in law also, is no longer a barrier to economic development but rather an opportunity.

He concluded that energy policies must be set for the production and consumption of energy sources and such challenges are going to require the work of jurists – who have to conceive of the new form of functioning.

The Hon. Manuel Santos Serra, President of the Portuguese Administrative Supreme Court, provided the keynote address of the Closing Ceremony. He began by commending the work of the delegates, indicating, “Your work has been remarkable and opened a new way to discuss climate change.”

The motto of the WJA throughout 45 years of existence has been: The world ruled by law not by force. These are important words. The law protects us from power, in that way the law is freeing. Simply put, those who live under the power of law do not have to submit to arbitrary power. A part of this rational demands a fair clear law known by all. Democracy requires that at times we do not know who our legal superior is. But, there are two things present that can inform us – a rational man, one should know who is his sovereign (who does he obey), and knowledge about that presence is made known in the decisions affecting his life. And yet, in the international scheme there are different interpretations of this.

To find global solutions for the serious environmental problems we find we need a closer action between state actors and non-state actors. It is this objective that the WJA understands - that the law should be based on continuous dialogue between interested parties. The WJA is a common platform forum for action, gathering to ensure the fulfillment of law’s potential.

President Serra went on to say that today we better understand the science, and human behavior needs to be changed. Climate changes may detrimentally impact humans around the world. And, global warming calls upon the ratification of justice at an inter/intra-generational level. Environmental justice has to happen at different levels and this new dimension requires legal articulation.

Legally binding measures are necessary to control the negative consequences of global warming. There is no doubt that administrative law has great responsibility in this area and the transnational aspects are currently being sped up in Portugal because of the EU influence. Currently, we seek to ensure that public powers do not damage the environment and also that private actions do not damage the environment.

The state must exert an administrative function, in public administration, public codes – environmental goods. President Serra then discussed the Portuguese administrative legal system.

Finally, he took note of international environmental law, although still a bit fragile the mechanisms to apply international environmental law are advancing – some standards are being adopted. This requires

their implementation in practical terms. In this context, he also discussed the European Union policy and noted that America's cooperation is essential. "The polluters of the future will never adhere to this ideal without the US and others to create consensus."

Mr. Ronald Greenberg, President, World Jurist Association provided the closing comments of the Conference, thanking **Dr. José Alves Pereira**, a friend, the WJA National President in Portugal, and host of the Climate Change Conference. He also acknowledged the sponsors, whose support allowed for the work of this Conference. These included: **Jacinto Soler Padró**, WJA National President of Spain, Alves Pereira & Teixeira de Sousa, Quercus – Associação Nacional de Conservaçãde Natureza, OIKOS – Cooperação e Desenvolvimento, Almedina – Livraria Jurídica, and Fomentinvest Sgps SA.

Mr. Greenberg thanked the City of Lisbon, all of the speakers who gave their time to prepare and present papers and from whom much was learned. He also recognized the volunteer interns in the WJA's DC office who give of their time. And last but not least the person who keeps this organization functioning, who keeps this organization together, the person who is the WJA – Margaret Henneberry.

1 The authors of the report have paraphrased much of the remarks of the various speakers. Any misstatements or incorrect representations are the errors of the authors of this report and not representative of the speakers or the World Jurist Association.

2 The Kyoto Protocol required 55 countries, representing 55% of the world's emissions.

3 IMLA filed an amicus brief in support of the local governments. For more information please contact IMLA.