

# **Climate Change as a Catalyst for Internationalisation: The non-Kyoto Member Taiwan**

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## **Abstract:**

Addressing global warming requires action from every nation in the world. However, the island nation of Taiwan maintains a unique and delicate political position since it is faced by exclusion from major international organisations, including UN affiliated environmental bodies. For some time, Taiwan ignored the issue of climate change, but under the new administration, efforts are being made to position Taiwan as a responsible climate partner. This study explores the developments and efforts of a non-Kyoto member seeking to upgrade its international profile through the field of climate policy. It not only discusses the domestic difficulties and prospects of unilateral actions, but also includes an international perspective.

**KEYWORDS:** Taiwan, Climate Policy, Greenhouse Gas Emissions Reduction, Climate Diplomacy

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## **Introduction**

Climate change has emerged as the agenda-setting issue of the new century. Its scale and trans-boundary nature make it a global matter. However, with so many nations involved in climate negotiations, and so many diverging interests being brought to the negotiation table, it seems to come as no surprise that international climate change policy efforts face severe difficulties. Historically, developed nations have been primarily responsible for the accumulation of greenhouse gases (GHG) in the atmosphere. However, developing and newly industrialising nations have raised increasing international concerns, since their aggregate emissions have already surpassed those of the developed countries, and are increasing rapidly. In order to stabilise atmospheric carbon dioxide emission concentration below 450 ppm by the end of the century, it seems to be inevitable that every nation needs to join global efforts to curb emissions output.

Taiwan's annual 294 million tonnes of CO<sub>2</sub> emissions represent about one percent of the total global emission output. However, due to its difficult political situation, it is denied participation in climate relevant international organisations, such as the United Nations Framework Convention on Climate Change (UNFCCC) or the Kyoto Protocol. Thus, it is also not bound to any carbon reduction targets, allowing the country to take the role of a free-rider and only make minimal efforts in order to avoid sanctions. Nonetheless, Taiwan is attempting to comply with international climate regimes and has increased its climate efforts. The new administration has stepped up its domestic climate mitigation efforts and aims to cut the annual CO<sub>2</sub> emissions to the 2005 levels of 257 million tonnes by 2020 – a remarkable 30 percent cut to the 2020 business-as-usual scenario – and half that by 2050.<sup>1</sup> With such an ambitious target, Taiwan has not only set the most stringent target throughout Asia, but has also

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<sup>1</sup> Ralph Jennings, "Taiwan to use Africa as back door for carbon credits", *Reuters*, March 17, 2010, <http://www.reuters.com/article/idUSTRE62G18Y20100317> (accessed March 20, 2010).

received international attention. In the latest Climate Change Performance Index, Taiwan ranks poorly behind India, Indonesia, Thailand, Japan, Singapore and South Korea as 47<sup>th</sup> among 57 countries.<sup>2</sup> Surprisingly, in terms of climate policy, it takes 7<sup>th</sup> place. Furthermore, the government is actively using climate change in order to build up international links and also gain access to carbon reduction schemes.

Studies have focused on explaining why nations join or defect from climate regimes, but little research has been conducted on countries that are willing to contribute to international climate regimes but are limited in doing so. Taiwan represents an interesting case since it faces exclusion from major international climate relevant organisations and regimes but is voluntarily seeking compliance with international climate norms, even though it is not eligible to gain direct benefits in return, as it is also barred from participating in international carbon reduction schemes such as the Clean Development Mechanism (CDM).

This paper seeks to explore what is driving Taiwan's increasing ambitions for compliance with international climate norms. Climate policy might offer new opportunities to re-position the country within the international community. The paper analyses if and to what extent climate change can be seen as a catalyst for increasing international links, and considers how Taiwan's climate initiatives can be evaluated regarding the country's poor historical climate mitigation record.

The paper is divided into six parts. The following section frames the theoretical background of the work and introduces three models to explain a country's environmental policy choices. The third section explores developments in Taiwan's greenhouse gas emissions output and analyses its energy structure. The fourth section illustrates how climate issues have been elevated on the political agenda in Taiwan, and provides a historic account of the establishment of a climate legislation framework. Furthermore, this section provides insights into the domestic climate policy formation process. Section five draws a picture of the foreign policy elements within the climate issue, and part six draws conclusion based on the findings.

## **The Analytical Framework**

Climate change mitigation represents a complex matter to be solved, since it is not only entangled with many policy areas, but also imposes high costs and involves

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<sup>2</sup> Germanwatch, <http://www.germanwatch.org/klima/ccpi.htm> (accessed February 10, 2010).

uncertainties. Stabilisation of the atmospheric greenhouse gas concentration requires strong and concerted efforts from the international community, but efforts often interfere with national interests, such as energy security, national sovereignty and economic development. In order to explain a country's environmental policy choice, scholars have applied different models: the unitary rational actor model, the domestic policy model and the social learning model. Each individual approach sheds light on particular perspectives, but for the most comprehensive depth of understanding of Taiwan's climate policy choices, all three models should be applied simultaneously.

The Unitary Rational Actor model represents an interest-based model where the state is seen as the major actor, and domestic actors, internal policy processes and structures are ignored. International structures lead in certain directions and limit the number of policy options available. The state is assumed to be in full control of its society, ignoring the possibility that domestic sub-actors may have objectives differing from national interests. The state evaluates policy options in terms of costs-benefits-calculations regarding its sets of goals and objectives in order to maximise net national gains. Thus, the state's perception of its vulnerability and abatement costs plays a decisive role in its policy choice.<sup>3</sup> Since a country will be reluctant to implement costly climate policies without benefits in return, policy makers may tend to adopt "no-regret" measures.<sup>4</sup> Since climate policy measures compete with other issues on the political agenda, issue linkage is likely to enhance the probability of implementing new climate policies, as they serve several national targets.

Unlike the URA, the Domestic Policy Model sees the government not as the sole decision-maker, but also includes domestic constituents in the analysis. This model claims that besides national costs-benefits-calculations, the internal domestic distribution of costs and benefits also need to be considered for policy formation. Theoretically, a country's government is authorised to independently make policy decisions. However, with upcoming elections in mind, a government will also take domestic political circumstances into consideration. Climate change mitigation measures impose costs on certain sectors, whereas others gain benefits from cost

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<sup>3</sup> Detlef Sprinz and Tapani Vaahtoranta, "The interest-based explanation of international environmental policy," *International Organization* 48, no.1 (December 1994): 77-105. John Barkdull, Paul G. Harris, "Environmental Change and Foreign Policy: A Survey of Theory," *Global Environmental Politics* 2, no. 2 (May 2002): 63-91; Duncan Snidal, "Rational Choice and International Relations," in *Handbook of International Relations*, edited by Walter Carlsnaea, Tomas Risse and Beth A. Simmons. London: Sage Publications, 2001; Rowlands, Ian, "Explaining National Climate Change Policies," *Global Environmental Change* 5, no. 3 (June 1995): 235-49.

<sup>4</sup> "no-regret" measures gain benefits even if negative climate change effects do not occur.

reductions. Domestic actors are not primarily concerned with national welfare, but follow subjective goals. A new policy alters the internal distribution of costs and benefits among actors and thus influences their behaviour, and groups with common interests may jointly engage decision makers. Thus, the power and influence of domestic constituents may influence national policy formation. Diverging interests influence a country's climate policy and may even result in the inability of the government to build up a climate policy framework.

The constructivist social learning approach is more concerned about how normative factors shape the decision makers' interests.<sup>5</sup> Actors engage in policy formation processes with a certain set of information and a will to learn. Policy formation seen as a learning process allows changes in decision makers' interest and preferences during the policy making process, since they are constantly confronted with new information which has an influence on their perception of the matter. Policies develop greatly through learning, and international actors with a high level of relevant competency take on the role of providers of ideas and knowledge. International institutions spread norms across countries that may also influence decision makers' behaviour as well as their perception of interests.<sup>6</sup>

While a change in an actor's behaviour without changing its preferences or re-evaluating its overarching targets will result in policy choices primarily focusing on reactive adaptation measures that satisfy international concerns, real commitment shows deeply rooted changes in policy makers' climate related preferences, ideas and also identities. Thus, if Taiwan has gone through such profound changes, we should be able to trace evidence of it in its policy formation processes.

## **Emission Development and Energy Structure**

In the last decades, Taiwan's economy has undergone a tremendous industrialisation process, resulting in rapidly expanding economic activities accompanied by surging energy demands and rapidly growing greenhouse gas emissions.<sup>7</sup> Carbon emissions

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<sup>5</sup> Jeffrey Checkel, "Why comply? Social Learning and European Identity Change," *International Organization* 55, no. 3, (August 2001): 553-88.

<sup>6</sup> Alexander Wendt, "Anarchy is what States Make of it: The Social Construction of Power Politics" *International Organization* 46, no. 2 (Spring 1992): 391-425; Arild Underdal, "Explaining Compliance and Defection: Three Models," *European Journal of International Relations* 4, no. 1. (1998): 5-30; Jeffrey T. Checkel, "International Norms and Domestic Politics: Bridging the Rationalist- Constructivist Divide," *European Journal of International Relations* 3, no. 4 (1997): 473-95.

<sup>7</sup> Taiwan Environmental Protection Agency, <http://www.epa.gov.tw> (accessed March 1, 2010).

increased by 138 percent over the past 16 years – an increase no other country in the world has experienced. In 2006, the International Energy Agency listed Taiwan 22<sup>nd</sup> in the world for fuel based carbon dioxide emissions, emitting some 270 million tonnes annually. Thus, the island is responsible for nearly one percent of the global greenhouse gas emissions. However, on a per-capita basis, Taiwan – with about 11 tonnes per person – ranks higher than for example Japan, South Korea and many Western countries. The manufacturing sector has been very important for economic development in Taiwan. Although Taiwan has seen the closure of thousands of carbon emitting factories or their relocation to the mainland, national greenhouse gases have continued to rise. Mounting economic difficulties and rising unemployment over the past few years have influenced climate policy formation, since the largest carbon intensive sectors – petrochemical, textile, steel, cement, electrical engineering and paper, employ about half a million workers and account for about one third of the manufacturing sector’s revenue. In Taiwan, about 70 percent of its GHG emissions stem from state owned enterprises. The three largest state companies alone – China Petroleum, Taipower, and China Steel – account for 30 percent of the carbon emissions. Thus, climate mitigation measures must be developed in a way that finds acceptance among state companies.

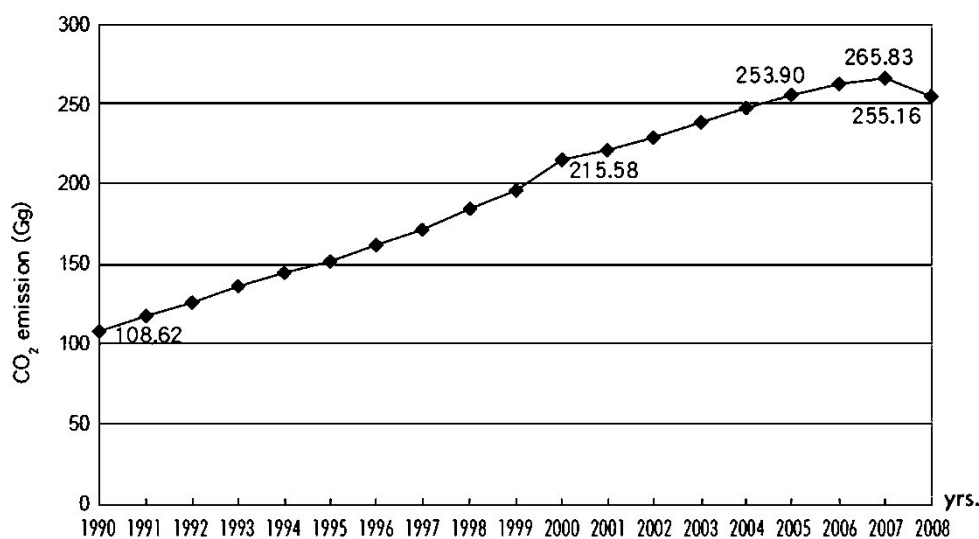


Figure 1: Taiwan’s CO<sub>2</sub> emission from fossil fuel combustion (Taiwan Environmental Protection Agency)

The production of greenhouse gases is closely linked to energy issues, and Taiwan’s energy mix is heavily based on fossil fuels. Energy productivity in terms of GDP and energy usage is lower than in industrialised economies, thus Taiwan needs more energy for its economic growth. The industry takes the largest share of the total

energy consumption. Currently, the island imports about 99 percent of its energy needs and this makes the country vulnerable to changes in the world energy market. However, weak economic incentives are responsible for the slow development of alternatives. The energy market has been largely liberalised, but state enterprises still dominate the market by providing about 70 percent of the total supply. All of the previous administrations focused on keeping energy prices low. Although efforts have been made to phase out subsidies on electricity and oil, Taiwan still has very low energy prices compared with other countries in the region, and this represents a serious obstacle for the development of renewable energy sources.<sup>8</sup> Costs for developing renewable energy as well as energy efficiency measures are higher in Taiwan, since it is not a member of international organisations that could help to lower transaction costs.<sup>9</sup>

### **Vulnerability and Abatement Costs**

Taiwan is one of the leading climate victims for several reasons. By the time low-lying islands are submerged due to rising sea levels, parts of Taiwan will be underwater, including regions with major industrial facilities. Already now, the fishing industry is suffering from the relocation of fishing grounds which is increasingly leading to conflicts with neighbouring countries. Records have shown that the annual mean temperature on the island has risen by 1.4 degrees Celsius over the past century, and the island is increasingly confronted with weather extremes, water shortages and flooding.<sup>10</sup> Only since typhoon Morakot hit the island in August 2009, causing severe damage in central and southern parts, has global warming started to attract public attention.

Climate change mitigation costs are high, as Taiwan lacks major domestic natural resources, and the industrial sector contributes the largest part to the national income. Moreover, the lack of comprehensive carbon reduction legislation has prevented substantial domestic and foreign investment in the island's green industries. As a consequence, domestic carbon mitigation measures are more costly than in other

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<sup>8</sup> Hsiu-chuan Shih, "Green firms want wind energy prices to increase," *Taipei Times*, January 12, 2010, <http://www.taipetimes.com/News/taiwan/archives/2010/01/12/20034> (accessed February 5, 2010).

<sup>9</sup> W.T. Tsai, Y.H. Chou, „Overview of environmental impacts, prospects and policies for renewable energy in Taiwan," *Renewable and Sustainable Energy Reviews* 9 (April 2005):119–47; Jim Hwang, "Weighing the Policy Options," *Taiwan Review* 56, no. 4 (April 2006). <http://taiwanreview.nat.gov.tw/site/Tr/ct.asp?xItem=1197&ctNode=119> (accessed December 2, 2009).

<sup>10</sup> Taiwan Environmental Protection Agency, <http://www.epa.gov.tw/> (accessed March 1, 2010).

countries.<sup>11</sup> Implementing strict domestic climate change mitigation measures is thus believed to negatively affect Taiwan's international competitiveness and also its overall national emission reductions.<sup>12</sup>

## **Climate Change on the Political Agenda**

Internationally, climate change concerns were elevated to the global political arena following the UN Earth Summit in Rio de Janeiro in 1992, where the UNFCCC was adopted. While 154 countries signed the framework which went into force in 1994, Taiwan – due to its political status – was not able to join the convention. Nonetheless, Taiwan's President Lee Teng-hui articulated his willingness to comply with the climate convention. However, as history proved, Taiwan was neither able nor willing to take a proactive position in international climate negotiations.

In 1997, the Executive Yuan (the Cabinet) formed the National Sustainable Development Council as the responsible body for the evaluation and coordination of sustainable development strategies. The council is composed of ministers, but also includes representatives from academia and from non-governmental organisations (NGOs).

Responding to the formation of the Kyoto Protocol, Taiwan organised its First National Energy Conference in 1998, aiming to promote the development of renewable energy sources, review national energy and industrial policies and establish a greenhouse gas emissions reduction programme. Although Taiwan has been promoting alternative energy resources since the 1990s, domestic capacities have never reached significant levels. When President Chen Shui-bian took office in 2000, he vowed to transform Taiwan into a *Green Silicon Island* and to provide renewed support for the Kyoto Protocol. In 2000, the Environmental Protection Agency (EPA) drafted the Greenhouse Gas Control Act aiming at reducing emission levels, and in 2002, the Development Program of Renewable Energy Sources was adopted. Financial mechanisms were included to support the installation of wind or solar energy facilities. However, overall domestic climate mitigation measures were insufficient to reduce greenhouse gas emissions and, contrary to international

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<sup>11</sup> Wei-ming Huang, Grace W.M. Lee. „Feasibility analysis of GHG reduction target: Lessons from Taiwan's energy policy.” *Renewable and Sustainable Energy Reviews* 13, no. 9 (December 2009): 2621–28.

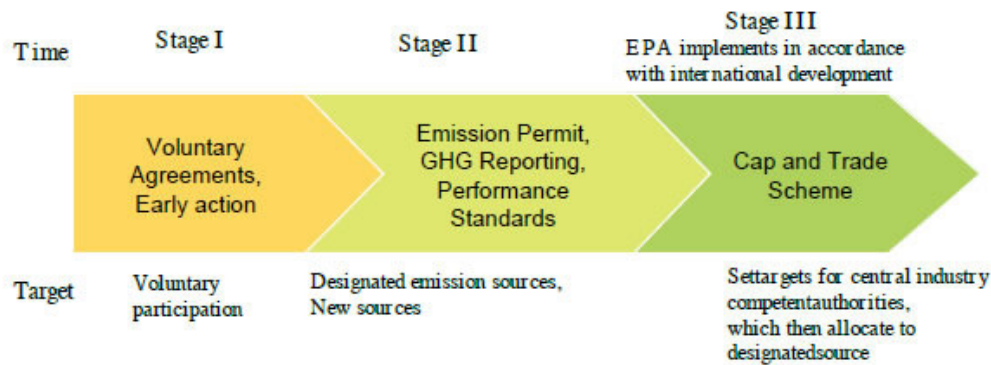
<sup>12</sup> Tser-yieth Chen, “The impact of mitigating CO2 emissions on Taiwan's economy,” *Energy Economics* 23, no. 2, (March 2001): 141-51.



developments, domestically, the climate drive lost its momentum. Climate policy remained a low-profile matter until Russia's ratification in 2004 initiated the Kyoto Protocol implementation process. The Cabinet established the supra-ministerial Climate Change and Kyoto Protocol Response Task Force to evaluate responding strategies, involving the EPA, the Ministry of Economic Affairs, the Council for Economic Planning and Development, as well as the National Science Council. The climate change issue returned to the island's political agenda when President Chen reiterated Taiwan's willingness to comply with the climate agreement. In 2005, the draft of the *Renewable Energy Act* passed the Executive Yuan, and the Chen administration called the Second National Energy Conference in order to formulate strategies responding to the mandatory reduction targets set under the Kyoto Protocol. However, the conference failed to reach a consensus on a national reduction goal. In 2006, the Ministry of Economic Affairs established the Taiwan Industrial Greenhouse Office to coordinate industrial GHGs' management, promote industrial emissions reduction and develop low-energy but high value-added industries. The EPA accelerated its efforts in drafting *The Greenhouse Gas Reduction Act*, which should serve as the legal foundation for the implementation and enforcement of domestic emission reduction measures. In February 2006, the EPA submitted the *Greenhouse Gas Reduction Act* to the Executive Yuan for review. The National Sustainable Development Conference which was held in April illustrated once again economic interests prevailing over environmental concerns. As a result, the draft bill submitted to the Legislative Yuan for deliberation in September 2006 did not include any reduction targets. While the Legislative Yuan completed the review in May 2007, the term of the legislators ended and the act had to be resubmitted by the new legislators. According to the Act, emission cuts would be enabled in three stages: voluntary reduction by the industry sector, enhancing efficiency standards and establishing a cap-and-trade scheme.<sup>13</sup> The bill has drawn attention from the domestic industry sector since the EPA planned to include mandatory carbon emission reductions, and also a carbon tax was considered. The industry sector expressed its strong concerns, mobilised against the bill and as a consequence, those ministerial bodies closely involved with the economy also opposed the bill. The position of the EPA is too weak to withstand pressure from the industrial sector, the Ministry of Economic Affairs and also the Council for Economic Planning and Development. As a result, the deliberation of the Act has been delayed.

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<sup>13</sup> However, there is no clear schedule for the implementation.



### Step-Wise Reduction Strategy

Figure 2: Taiwan’s Step-Wise Emissions Reduction Strategy (Taiwan Environmental Protection Agency)

After President Ma Ying-jeou took office in 2008, the new administration has introduced *Guidelines for Sustainable Energy Policy* in order to renew impetus on the climate front and to re-orientate the national energy policy. On World Environment Day 2008, the EPA initiated the *Citizens’ No-Regret Carbon Reduction Action Plan* promoting ten steps for everybody to curb emission output and raise public awareness of energy conservation and carbon reduction. In addition, the government increased efforts to promulgate climate relevant regulations, such as the GHG Reduction Law, the Act for Renewable Energy, the Act for Energy Tax, and the Energy Management Act.

### The Industry Involvement

The industrial sector has expressed its strong concerns about stringent GHG legislation including carbon reduction goals and suggested that incentives to encourage reduction through voluntary agreements should be extended. In recent years, some industry sectors have responded to governmental climate protection efforts, for instance the IT sector. In 2004 and 2005, the EPA was able to sign Memoranda of Understanding with Taiwan’s TFT-LCD Association and the Taiwan Semiconductor Industry Association for PFC emission cuts, resulting in the reduction of 38 million tonnes of CO<sub>2</sub>e.<sup>14</sup> Since many internationally operating high-tech suppliers are embedded in global supply chains, they are already confronted with the disclosure of information on emission levels. Thus, certain sectors are more

<sup>14</sup> “Taiwan’s chip industry sign pact to cut PFCs emission,” *Taiwan Economic News*, July 26, 2005, [http://news.cens.com/cens/html/en/news/news\\_inner\\_9703.html](http://news.cens.com/cens/html/en/news/news_inner_9703.html) (accessed November 12, 2009).

responsive to stringent domestic climate measures than others. However, since Taiwanese companies are not eligible to obtain carbon credits for their reduction measures, such companies would gain benefits from increased international climate cooperation. These enterprises could play an important role in the build-up of a national climate framework.

In order to widen participation in voluntary reduction measures, a National Greenhouse Gas Registry was established by the EPA in 2007, where domestic entities can report their emission inventories and receive assistance for creating an inventory. As of December 2009, 192 entities from the power, cement, steel and iron, paper, petrochemical, and semiconductor sector reported their emissions, covering over 70 percent of the aggregate emissions. However, the divide between economy and environment could not be completely bridged.

### **The Non-government Sector**

Environmental non-government organisations (ENGOs), such as the Taiwan Environmental Protection Union and the Taiwan Environmental Action Network, are actively involved in the climate change issue. Not only are they urging the government to set clear carbon reduction targets, but they have also established an important link to the international arena. Through their participation at international conferences on climate change, they have been able to represent the country and also improve knowledge transfer. Up to now, the influence of ENGOs on domestic decision makers on the climate issue has been limited. Nevertheless, a group of 33 environmental groups has urged President Ma to call a national convention on climate change and impose energy taxes and cut income tax to stimulate green sectors.

### **Improving International Visibility**

For Taiwan, the climate issue involves important foreign policy elements. Since Taiwan is not part of the UN, it is not eligible to join the UNFCCC or the Kyoto Protocol. It can thus only participate in the Conferences of Parties (COP) as an observer and, up to now, the EPA has represented Taiwan in the status of an NGO. However, the delegation is only able to address the parties during the plenary meetings, and has no right to vote.

Under President Ma's "flexible diplomacy" initiative, ties between Taipei and Beijing have relaxed tremendously. With a softer approach, Ma is seeking to avoid China's

objection to Taiwan joining relevant UN sub-organisations in the fields of health, the environment and climate issues. The change in strategy has proven to be successful, with Taipei obtaining observer status at the World Health Association in 2009. Thus, Taiwan has new hope that it might be able to expand its participation in international organisations, including the UNFCCC, the World Meteorological Organization and the International Civil Aviation Organization. A recent resolution passed by the European Parliament in support of Taiwan's participation in the UN International Civil Aviation Organization and the UNFCCC can be attributed to this new diplomatic approach.<sup>15</sup>

However, already in the past, Taipei has shown its commitment to taking on responsibilities within the international community. The government has specifically focused on the field of environmental protection. For instance, Taiwan adheres to the *Vienna Convention for the Protection of the Ozone Layer* and the *Montreal Protocol on Substances That Deplete the Ozone Layer*, the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal* and the *Stockholm Convention on Persistent Organic Pollutants*. Even though Taiwan is not a signatory country, experiences with international conventions have shown that compliance is in Taiwan's best interest in order to avoid international sanctions. Although no country has applied carbon duties on imports from nations without a carbon reduction strategy, calls for such measures do exist within the European Union.

However, complying with international climate regimes not only ensures that Taiwan's export products can retain market access in developed nations, but also serves foreign policy ambitions. Taipei currently maintains official ties with 23 countries. Among them are six Pacific Island States<sup>16</sup>, which are directly affected by rising sea levels. Furthermore, some of its African allies<sup>17</sup> are also threatened by global warming.<sup>18</sup> Since the promotion of strategies to fight global warming will strengthen these ties, Taiwan vows to provide climate related assistance to its allies. Taipei aims to engage in international carbon trading by supporting its ally countries

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<sup>15</sup> Ministry of Foreign Affairs, "The European Parliament Passed a Resolution to Support Taiwan's Participation in International Organizations," <http://www.mofa.gov.tw/webapp/content.asp?cuItem=43862&ctNode=1036&mp=6> (accessed March 10, 2010).

<sup>16</sup> Kiribati, Tuvalu, Nauru, Solomon Islands, Marshall Islands and Palau.

<sup>17</sup> Burkina Faso, the Gambia, Sao Tome and Principe, and Swaziland.

<sup>18</sup> "Global Warming Threatens Survival of ROC's Pacific Allies: Envoys," *China Post*, March 22, 2010; <http://focustaiwan.tw/SearchNews/doDetail.aspx?id=201003220015&q=greenhouse+gas> (accessed April 2, 2010).

in Africa and the Asia Pacific to develop clean energy projects.<sup>19</sup> On President Ma's recent trip to the South Pacific, climate change was one of the top issues on the agenda. Some allies have already pledged their support for Taipei to join the international climate regime. Furthermore, international cooperation opens new opportunities for more cost-effective carbon reduction measures. Taiwan is also attempting to engage its allies in providing assistance for Taiwan to join international carbon emission trading mechanisms.

### **Clean Development Mechanisms**

The Asia and Pacific region is the heartland of CDM projects, hosting about 75 percent of all registered projects. Countries in the region are engaged in developing CDM projects to sell carbon emission reduction credits (CERs). As of March 2010, there were 752 projects registered in China, 43 in Indonesia, 40 in the Philippines, 20 in Vietnam and 36 in South Korea.<sup>20</sup> However, Taiwanese enterprises are barred from participating in CDM activities, unless they have branches in signatory countries of the Convention, and Taiwan is not eligible for the credits gained from such emission reductions. In recent attempts, Taipei has been seeking international partnerships among its diplomatic allies to obtain carbon credits for Taiwanese emitters by promoting green technology, including solar energy and bio-fuel power plants. The acquired CERs can then be used to offset emissions. There are also plans to open a climate registry with Germany in order to facilitate access to international carbon trading mechanisms.<sup>21</sup> Through international cooperation, Taiwan hopes to meet its targets while supporting ally partners to cut carbon emissions with clean development.

### **Conclusion**

This study reveals some interesting insights into Taiwan's climate policy setting. First, the government is still reluctant to impose carbon reduction costs on its major emitters, indicated by its preference for no-regret measures and voluntary reduction agreements.

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<sup>19</sup> "Taiwan Keen to Help Africa Adapt to Climate Change," *Central News Agency*, March 17, 2010, [http://www.etaiwannews.com/etn/news\\_content.php?id=1205604&lang=eng\\_news&cate\\_img=49.jpg&cate\\_rss=news\\_Society](http://www.etaiwannews.com/etn/news_content.php?id=1205604&lang=eng_news&cate_img=49.jpg&cate_rss=news_Society); "Taiwan Plans to Save Pacific Ally from Rising Sea," *Reuters*, March 23, 2010, <http://www.alertnet.org/thenews/newsdesk/TOE62M02L.htm> (accessed April 2, 2010).

<sup>20</sup> UNFCCC, <http://cdm.unfccc.int/Statistics/Registration/RegisteredProjByRegionPieChart.html> (accessed March 25, 2010).

<sup>21</sup> "Taiwan Seeks to Open Account in German Registry," *Carbon Point*, March 18, 2010, [www.pointcarbon.com/news/1.1424449](http://www.pointcarbon.com/news/1.1424449) (accessed March 26, 2010).

Economic interests prevailing over environmental concerns suggests that there has been no substantial change in the overarching governmental development goal.

Second, unlike in European countries where climate initiatives are backed by its people, environmental groups and to some extent business actors, Taiwan's government faces massive obstacles in the domestic arena to building up a strong climate framework. As a consequence, climate policy follows a rather centralised top-down approach, mainly focusing on securing economic interests. Non-governmental actors are involved, but their influence on policy making is limited. The long debate about the inclusion of carbon reduction targets illustrates the big divide between economic and environmental concerns. Nonetheless, there are fragile signs of growing climate change awareness and increasing receptiveness of climate policy measures by industrial actors. However, low levels of climate awareness not only distort risk assessment but also constrain the unveiling of new opportunities. By 2020, clean energy will be one of the largest global industries. Since Taiwan has a technologically advanced economic base, it could gain benefits from the exploration of new technology markets. The government plans to create a climate friendly industry for the export of green technology, and substantially increase the production value of low-carbon industries, estimated to contribute about 6 percent to the total production value of the manufacturing industry.<sup>22</sup> In 2009, Taiwan invested about 1 percent of its GDP in green technology.<sup>23</sup> This green sector would create some 110,000 jobs.<sup>24</sup> However, up to now, the potential is mainly untapped.

Third, although all former administrations stated their willingness to comply with the international climate regime, the policy outcomes were disappointing. While pre-Kyoto climate policy proved to be mere lip-service, the implementation of the Kyoto protocol triggered responses in Taiwan, but since it was only affected indirectly, climate change policies primarily aimed to avoid potential trade sanctions. Due to its difficult international political situation, Taipei mainly focused on developing national mitigation policies, with limited success, however, as absolute emission volume continued to rise rapidly until 2008. Recently, the Ma administration has expressed its

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<sup>22</sup> "Taiwan Pushes New Industry Roadmap," *Taiwan Economic News*, May 18, 2009, [http://cens.com/cens/html/en/news/news\\_inner\\_27650.html](http://cens.com/cens/html/en/news/news_inner_27650.html) (accessed March 2, 2010).

<sup>23</sup> "Taiwan's Green Investment Accounts for 1% of GDP: CEPD," *Central News Agency*, April 11, 2010, [http://www.etaiwannews.com/etn/news\\_content.php?id=1224747&lang=eng\\_news&cate\\_img=35.jpg&cate\\_rss=news\\_Business](http://www.etaiwannews.com/etn/news_content.php?id=1224747&lang=eng_news&cate_img=35.jpg&cate_rss=news_Business) (accessed April 13, 2010).

<sup>24</sup> Yvonne Chann, "Taiwan Unveils \$1.3bn Green Energy Investment Package," *Business Green*, August 19, 2009, <http://www.businessgreen.com/business-green/news/2248054/taiwan-unveils-3bn-green-energy> (accessed November 20, 2009).

willingness to take carbon reduction seriously. However, it is still struggling to enact the legal foundation needed for implementing and enforcing mandatory reduction mechanisms. Without support from the private sector and the public, his ambitious reduction targets seem to be unobtainable. It is also yet to be seen whether the administration is committed enough to take action that might inflict short term welfare losses, despite the fact that a stringent climate policy framework would improve the international competitiveness of its industry and ensure access to developed nations' markets in the long run.

Fourth, climate change involves major foreign policy elements. The ambitious goal setting and increased climate protection efforts are part of the current administration's attempts to engage the international community and raise Taiwan's international profile as a responsible partner. This may lead to new cooperation and international exchanges, as the newly established channels for climate change cooperation between the EU and Taiwan has shown.<sup>25</sup> Taiwan hopes to be rewarded with increased international recognition and expanded participation in relevant climate organisations such as the UNFCCC. Since climate policy may also serve foreign policy goals, it may be supportive to domestic groups in favour of a rigid climate framework. Taipei seems to be standing at a crossroads, since internationally it is endeavouring to explore new opportunities by creating new international linkages, but domestically it is facing severe obstacles. As of now, Taiwan is not yet at the forefront of the climate change mitigation race, but important steps have been taken in the right direction. Only if Taiwan can overcome its domestic obstacles and escape from its dilemma of previous climate shortcomings will it be able to position itself as a proactive member of the international arena. Hopefully, Taiwan will soon emerge as an innovative participant and driver of international climate policy efforts.

### **Bibliography**

Banks, Martin. "EU Seals Landmark Climate Change Deal with Taiwan." *The Parliament*, February 18, 2008. [http://www.theparliament.com/no\\_cache/latestnews/news-article/newsarticle/eunbspsealsnbsplandmark-climate-change-deal-with-taiwan/](http://www.theparliament.com/no_cache/latestnews/news-article/newsarticle/eunbspsealsnbsplandmark-climate-change-deal-with-taiwan/).

Barkdull, John, and Paul G. Harris. 2002. "Environmental Change and Foreign Policy:

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<sup>25</sup> Martin Banks, "EU Seals Landmark Climate Change Deal with Taiwan," *The Parliament*, February 18, 2008, [http://www.theparliament.com/no\\_cache/latestnews/news-article/newsarticle/eunbspsealsnbsplandmark-climate-change-deal-with-taiwan/](http://www.theparliament.com/no_cache/latestnews/news-article/newsarticle/eunbspsealsnbsplandmark-climate-change-deal-with-taiwan/) (accessed March 10, 2010).

- A Survey of Theory.” *Global Environmental Politics* 2, no. 2 (May): 63-91.
- Chann, Yvonne. “Taiwan Unveils \$1.3bn Green Energy Investment Package,” *Business Green*, August 19, 2009. <http://www.businessgreen.com/business-green/news/2248054/taiwan-unveils-3bn-green-energy>.
- Checkel, Jeffrey T. 1997. “International Norms and Domestic Politics: Bridging the Rationalist—Constructivist Divide.” *European Journal of International Relations* 3, no. 4: 473-95.
- Checkel, Jeffrey T. 2001. “Why comply? Social Learning and European Identity Change.” *International Organization* 55, no. 3 (August): 553-88.
- Chen, Tser-yieth. 2001. “The impact of mitigating CO2 emissions on Taiwan’s economy,” *Energy Economics* 23, no.2 (March): 141-51.
- Huang, Wei-ming, and Grace W.M. Lee. 2009. „Feasibility analysis of GHG reduction target: Lessons from Taiwan’s energy policy.” *Renewable and Sustainable Energy Reviews* 13, no. 9 (December): 2621–28.
- Hwang, Jim. 2006. “Weighing the Policy Options.” *Taiwan Review* 56, no. 4 (April), <http://taiwanreview.nat.gov.tw/site/Tr/ct.asp?xItem=1197&ctNode=119>.
- Jennings, Ralph. “Taiwan to use Africa as back door for carbon credits”, *Reuters*, March 17, 2010. <http://www.reuters.com/article/idUSTRE62G18Y20100317>.
- Rowlands, Ian H. 1995. “Explaining National Climate Change Policies.” *Global Environmental Change* 5, no. 3 (June): 235-49.
- Shih, Hsiu-chuan. “Green firms want wind energy prices to increase,” *Taipei Times*, January 12, 2010, <http://www.taipetimes.com/News/taiwan/archives/2010/01/12/20034>.
- Snidal, Duncan. "Rational Choice and International Relations." In *Handbook of International Relations*, edited by Walter Carlsnaea, Tomas Risse and Beth A. Simmons. London: Sage Publications, 2001.
- Sprinz, Detlef, and Tapani Vaahtoranta. 1994. “The interest-based explanation of international environmental policy.” *International Organization* 48, no.1 (December): 77-105.
- Tsai, Wen-tien, Yao-hung Chou, „Overview of environmental impacts, prospects and policies for renewable energy in Taiwan,” *Renewable and Sustainable Energy Reviews* 9 (April 2005):119–47.
- Underdal, Arild. 1998. “Explaining Compliance and Defection: Three Models.” *European Journal of International Relations* 4, no. 1: 5-30.
- Wendt, Alexander. 1992. “Anarchy is what States Make of it: The Social Construction of Power Politics.” *International Organization* 46, no. 2 (Spring): 391-425.