



## **Policy-making under uncertainty: the case of carbon pricing in New Zealand**

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Pricing carbon has been advocated as an essential component in the transition to low carbon economies and in addressing the challenge of climate change. To this end, emission trading schemes have emerged as a popular climate policy for reducing carbon dependency and greenhouse gas emissions. While there has been much analysis of hypothetical and proposed schemes, much less empirical analysis exists for schemes in operation, particularly for those outside Europe. Such research is important to understanding how these schemes are designed and operate in different contexts as well as factors affecting their ability to achieve objectives. To address this gap, the research presented here evaluated the New Zealand Emission Trading Scheme (NZ ETS), with particular focus on the institutional aspects of the policy during its first policy cycle (i.e. formation, design, implementation, review and amendments). The research explored how different stakeholder groups and administration both influenced and were affected by the policy process and ETS design. The research approach involved a mixed methodology with a review of academic literature, government reports, public submissions, market and survey data as well as 36 interviews with key stakeholders including decision makers, administrating officials, participants, academics, civil society groups, and carbon traders. The research provided evidence that achieving institutional feasibility in this case involved trade-offs with other important aspects of climate policy; for example, carbon emission reductions, legitimacy, and predictability.

The research questions posed by the Earth Governance context of the YESS conference are particularly relevant in examining the design and policy-making process behind emission trading schemes (i.e. How do uncertainties affect decision-making in Earth system governance? How to deal with them in politics?). Uncertainty has pervaded every stage of the policy process behind the NZ ETS. Technical uncertainties about the risks and costs of climate change, as well as the accuracy of data, were often discussed. There were instrumental uncertainties about how the policy instrument would operate in reality; for example, there were questions about the actual effects on businesses and possible unintended effects. There were and continue to be significant political uncertainties; for example, there were strong industry lobbies opposing the original design and there was a change of government just after the ETS legislation was passed. These uncertainties continue to challenge policy-makers, who must balance flexibility and credibility in addressing the different types of uncertainty in climate policy. An explicit part of this research has involved examining how these uncertainties have been dealt with by decision-makers and stakeholders and how persisting uncertainties affect the future outlook of the NZ ETS. While the research has focused on the NZ ETS, most of the uncertainties and challenges faced in New Zealand are likely to be shared by decision-makers designing and implementing any carbon pricing climate policy. With an increasing number of such policies proposed or implemented at the regional and supra/national level, a better understanding and appreciation of these uncertainties, as well as learning from the New Zealand experience, is especially relevant for those working in climate policy.