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Kyoto Protocol Dilemma: Better to have a weak agreement  
than no agreement at all?

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## Abstract

This paper attempts to answer the statement made by an NGO observer and quoted into Benedick (2001): “Better to have a weak agreement than no agreement at all”. After the introduction in part 1, part 2 challenges and questions the notion as if Kyoto is a weak treaty. Part 3 discusses about the prospect of Kyoto after Russia’s ratification. Part 4 is about the anatomy of Kyoto protocol. Discussion about the Possibility of US Participation After 9/11 and the Science of Climate Change & the Politics of Fear will be in part 5 and 6. Part 7 discusses alternative action beyond Kyoto and the conclusion will be presented at the end.

## 1 Introduction

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Russia had not yet ratified the Kyoto Protocol when Richard Benedick quoted an NGO observer stated that “better to have a weak agreement than no agreement at all” into his essay entitled “Striking a New Deal on Climate Change” in the Fall 2001 and the most cynical publication on Kyoto Treaty of David Victor (2001, 2004)<sup>1</sup> entitled “The Collapse of the Kyoto Protocol and the Struggle to Slow Global Warming”.

Therefore, the “weak” agreement of the UNFCCC has become “stronger” agreement as a result of Russia’s ratification on 18 November 2004. With its 17.4% contribution to global green house gas (GHG) emission, Russia makes the cumulative of Annex 1 countries that have already ratified the Kyoto Protocol became 61.6% or 6.6% more than required to take effect into force.<sup>2</sup>

The main argument of the “collapse of the Kyoto Protocol” is exactly as Alison Purdy<sup>3</sup> quoted some scientist commenting that ‘the agreement is “toothless” and virtually obsolete without US support’. Such cynical comments above are always made before, during and after the Kyoto coming into force on 16 February 2005. Hence, the involvement of the United States is considered essential.

Some might share the notion that “better to have a weak agreement than no agreement at all” (Benedick 2001) while still “will be keeping the treaty going now and rethinking its controversial goals later” (Kerr, 2000).

The spirit behind fabulous efforts to make the Kyoto treaty entry into force might be that as it was in The Hague COP6 meeting on 13 November 2000, expecting that it

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<sup>1</sup> The book has updated its preface in January 2004, or ten months before Russia ratified the Kyoto Protocol.

<sup>2</sup> See: [http://unfccc.int/files/essential\\_background/kyoto\\_protocol/application/pdf/kpstats.pdf](http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf)

<sup>3</sup>Guardian Special Report on Climate Change, Wednesday February 16, 2005 online at: <http://www.guardian.co.uk/climatechange/story/0,12374,1415660,00.html>

“would give legal force to the commitment to reduce overall emissions by developed countries by 5% compared to 1990 levels during the five-year period 2008-2012”.<sup>4</sup> During the COP6, only 30 countries and all from the developing world that had already ratified the Protocol.<sup>5</sup> It is not a little progress somehow.

On the other hand, the US believes that Kyoto is not the only way to deal with climate change because “Numerous opportunities exist to reduce GHG emissions cost-effectively while achieving multiple benefits”. In addition, “there is no single solution to climate change”, because GHG emissions come from thousands of activities; they can be reduced through thousands of approaches. (Pew Climate 2004: 2)

## 2 Is Kyoto a weak treaty?

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I would argue that as ‘nothing perfect in this world’, so as the Kyoto Protocol is not a perfect one. It is not a perfect one is because there is no single universal standardization about perfection of any single global environmental treaty, such as the ‘delayed’ successful treaty as Kyoto Protocol or even the famous successful international environmental treaty as Montreal Protocol.

I think international environmental treaty such as Kyoto Protocol might have weaknesses within itself or is internally ‘invalid’ because it is potentially prone to “free riders” due to the absence of a specific “free riding deterrence mechanism” and “Leakage prevention mechanism” as Barrett (2003) tries to show. I will further discuss Barrett’s argument in the next parts.

Kyoto treaty is seen as unacceptable by specific party such as the US or Australia which sees that it is too costly and demanding, based on flawed scientific claims and it is not the only way to tackle climate change. (Lomborg 2001, Victor 2001, 2004, Benedick 2001).

Riordan (2000) argues that “... .. because of energy-intensive resource extraction industry, much of which maintains jobs in peripheral economies. To eliminate those would be political suicide in the short term. So equal per capita reductions are not on for the moment: they have to be converged over a century. UNFCCC tried to ignore this reality and paid the price. Kyoto face up to it” (Riordan ed. 2000: 193).

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<sup>4</sup> See UNFCCC/COP6/2 PRESS RELEASE 13 November 2000 “ *World climate change conference opens in The Hague Challenge is to make Kyoto Protocol operational - Dutch Environment Minister Jan Pronk chosen as President.* Available at UNFCCC website:

<http://unfccc.int/cop6/pdf/pressrelease2.pdf#search='the%20hague%20%20kyoto%20protocol'>

<sup>5</sup> Ibid..

Holtsmark (2003) considers both the US and Australian withdrawal from the Kyoto Protocol will contribute to insignificant result to mitigate climate change. “Protocol without the US as like musical chairs with one too many chairs—there is a lot of marching around, but nothing happens” (p. 399).

Hagem, and Holtsmark explains their model calculation that if Kyoto Protocol is implemented without the participation of the United States, “the effect on global emissions will be reduced from small to insignificant, and the international permit price will be reduced to one third of what it would have been if the United States had upheld its commitments” (Hagem & Holtsmark 2001: 1)

### **3 After Russia Ratification**

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Experts argue that Russia ratification will not contribute much to succeed the Kyoto Protocol (Barrett 2003, Hagem & Holtsmark 2001, and Holtsmark 2003). A pessimistic expression is like this: “even if Kyoto enters into force, victory for the treaty can not be declared. Like all other countries, Russia has nothing to lose by ratifying, given its hot air” (Barrett 2003: 373).

Another pessimistic view is that it is doubtful about the sustainability efforts to succeed the Kyoto Protocol and the UNFCCC because it depends on the willingness of a very large number of governments to fully participate and not making their own ‘game’. Verweij (2003) comments that “Its supporters have defended the Protocol as a ‘first step’. But making that first step has taken ten years (and counting), and subsequent steps may actually be harder to make”.

Russia has helped the Kyoto come into force but it will not make much different as experts expect. I think the most crucial one is that the Kyoto’s entry into force will affect little in the emission trading because without the USA, it is a thin market beside that Russia is more a potential seller (of its “hot air”) than a buyer.

### **4 The Anatomy of Kyoto Treaty**

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I found that Barrett (2002), Riordan ed. (2000) and Benedict (1998) and Victor (2004) strongly argue that the process of the international treaty is critical to its success. Benedick (1998: 319) states that “the signing of a treaty is not necessarily the decisive event in a negotiation; the process before and after signing is critical.”

Barrett (2003) assumes that countries’ participation in international environmental treaties involve mixed motives. Self-interest combined with sovereignty issues will dictate the decision making to sign and to comply a treaty.

In terms of theoretical manner, self-enforcement should overcome the problem of unilateralism such as the US in the context of Kyoto Protocol. However, it must satisfy three conditions: Firstly, “a treaty must be *individually rational*, which means that no party to the treaty can gain by withdrawing; It also means that no party can gain by failing to comply.” In this case, Russia and most parties decided to ratify because they met this principle that they will gain by deciding to comply.

Secondly, a treaty must be *collectively rational* which assumes that “a negotiation to be a collective activity and requires that it will not be possible for parties to gain collectively by changing their treaty.” Thirdly, a self enforcing party must be “fair” or perceived by the parties as being legitimate. (Barret 2003: xiii,xiv).

One critical point to Kyoto Protocol is because its negotiation focus was on the setting of targets and timetable. When the treaty was first negotiated, little attention was given either to compliance or participation (Barret 2003:383)

#### 4.1 Linkage and Free Rider Issues

China is second biggest greenhouse gas emitter.<sup>6</sup> Hence the notion about the leakage that even if Kyoto succeeds in reducing GhG emission of the Annex 1 countries, “the consequence may be to increase the emissions of other non-annex 1 countries” such as China. However, this simply a political worry (Barrett 2003: 383).

Table 1. Comparison of the Montreal and Kyoto Protocol (Barrett 2003, p. 361)

	Montreal	Kyoto
Quantitative emission limits: -for industrialized countries for developing countries Emission offsets	Yes Yes Yes; subtracts from production the amount destroyed	Yes No Yes; subtracts from gross emissions removal by sinks.
Comprehensive treatment of gross emissions	Yes; trade-offs allowed within ( <b>Ozone Depleting Substances</b> ) ODS categories	Yes; limitation applies to an aggregate of six pollutants
Non-uniform emission limits	Yes; developing countries have different limits, though limits are uniform within country categories.	Yes; limits are country specific, and economies in transition allowed to use an alternative base year
Permanent emission limits	Yes.	No. limitation only for 2008-12; future limitation by amendments
International trading in	For purpose of “industrial	Yes

<sup>6</sup> <http://www.scidev.net/News/index.cfm?fuseaction=readnews&itemid=1761&language=1>

emission entitlements	rationalization”; EC treated as bubble.	
Inter-temporal trading in emission entitlements	No.	Yes. Emission limits over the period 2008-12 must be met on average and additional reductions can be credited to the next control period
Joint implementation	No; not needed since all signatories subject to emission ceilings and trading is already allowed.	Yes. Between annex 1 countries and though the CDM, between annex 1 and non-annex 1 countries.
Reporting requirements	Yes	Yes
Verification procedures	Yes	Yes
Side payments	Yes; pays incremental cost for developing countries, and Global Environmental Facility (GEF) offers assistance to economies transition.	Transfer would be effected by trading and the CDM, between annex 1 and non-annex 1 countries
Compliance procedures and mechanism	Yes, though specific punishment are not mandated	Yes, though mechanism with “binding consequences” can only be adapted by amendment.
Free-rider deterrence mechanism	Yes; trade restrictions with non-parties in ODSs and product containing ODSs plus the threat to ban trade in products made using ODSs.	No, with possible exception of the minimum participation clause,
Leakage prevention mechanism	Yes; in the form of trade restrictions between parties and non-parties	No.
Minimum participation for entry into force	Ratification at least 11 countries making up at least two-thirds of global consumption of ODSs in 1986.	Ratification by at least 55 countries, accounting for at least 55 percent of total annex 1 CO2 emissions for 1990.

## 5 US Participation After 9/11

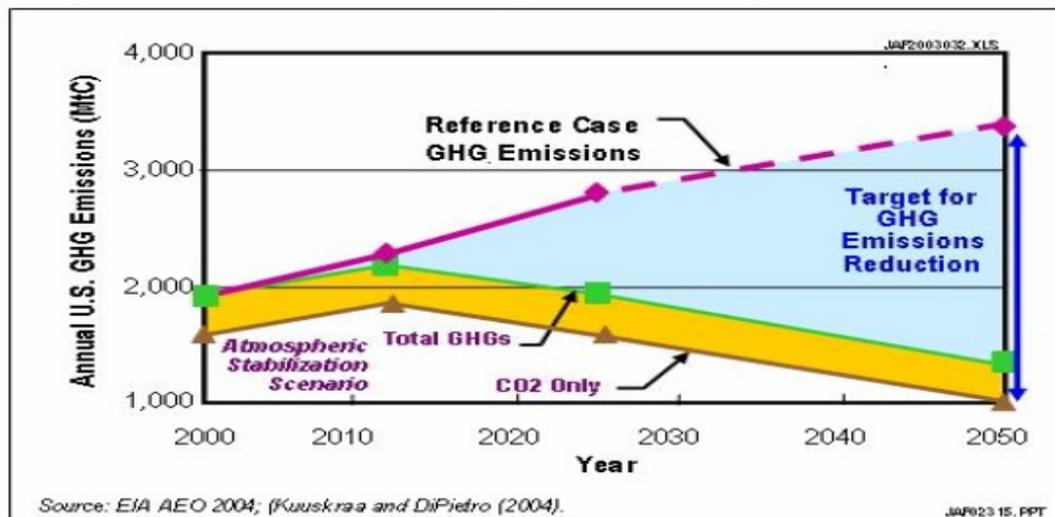
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US reaction to the Kyoto Protocol is still the same before and after 9/11 as it usually points out that: "Addressing global climate change will require a sustained effort, over many generations. The U.S. approach recognizes that sustained economic growth is

the solution, not the problem – because a nation that grows its economy is a nation that can afford investments in efficiency, new technologies, and a cleaner environment.”<sup>7</sup>

Nevertheless, Victor (2004) mentions an important fact that “the single worst day for Kyoto was September 11, 2001. As Twin Towers fell, Americans understandably focused on new priorities. The final meeting in Bush’s cabinet-level process for developing a new climate policy had been scheduled for that week. Who knows what they would decided, but it is certain that without the eclipse of September 11 the Bush administration would have been under pressure to provide something credible. Until that defining moment, the U.S. government was severely isolated on this issue; domestic opposition to the policy was well organized. But when Americans instantly refocused their attention – first to terror then to war and also to the ailing economy - the broad climate change evaporated quickly” (Victor 2004: 130-131).

Figure 1. Reference case and atmospheric stabilization, U.S. GHG emissions (taken from Kuuskraa et. al. 2004: 3)



Furthermore, climate change and the threat of global warming are poorly understood by the U.S. public, and taking action to reduce their impact is not a high priority, according to a recent MIT survey. These results suggest that change in U.S. climate policy will not be led by public opinion. Elected officials will have to provide leadership--a task they will find difficult because achieving significant reduction of the greenhouse gases linked to climate change may involve economic costs well above what the average consumer is willing to pay<sup>8</sup>

<sup>7</sup> <http://www.whitehouse.gov/news/releases/2002/02/climatechange.html>

<sup>8</sup>See the most current findings: “Climate change poorly understood by US public”, MIT survey available at: <http://www.physorg.com/news3485.html>

At the moment, the most possible option to pull the US into global concerted action to tackle climate change, some experts suggest alternatives to Kyoto Protocol. For instance, Benedict (2001) suggests that the United States to develop a modest domestic cap-and-trade system, where a relatively small number of leading polluting countries to coordinate policy measures. Expansion in state-funded energy R&D, financed by a small carbon tax. Technology targets and technology transfer to developing countries, financed as foreign aid rather than through a trading system.

#### **4.1 The U.S Unilateralism in Climate Change Mitigation**

Looking back at the history of UNFCCC, it is clear that the U.S also actively involve in proposing some of the Kyoto Mechanism such as the trading mechanism that descended from the succeed of Montreal Protocol. However, since they can not ratify the Kyoto, given the above reasons, hence they have their own strategy with similar general target (that is to reduce GhG emission) but with different time tables.

“We are working hard to make constructive progress in a manner that promotes economic growth, U.S. jobs, and new technology through international partnerships with the developed and developing nations responsible for more than 70 percent of greenhouse gas emissions”.<sup>9</sup>

Formal Answer by the U.S government<sup>10</sup> is that the administration is committed to reducing the United States’ greenhouse gas intensity 18 percent over the next 10 years – preventing more than 500 million tons of carbon emissions through 2012. With their strong economic power, Bush’s 2005 budget proposes \$5.8 billion for climate change activities – a 13.9 percent increase – and includes over \$200 million technology transfer to developing countries, and nearly \$700 million for greenhouse gas reduction through tax incentives for renewable and energy efficient technologies.<sup>11</sup>

The US government still insists that research into better technologies is more important than premature, expensive measures to cut emissions and that may be right. But time is running out. It took 150 years for CO<sub>2</sub> concentrations to rise from 280 ppm to 330 ppm; it has taken just 30 years to get from 330 ppm to 380 ppm. Last year,

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<sup>9</sup> <http://www.whitehouse.gov/ask/20041022.html>

<sup>10</sup> <http://www.whitehouse.gov/ask/20041022.html>

<sup>11</sup> The President’s hydrogen initiative provides \$1.7 billion to develop and fuel a new generation of hydrogen-powered vehicles that with no pollution or greenhouse gases. And through the FutureGen program, the first full-scale coal-fired power plant that is pollution-free and emits no greenhouse gases will be built. These investments achieve both goals of addressing climate change and protecting our economy.

concentrations rose by a record 3 ppm.” “That might have been a blip. But it could also mean that the ability of oceans and forests to soak up much of our emissions is reaching saturation point. If so, then we could be on course for 450 ppm by 2030 and 550 ppm by 2060.”<sup>12</sup>

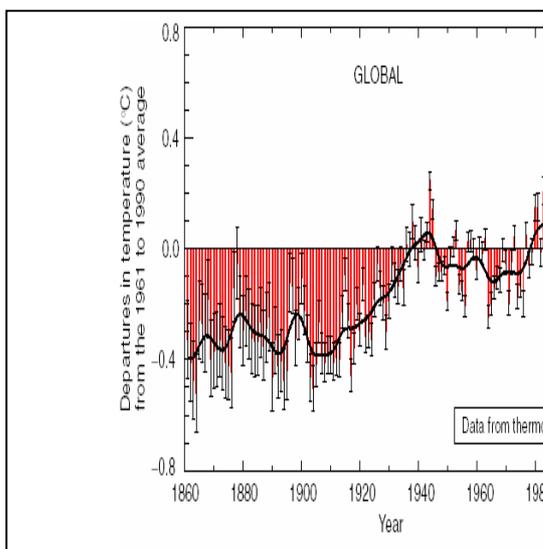
By Presenting these entire claim, I would argue that in the near future, there is no likelihood for the U.S. to be influenced by all climate change diplomacy efforts within the Kyoto mechanism. Therefore, de facto, Kyoto is still being questioned for its effectiveness in tackling climate change.

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<sup>12</sup> <http://www.newscientist.com/article.ns?id=dn6494>

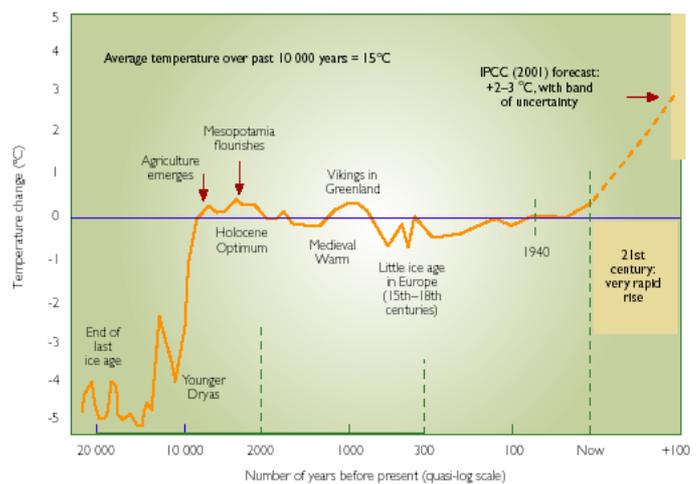
## 6 The science vs the politics of fear

Climate Change is real and its projections are also hardly doubted. Prof Andrew Palmer mentioned that CO<sub>2</sub> emissions into atmosphere are currently estimated at 200 tonnes/second or 6 Giga ton/year.<sup>13</sup> Adger et. al. (2003:1) also states the risks associated with climate change are real but highly uncertain.



**Figure 2 (IPCC 2001a)**

**Figure 1.1. Variations in Earth's average surface temperature, over the past 20,000 years**



**Figure 3 take from P.70 figure 22 IPCC CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS**

Figure 2 & 3 is overused to show the evolution of the green house gasses (GhG) since pre-industrial revolution up to date with its projection towards 2100. Even the sceptic as Lomborg (2001, 2004) believes that climate change is emerging. The statement of “scientifically flawed” blamed to the scenario of Kyoto in tackling the climate change and not to the climate change it self.

CO<sub>2</sub> is not the only GhG but there are five others that are: methane (CH<sub>4</sub>), Nitrous dioxide (N<sub>2</sub>O), HFC group (C-H-F), Sulphur hexafluoride (SF<sub>6</sub>) and Perfluroucarbons (C-F). These GhGs are the cause of anthropogenic global warming since the genesis of the industrial revolution and hence need to be reduced at the non-harmful level as Kyoto intends to do so.

<sup>13</sup> Cambridge Environmental Initiatives (CEI) Seminar Proceeding, CO<sub>2</sub> Sequestration, October 2004. See: <http://www.cei.group.cam.ac.uk>

The long list in Table 2 is often quoted in order to create ‘terror’ in which helps communicate the imagined risks. From the skeptical point of view, as Carlisle (1999) said that “Global warming theory proponents have resorted to the politics of fear”. The argument I am going to make by quoting the long lists table is that the communication of risk of climate change should not outweigh the willingness to produce realistic decisions to tackle the climate change which is not cheap and full of political and economic consequences intra and inter-national.

**Table 2. Examples of Impacts resulting from projected changes in extreme climate events, IPCC Report on Climate Change 2001: Impacts, Adaptation and Vulnerability (p.7)**

Projected Changes during the 21st Century in Extreme Climate Phenomena and their Likelihood	Representative Examples of Projected Impacts <i>(all high confidence of occurrence in some areas)</i>
<i>Simple Extremes</i>	
Higher maximum temperatures; more hot days and heat waves over nearly all land areas ( <i>very likely</i> )	<ul style="list-style-type: none"> <li>• Increased incidence of death and serious illness in older age groups and urban poor</li> <li>• Increased heat stress in livestock and wildlife</li> <li>• Shift in tourist destinations</li> <li>• Increased risk of damage to a number of crops</li> <li>• Increased electric cooling demand and reduced energy supply reliability</li> </ul>
Higher (increasing) minimum temperatures; fewer cold days, frost days, and cold waves over nearly all land areas ( <i>very likely</i> )	<ul style="list-style-type: none"> <li>• Decreased cold-related human morbidity and mortality</li> <li>• Decreased risk of damage to a number of crops, and increased risk to others</li> <li>• Extended range and activity of some pest and disease vectors</li> <li>• Reduced heating energy demand</li> </ul>
More intense precipitation events. ( <i>very likely</i> over many areas)	<ul style="list-style-type: none"> <li>• Increased flood, landslide, avalanche, and mudslide damage</li> <li>• Increased soil erosion</li> <li>• Increased flood runoff could increase recharge of some floodplain aquifers</li> <li>• Increased pressure on government and private flood insurance systems and disaster relief</li> </ul>

<i>Complex Extremes</i>	
Increased summer drying over most mid-latitude continental interiors and associated risk of drought ( <i>likely</i> )	<ul style="list-style-type: none"> <li>• Decreased crop yields</li> <li>• Increased damage to building foundations caused by ground shrinkage</li> <li>• Decreased water resource quantity and quality</li> <li>• Increased risk of forest fire</li> </ul>
Increase in tropical cyclone peak wind intensities, mean and peak precipitation intensities ( <i>likely</i> over some areas)	<ul style="list-style-type: none"> <li>• Increased risks to human life, risk of infectious disease epidemics, and many other risks</li> <li>• Increased coastal erosion and damage to coastal buildings and infrastructure</li> <li>• Increased damage to coastal ecosystems such as coral reefs and mangroves</li> </ul>
Intensified droughts and floods associated with El Niño events in many different regions ( <i>likely</i> ) (see also under droughts and intense precipitation events)	<ul style="list-style-type: none"> <li>• Decreased agricultural and rangeland productivity in drought- and flood-prone regions</li> <li>• Decreased hydro-power potential in drought-prone regions</li> </ul>
Increased Asian summer monsoon precipitation variability ( <i>likely</i> )	Increased flood and drought magnitude and damages in temperate and tropical Asia
Increased intensity of mid-latitude storms (little agreement between current models)	<ul style="list-style-type: none"> <li>• Increased risks to human life and health</li> <li>• Increased property and infrastructure losses</li> <li>• Increased damage to coastal ecosystems</li> </ul>

## **7 The dilemma: What next? Beyond Kyoto?**

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Benedict (2001) notes four elements that needed for an effective post-Kyoto U.S. plan of action: (1) start reducing emissions, (2) invest in a technological revolution, (3) accelerate technology transfer and joint implementation (4) adopt technology-based objectives. He mentioned that “regardless of whether the Kyoto Protocol enters into force

or the United States ratifies it, the United States should start down its own path of reducing emissions”.

Developing countries insist they can only accept quotas based on population and suggest extending the Kyoto plans for emissions trading to smooth the transition. Industrialised countries such as the US, which emits eight times as much CO<sub>2</sub> per head of population as China and 18 times as much as India, reject such suggestions, but are having difficulty finding a fair alternative (Benedick 2001).

The ‘ghost’ of successful history of Montreal should have not been copied to the design of Kyoto. As Barrett (2003) and Victor (2004) argue that the working model from which the Kyoto Protocol emerged was the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer. In Victor’s view, the Montreal agreement, with its targets-and-timetables approach, was ill suited to address the complex trading issues involved in climate protection.

Victor (2004) suggests that these problems need to be managed through a hybrid system of trading and taxes in which governments set targets for both the quantities of emissions reductions to be achieved and the maximum price of emissions permits to be traded. Without cost containment, governments will pursue compliance strategies on paper that hedges their risks of paying exorbitant permit prices. He further calculates that global permits for carbon dioxide emissions alone could be worth about \$2 trillion. Russia and Ukraine have successfully exploited their own economic misery to obtain very generous emissions targets under the Kyoto agreement, thereby creating billions of dollars of surplus emissions credits to be sold to Western nations without producing any improvement in climate protection (so-called hot air trading).

## 8 Conclusion

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In answering the challenged question “better to have a weak agreement than no agreement at all”, I have no “yes and no” answer to offer here.

Indeed, by Russia’s ratification of Kyoto, the treaty, *de jure*, has its power to sting because it has become a legally binding to the parties that ratified it. The question is that whether it is effective to achieve the UNFCCC short term targets in the period of 2008-2012 to significantly cut parties’ GhG emission to the designed level below 1990? Hence it is *de facto* being questioned due to the absence of the USA. Again, as a realist, I think “all or nothing” principle is relevant.

Lessons learned from Montreal Protocol that overstated in which argued that technology provides an irresistible incentive for developing countries to accept commitments. What is needed now is a farsighted strategic vision that explicitly

addresses issues of technological research, development, and diffusion, aimed at nothing less than a technological revolution in energy production and consumption.

If the intention of the UNFCCC that a single treaty that binds all the countries together to mitigate climate change is still relevant, then all parties should be ready to renegotiate with the possibility of clausal changes and change in time table and targets. Otherwise, it may remain powerless and ineffective.

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