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Development of Taiwanese government's climate policy after the Kyoto protocol: Applying policy network theory as an analytical framework

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HIGHLIGHTS

- Taiwan is not a signatory to the UNFCCC or its Kyoto Protocol.
- International climate agreements strongly affected Taiwan's climate policy.
- Little evidence was found that domestic factors affect Taiwan's climate policy.
- New climate policies, regulations, and laws are formulated and implemented.
- Climate policies, targets, and regulations change frequently and are inconsistent.

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ABSTRACT

Given its limited involvement in and recognition by international organizations, Taiwan is not presently a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) or the Kyoto Protocol. The objective of this study is to analyze how and the extent to which changes in an exogenous factor, namely the Kyoto Protocol and Post-Kyoto climate negotiations, affect and ultimately lead to the formulation of and changes in the Taiwanese government's climate policy. This study applies policy network theory to examine the development of and changes in the Taiwanese government's climate policy. The results demonstrate that international climate agreements and negotiations play a key role in the development of, changes to, and transformation of Taiwan's climate policy. Scarce evidence was found in this study to demonstrate that domestic or internal factors affect climate change policy. Despite its lack of participation in the UNFCCC and the Kyoto Protocol, Taiwan has adopted national climate change strategies, action plans, and programs to reduce greenhouse gas emissions. However, these climate policies and measures are fairly passive and aim to only conform to the minimal requirements for developing countries under international climate agreements and negotiations. This process results in inconsistent and variable climate policies, targets, and regulations.

1. Introduction

Since the United Nations Framework Convention in Climate Change (UNFCCC) was concluded in 1992 (for the text of the Convention, see UNFCCC, 1992), climate change has been a central public issue on the political agendas of many countries worldwide. The legally binding international agreement to combat climate change under the UNFCCC is the Kyoto Protocol, which was opened for signatures in December 1997 (for the text of the Protocol, see UNFCCC, 1998) and went into effect in 2005 (for the Annex B amendment to the Protocol, see UNFCCC, 2006). Currently, 191 parties (including 190 states and one regional economic integration organization, i.e., the European Union) have ratified the Protocol (UNFCCC, 2013a). Given its limited involvement in and recognition by international organizations, Taiwan is not a signatory to the UNFCCC or the Kyoto Protocol. Thus, the Taiwanese government is not subject to any legally binding international agreement on the limitation of greenhouse gas (GHG) emissions. Although, according to the Protocol, only Annex I countries have to fulfill their obligations to reduce their GHG emission levels by the end of 2012 to specific targets that are set below their 1990 levels, non-Annex I countries (which have no legally binding emission targets) face increasing pressure from Annex I countries to share in the common global responsibility of reducing GHG emissions through voluntary emission commitments. Taiwan, as a country that is not party to the UNFCCC or the Kyoto Protocol, is inevitably also affected by this global trend.

Because the first "commitment period" of the Kyoto Protocol expired at the end of 2012, UNFCCC member states are negotiating

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new collective actions to limit GHG emissions after 2012, the so-called "post-Kyoto" period. The development of ongoing climate negotiations has influential political implications and impacts on national governments. As indicated by Compston (2006), national governments will tend to face stronger and more vigorous climate policies in the future. However, this trend toward more vigorous climate policies implies that greater GHG emission costs will be imposed on businesses in the industrial, power, and transport sectors, which will affect a country's economic growth. In addition, reducing GHG emissions may also undermine energy security because combating climate change requires a reduction in the use of less expensive energy sources, such as fossil fuels, to meet the growing energy demand. This is also the reason that developing countries are hesitant to impose stronger and more vigorous climate policies. Similar to other countries, Taiwan faces trade-offs between its energy supply stability, GHG emission reductions, and economic development (Barrett et al., 2008). The Taiwanese government struggles to strike a balance between the "3 Es" – energy security, economic development, and environmental protection (Ministry of Economic Affairs, Policy Guidelines for Sustainable Energy, 2008).

This study aims to meet the following four objectives:

1. examine the development of and changes in the Taiwanese government's climate policy after the Kyoto Protocol;
2. examine the effects of international climate agreements and negotiations on the Taiwanese government's climate policy;
3. apply policy network theory to analyze the influence of international climate agreements and negotiations on the Taiwanese government's climate policy;
4. discuss implications and suggest recommendations for the Taiwanese government's climate policy.

2. Theoretical framework

Some political scientists have argued that the policy network theory does not provide an explanation of policy change (Marsh and Rhodes, 1992) or is better at explaining policy stability than policy change (Thatcher, 1998: 394; Richardson, 2000: 1007). However, Compston (2009) suggests that policy network theory is a full-fledged theory for explaining policy change. He defined a policy network as "a set of political actors who engage in resource exchange over public policy (policy decisions) as a consequence of their resource interdependencies" (Compston, 2009: 11). In his definition, a policy network involves 'resource exchange' among network members. Benson (1982: 148), Rhodes (1985: 4–5), Rhodes (2000: 60–61), Rhodes (2006): 427–430, Smith (1993: 31), Stoker (1998: 22), Börzel (1998: 254–255), Klijn and Koppenjan (2000: 139), and Hay and Richards (2000: 12) also include this resource exchange aspect in their definitions of policy networks. Changes to an existing public policy are considered the outcomes of resource exchanges within a specific policy network.

To develop policy network theory into a full-fledged theory of policy change, Compston defined policy network theory using the following six propositions (Compston, 2009: 12–17). First, there are policy decisions. Second, there are individuals and/or groups who possess (perceived) tradable resources. Third, policy actors have distinct policy preferences. Fourth, there are (perceived) policy problems and solutions. Fifth, policy actors adopt strategies designed to maximize their chances of realizing their policy preferences. Sixth, there are incentives that regulate the interactions between policy actors. These propositions suggest five important variables within a policy network: resources, preferences, perceived problems and solutions, strategies, and network-specific rules and norms. Before changes are made in a given public policy, a resource exchange due to changes in one or more of the above five variables occurs within a specific policy network (see Fig. 1).

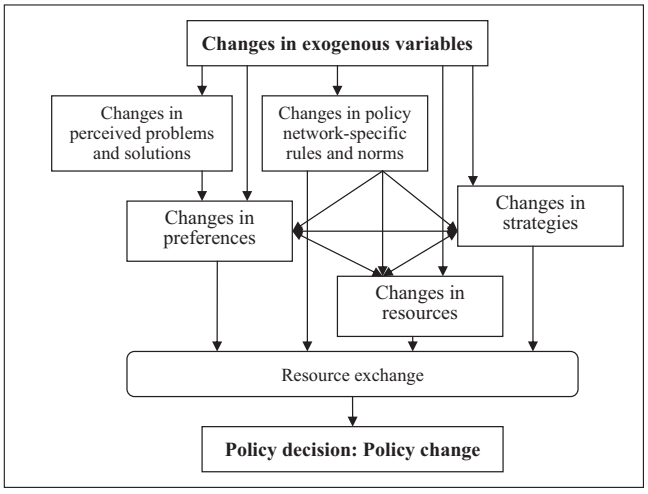

Fig. 1. Policy network model for policy change.
Source: Adapted from Compston (2009: 50).

There are three ways to explain policy change within a policy network (Compston, 2009: 34–51, also see Fig. 1): First, changes in the five policy network variables "directly" or "independently" influence resource exchange, which will lead to policy change. Second, changes in these five policy network variables "indirectly" influence resource exchange by influencing the other variables. Third, changes in these five policy network variables are caused by changes in exogenous factors, i.e., perceived and actual changes in the real world instead of changes in the network variables.

In this study, exogenous sources of change are employed to explain, analyze, and evaluate the Taiwanese government's climate policy. In other words, the effect of exogenous variables, namely the Kyoto Protocol and international climate negotiations, may cause changes in the policy network variables, which in turn change the national government's climate policy. For example, the signing of the Kyoto Protocol may bring new policy actors with certain preferences and perceptions of the problem into the network and add new policy preferences, such as measures for climate change mitigation and adaptation, which will encourage more renewable energy use, improve energy efficiency and conservation, encourage the creation of new energy technology and thus change the strategies and resource deployment in the policy network and the existing network-specific rules and norms.

Based on Compston's policy network theory, this study develops an analytical framework to explain changes of Taiwanese government's climate policy (see Fig. 2).

The policy implications of international climate agreements and negotiations vary substantially between rich and poor countries, between countries that signed the Kyoto Protocol and those that did not, and between Annex I countries and non-Annex I countries. Compston applied his policy network theory to explain the changes in climate policy in 12 wealthy EU countries. However, it is unknown whether this model can also be used to explain climate policy change in a non-developed, non-Kyoto-Protocol-signing country, such as Taiwan. To bridge this knowledge gap, the main research questions investigated in this study are the following: Because Taiwan is not a signatory to the Kyoto Protocol, to what extent has the Kyoto Protocol and related climate negotiations affected the Taiwanese government's climate policy? Is Taiwan exempt from the global trend of moving toward stronger and more vigorous climate policies?