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# THE EFFECTS OF THE KYOTO PROTOCOL ON TAIWAN

by Yi-Yuan (William) Su\*

## INTRODUCTION

The United Nations Framework Convention on Climate Change (“UNFCCC” or “Convention”)<sup>1</sup> and the Kyoto Protocol<sup>2</sup> were the first binding international laws to address global warming and control manmade greenhouse gas (“GHG”) emissions. The UNFCCC went into effect on March 21, 1994. The Kyoto Protocol, an update to the UNFCCC treaty, officially became law on February 16, 2005.

Both the UNFCCC and the Kyoto Protocol, like many international agreements, limit participation in negotiations and ratification to “States.” After the General Assembly of the United Nations recognized the People’s Republic of China (“PRC”) as the only representative of China in 1971,<sup>3</sup> most States severed diplomatic relations with Taiwan.<sup>4</sup> As it is not recognized as a “State” pursuant to international treaty definitions, Taiwan faces a tremendous obstacle to participating in international organizations. For instance, it is typically excluded from negotiations and discussion in all meetings concerning multilateral environmental agreements.

The international laws and regulations of the UNFCCC and the Kyoto Protocol affect and limit every nation in the world, especially because the impacts of global warming are massive in scale and transboundary in nature. Even though Taiwan is excluded from the Convention, it still needs to plan strategies to prepare for the impacts of global warming on its people and society. This article will review the provisions that limit the participation of Taiwan in the UNFCCC and the Kyoto Protocol and will discuss possible means for Taiwan to take part in the Kyoto mechanisms. Taiwan has the potential to link itself to international climate strategies in a way that is unique to its particular situation.

## PROHIBITIONS PREVENTING TAIWAN FROM PARTICIPATING IN THE INTERNATIONAL CLIMATE REGIME

Article 20 of the UNFCCC excludes Taiwan from eligibility as a signatory to the Convention. This provision limits qualified signatories to the Convention to: (1) the State Members of the UN; (2) specialized agencies of the UN; (3) parties to the Statute of the International Court of Justice; and (4) regional economic integration organizations (“REIOs”).<sup>3</sup>

Taiwan is neither a member of the UN nor a member of the International Court of Justice. In the UNFCCC, the European Union group (also called the European Union “bubble”) is the only example of an REIO signing the agreement. Taiwan, though, is not a member of an REIO. Furthermore, Taiwan’s

political status bars it from ratifying the Kyoto Protocol, since Article 24 of the Kyoto Protocol stipulates, “This Protocol shall be open for signature and subject to ratification, acceptance or approval by States and regional economic integration organizations which are Parties to the UNFCCC.”<sup>5</sup> Since Taiwan is not a politically recognized “State” in the UN, it is not permitted to negotiate for its interests and is even prohibited from participating as an observer in those meetings.

## LIMITATIONS ON TAIWAN UNDER THE UNFCCC AND THE KYOTO PROTOCOL

### TAIWAN’S ECONOMY CONTRIBUTES SIGNIFICANTLY TO GLOBAL EMISSIONS

As a developing country in Asia, Taiwan’s economic growth relies on international trade and imported fossil fuels, particularly coal and crude oil, 80 percent of which is imported. Taiwan’s total carbon dioxide (“CO<sub>2</sub>”) emissions were 218,488.86 thousand metric tons in 2001,<sup>6</sup> and its total GHG emission levels ranked 22<sup>nd</sup> in the world and constituted about one percent of the world’s total emissions.<sup>7</sup>

Because Taiwan is the fifteenth largest trading economy in the world,<sup>8</sup> and a specific “custom territory” under the World Trade Organization,<sup>9</sup> UNFCCC members have not yet resolved whether to define Taiwan as a “developing country” or a “country in economic transition.” Taiwan is an island with limited energy resources. Almost 80 percent of the country’s energy consumption comes from imported fossil fuels. Even still, economic growth in Taiwan produced annual CO<sub>2</sub> emissions per capita of 9.83 tons and led to an average growth rate in CO<sub>2</sub> emissions of 6.3 percent between 1990 and 2000.<sup>10</sup> According to a report by the Taiwan Environmental Protection Administration (“TEPA”), if the international community forced Taiwan to accept the same responsibilities as Annex I countries under the Kyoto Protocol, Taiwan would have to “reduce [its] GHGs emissions by 227 percent ... in 2010, against [a] 1990 baseline.”<sup>11</sup> Based on this calculation, the five year dramatic GHG reductions might force all coal-firing power plants to cease operation, thus limiting electricity access across the island. Many of the major industries might close or move out of Taiwan, dramatically increasing unemployment.

Although the UNFCCC and Kyoto Protocol regulations

\*Yi-Yuan (“William”) Su holds an LL.B and MBA in Taiwan. He is also an LL.M graduate, 2005, and an S.J.D. candidate, May 2008, at American University, Washington College of Law. He wishes to thank Professor Donald Goldberg and Professor Kyle Danish for their efforts and comments. Mr. Su welcomes comments at [su.yiyuan@gmail.com](mailto:su.yiyuan@gmail.com).

exclude the island from joining the mechanisms and compliance process, the Taiwanese government still unilaterally announced its status as a “developing country” and its intention to abide by those international treaties even though such international law is not binding on Taiwan.<sup>12</sup> In contrast, the international community has not yet determined the obligations of Taiwan as a non-signatory government voluntarily complying with the UNFCCC objectives.

Taiwan is a trading economy, and most Taiwanese companies are engaged as original equipment manufacturers or original design manufacturers for value-added resellers in developed countries. Because of Taiwan’s unique economy, the country is put at a significant disadvantage when it comes to allocating global GHG emissions. For instance, there is a risk that many developed countries will decide to reduce their domestic GHG emissions by transferring their emissions liabilities to developing countries. This would result in the shifting of all reduction responsibilities to manufacturing countries, such as Taiwan, while the developed countries concentrate on related services that produce lower GHG

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emissions.<sup>13</sup> This scenario would cause a disadvantage to the competitiveness of Taiwanese companies, because under the concepts of controlling cost and maximizing profit, most manufacturers will move their factories to a place with cheaper labor costs and less environmental regulation. This same phenomenon, for instance, led to massive investment by Taiwanese companies in China after 1999. As a result, it is necessary that both the Taiwanese government and private sector prepare adoption strategies to reduce the negative effects of UNFCCC emission reduction allocations on their development.

#### TAIWAN CANNOT MEET REDUCTION LEVELS WITHOUT PARTICIPATION IN THE UNFCCC

Article 3 of the UNFCCC requires that all Parties shall take “common but differentiated responsibilities” in protecting the climate system for current and future generations, and further requires that the “developed country Parties should take the lead in combating climate change and the adverse effects thereof.”<sup>14</sup> The UNFCCC also stipulates that each Party shall take “precau-

tionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effect,” despite any “lack of full scientific certainty.”<sup>15</sup> Additionally, all Parties must enact regulations to “develop, periodically update, [and] publish”<sup>16</sup> the communication of information related to implementation.<sup>17</sup>

At the same time, the UNFCCC also recognizes that developing countries have “special circumstances” affecting their abilities to immediately reduce fossil fuel consumption.<sup>18</sup> Hence, developed countries, including the developed countries listed in Annex II of the UNFCCC, committed to provide “new and additional financial resources to developing countries” to address their climate change policies or measures.<sup>19</sup> Such financial resources include the transfer of environmentally sound technologies and knowledge.<sup>20</sup> Developed countries also agreed to use the financial mechanism defined in Article 11 to provide “full incremental costs of implementing measures”<sup>21</sup> to developing countries to develop national communication reports and policies.<sup>22</sup>

Due to its status as a developing country and its unique political position, Taiwan lacks administrative capacity and economic resources, especially those required to develop and implement domestic and foreign environmental policies.<sup>23</sup> According to a model developed at the National Energy Conference in 1998,<sup>24</sup> if Taiwan planned to reduce CO<sub>2</sub> emissions by ten tons per capita by the year 2020, the marginal reduction cost for each ton of CO<sub>2</sub>, absent emissions trading, would be \$207.<sup>25</sup> In comparison, the marginal reduction costs of the United States, without trading, for the year 2010 would be \$153.<sup>26</sup> Even ten years later, the reduction costs for Taiwan would still be much higher than those of the United States. However, according to the records of the UN Environment Programme (“UNEP”), the marginal reduction costs for China by the year 2020 would only be \$32.<sup>27</sup> Overall, the model showed that emissions trading would be an effective and low-cost mechanism for most countries to achieve their reduction goals. However, for Taiwan, the model also showed that the country would have to spend more to reduce its GHG emissions. According to the model, Taiwan would further require special assistance from developed countries in order to achieve the goals of the Kyoto Protocol, especially since UNFCCC membership limitations prohibit Taiwan from participating in existing international emissions trading schemes.

Because it is barred from membership in the UNFCCC, Taiwan’s ability to obtain financial support from developed countries is limited. For instance, under Article 12(4),<sup>28</sup> developing countries can submit to the Secretariat of Conferences of Parties (“COPs”) requests for financial or technical assistance from developed countries. However, since Taiwan is not a member of the UNFCCC, it cannot utilize the Secretariat as a resource for obtaining financial and technical support. Instead, Taiwan can only procure the necessary technologies, techniques, and equipment through its own public or private sector. This means that the costs for Taiwan to achieve GHGs emission reductions would be much

higher than for other developing countries, thus going against the UNFCCC's equity principles.<sup>29</sup>

#### LIMITATIONS ON INFORMATION SHARING

Articles 9 and 10 of the UNFCCC provide two subsidiary bodies for technical and scientific advising and implementation, composed of climate change experts and government representatives. These bodies assist COPs in accessing and reviewing the effective implementation of the Convention for each Party. The subsidiary bodies also provide scientific knowledge and information to the COPs and give advice to members in developing country on capacity building projects and research strategies.<sup>30</sup> The representatives and experts of the subsidiary bodies serve as connections between the international organizations and individual States. The governments in developing countries can then use this assistance to build their own teams with expertise on climate change. These team members have the potential to be a very helpful resource for the public and academics who wish to collect information on GHG reductions and educate their communities. Team members could increase communication and create information exchanges. For example, capacity building projects could be reviewed and advised by foreign experts. Such communications and idea exchanges would be valuable for improving administrative capacities and developing national environmental clauses and policies.<sup>31</sup>

However, under the limitations of Article 20, the Taiwan government cannot submit a National Communication Report to the Secretariat of the COPs. Even if the Secretariat received the report, it has no obligation to have subsidiary bodies review and provide advice to Taiwan's proposal. Furthermore, Taiwan cannot have its government representatives and experts join the subsidiary bodies.

The membership limitation also restricts Taiwan's access to information, not only diminishing the abilities of academic research, but also reducing the chances to educate the people of Taiwan. Taiwan is the only developing country ignored by climate change experts in the subsidiary bodies and as such, experts will never have the opportunity to review Taiwan's GHG inventory records or provide advice for capacity building or research. Although Taiwan will take unilateral action and adopt volunteer reduction activities, the government has few chances to improve its administrative capacity through communication with foreign experts. At the same time, Taiwan also loses the opportunity to develop national and foreign environmental clauses and policies.

Information transparency is one of the best ways to promote compliance with international environment policies;<sup>32</sup> however, Taiwan is limited in its access to international information and research institutions. The prohibition on participation in international information sharing bodies creates a vicious cycle preventing the improvement of national environmental policies and administrative capacities. When there is less research conducted in Taiwan, this leads to a weaker understanding of the rest of the world in Taiwan. The barriers

preventing Taiwan from submitting various data and statistics to international organizations lead to difficulties in acquiring reviews and research by UN related projects on, *inter alia*, water, toxics, persistent organic pollutants, biodiversity protection, and coastal zone management. Furthermore, the lack of information transparency has caused delays in the improvement of Taiwan's administrative capacity, because the government cannot access advice from international experts to build capacity. At the same time, without the necessary data, analyses of Taiwan will not truly reflect the current circumstances on the island. This, in turn, will be a disincentive to continued improvements in the work of academics, as well as regional economic development. In the future, if COPs decide to place responsibilities on Taiwan, it will be difficult to determine the appropriate levels of responsibility, *e.g.* calculating targets and baselines, without allowing further investigation and research projects in Taiwan to develop more necessary and accurate data.

#### DENIED ACCESS TO UNFCCC FINANCIAL MECHANISMS

In Article 4.3, developed countries agree to provide "new and additional financial resources"<sup>33</sup> to developing countries to meet their different commitments under this Convention. The UNFCCC defines a financial mechanism in Article 11 that provides financial assistance and technology transfer to be granted by subsidiary bodies.<sup>34</sup> Moreover, there are two institutions under the COPs: (1) Articles 21(2) and 9 provide for the Intergovernmental Panel on Climate Change ("IPCC"), which conducts scientific-technical analysis of adaptation and technical advice for State members to the "Subsidiary Body for Scientific And Technological Advice;" (2) Articles 11 and Article 21(3) launched the Global Environment Facility ("GEF") in 1991 and assigned the World Bank (the "Bank"), the United Nations Development Programme ("UNDP"), and UNEP to be its implementing agencies.<sup>35</sup> The GEF serves as a trustee for those developing countries searching for financial support from the COPs and monitors the operating of the entities. In the Marrakech Accords, the Annex of Decision 1, Section A also stipulates that capacity building "shall be served by the GEF as an operating entity of the financial mechanism"<sup>36</sup> to provide grants and concession funds to developing countries. GEF projects focus on international environmental issues, including climate change, biodiversity, land degradation, persistent organic pollutants, depletion of the ozone layer, and international water concerns.<sup>37</sup> After funds are granted, the seven executing agencies contribute to the management and execution of GEF projects.<sup>38</sup> However, only developing country members or countries with transitioning economies<sup>39</sup> that ratified the UNFCCC are eligible to propose climate change projects, borrow from the Bank, or receive technical assistance from the UNDP.<sup>40</sup> In these projects, the Bank acts as a trustee and provides grants to cover the difference or "increment" while developing economies adopt more environmentally friendly options.<sup>41</sup>



As neither a member of the Bank nor a UNFCCC Party, Taiwan is not permitted to propose projects to the COPs or donate funds to the GEF. The eligibility limitations force Taiwan to obtain technical information and knowledge by itself and to adopt costly environmental options without assistance from developed countries or experts in the Subsidiary Body for Scientific and Technological Advice. Taiwan does not have much technology or experience in GHG reductions or in the improvement of energy efficiency. Without the financial and technical assistance of developed countries and access to shared knowledge on similar experiences, the process for reducing emissions takes longer and is more costly. This not only wastes money, but also slows the development of domestic environmental policies and strategies.

For instance, the Bank created and administers the Prototype Carbon Fund (hereinafter “Fund”) as a trustee to

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*Although Taiwan has been blocked from participation in the international climate change regime, it might still face emissions reduction pressures from its trading partners.*

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finance Joint Implementation (“JI”) and Clean Development Mechanism (“CDM”) projects designed to reduce GHG emissions in developing countries. Contributors or participants can receive pro rata shares of emission reductions that are verified and certified pursuant to an agreement with the country hosting the project.<sup>42</sup> One of the objectives of the Fund is “knowledge dissemination to provide the Parties to the UNFCCC, the private sector, and other interested parties with an opportunity to ‘learn-by-doing’ in the development of policies, rules, and business processes for the achievement of Emission Reductions under CDM and [JI].”<sup>43</sup> Under the membership requirement, though, neither the public nor private sector of Taiwan may create a Trust Fund under the Bank or participate in the operation of the Fund to collect shares from the Bank. Taiwan also loses the opportunity to learn from the experiences of the Fund and its participants, including learning related guidelines, modalities, knowledge, and procedures.<sup>44</sup>

According to the rules of the Fund, private entities with the required capital are allowed to participate in the investment. However, even though private entities might participate in the

Fund, they might not have any incentive to bring their experiences and knowledge back to Taiwan, due to the lack of demand for similar trading schemes in Taiwan. Thus, a private entity would probably prefer to use the experiences as internal risk control, rather than share with others. Without the participation of the public sector, the objectives of the Fund might never be realized in Taiwan. Furthermore, since Taiwan is not a member of the Convention and Protocol, the GHG offset projects would not generate certified emission reductions (“CERs”). Therefore, the management team of the Fund might never invest in Taiwan. Lack of access to these financing mechanisms forces Taiwan to take costly measures to achieve its reduction obligations. As such, Taiwan shares the “common” GHG emission reduction responsibilities but suffers “differentiated” cost of implementation compared to other developing countries.

#### LIMITATIONS ON TRADING EMISSIONS

Article 6.1 of the Kyoto Protocol stipulates that only Annex I Parties can acquire or transfer emission reduction units (“ERUs”). Article 3.10 also stipulates that “any emission reduction units, or any part of an assigned amount, which a Party acquires from another Party in accordance with the provisions of Article 6 or of Article 17 shall be added to the assigned amount for the acquiring Party.”<sup>45</sup> Hence, the JI project and the ERUs can only be proposed or transferred between Annex I Parties, which excludes Taiwan.<sup>46</sup> Similarly, as a public entity, Taiwan is neither qualified to participate or launch CDM projects because of the limitations of Articles 6 and 12.<sup>47</sup>

The CDM is defined in Article 12 of the Kyoto Protocol. The objectives of this mechanism are to help Annex I Parties achieve compliance with Article 3 of the Kyoto Protocol and assist non-Annex I Parties (*i.e.* developing countries) in achieving sustainable development.<sup>48</sup> The CDM allows Annex I countries to invest in GHG reduction projects launched in developing countries and exchange CERs. The CERs can be used to “assist in achieving compliance in the first commitment period.”<sup>49</sup> Article 12(9) allows both public and private entities in industrialized countries to participate in the CDM projects.

Under the CDM criteria announced by the UNDP, “the project activity must be undertaken in a non-Annex I country that is a Party to the Kyoto Protocol.”<sup>50</sup> Kyoto Parties will not undertake CDM projects in Taiwan since such projects cannot be registered with the CDM Executive Board (the “Board”), and the emission reductions generated would not be recognized by the Board as CERs, but only as emission reductions (“ERs”). Thus, ERs generated from projects in Taiwan cannot be traded in emission markets between the Parties. Even if the ERs were generated from a project in Taiwan without CDM Executive Board registration, the price of the ERs might be much lower than in other markets, because the risk of the ERs would be higher.<sup>51</sup> Fortunately, Article 12.10 also allows private entities to submit CDM project applications to the Board,<sup>52</sup> so it is possible that Taiwan’s private entities could use their overseas sub-

sidiaries, located in the Kyoto Protocol member countries, to participate in CDM projects in non-Annex I countries and obtain CERs.

### POTENTIAL OPPORTUNITIES TO PARTICIPATE

The opportunities to link Taiwan with the international climate change regime are limited because of Taiwan's small market and amount of emissions. In the future, the global community might succumb to the pressure of the "one China policy" and force Taiwan to report its GHG inventory to the PRC and adopt its commitment targets. Taiwan would not accept this scenario, because it means that Taiwan would disproportionately share responsibility for PRC's emissions. Hence, Taiwan should begin pursuing climate change strategies and attempt to link with other climate regimes.

Although Taiwan has been blocked from participation in the international climate change regime, it might still face emissions reduction pressures from its trading partners. In anticipa-

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tion of this, Taiwan unilaterally announced it would obey the Protocol. The Taiwan government also tried to adopt possible measures to help its private sector and people understand the potential impacts of global warming. On December 11, 2002, the Legislative Yuan of the Republic of China<sup>53</sup> passed the "Environment Basic Act," Article 21 of which announced, "Every level of Administrations shall enthusiastically adopt [CO<sub>2</sub>] emission reduction measures and formulate related plans to prevent the greenhouse effect."<sup>54</sup> This Article commits to the reduction of CO<sub>2</sub>, but not of other GHGs controlled by the Kyoto Protocol. In addition, this Act provides neither a baseline nor commitment target for Taiwan. The TEPA also issued the "UNFCCC National Communication of the Republic of China (Taiwan),"<sup>55</sup> and introduced GHG inventories in Taiwan even though TEPA understood the reports could not be sent to the Secretary of the COPs. However, the document neither states a reduction target for Taiwan, nor the baseline, nor other commitments.<sup>56</sup> In fact, Taiwan needs more assistance from the global community in order to draw a framework and baselines for its

policymaking. With this assistance, capacity studies and baselines might become priorities for the Taiwanese government as it determines the most cost-efficient measures for its society and for future policymaking.

Because Taiwan cannot issue CERs to investors in developed countries, these investors do not have the opportunity to gain credits from the GHG reduction activities on the island. As an alternative, then, Taiwan should have parallel strategies for domestic policies and pursue linkages with other climate change regimes. Additionally, the Protocol encourages the participation of the private sector.<sup>57</sup> Although Taiwan's public sector might be obstructed by the rules, its private investors might participate in CDM activities hosted by other Parties and gain CERs from those projects for foreign registered offices or subsidiaries.

Taiwan's public sector also might pursue agreements with non-Kyoto ratifying countries, such as the United States and Australia, to improve the GHG offset projects by investing among themselves. The non-Kyoto ratifying countries might also design temporary "credits" until the Kyoto Parties recognize them in future negotiations. Thus Taiwanese multinational companies might be able to open CER transaction accounts in member states through their registered offices in those jurisdictions. They could use those entities to enroll in CDM projects hosted in other non-Annex I Parties. This could help the private sector's flexibility and reduce operation risks. In its linkage strategies with other climate change regimes, Taiwan might also coordinate with small developing countries in South East Asia and create joint policies for investment in CDM activities.

Furthermore, there is also a possibility that Taiwan could participate in emissions trading. Pursuant to Article 17,<sup>58</sup> the Parties listed in Annex B are participants in the emission trading system that signed the UNFCCC but did not ratify the Kyoto Protocol,<sup>59</sup> such as Australia, the United States, and Monaco.<sup>60</sup> Taiwan's public sector cannot enter into emission trading between Parties in the first commitment period, from 2008 to 2012. However, non-Kyoto ratifying countries are still encouraged to sell their surplus emissions, and they could participate in other trading systems, especially since Article 17 does not prohibit non-ratifying countries from buying or collecting ERUs or CERs from ratified countries. Hence, Taiwan's public sector could enroll in a trading system between non-Parties and abide by the modification of the COPs.<sup>61</sup>

In addition, Article 17 of the Kyoto Protocol does not exclude the participation of private entities, so Taiwanese private entities could still practice emissions trading among Parties. They have the option to enroll in a voluntary agreement like the Chicago Climate Exchange ("CCX") or use their subsidiaries in ratified countries to participate in trading.<sup>62</sup> This increases the possibility that Taiwan could participate in non-Kyoto party emission trading mechanisms and gain various emission reduction credits, because the current regulations are vague and precedent has not yet formed in the emissions trading markets.

## POSSIBLE SOLUTIONS

If Taiwan does not receive recognition by the Convention, it can still pursue several paths. First, Taiwan could create closer linkages with the United States and Australia as they are also non-Kyoto ratifying countries. Taiwan could further create more favorable policies to encourage investors from the United States and Australia to perform GHG emission reduction projects on the island. Further still, Taiwan could enlarge the scale of the non-Parties and then wait until the Kyoto Parties decide to recognize its system.

Second, the small developing countries in Southeast Asia might share concerns over the PRC and India, which will attract most of the industrialized countries' CDM activities. Since Taiwan has the same concerns as other small developing countries, it should pursue bilateral or multilateral negotiations with similar countries within the international climate regime to create an attractive GHG offset market for the Annex I countries' investment. International coordination of policies and benefits-sharing might provide synergy for investors and attract greater investment in the sustainable development of every country in Southeast Asia.

Taiwan is not only prevented from enrolling in the emissions system due to its membership issue under the Protocol, but also because developing countries are not required to have commitments. Developing countries do not have allowances that can be exchanged in the current commitment period, from 2008 to 2012. On the other hand, if the United States and Australia ratify the Kyoto Protocol, Taiwan might still have a chance to enroll in each country's emissions trading systems and trade the allowances within them. Both the United States and Australia are important Annex I countries in the global climate change negotiations, and they also have abilities and seats in the meetings of COPs and Meetings of the Parties (under the Protocol) to decide whether to ratify the Protocol with their best interests in mind. If they ratify the Protocol, the allowances or permits they are currently dealing might be transferred and merged into the emissions trading systems between Parties by a negotiable price or terms.

In order to prevent the severe impact of enforcement in the foreseeable future, Taiwan should enroll in emissions trading systems and obtain practical experiences. For instance, Taiwan could join volunteer emissions trading activities, such as the CCX<sup>63</sup> in the United States. The public sector might be able to enroll in the national cap-and-trade systems of the United States or Australia<sup>64</sup> and also rely on brokers to "facilitate trades across the two systems."<sup>65</sup> By developing a close relationship with the United States and Australia through investment and trading, Taiwan might be in a better position to enter the international climate change regime if the Kyoto Parties decide to recognize U.S. and Australian emission permits and emissions trading systems.

## CONCLUSION

Before the Kyoto Parties determine the future liabilities and firm regulations governing developing countries and non-Parties to the Kyoto Protocol, it appears that Taiwan has the freedom to act as it wishes. However, private companies might urge the Taiwan government to adopt climate change implementation strategies, because of low management costs and pressure from their European customers. The Taiwan government might also not want to share responsibilities with the PRC if the Kyoto parties force Taiwan to become one of the PRC commitments, especially because of Taiwan's political concerns within the international regime and the absence of Taiwan during the negotiations. In order to prevent an embarrassing scenario from happening in the future, the Taiwan government should take more aggressive measures to adopt preliminary implementation, with its high financial and technical abilities. The highest priorities should be the capacity studies and determining the baseline of Taiwan. Although the Taiwan government tried to convene "National Energy Conferences" in 1998 and 2005 and conclude emission reduction plans, the meetings did not determine a baseline and targets remain vague. The earlier participation and well-organized implementation can help the international climate change regimes adopt Taiwan's practices and prevent unnecessary linkages with the PRC system and commitment targets. The Taiwan government should take more aggressive measures and policies, but wait until the Kyoto Parties make a conclusion. Early participation and flexible policies are the only ways for Taiwan to achieve sustainable economic and stable social development under global competition.



## ENDNOTES: The Effects of the Kyoto Protocol on Taiwan

<sup>1</sup> United Nations Conference on Environment and Development: Framework Convention on Climate Change ("UNFCCC"), May 9, 1992, 1771 U.N.T.S. 107, 31 I.L.M. 849 (1992) (entered into force Mar. 21, 1994). *See generally*, DAVID HUNTER, JAMES SALZMAN, & DURWOOD ZAELEKE, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY, 2ND EDITION TREATY SUPPLEMENT, at 121 (2002).

<sup>2</sup> Kyoto Protocol to the United Nations Framework Convention on Climate Change ("Kyoto Protocol"), Dec. 10, 1997.

<sup>3</sup> G.A. Res. 2758, UN GAOR, 26<sup>th</sup> Sess., Supp. No. 29, UN Doc. A/8429 (1971), at 2.

<sup>4</sup> For instance, the United Nations Environment Programme was founded in June 5, 1972, the first day of the Stockholm conference in Stockholm, Sweden (after most nations had severed diplomatic relations with Taiwan); *see* "Environmental Policy of the United Nations," available at [http://www.auswaertiges-amt.de/www/en/aussenpolitik/vn/vereinte\\_nationen/din-den-vn/pdf/23.pdf](http://www.auswaertiges-amt.de/www/en/aussenpolitik/vn/vereinte_nationen/din-den-vn/pdf/23.pdf) (last visited Feb. 9, 2006).



- <sup>5</sup> Environmental Policy of UN, *id.* at 145.
- <sup>6</sup> UNFCCC NATIONAL COMMUNICATION OF THE REPUBLIC OF CHINA (TAIWAN), ENVIRONMENTAL PROTECTION ADMINISTRATION, ROC (TAIWAN), July 2002, Table 2.6, at 2-10. *available at* [http://www.epa.gov.tw/attachment\\_file/200501/2002NCen1.pdf](http://www.epa.gov.tw/attachment_file/200501/2002NCen1.pdf) (last visited Feb. 16, 2006).
- <sup>7</sup> Shu-Juan Chu, *Kyoto Protocol- Taiwan the only "non-Party"?*, UNITED DAILY NEWS, Taipei, Taiwan, Feb. 16, 2005, *available at* [http://mag.udn.com/mag/life/storypage.jsp?f\\_ART\\_ID=8127](http://mag.udn.com/mag/life/storypage.jsp?f_ART_ID=8127) (last visited Feb. 16, 2006).
- <sup>8</sup> *Leading Exports and Importers in World Merchandise Trade 2004*, Appendix Table 3, World Trade Report 2005, at 63, *available at* [http://www.wto.org/english/res\\_e/booksp\\_e/anrep\\_e/world\\_trade\\_report05\\_e.pdf](http://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report05_e.pdf) (last visited Feb. 16, 2006).
- <sup>9</sup> Since Jan. 1, 1990, Taiwan has asserted as "separate Customers territories of Taiwan, Penghu, Kinmen and Matsu" to accede to the General Agreement 1947 under Article XXXIII, and the accession was approved in Jan. 1, 2002. World Trade Organization, Working Party Report, WT/MIN(01)/ 4, Nov. 11, 2001, *available at* <http://docsonline.wto.org/DDFDocuments/t/WT/min01/4.doc> (last visited Oct. 5, 2005).
- <sup>10</sup> *See* Working Party Report, *id.*, at 1.
- <sup>11</sup> *See* Working Party Report, *id.*
- <sup>12</sup> One of Taiwan's principles for responding to the UNFCCC is "though not a member of the UN, as a member of the global community, Taiwan hopes to improve environmental protection and achieve sustainable development and hence should actively advance various 'no regret' measures and further raise national competitiveness." *UNFCCC National Communication of the Republic of China (Taiwan)*, Taiwan Environmental Protection Administration ("TEPA"), July 2002, 1-116, at 40.
- <sup>13</sup> JOHN ASHTON AND XUEMAN WANG, BEYOND KYOTO, ADVANCING THE INTERNATIONAL EFFORT AGAINST CLIMATE CHANGE, EQUITY AND CLIMATE: IN PRINCIPLE AND PRACTICE, PEW CENTER ON GLOBAL CLIMATE CHANGE, at 61, [http://www.pewclimate.org/global-warming-in-depth/all\\_reports/beyond\\_kyoto/index.cfm](http://www.pewclimate.org/global-warming-in-depth/all_reports/beyond_kyoto/index.cfm) (last visited Feb. 4, 2006).
- <sup>14</sup> HUNTER, *supra* note 1, at 121; UNFCCC, *supra* note 1, at art. 3.1.
- <sup>15</sup> HUNTER, *supra* note 1, at 121; UNFCCC, *supra* note 1, at art. 3.3.
- <sup>16</sup> HUNTER, *supra* note 1, at 122; UNFCCC, *supra* note 1, at art. 4.1.
- <sup>17</sup> HUNTER, *supra* note 1, at 128; UNFCCC, *supra* note 1, at art. 12.1.
- <sup>18</sup> Donald M. Goldberg, *As the World Burns: Negotiating the Framework Convention on Climate Change*, 5(2) GEO. INT'L ENVTL. L. REV. 253-54 (1993).
- <sup>19</sup> HUNTER, *supra* note 1, at 123; UNFCCC, *supra* note 1, at art. 4.3.
- <sup>20</sup> HUNTER, *supra* note 1, at 123; UNFCCC, *supra* note 1, at art. 4.3, 4.5.
- <sup>21</sup> HUNTER, *supra* note 1, at 123; UNFCCC, *supra* note 1, at art. 4.3.
- <sup>22</sup> HUNTER, *supra* note 1, at 122; UNFCCC, *supra* note 1, at art. 4.1, 4.2.
- <sup>23</sup> Sebastian Oberthür & Hermann E. Ott, *The Kyoto Protocol, International Climate Policy for the 21<sup>st</sup> Century*, Part 1, Section 2.4, 1999, at 28.
- <sup>24</sup> Strategies, Section 1(3), *The Conclusion of National Energy Conference*, Bureau of Energy, Ministry of Economic Affairs, Taiwan, Republic of China, 1998, *available at* [http://sd.erl.itri.org.tw/fccc/ch/dec\\_mk/ener\\_con/con\\_98.htm#aa](http://sd.erl.itri.org.tw/fccc/ch/dec_mk/ener_con/con_98.htm#aa) (last visited Dec. 14, 2005).
- <sup>25</sup> Jhy-Ming Lu, *Markal Applications in Taiwan*, Energy Technologies Systems Analysis Program Annex IX Technical Conference, Energy & Resources Laboratories, Industrial Technology Research Institute, Apr. 4, 2005, *available at* [http://www.etsap.org/worsh\\_4\\_2005/18.pdf](http://www.etsap.org/worsh_4_2005/18.pdf) (last visited Dec. 14, 2005).
- <sup>26</sup> M. Kainuma, Y. Matsuoka and T. Morita, *Analysis of Post-Kyoto Scenarios based on AIM(Asia-Pacific Integrated Model) Model*, Environmental Studies for Citizens, Faculty of Engineering, Kyoto University, Nov. 2004, *available at* [http://ecosocio.tuins.ac.jp/ishii/myenvironmentalism/science/morita\\_aim/aim.html](http://ecosocio.tuins.ac.jp/ishii/myenvironmentalism/science/morita_aim/aim.html) (last visited Feb. 16, 2006).
- <sup>27</sup> UNEP, CLIMATE CHANGE 2001: MITIGATION (2002), *available at* [http://www.grida.no/climate/ipcc\\_tar/wg3/324.htm](http://www.grida.no/climate/ipcc_tar/wg3/324.htm) (last visited Feb. 16, 2006).
- <sup>28</sup> Article 12.4 provides that "developing country Parties may, on the voluntary basis, propose projects for financing, including specific technologies, materials, equipment, techniques or practices that would be needed to implement such projects, along with, if possible, an estimate of all incremental cost, of the reductions of emissions and increments of removals of greenhouse gases, as well as an estimate of the consequent benefits;" HUNTER, *supra* note 1, at 128.
- <sup>29</sup> *See* HUNTER, *supra* note 1, at 71.
- <sup>30</sup> Goldberg, *supra* note 18, at 265.
- <sup>31</sup> Oberthür & Ott, *supra* note 23, at 28.
- <sup>32</sup> DURWOOD ZEALKE, DONALD KANIARU, & EVA KRUIKOVÁ, EDs., MAKING LAW WORK: ENVIRONMENTAL COMPLIANCE & SUSTAINABLE DEVELOPMENT, Vol. I, Chp. 8, Emission Trading Compliance, at 129 (2005).
- <sup>33</sup> UNFCCC, *supra* note 1, at art. 4.3.
- <sup>34</sup> *See* UNFCCC, *supra* note 1, at art. 11.1.
- <sup>35</sup> Oberthür & Ott, *supra* note 23, at 60.
- <sup>36</sup> Marrakesh Accords & the Marrakesh Declaration, at 4, *available at* [http://unfccc.int/cop7/documents/accords\\_draft.pdf](http://unfccc.int/cop7/documents/accords_draft.pdf) (last visited Feb. 9, 2006).
- <sup>37</sup> Global Environment Facility ("GEF") website, About the GEF, [http://www.thegef.org/What\\_is\\_the\\_GEF/what\\_is\\_the\\_gef.html](http://www.thegef.org/What_is_the_GEF/what_is_the_gef.html) (last visited Feb. 9, 2006).
- <sup>38</sup> The seven executing agencies are: (1) the African Development Bank; (2) the Asian Development Bank; (3) the European Bank for Reconstruction & Development; (4) the Inter-American Development Bank; (5) the International Fund for Agricultural Development; (6) the UN Food & Agricultural Organization; and (7) the UN Industrial Development Organization; *see* [http://www.gefweb.org/Partners/Exe\\_Agencies/exe\\_agencies.html](http://www.gefweb.org/Partners/Exe_Agencies/exe_agencies.html) (last visited Feb. 9, 2006).
- <sup>39</sup> For country eligibility for GEF funding, "a country must be a party to the Climate Change Convention or the Convention of Biological Diversity to receive funds from the GEF in the relevant focal area," *available at* [http://www.thegef.org/Partners/Private\\_Sector/private\\_sector.html](http://www.thegef.org/Partners/Private_Sector/private_sector.html) (last visited Feb. 9, 2006).
- <sup>40</sup> GEF website, How do I Learn About the Project Cycle?, [http://www.thegef.org/How\\_Do\\_I/how\\_do\\_i.html](http://www.thegef.org/How_Do_I/how_do_i.html) (last visited Feb. 9, 2006).
- <sup>41</sup> GEF website, Incremental Cost, [http://www.thegef.org/Operational\\_Policies/Eligibility\\_Criteria/Incremental\\_1\\_Costs/incremental\\_costs.html](http://www.thegef.org/Operational_Policies/Eligibility_Criteria/Incremental_1_Costs/incremental_costs.html) (last visited Feb. 9, 2006).
- <sup>42</sup> Prototype Carbon Fund, About PCF/ PCF Operation, <http://carbonfinance.org/pcf/router.cfm?Page=About> (last visited Feb. 9, 2006).
- <sup>43</sup> *See* Prototype Carbon Fund, *id.*
- <sup>44</sup> Information Memorandum Prototype Carbon Fund, July 30, 1999, at 8.
- <sup>45</sup> Kyoto Protocol, *supra* note 2, at art. 3.
- <sup>46</sup> Oberthür & Ott, *supra* note 23, at 195.
- <sup>47</sup> *See* Kyoto Protocol, *supra* note 2, at arts. 6, 12.
- <sup>48</sup> Kyoto Protocol, *supra* note 2, at art. 12.3.

<sup>49</sup> Kyoto Protocol, *supra* note 2, at art. 12.10.

<sup>50</sup> UNEP, LEGAL ISSUES GUIDEBOOK TO THE CLEAN DEVELOPMENT MECHANISM, at 19 (June 2004).

<sup>51</sup> Compare with those investors who procure CERs from Prototype Carbon Fund in World Bank. Such CERs reallocation is guaranteed by the World Bank and other binding agreements under international laws and regulations. It is more reliable, with lower legal and financial risk for the investors to participate in the investments, because these CERs also provide a powerful enforcement mechanism in execution and performance.

<sup>52</sup> Kyoto Protocol, *supra* note 2, at art. 17.

<sup>53</sup> The Legislative Yuan Republic of China, [http://www.ly.gov.tw/ly/en/01\\_introduce/01\\_introduce\\_01.jsp](http://www.ly.gov.tw/ly/en/01_introduce/01_introduce_01.jsp) (last visited Feb. 9, 2006).

<sup>54</sup> The Chinese version of this Act is also available at <http://law.moj.gov.tw/Scrips/Query4B.asp?FullDoc=所有條文&Lcode=O0060002>.

<sup>55</sup> UNFCCC, *UNFCCC National Communication of Republic of China (Taiwan)*, [http://www.epa.gov.tw/attachment\\_file/200501/2002NCen1.pdf](http://www.epa.gov.tw/attachment_file/200501/2002NCen1.pdf) (last visited Feb. 9, 2006).

<sup>56</sup> See UNFCCC, *id.*

<sup>57</sup> Kyoto Protocol, *supra* note 2, at art. 12.9.

<sup>58</sup> See Hunter, *supra* note 1, at 144, 147-48.

<sup>59</sup> Oberthür & Ott, *supra* note 23, at 192.

<sup>60</sup> UNFCCC website, UNFCCC & Kyoto Protocol – Status of Ratification, last modified on Apr. 6, 2005, available at [http://unfccc.int/files/essential\\_background/kyoto\\_protocol/application/pdf/kpstats.pdf](http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf) (last visited Feb. 9, 2006).

<sup>61</sup> In fact, before the U.S. government ratifies the Kyoto Protocol, they are not allowed to trade emissions reductions with Kyoto-parties. The Pew Center on Global Climate Change has discussed this issue and provided some scenarios for U.S. companies; see, IMPLICATIONS FOR U.S. COMPANIES OF KYOTO'S ENTRY INTO FORCE WITHOUT THE UNITED STATES (Jan. 2002), <http://www.pewclimate.org/docUploads/Kyoto-USBusiness.pdf> (last visited Feb. 16, 2006).

<sup>62</sup> Oberthür & Ott, *supra* note 23, at 196.

<sup>63</sup> The Chicago Climate Exchange (“CCX”) is a GHGs emission reductions and trading program in the United States, Canada, and Mexico. It is a self-regulatory, rules-based exchange, designed and governed by CCX members. The objectives of CCX are building institutions and skills needed to cost-effectively manage GHGs emissions, and informing the debate on appropriate acting for managing the risk of global climate change. For more information, visit the CCX website, <http://www.chicagoclimatex.com> (last visited Feb. 9, 2006).

<sup>64</sup> DANIEL BODANSKY, PEW CENTER ON GLOBAL CLIMATE CHANGE, LINKAGE U.S. AND INTERNATIONAL CLIMATE CHANGE STRATEGIES, at 2 (2002).

<sup>65</sup> Bodansky, *id.*

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