

Synthesis of Key Findings from Case Studies

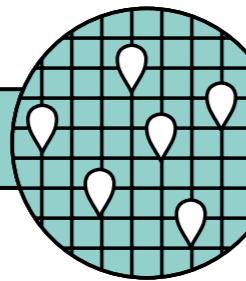
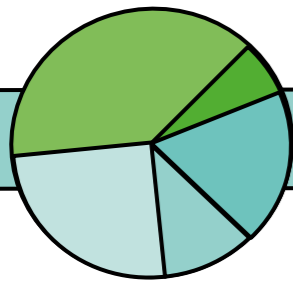


Energy Systems Catapult's 'Rethinking Decarbonisation Incentives' (RDI) is taking a fresh look at options to improve incentives for decarbonisation across the UK economy (e.g. through explicit or implicit carbon pricing, trading or other instruments to reflect carbon within market signals).

This note summarises key findings relevant for the UK from eleven international case studies of decarbonisation policy approaches. These include examples of carbon trading, carbon taxes, subsidies, energy efficiency certificate trading, and regulatory standards. The main report contains further details and examples of international experience than described [here](#).

Coverage and Point of Regulation

The coverage of a decarbonisation policy determines which greenhouse gases and sectors will be subject to any resulting price signal.



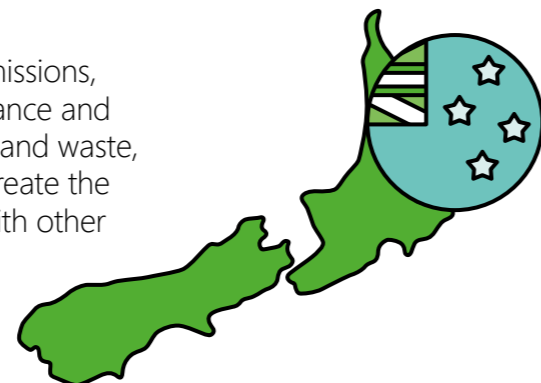
1. Considerations for sector selection should include:

- Availability and costs of abatement options
- Sensitivity of sector to price signal in the short and long-term
- Necessity of other policies in order to make the decarbonisation incentive effective
- Difficulty and costs of measuring emissions

Phasing can be an effective way to test policy impacts in one sector, before extending the policy to other sectors.

2. Point of Regulation

The point in a chain of emission producing activities at which a regulator places the obligation to comply with emission reduction policy. The point is defined relative to the point of emission, either up or downstream from this. The case studies suggest that the point of regulation should be determined for each sector independently. An upstream approach can ensure comprehensive coverage and low costs but would be most effective when the carbon costs are passed through in the costs of goods and services.



3. International Experience

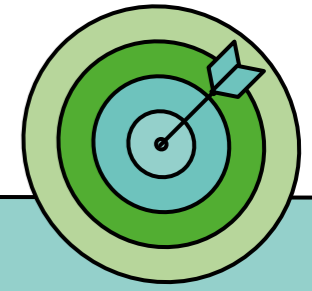
New Zealand has an upstream approach for energy emissions, to achieve high coverage of emissions with low compliance and administrative costs. For other sectors, such as forestry and waste, New Zealand chose the point of emissions instead to create the strongest incentive for emission reductions and align with other existing levies in the sector.

Price Signal and Policy Certainty

Decarbonisation policies generally require a target to be set to underpin the economic incentive. The robustness of this target and its surrounding governance framework will strongly affect the credibility of the policy and the emission reduction outcomes that are achieved.

1. Target Setting

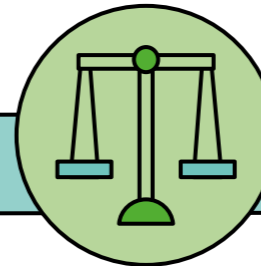
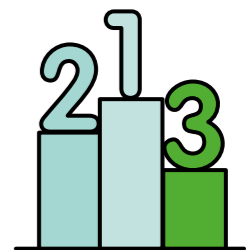
Target setting is critical to the economic incentive created by decarbonisation policies. The table below compares target setting in three instances.



	Type of Target		
	Cap on volume of emissions	Emission intensity per unit of activity	Implicit target used to set carbon tax rate
Certainty of emission outcomes	✓	✗	✗
Relationship between target achievement and economic activity	Easier to meet if actual activity is below expectation (and vice versa)	Difficulty of meeting target less sensitive to level of economic activity	Decarbonisation incentive insensitive to level of economic activity

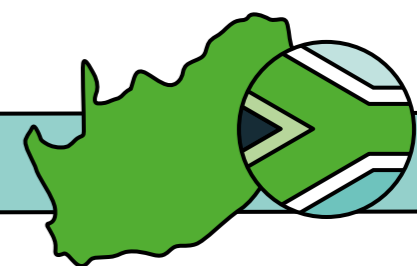
2. Protecting Competitiveness of Industries

Mitigation of competitiveness impacts is almost always seen as a priority in decarbonisation policy design. Governments often decide to implement measures to protect the competitiveness of industries at the same time as setting targets. Minimising the extent to which measures to protect competitiveness reduce the incentive to abate emissions is a key challenge in policy design.



3. Trade Off and Balance

As economic circumstances change, policy makers have sought to balance the flexibility to change policy with the need for policy certainty, necessary for the stability of the price signal. Policy makers can provide a lead time (e.g. of a few years) between the announcement and implementation of policy changes, and design elements such as banking and borrowing can help smooth out prices over time.



4. International Experience

The design of South Africa's carbon tax is intended to balance climate change mitigation goals with the need to reduce poverty and maintain trade competitiveness. The tax regime has a series of exemptions which are expressed as a percentage reduction in the liable emissions for each year in question. The exemptions mean that the decarbonisation signal is not the same for all liable entities.

Governance

The impact of decarbonisation policies on markets and investment depends significantly on its legislative and/or governance framework. Investor confidence in the stability and longevity of the policies is important for success.

Roadmap for Governance

An independent and legally enshrined policy framework

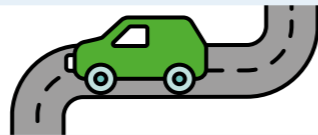
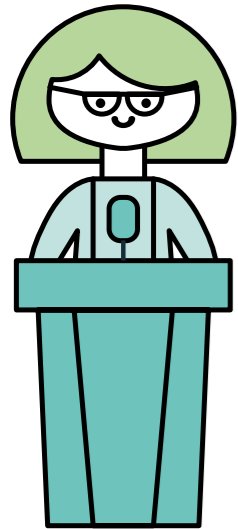
- Empowers parties
- Holds parties accountable
- Ensures investor confidence

Substantial political will at a centralised level

- Necessary to cover multiple jurisdiction or stakeholders
- Provides confidence in ambition level

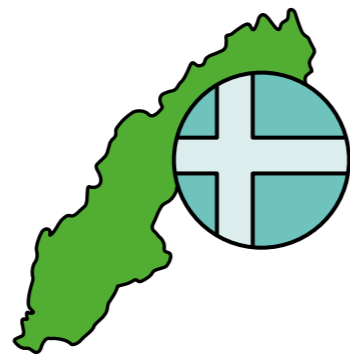
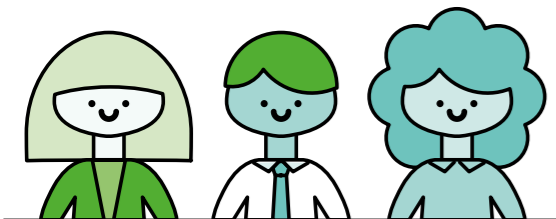
Robust stakeholder engagement process

- Provides transparency
- Provides opportunity for crossgovernmental engagement
- Invites expert input
- Ensures predictability and robustness of policy over time



1. Stakeholder Acceptance

Investor confidence depends on the acceptance of the policy and that policymakers are being seen to address stakeholder concerns. In addition, the decarbonisation policy must be perceived as being consistent with other policy priorities, for example policies targeting energy supply and use.



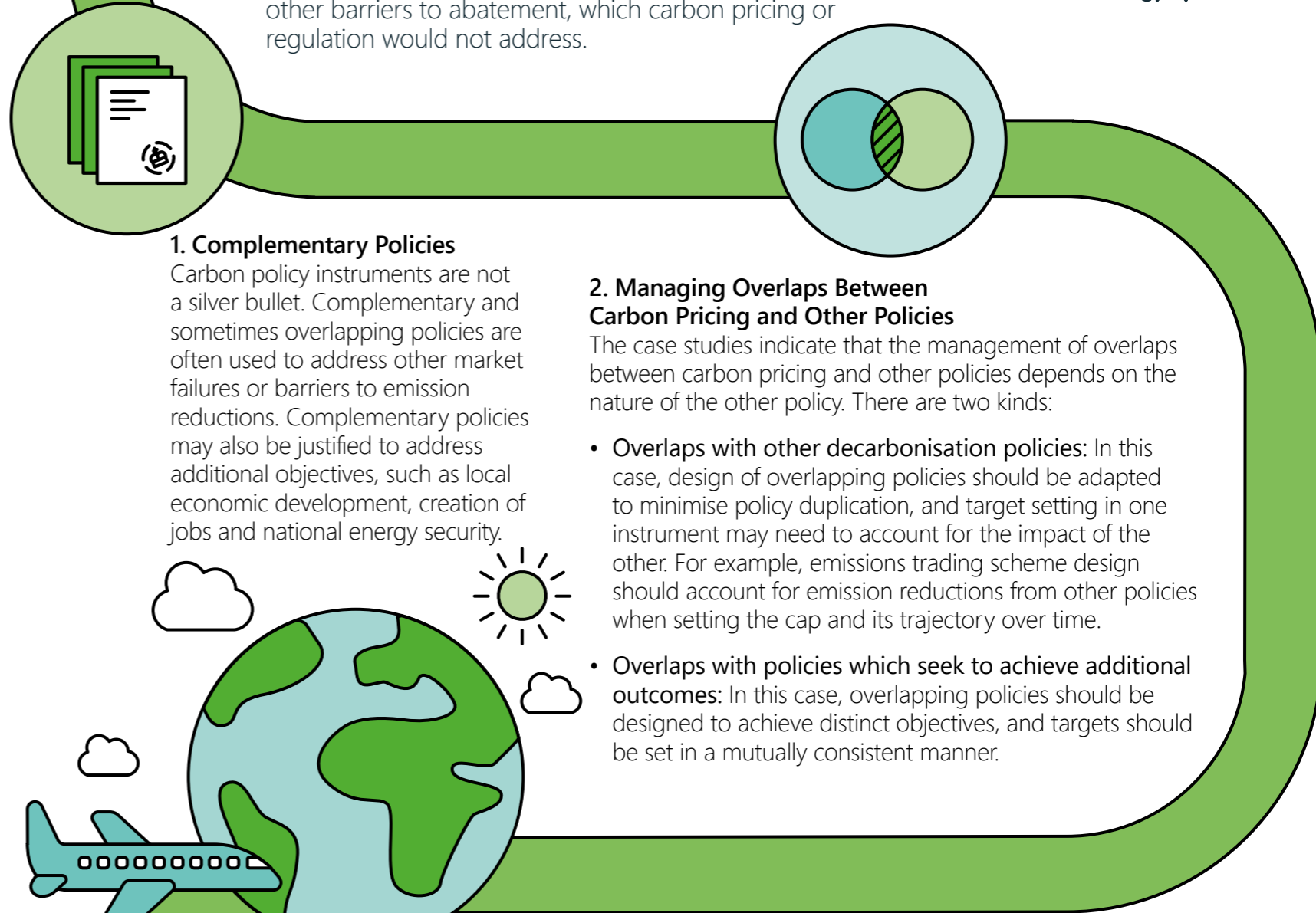
2. International Experience

The California Global Warming Solutions Act of 2006 - Assembly Bill 32 (AB32) requires that California reduces GHG emission to 1990 levels by 2020. This legislative commitment to emission reduction targets has enhanced the policy certainty of the cap-and-trade system in California.

The Swedish tax law system involves stakeholder engagement and public consultation in its process and therefore both commercial and private concerns can be addressed. The Swedish government and citizens have consistently supported the presence of a carbon tax. While Sweden's carbon tax rates are the highest in the world, they were raised gradually and predictably, allowing businesses to respond.

Policy Interactions and Harmonisation

Complementary policies may be required to address other barriers to abatement, which carbon pricing or regulation would not address.



1. Complementary Policies

Carbon policy instruments are not a silver bullet. Complementary and sometimes overlapping policies are often used to address other market failures or barriers to emission reductions. Complementary policies may also be justified to address additional objectives, such as local economic development, creation of jobs and national energy security.

2. Managing Overlaps Between Carbon Pricing and Other Policies

The case studies indicate that the management of overlaps between carbon pricing and other policies depends on the nature of the other policy. There are two kinds:

- **Overlaps with other decarbonisation policies:** In this case, design of overlapping policies should be adapted to minimise policy duplication, and target setting in one instrument may need to account for the impact of the other. For example, emissions trading scheme design should account for emission reductions from other policies when setting the cap and its trajectory over time.
- **Overlaps with policies which seek to achieve additional outcomes:** In this case, overlapping policies should be designed to achieve distinct objectives, and targets should be set in a mutually consistent manner.

3. International Harmonisation

Linking carbon markets is a way of providing flexibility to participants, since abatement in one system can count towards meeting the target in another. However, the linked systems must start and remain compatible in their main design elements, for instance common scope and stringency of the system, to mitigate interjurisdictional competitiveness impacts. In the context of the Paris agreement, countries developing their carbon pricing instruments should ensure compatibility with international best practice.

