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Meinhard Doelle*

The *Kyoto Protocol*: Reflections on
its Significance on the Occasion of its
Entry into Force

When the Kyoto Protocol was signed in December 1997, there were high hopes in some quarters that it marked the beginning of a global commitment to climate change mitigation. In the past seven years, however, the Protocol has languished while many of the key States have done little to implement it. Until the fall of 2004 it was uncertain whether the Protocol would ever enter into force. To the surprise of many, with ratification by Russia, it came into effect on February 16, 2005, only three years before the start of the first period of commitments to reduce greenhouse gas emissions into the environment.

This comment marks the occasion of the entry into force of the Protocol. The author considers Bruce Pardy's recent critique of the Protocol in the Journal of Environment Law. Pardy is one of the minority of academic writers who maintain the Protocol is so fundamentally flawed that we would make more progress without it. The author challenges Pardy's arguments and concludes that the Protocol may prove to be the most crucial step toward an effective international response to climate change.

Au moment où le Protocole de Kyoto a été signé, en décembre 1997, certains entretenaient de grands espoirs, croyant qu'ils s'agissait du premier pas vers un engagement mondial à la prise de mesures d'atténuation des changements climatiques. Cependant, au cours des sept dernières années, le Protocole a languie dans l'ombre pendant que beaucoup des principaux États ont peu fait pour le mettre en oeuvre. Jusqu'à l'automne 2004, il était impossible de dire si le Protocole entrerait jamais en vigueur. À la surprise de beaucoup, il a survécu, et grâce à la ratification par la Russie, le Protocole est entré en vigueur le 16 février 2005, trois ans à peine avant le début de la première période d'application des engagements à réduire les émissions de gaz à effet de serre dans l'environnement.

Le présent commentaire est publié à l'occasion de l'entrée en vigueur du Protocole. L'auteur examine la récente critique du protocole par Bruce Pardy, critique qui a été publiée dans le Journal of Environment Law. Bruce Pardy appartient à la minorité des universitaires qui prétendent que le Protocole souffre de lacunes si fondamentales que nous réaliserions des progrès plus importants s'il n'existait pas. L'auteur conteste les arguments avancés par Bruce Pardy et conclut que le Protocole pourra se révéler être la mesure primordiale qui provoquera une réaction internationale efficace aux changements climatiques.

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In December 1997, the parties to the *United Nations Framework Convention on Climate Change (UNFCCC)*¹ successfully negotiated the *Kyoto Protocol*.² It was and continues to be the only international agreement that includes obligatory emission reductions designed to mitigate human-induced climate change.

In essence, the *Kyoto Protocol* obliges developed member States to reduce greenhouse gas (GHG) emissions relative to 1990 levels.³ Reductions in emissions may be achieved through domestic emission reductions and through a number of alternative avenues provided for in the *Protocol*. Approved alternatives to domestic emission reductions include funding emission reductions in other States, purchasing emission reduction credits from States that have exceeded their reduction targets, and making up for emissions through efforts to take GHGs out of the atmosphere more quickly than would happen naturally.

Initially most States signed the *Protocol*, but few ratified it. Now, years later, on February 16, 2005, the *Kyoto Protocol* has, with its recent ratification by the Russian Federation, finally come into force.⁴ Russia's ratification had become essential for the operation of the *Protocol* after the United States declared in 2001 that it was not prepared to join the *Kyoto* process. The *Protocol* requires, in order to come into force, States representing 55% of developed country emissions to ratify it.⁵ Since the United States and Russia represent 36.1% and 17.4% of emissions respectively, the *Protocol* could not come into effect until at least one of them ratified it. Russia deposited its ratification on November 18, 2004,⁶ clearing the way for the *Protocol* to come into force 90 days later,⁷ on February 16, 2005.

There has been considerable debate about the *Kyoto Protocol* in the past seven years. Some have argued that the *Kyoto Protocol* is an inadequate response to a serious threat to human survival. Others have

1. *United Nations Framework Convention on Climate Change*, Intergovernmental Negotiating Committee for a Framework Convention on Climate Change OR, 5th Sess., Annex, UN Doc. A/AC.237/18 (PartII)/Add.1 (1992), 31 I.L.M. 849, online: UNFCCC <<http://unfccc.int/resource/docs/a/18p2a01.pdf>> [UNFCCC].

2. For an overview of the *Protocol* see Report of the Conference of the Parties on its Third Session, *Kyoto Protocol to the U.N. Framework Convention on Climate Change*, 3d Sess., Annex, Agenda Item 5, UN Doc. FCCC/CP/1997/7/Add.1 (1998), 37 I.L.M. 22 [*Kyoto Protocol*].

3. The main anthropogenic greenhouse gases covered by the *Protocol* are carbon dioxide, methane, and nitrous oxide, and the main source of their release is the burning of fossil fuels.

4. *Kyoto Protocol*, *supra* note 2.

5. *Ibid.*, art. 25.

6. See online: UNFCCC <<http://www.unfccc.int>>.

7. *Kyoto Protocol*, *supra* note 2, art. 25.

said that the *Protocol* will cause unnecessary economic and social harm. A few still suggest that the science on climate change is too uncertain to justify the action required under the *Protocol*. Its entry into force provides an opportunity to reflect on these debates especially since the *Protocol* is now destined to be the focal point of any efforts the international community may make to cooperatively address climate change. It is also likely to have a significant influence over domestic action on climate change, particularly in high emission, developed countries such as Canada.

One part of the debate over the *Protocol* has been about whether there is enough known about the science of climate change to justify its requirements.⁸ This concern has lost credibility over the past decade because of overwhelming scientific evidence that climate change is taking place and is caused largely by the release of greenhouse gases from human activity. The debate is therefore not considered here. Instead the author addresses the dominant debate of recent years over the adequacy of the *Kyoto Protocol* to address climate change. The debate has extended to the impact of the *Kyoto Protocol* on the future of international environmental law and its effect on compliance with international law.⁹

The *Kyoto Protocol* has not been universally endorsed by the academic community. A minority thinks that the *Kyoto Protocol* is too flawed and too small a step to make any positive contribution. The remainder, including this writer, consider the *Protocol* to be an inadequate but crucial 1st step forward for international cooperation on climate change. They think the *Protocol* has the potential to lead the way to more meaningful cooperation on other global environmental challenges as well.

In Canada, the debate over the importance of the *Kyoto Protocol* has been energized by a recent article by Bruce Pardy published in the *Journal of Environmental Practice*.¹⁰ In his article, Pardy takes the position that the *Protocol* is fundamentally flawed and that we would make more progress on climate change without it. Pardy supports his position with five specific critiques of the *Protocol*, critiques that have been reflected in the literature from the time the *Protocol* was negotiated.

8. See e.g., Petr Chylek & Glen Lesins, eds., "The First International Conference on Global Warming and the Next Ice Age" (August 19-24, 2001) Dalhousie University, Conference Proceedings. See also Henry R. Linden, "CO₂ Does Not Pollute: But *Kyoto's* Demise Won't End Debate" (15 May 2001) 139:10 *Public Utilities Fortnightly* 22.

9. See Jutta Brunée, "The *Kyoto Protocol*: Testing Ground For Compliance Theories?" (2003) 63 *Heidelberg Journal of International Law* 255.

10. See Bruce Pardy, "The *Kyoto Protocol*: Bad News for the Global Environment" (2004) 14 *J. Env'tl. L. & Prac.* 27.

Pardy's first argument is that the focus on reductions of GHG emissions from current levels, rather than on absolute emission limits, is flawed.¹¹ Secondly, he challenges the concept of common but differentiated responsibilities in the *UNFCCC*, as well as the *Kyoto Protocol*.¹² Thirdly, Pardy suggests that *Kyoto* rewards polluters rather than making them pay.¹³ Pardy's fourth argument is that the *Protocol* promotes development over sustainability.¹⁴ Finally, he argues that the *Kyoto Protocol* implicitly accepts the long term management of the climate as a final outcome.¹⁵ Thus, Pardy concludes that *Protocol* is an inadequate first step and that there would be more meaningful progress on climate change without it.

In taking up the issues raised by Pardy, it is important to point out that considerable agreement exists between the *Protocol's* supporters and opponents. It is generally agreed that the *Kyoto Protocol* by itself is inadequate to address climate change and that, in the long term, a number of its shortcomings will create significant challenges for the negotiation of future commitments. Disagreement, however, exists over the question whether the *Kyoto Protocol* and the *UNFCCC* are worse than no international agreement. While the author of this comment agrees that the *Kyoto Protocol* is only a small step in terms of direct GHG emission reductions, it may nevertheless prove to be the most crucial step toward an effective international response to climate change.

For the supporters of the *Kyoto Protocol* climate change is not a problem that can be solved by one agreement. In that respect, some of the criticisms of the international response to climate change may reflect unrealistic expectations of the climate change regime at its current stage of development. It has become clear during the years since its signing in 1997 that the *Kyoto Protocol* has struck a delicate balance. More effective efforts¹⁶ to set binding targets to reduce GHG emissions environmentally would surely have doomed the *Protocol* to failure.¹⁷

11. *Ibid.* at 29.

12. *Ibid.* at 31.

13. *Ibid.* at 34.

14. *Ibid.* at 35.

15. *Ibid.* at 37.

16. In the form of the first commitment period targets to developed countries to reduce emissions by 2012.

17. A combination of a distrust of international institutions and a strong industrial lobby in the U.S. has made its participation in the foreseeable future unlikely. In the absence of U.S. participation, many countries, including Canada, Japan, Russia, and Australia, were reluctant to ratify. It is highly unlikely that an environmentally stronger agreement would have survived the U.S. withdrawal. This would have left Europe as the only block of developed nations committed to addressing climate change.

As Pardy asserts in his article, the unwillingness of the international community to take more meaningful action does not necessarily lead to the conclusion that the *Protocol* is better than nothing.¹⁸ It does suggest a certain baseline or reference point to determine whether we are better off with or without the *Protocol*. The *Protocol* does not have to be an utopian solution. It does have to be better than nothing at all.¹⁹ From the Canadian perspective, the *Kyoto Protocol* passes this test with ease.

The argument that Canadians would be better off without the *Kyoto Protocol* rests on the assumption either that no *Protocol* would induce Canada to take more meaningful unilateral action on climate change or that it would spur the international community to reach a better arrangement, which would generate more action in Canada. The first alternative is not credible. There were no signs of serious government action on climate change (except from a handful of municipalities) until after the signing of the *Kyoto Protocol* in 1997.²⁰ More importantly, until the signing of the *Protocol* and the subsequent debate over its ratification by Canada in December 2002, there was no public pressure on governments to take action on climate change. In fact, until the public debate over ratification, the Canadian media rarely covered the subject of climate change and few Canadians understood the issues involved, let alone considered them priorities.²¹

This leaves us the question whether bringing *Kyoto* into force will reduce or increase the chance of reaching agreement on more meaningful reductions in the long term. The general concern (and one which needs to be taken very seriously regarding any partial solution to an environmental problem) is whether agreement to the *Protocol* as a first step will slow down or stop the pressure for an effective long term solution. There are many examples of inadequate initial responses to environmental challenges

18. *Supra* note 10 at 41

19. Whether the *Kyoto Protocol* passes this test can be considered both from a Canadian and a global perspective. Bruce Pardy, while making some reference to both, focuses on the *Protocol's* influence on Canadian action on climate change, so this critique follows suit. It is suggested, however, that the case for the *Protocol* from an international perspective is even more compelling.

20. See David R. Boyd, *Unnatural Law: Rethinking Canadian Environmental Law and Policy* (Vancouver: University of British Columbia Press, 2003) at 86. The only measures implemented in response to the *UNFCCC* in the early 1990s were voluntary measures that proved incapable of ensuring a return to 1990 levels by the year 2000 (one of the non-binding commitments Canada made in ratifying the *UNFCCC*).

21. For recent trends on public opinion on *Kyoto* and climate change, see EKOS Research Associates, "Canadian Attitudes Towards Climate Change: Spring 2004," Survey for Environment Canada and Natural Resources Canada (April 2004).

which arguably became major impediments to actual solutions. One is the environmental side agreement to the *North American Free Trade Agreement*.²² A domestic example might be the *Canadian Environmental Assessment Act (CEAA)*²³ which has turned out to be, at best, a partial response to the flaws of its predecessor, the Environmental Assessment and Review Process Guidelines Order.²⁴

Fortunately, the Protocol does not block future improvements. Indeed the need to improve on the *Protocol* and to continue to push for a final solution to climate change is built into the Kyoto process. Both the *UNFCCC* and the *Kyoto Protocol* recognize that the targets negotiated are only a first step and that further significant reductions are necessary. The *UNFCCC* provides a process and a timetable for the negotiation of further reductions.²⁵ In fact, negotiations are already underway and, with the entry into force of the *Protocol*, they are expected to become the priority of the parties to the *UNFCCC*.²⁶

With the *Protocol* in place, the parties will be able to focus on fixing problems encountered in the implementation of the current obligations, as well as on agreeing to further reductions, rather than redesigning an international regime.²⁷ In any case, the *Kyoto Protocol* requires significant reductions of GHG emissions over business-as-usual projections in developed countries. In Canada, the reduction will be roughly 30% below business-as-usual projections. On this basis alone, the *Protocol* is clearly better than no agreement at all.

In addition to these general observations on why *Kyoto* is unquestion-

22. *North American Agreement on Environmental Cooperation*, 8 September 1993, 32 I.L.M. 1480.

23. S.C. 1992, c. 37.

24. The passage of *CEAA* may be argued to have muted any serious debate on how to make environmental assessments in Canada a meaningful tool for sustainability. For a good assessment of *CEAA* and its shortcomings, see Robert B. Gibson, "Favouring the Higher Test: Contribution to Sustainability as the Central Criterion for Reviews and Decisions under the *Canadian Environmental Assessment Act*" (2000), 10 *J. Envtl. L. & Prac.* 39 and A. John Sinclair & Meinhard Doelle, "Using Law as a Tool to Ensure Meaningful Public Participation in Environmental Assessment" (2003) 12 *J. Envtl. L. & Prac.* 27.

25. For a detailed assessment of the *Kyoto Protocol* and the current status of the Climate Change regime, see Meinhard Doelle, "From *Kyoto* to Marrakech; A Long Walk Through the Desert: Mirage or Oasis?" 25 *Dal. L. J.* 113.

26. By how much will depend on a number of factors, including developments on the science, the U.S. position on *Kyoto*, and the practical experience of parties in implementing climate change mitigation to meet their reduction targets.

27. There is, of course, no guarantee that negotiations will be fruitful, but the tediously drawn out negotiations that have resulted in the agreements on institutions and ground rules for emission reduction negotiations, reporting, accounting etc., do not have to be repeated. The institutions are working; it is the substantive issues that are making more progress difficult.

ably better than no international agreement on binding commitments for reductions in developed countries, this commentary will now turn to Pardy's five specific criticisms identified at the outset.

1. *Is Kyoto flawed because of its focus on reductions rather than on limits?*

Pardy argues that the *Kyoto Protocol* is flawed because of its focus on reductions rather than absolute limits on emissions. In terms of the objective of reducing the human imprint on the world's climate, however, there is nothing inherently wrong with a focus on reductions rather than limits in setting interim reduction targets. Both absolute limits and reductions can achieve the same overall reduction in emissions. Indeed, there are some advantages to using reductions over absolute limits.

The focus on reductions avoids the potential problem of allocating emission rights or the perception of doing so. In other words, it allowed the parties to the *Kyoto Protocol* to agree on interim targets while negotiations on the longer term equity issues continued.²⁸ Nevertheless, as we move from interim steps to a final solution, it may be beneficial to adopt absolute limits. Pardy's preference is that emissions limits should be set on a per capita or per landmass basis, but this approach would create serious equity problems, which are discussed below.

2. *Is Kyoto flawed because of its reliance on common but differentiated responsibilities?*

The short answer is that this principle is essential for an equitable global response to climate change. Many critics, including the Bush administration in the United States, have been opposed to the *Kyoto Protocol* in part due to its application of the principle of common and differentiated responsibilities.²⁹ The fact that the current U.S. administration is using the absence of targets for developing countries as a reason not to join the Kyoto process does not, of course, in itself mean the principle is flawed, though it does point to problems with its implementation. It is noteworthy that the United States is a party to the *UNFCCC*³⁰ and other environmental agree-

28. Developing countries particularly were concerned that assigned amounts under the *Kyoto Protocol* should not be seen as rights to emit, but as obligations to reduce.

29. See *UNFCCC*, *supra* note 1, art. 3 for a reflection of the principle of common but differentiated responsibilities.

30. *Ibid.*

ments such as the *Montreal Protocol on Ozone Depleting Substances*³¹ which include and apply this principle. It is also important to recognise that the idea of setting different reduction targets for different States, was necessary, in the context of the Kyoto negotiations, to reach any agreement to start the process of reducing GHG emissions. Setting targets based simply on a per capita basis would have ignored other significant factors such as historical responsibility, differences in population density, differences in climate, and differences in access to renewable sources of energy.

It is not surprising, therefore, that simple per capita emission limits have been opposed by developed and developing countries alike. The per capita approach is a recipe for inaction in the short to medium term as well as being inequitable. It is already clear from work done by the Intergovernmental Panel on Climate Change (IPCC)³² and other bodies that the targets agreed to in the *Kyoto Protocol* will be much harder to meet by some States than others. Interestingly, some of the States with the highest per capita emission baselines will have the greatest difficulty achieving their targets.

More important than the issue of equity among developed countries is the importance of equity between developed and developing countries. Just as any solution to climate change that ignores links to other environmental issues is doomed to failure, so to is a solution that ignores equities between the have and have not nations of the world.³³

31. See e.g. Elizabeth R. DeSombre, "The Experience of the Montreal Protocol: Particularly Remarkable, and Remarkably Particular" (2001) 19 UCLA J. Envtl. L. & Pol'y 49. For the key international agreement on ozone layer depleting substances, see the *Montreal Protocol on Substances that Deplete the Ozone Layer*, 16 September 1987, 1522 U.N.T.S. 3, Can. T.S. 1989 No. 42, 26 I.L.M. 1550 (entered into force 1 January 1989), online: United Nations Environment Programme <<http://www.unep.org/ozone/pdf/Montreal-Protocol2000.pdf>>.

32. For a detailed assessment of regional costs and ancillary benefits of climate change mitigation, see Bert Metz et al., eds., *Climate Change 2001: Mitigation: Contribution of Working Group III to the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)* (Cambridge, England: Cambridge University Press, 2001) at 499 – 551 [IPCC].

33. For a good discussion of possible long term solutions to the allocation problem that take into account equity issues such as historical responsibility and capacity to respond, see Kevin A. Baumert (with Odile Blanchard, Silvia Llosa & James F. Perkaus), ed., *Building on the Kyoto Protocol: Options for Protecting the Climate* (Washington, D.C.: World Resources Institute, 2002), online: WRI <http://pdf.wri.org/opc_full.pdf>. See also Global Commons Institute, online: GCI <<http://www.gci.org.uk/>>, for technical support and information concerning "Contraction and Convergence." A planning model, "Contraction and Convergence Options," is also available for download. See also V. Bhaskar, "Distributive Justice and the Control of Global Warming" in V. Bhaskar & Andrew Glyn, eds., *The North, the South and the Environment* (London: United Nations University Press, 1995) 102; Michael Grubb, "Seeking Fair Weather: Ethics and the International Debate on Climate Change" (1995) 71 *International Affairs* 463; Eileen Claussen & Lisa McNeilly, *Equity & Global Climate Change: The Complex Elements of Global Fairness* (Washington, D.C.: Pew Center on Global Climate Change, 1998), online: PCGCC <<http://www.pewclimate.org/>>

One real shortcoming of the *Kyoto Protocol* is that the targets for developed countries are based on pledges by individual States. There was no agreement on principles to guide the allocation of obligations to reduce emissions. The failure to agree on principles will make the future negotiation of commitment periods and targets difficult. Nonetheless, the negotiations will be much less difficult than they would have been without the *Protocol*.

3. *Does Kyoto reward polluters?*

The suggestion that the *Kyoto Protocol* rewards polluters assumes that the *Protocol* is a complete and final international solution, that in its absence there would be something more onerous in place for polluters, or that it will allow States to establish long term emission rights based on 1990 emissions. In fact the baseline of 1990 has been very useful in rewarding early action and in reducing the risk that parties will intentionally delay negotiations to avoid having to take any action. There is nothing in the *Protocol* to support the position that the baseline can somehow be translated into a right to emit GHG at historical levels after 2012. Further, there is no indication that the targets of the three worst per capita polluters, the United States, Canada, and Australia, are more lenient than those of the European Union and other countries with a lower baseline. Of the three Australia is the only State that is recognized to have an easy target to meet despite having one of the highest levels of emissions per capita.³⁴

Compared to the absence of an international agreement the *Kyoto Protocol* clearly makes polluters pay. At the same time, the *Protocol* is a long way from forcing States to internalize the full cost of climate change. Much tougher targets are clearly needed beyond 2012 to make polluters pay for all the consequences of their actions.

4. *Is Kyoto flawed because it promotes development over sustainability?*

There is little doubt that the targets for the first commitment period in the *Protocol* will not prevent further unsustainable development. For instance, coal-burning power plants are still being built in many parts of the world even though coal is the most GHG-intensive way to produce electricity. At the same time, the *Protocol* does make a modest contribution to the promotion of sustainable development. The significance of that contribu-

34. See IPCC, *supra* note 32 at 501.

tion will depend on the implementation choices made by the parties.³⁵ With appropriate use of techniques such as the Clean Development Mechanism and an integrated approach to domestic implementation that takes advantage of links and co-benefits,³⁶ the contribution the *Kyoto Protocol* makes to sustainability could be significantly enhanced.

For the *Protocol* to become an effective tool for sustainability, however, many of its shortcomings will have to be addressed in conjunction with the negotiation of targets for future commitment periods. In the meantime, perhaps the most important contribution it will make to sustainable development is to signal that the international community has irreversibly entered a new phase globally, that of a carbon-constrained world. Just such a signal has played a pivotal role in the international response to other environmental issues such as ozone layer depletion and acid rain.

5. *Does Kyoto aim too low by accepting the long-term management of climate change?*

It is clearly premature to accept the long-term need to manage the global climate. It may, in any case, be arrogant to assume that we can achieve such a feat. In the meantime, however, we have no choice but to muddle through managing as best as we can. Critics such as Pardy are right to point out that we need to focus our efforts on reducing our impact on climate change rather than accepting long-term management of the climate system. Nonetheless, the Kyoto process, as difficult and imperfect as it is, is still the most realistic and promising path to follow.

6. *Is Kyoto substantively inadequate as a first step?*

Many critics of the *Kyoto Protocol* argue that it is inadequate even as an interim measure. The difficulty is that there is no appropriate comparison. The comparison to the Stockholm Declaration made by Pardy ignores fundamental differences between the soft law nature of that declaration and binding treaties. A comparison to the *Montreal Protocol* on ozone layer depletion³⁷ may be more appropriate. Although initially that agreement was inadequate, the implementation of its first targets in combination with scientific developments motivated the parties to take further steps to

35. See Meinhard Doelle, "Linking the *Kyoto Protocol* and Other Multilateral Environmental Agreements. From Fragmentation to Integration?" (2004) 14 J. Env'tl. L. & Prac. 75.

36. *Ibid.*

37. *Supra* note 31.

address the problem. It should not be forgotten, however, that climate change is a much more fundamental challenge to the western way of life than ozone layer depletion ever was.

It is not surprising that the *Kyoto Protocol* will only have a small impact on climate change. It is important, however, not to confuse small with easy or inadequate. The *Protocol* may be a small step toward reducing GHG emissions but it is an extremely difficult step in terms of what it challenges States to do. In addition, the *Kyoto Protocol* has broken new ground for multilateral environmental agreements through the commitments required to meet its obligations and the nature of its compliance regime. It is also worth reiterating that the *Protocol* has already had a significant impact in Canada, a State that to date has shown no willingness to lead internationally on climate change. It is only now, after the *Kyoto Protocol* has been ratified, that Canada is taking its first serious steps to mitigate climate change.

Many who dismiss the *Kyoto Protocol* make the serious mistake of assuming that because on its own, it is inadequate in addressing climate change, it is not a worthwhile step forward. That is a fallacy. Achieving global consensus to address climate change in one step was impossible. Setting expectations for international cooperation so high would have doomed the international community to inaction. The *Kyoto Protocol* does much better than that. It marks the beginning of meaningful binding international agreements to address global environmental challenges. It may be the first multilateral environmental agreement that forces States to act against their short term self interests in order to cooperatively address a global challenge. It is unprecedented both in its short term costs and its long term risks and benefits.

This comment offers an alternative to Pardy's analogy of the role of the *Kyoto Protocol* in the development of a global response to climate change. The analogy Pardy uses is one of a family who spends more than it earns. He suggests that ratifying the *Protocol* amounts to the family making decisions to reduce spending without knowing the extent of the debt, and without knowing if the commitments by individual family members to reduce spending will solve the deficit problem. A more appropriate analogy is that of a train travelling through thick fog. The conductor, at the start of the trip, is instructed to try to determine how fast the train can go. In the middle of the experiment, the passengers receive information that the train is heading for a brick wall, but no one can see it through the fog, and no one knows how close the wall is. The conductor informs the passengers that he can only interrupt the experiment if they all

agree and collectively give new instructions.

The *Kyoto Protocol* represents an agreement to slow down while the parties try to agree on the credibility of the information and to ascertain how close the wall is.³⁸ Most passengers would favour an agreement to stop the train. In the absence of such an agreement, and without any ability to get off the train, it is safe to assume that they would welcome an agreement to slow down.

There is no reason to think that the ratification of the *Kyoto Protocol* will detract from the urgent need to address climate change. At the same time, it must be recognized that Kyoto has started the process of slowing down. To continue the analogy, slowing down the train is a good start, but as long as the train continues to move ahead, at whatever speed, catastrophe is inevitable. The *Kyoto Protocol* is at once both inadequate and an example of the ability of the international community, in the face of tremendous odds, to collectively respond to a complex challenge. Our immediate goal should be to seize the opportunity the Kyoto process provides.

38. And for the fog to dissipate.