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## Introduction

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# FORDHAM ENVIRONMENTAL LAW REVIEW

## THIRTEENTH ANNUAL SYMPOSIUM

### REDUCING GREENHOUSE GASES: STATE INITIATIVES AND MARKET-BASED SOLUTIONS

#### INTRODUCTION

*Paolo Galizzi\**

Global warming is now widely recognized as being one of the most complex and challenging issues facing humankind.<sup>1</sup>

Widespread consensus exists on the seriousness of the problem and on the dangers it poses.<sup>2</sup> A global agreement is indispensable to se-

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1. In his 2007 State of the Union, President George W. Bush, once a skeptic on climate change, recognized the seriousness of the problem. *See* Address Before a Joint Session of the Congress on the State of the Union, 43 Weekly Comp. Pres. Doc. 57 (Jan. 23, 2007) [hereinafter 2007 State of the Union].

2. INTERNATIONAL PANEL ON CLIMATE CHANGE [hereinafter IPCC], SCIENTIFIC ASSESSMENT OF CLIMATE CHANGE, Contribution of Working Group I to the First Assessment Report of the Intergovernmental Panel on Climate Change (J.T. Houghton et al. eds., Cambridge University Press 1990); IPCC, CLIMATE CHANGE 1995: THE SCIENCE OF CLIMATE CHANGE, Contribution of Working Group I to the Second Assessment of the Intergovernmental Panel on Climate Change (J.T. Houghton et al. eds., Cambridge University Press 1996); IPCC, CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS, Contribution of the Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change (J.T. Houghton et al. eds., Cambridge University Press 2001); IPCC, CLIMATE CHANGE 2001: IMPACTS, ADAPTATIONS, AND VULNERABILITY, Contribution of the Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change 7 (J. McCarthy et al. eds., Cambridge University Press 2001); For information and updates, IPCC, ASSESSMENT REPORT, CLIMATE

riously tackle climate change. The global nature of the problem indeed requires universal participation of all the members of the international community for its solution, or at least of those that bear the greatest responsibility and that largely contribute to the problem.

Reaching a global agreement on how to deal with global warming has, however, proved rather difficult.<sup>3</sup> Sharp differences have emerged within the international community on how to best tackle the problem. The most notable and visible division, but by no means the only one,<sup>4</sup> is exemplified by the United States'<sup>5</sup> failure to endorse the Kyoto Protocol<sup>6</sup> to the United Nations Framework Convention on Climate Change,<sup>7</sup> still the only internationally agreed framework to address global warming.

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CHANGE 2007 (forthcoming February 2, 2007); CABINET OFFICE, HM TREASURY, *THE STERN REVIEW: THE ECONOMICS OF CLIMATE CHANGE* (Cambridge University Press 2006).

3. See Press Release, United Nations Framework Convention on Climate Change [hereinafter UNFCCC] Executive Secretary: Unwarranted fear of economic hardship the root cause for inaction on climate change (Jan. 22, 2007), available at [http://unfccc.int/files/press/news\\_room/press\\_releases\\_and\\_advisories/application/pdf/20071801\\_press\\_release\\_new\\_delhi.pdf](http://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/20071801_press_release_new_delhi.pdf). Efforts to achieve agreement on how to combat global warming have been hampered by:

[A] lack of global leadership... 'Industrialized countries fear unwillingness on the part of their developing country competitors to act and are therefore reluctant to take the first step themselves. Developing countries fear that a new round of climate negotiations would impose on them obligations that would hurt their economic goals.'

*Id.* (quoting Yvo de Boer, UNFCC Executive Secretary, Remarks at the Delhi Sustainable Development Summit Climate Change and Sustainable Development Session Panel (Jan. 22, 2007)).

4. See FARHANA YAMIN & JOANNA DEPLEDGE, *THE INTERNATIONAL CLIMATE REGIME: A GUIDE TO THE RULES, INSTITUTIONS AND PROCEDURES* 32-48 (Cambridge University Press 2004) (discussing the many official as well as ad hoc groups and coalitions into which the Parties to the climate change regime are organized).

5. The only other major industrialized country that failed to ratify the Kyoto Protocol is Australia.

6. Kyoto Protocol to the United Nations Framework Convention on Climate Change, 3d. Sess., Dec. 11, 1997, 37 I.L.M 32 (1998) [hereinafter Kyoto Protocol].

7. United Nations Framework Convention on Climate Change, *opened for signature* June 4, 31 I.L.M 849 (1992) [hereinafter UNFCCC].

The Kyoto Protocol currently agreed commitments will expire at the end of 2012<sup>8</sup> and the debate has started in earnest on a post-Kyoto strategy.<sup>9</sup> The current issue of Fordham Law School's Environmental Law Review is devoted to the Symposium organized in 2006 and represents the School's contribution to the scholarly debate on the problem.

The Symposium focused on state initiatives and market-based solutions for reducing greenhouse gases, and their legal implications for law, policy and business. The event featured a keynote address by Jeffrey D. Sachs, Director of the Earth Institute at Columbia University, and two panels examining the perspectives of state and federal governments, environmental organizations, industry and the international community.

The first panel, featuring five highly respected experts in the field of environmental law,<sup>10</sup> reviewed select initiatives that have been undertaken to address climate change at the state level, including the suit brought by seven Attorneys General against the EPA,<sup>11</sup> the re-

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8. Kyoto Protocol, *supra* note 6, Article 3(1).

9. Article 3(9) of the Kyoto Protocol indeed specifies that "Commitments for subsequent periods for Parties included in Annex I shall be established in amendments to Annex B to this Protocol, which shall be adopted in accordance with the provisions of Article 21, paragraph 7. The Conference of the Parties serving as the meeting of the Parties to this Protocol shall initiate the consideration of such commitments at least seven years before the end of the first commitment period referred to in paragraph 1 above". See, e.g., Commission of the European Communities, *Communication from the Commission to the Council, The European Parliament, the European Economic and Social Committee and the Committee of the Regions on Winning the Battle Against Global Climate Change*, COM (2005) 35 final (Sept. 9, 2005) (outlining key elements of the European Union's post-2012 strategy); Pew Center on Global Climate Change, *Climate Change 101: Understanding and Responding to Global Climate Change* (2006); UNFCCC Summary by the Chair of the First in-session workshop of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol and Report of the Conference of the Parties to the UNFCCC on its twelfth session (forthcoming 2007).

10. The panel, moderated by Visiting Associate Professor Paolo Galizzi, was fortunate to have the participation of Dale Byrk, Senior Attorney at the Natural Resources Defense Council; Sean H. Donahue, Esq., Private Practitioner specializing in appellate litigation and environmental law and former Visiting Professor of Law at Washington and Lee School of Law; Jared Snyder, Chief of Affirmative Litigation at the Environmental Protection Bureau; and James Tripp, General Counsel for Environmental Defense.

11. *Massachusetts v. EPA*, 415 F.3d 50 (D.C. Cir. 2005), *cert. granted*, 2006 LEXIS 4910 (June 26, 2006).

gional emissions cap agreement undertaken by nine states in the Northeast,<sup>12</sup> and the regulations California has proposed for limiting automobile emissions.<sup>13</sup> The panelists also discussed the potential legal challenges, including preemption and federalism, that these state initiatives may encounter. The second panel, as impressively joined as the first,<sup>14</sup> examined the business opportunities for addressing climate change while supporting our current and future energy needs, in particular carbon dioxide emissions trading schemes. The panelists also discussed the federal government's decision to pursue technological innovation rather than entry into the Kyoto Protocol, reviewed environmental perspectives on the nuclear energy alternative, and examined the role of small-scale renewables in reducing energy consumption. The current issue reproduces transcripts of the debates and also features selected articles written by the participants of the Symposium. The debate and articles reflect some of the main challenges that the international community and its members are facing when dealing with global warming.

Several problems still need to be addressed if an effective solution is to be found. Among the many questions that negotiations will need to address, in my view, two questions stand out for their crucial significance. Firstly, an international agreement must include all the major contributors to climate change. The opposition of the United States to the current Kyoto Protocol arguably undermined its credibility and effectiveness<sup>15</sup> in addressing the problem. Secondly, developing countries must be brought within the group of countries accepting legally binding commitments to reduce, or more realistically cap, emissions responsible for global warming.<sup>16</sup>

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12. Memorandum of Understanding on the Regional Greenhouse Gas Initiative (Dec. 20, 2005), *available at* [http://www.rggi.org/docs/mou\\_final\\_12\\_20\\_05.pdf](http://www.rggi.org/docs/mou_final_12_20_05.pdf).

13. CAL. HEALTH & SAFETY CODE § 43018.5 (2002).

14. The panel, moderated by Sheila Foster, Professor of Law and Co-Director of the Stein Center, was privileged to have the participation of Karl Coplan, Associate Professor of Law at Pace Law School and C-Director of the Pace Environmental Litigation Clinic; Barry Rabe, Professor of Environmental Policy at the School of Natural Resources and Environment, Professor of Public Policy at the Gerald R. Ford School of Public Policy, and Academic Program Director for the Program in the Environment at the College of Literature, Science and the Arts; and Jake Werksman, Senior Advisor on Global Inclusion for the Rockefeller Foundation and Adjunct Assistant Professor of Law at New York University.

15. Kyoto was only a first step. More serious reductions are needed to deal with the problem.

16. Obviously differentiate between major polluters and growing economies and the Least Developed Countries for example.

Addressing these two issues, and the many others that need to be solved in order to find an effective solution to the global warming problem, presents the international community with unprecedented challenges. Yet, they are not insurmountable and indeed solutions may not be too far away.

For example, the United States' stance on global warming seems to have shifted in the past few years. The original strong skepticism of the current administration<sup>17</sup> seems to have given way to the realization of its seriousness and to the need for strong action.<sup>18</sup> The apparent conversion of the Federal Government should bode well for the future of international negotiations.<sup>19</sup> Hopefully strong Federal ini-

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17. See President George W. Bush, Remarks on Global Climate Change, 37 Weekly Comp. Pres. Doc. 876, 877 (June 11, 2001) (indicating that: “[W]e do not know how much effect natural fluctuations in climate may have had on warming. We do not know how much our climate could or will change in the future. We do not know how fast change will occur or even how some of our actions could impact it... And finally, no one can say with any certainty what constitutes a dangerous level of warming and, therefore, what level must be avoided.”); see also BRUCE ALBERTS, *Forward to CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME KEY QUESTIONS* at vii-viii (National Academy Press 2001).

18. In his 2007 State of the Union Address, the President stated:

[W]e must increase the supply of alternative fuels, by setting a mandatory fuels standard to require 35 billion gallons of renewable and alternative fuels in 2017... At the same time, we need to reform and modernize fuel economy standards for cars the way we did for light trucks -- and conserve up to 8.5 billion more gallons of gasoline by 2017... America is on the verge of technological breakthroughs that will enable us to live our lives less dependent on oil. And these technologies will help us be better stewards of the environment, and they will help us to confront the serious challenge of global climate change.

See 2007 State of the Union, *supra* note 1.

19. The Executive Secretary of the UNFCCC recognized this positive development:

First of all is that he is announcing a number of measures especially in the transportation sector to move towards using more sustainable forms of energy . . . . And secondly he has put actions that he intends to take in the context of

tiatives<sup>20</sup> will soon be adopted to complement and strengthen the myriad of initiatives undertaken by the Congress,<sup>21</sup> States,<sup>22</sup> local municipalities,<sup>23</sup> businesses<sup>24</sup> and individuals<sup>25</sup> within the United States.

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confronting the serious -- and he used the word 'serious' global challenge of climate changes. . . . That I think is very encouraging.

*UN climate chief calls Bush energy plan "encouraging,"* Agence France-Presse, Jan. 24, 2007, available at [http://news.yahoo.com/s/afp/20070124/sc\\_afp/uspoliticsbushenergyenvironmentunjapan\\_070124092116](http://news.yahoo.com/s/afp/20070124/sc_afp/uspoliticsbushenergyenvironmentunjapan_070124092116).

20. There were some of course, but arguably not very many and not very serious.

21. See The Farm Security Act, Pub. L. No. 107-171, 116 Stat. 134 (codified as amended in scattered sections of U.S.C.) (reauthorizes carbon cycle research, promotes carbon sequestration in forests, funds research into carbon sequestration, and supports renewable energy and energy efficiency on agricultural lands); The Energy Policy Act of 2005, Pub. L. No. 109-190, 19 Stat. 594 (codified in scattered sections of U.S.C.) (promotes the deployment of GHG intensity reducing technologies, authorizes several programs to promote the development and deployment of technologies that would capture and sequester CO<sub>2</sub> emissions, directs DOE to commission an NAS study of fuel cell technologies to determine, among other things, whether other technologies would be less expensive or more quickly implemented to significantly reduce GHG emissions, and includes several measures intended to promote climate-friendly technologies and activities).

22. In 2003, Maine became the first state in the country to pass a law that sets a statewide target for reducing greenhouse gas emissions with its Act to Provide Leadership in Addressing the Threat of Climate Change. New Jersey has developed several initiatives for engaging the public and private sectors in reducing greenhouse gas emissions, while twelve other states, including Colorado, Missouri, New York, Wisconsin, and Texas, have all introduced programs to improve energy efficiency. Over half of the states in the U.S. have completed comprehensive Climate Action Plans identifying cost-effective opportunities to reduce GHG emissions in consideration of their unique economies, resource bases, and political structures.

23. Fifteen cities in eleven states now have climate action plans, ranging in focus from initiatives on power generation, transportation and waste to programs in agriculture and forestry, and commercial and residential development. U.S. Env'tl. Prot. Agency, State Action Plans Database, available at <http://yosemite.epa.gov/gw/StatePolicyActions.nsf/matrices/local>. Sixty-five U.S. cities may be counted among the more than 475 members of Local Governments for Sustainability, an international association of local governments and national and regional local government organizations that have made a commitment to sustainable development, including the protection of the earth's climate. See ICLEI, Members List, <http://www.iclei.org/index.php?id=772>; Stephanie Simon, Cities, Towns Step Up Global Warming Fight, L.A. TIMES, Dec. 25, 2006, available at [http://www.stopglobalwarming.org/sgw\\_read.asp?id=41348132007](http://www.stopglobalwarming.org/sgw_read.asp?id=41348132007).

The focus on the Federal Government's actions, or more appropriately lack of significant actions, has too often overshadowed the "other" reality of climate change in the United States: the existence of several experiments and creative ideas to tackle the problem. The experience acquired in the "US laboratory" could provide ample examples to draw from when designing an effective global climate change strategy.

Developing countries increasingly realize that they are likely going to bear the brunt of the consequences of global warming and are therefore increasingly worried about it and willing to fully participate in finding a solution.<sup>26</sup>

Significant challenges lie ahead in the quest for finding an effective solution to address climate change. A solution that some argue is already within the realm of possibilities.<sup>27</sup> Difficult choices will need to be made and hard fought compromises will be required. A solution will comprise different tools, complementing each other. Innovation, adaptation and mitigation<sup>28</sup> should be three key components of any effective policy designed to tackle climate change. Climate change should not only be seen as a challenge but as an opportunity to rethink our relationship with our Planet. Dealing with climate change should furthermore force us to confront our energy dependence and free us from some of its consequences. Economic

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24. Forty-two corporations have joined the Pew Center on Global Climate-Change's Business Environmental Leadership Council, and thirty-two of them have voluntarily undertaken greenhouse gas reduction targets. See Pew Center on Global Climate, Business Environmental Leadership Council, [http://www.pewclimate.org/companies\\_leading\\_the\\_way\\_belc/](http://www.pewclimate.org/companies_leading_the_way_belc/).

25. Former Vice President, Al Gore garnered international attention and praise for his documentary, *An Inconvenient Truth*, which drew unprecedented attention and interest in global warming. Environmentalist Laurie David, who was a producer for the film, also founded the Stop Global Warming Virtual March at <http://www.stopglobalwarming.org> with Senator John McCain and Robert F. Kennedy, Jr., to empower individual U.S. citizens to urge their government to address the ticking time bomb that is global warming; over 600,000 supporters have joined.

26. See for example the Conference held at Monterrey, Mexico, in October 2006, where members of the G8 were joined by delegates from the major developing countries, such as China, India, Brazil, South Africa, to discuss global warming. Roger Harrabin, *Climate Change Threat 'Daunting'*, BBC NEWS, Oct. 4, 2006, available at <http://news.bbc.co.uk/2/hi/science/nature/5407998.stm>.

27. Stephen W. Pacala & Robert Socolow, *Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies*, 305 SCIENCE 968, 968-972 (2004).

28. THE STERN REVIEW, *supra* note 2, at 23-40.



opportunities are also often overlooked when discussing climate change: a new carbon free economy could in fact provide new business opportunities and new jobs.<sup>29</sup>

This Symposium has raised some of the crucial questions that need to be addressed within the US and more broadly within the international community on global warming. It has also offered different views and identified possible suggestions and solutions on how to effectively tackle the problem. Global warming indeed will require global solutions. However, global solutions to be effective will ultimately need to translate into state, regional, local and individual actions. Universities can and should play a role in educating about current cutting edge problems. They should be fora where different views are expressed, where discussions are stimulated and solutions are debated. This Symposium and the current issue of Fordham Law School's Environmental Law Review are evidence of Fordham's contribution and commitment to continue playing a role in the debate on global warming and of its continued involvement in the quest for finding a solution.

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29. PEW CENTER ON GLOBAL CLIMATE CHANGE, CLIMATE CHANGE 101: BUSINESS SOLUTION (2006), *available at* <http://www.pewclimate.org/docUploads/Climate101%2DFULL%5F121406%5F065519%2Epdf>.