

Policy frameworks to address barriers to decarbonisation

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Integrated policy frameworks to support new industries play a role in decarbonisation

Policy must support new economic sectors to play a role in decarbonisation before the collapse of the legacy fossil-based sectors – the market is not the only answer – governments have an important role to play. Integrated policy frameworks are important for developing industries that will play an important role in decarbonisation.

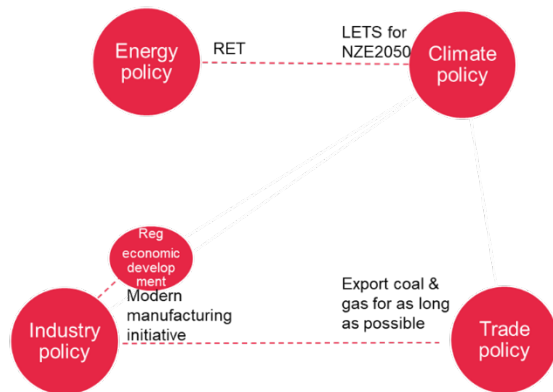
First barrier to decarbonisation: ad-hoc policies

Current Australian Policy Frameworks tend toward ad-hoc mechanisms. For instance, the primary mechanism for **climate policy** is the Low-emissions Technology Statement which lays out what technologies may be important for meeting Net Zero Emissions by 2050 (NZE2050) and commits \$20bn for projects to attempt to bring down the cost of those technologies. Favoured projects for assistance are hydrogen and carbon capture and storage research/pilots and assistance with deployment of wind and solar farms. Turning to **energy policy**. The national Renewable Energy Target (RET) was met in 2019 and funding for renewable energy projects through the Australian Renewable Energy Agency (ARENA) and financing from the Clean Energy Finance Corporation (CEFC) are being directed towards the favoured technologies and projects. Only the states have unmet RETs and they are largely aspirational without formal market mechanisms. There is some, but not strong, integration between climate and energy policy in Australia. For more than 2 decades, Australia has wrestled with effective **industry policy**. Instead of a framework for supporting innovation and commercialisation it has tended to subsidise favoured companies in legacy industries against cheaper imports (Whatever happened to Industry Policy in Australia? TOM CONLEY & ELIZABETH VAN ACKERT Griffith University (2011)). The recent \$1.3bn Modern Manufacturing Initiative (MMI) was the previous Commonwealth Government's embodiment of selective support to suit short-term political expediency.

The best example of a policy framework that addresses barriers to decarbonisation is Europe's Green Deal where industry policy is integrated with energy, climate and trade policy, for regional economic development. Europe's Green Deal by its name harks back to FDR's New Deal which, through government intervention in the economy, sought to rebuild the USA after the US economy was ravaged by the Great Depression. The Green Deal policy framework directs investment to the key pillars of carbon abatement, the shift of electricity supply to renewable energy, the electrification of mobility, and projects with acceptable environmental, social and governance (ESG) credentials, but also to regional areas disaffected by a shift away from fossil fuel production or manufacturing decline after the Global Financial Crisis. To protect the European economy against unfair competition from

countries with weaker ESG and decarbonisation credentials, trade policy will be harnessed through the application of a carbon-border-adjustment (CBA) mechanism within its trade policy. The scaffolding for the Green Deal framework thus utilises energy policy, climate policy, trade policy and industry policy for regional development to achieve a just transition.

Current Australian Policy Framework: Silo-ed policies



Europe's Green Deal: an integrated policy framework for decarbonisation

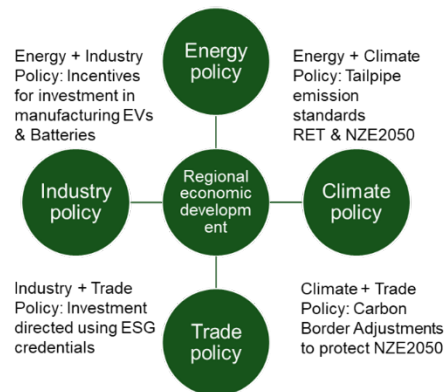


Figure 1: First barrier to decarbonisation: ad-hoc policies

Second barrier to decarbonisation: Perception of risk

Decarbonisation involves risk

Climate change will have a variegated effect on different economic sectors, technologies, regions and communities. The risks of these effects will also be heightened by interaction with the consequences of climate change like drought, floods, fires and storms. Measuring these risks is complex and combining risks of social, economic and cultural failure into a single meaningful risk metric is nigh on impossible because it is highly likely that aggregating different risks will result in non-linear, connected results. Equally, there is a risk that policies and actions to mitigate against climate change will be ineffective or at worst, exacerbate the problem. So there is a non-measurable risk of climate change, and a non-measurable risk of decarbonisation. How can these complex, unquantifiable risks be managed?

Risk management approach for deep decarbonisation

Deep decarbonisation requires fundamental change to sourcing energy, methods of transportation, and the need to develop new sectors at an unprecedented rate and scale. This is a daunting prospect and requires bold action from all sectors of society. The multiple levels of risk demand a robust appetite for risk, without which it will be impossible to decarbonise successfully. Mitigating against the risks may require polycentric governance (Elinor Ostrom, 1990) that is using multiple actors and non-traditional policy tools to assess, understand & manage the risks. With such a complex problem, involving significant uncertainties, an approach that, rather than pursue a 'best guess' course of action, embraces multiple paths each developed using a different logic is required. It is important to seek resilient strategies rather than optimal ones to perform well over a wide range of plausible futures. (Deep Decarbonization as a Risk Management Challenge Author(s): ROBERT J. LEMPERT and HORACIO R. TRUJILLO RAND Corporation (2018))

Risk management approach required by governments

Risk-appetite is the amount of risk that an organisation is willing to seek or accept in the pursuit of its long-term objectives. Australian governments tend towards a low risk-appetite from several decades

of a policy approach that sought to avoid accusations of subsidisation by governments. Why now do governments need to increase their risk-appetite?

1. Policy makers need to change to address such a fundamental change. It is easier to pursue familiar methods of analysis and decision making than it is to seek new ways to inform policy and achieve the desired outcomes. Sticking with familiarity encourages group think and resistance to change which could eliminate important alternate pathways to decarbonisation.
2. Where the private sector may not be able to supply enough venture capital or pre-commercialisation finance, governments should be prepared to step in to keep alternate pathways to decarbonisation open.
3. Policy needs to be structured to attract new investment and start new sectors to supply to the global decarbonisation opportunity. Attracting new investment may require government investment as a foundation to reduce risk for private investors. Building new sectors will increase the diversity of the economy which in turn will increase resilience.
4. A breathtaking array of new technology is required to decarbonise. Australian research is highly respected around the world and yet Australia has a reputation for lacking commitment to back Australian research and technology to reach commercialisation. A recent example includes Michelle Simmons from Silicon Quantum Computing who said: *“Australia is really gunning for leadership in the research stakes, and one of the things I’ve seen culturally, is that they hold back when they get to the commercial level. There’s a bit of a culture that it can’t be done in Australia....”* RN Breakfast 24 June 2022 9:13am. To succeed at decarbonisation, Australian policy makers need to have the courage and commitment to back Australian research, technology and knowhow.

Third barrier to decarbonisation: Lack of experience with new sector development

We’re all familiar with the Sydney Harris cartoon, which is a blackboard representation of the first step in solving a problem and the solution to the problem separated by a black box which states “Then a miracle occurs”. The cartoon is accompanied by the caption “I think you should be more explicit here in step 2”. This applies as much to Australian industry policy which supports research but not the hard march to commercialisation and the creation of a manufacturing ecosystem.

In my discussions with government and industry, I have encountered concerns with new sector development because of:

- 1) decades of ad hoc policy interventions which have led to accusations of subsidising legacy industries;
- 2) where governments choose to support new industries, fear that they will be accused of picking losers;
- 3) a lack of transparency in awarding grants to allow ministerial discretion for political advantage;
- 4) the perception that competitive advantage starts with mining and without mining, Australia cannot be competitive;
- 5) the perception that Australian labour is too expensive to enable Australian companies to compete globally;
- 6) a lack of collaboration between government and emerging industry, for many of the reasons stated above.

Conclusion

Countries like Japan, Taiwan, South Korea, China and Germany have been successful at developing new sectors. In all cases, there is a strong relationship between industry, government and research, and commitment to success. In order to address the barriers to decarbonisation associated with policy frameworks, Australian policy makers need to ensure a common theme of decarbonisation interlocked through all policy areas. In addition, risk management of the policy agenda should seek to encourage policy mechanisms to address multiple paths to decarbonisation rather than a single 'optimal' path which is vulnerable to failure.