September 2021

GETTING TO NET ZERO REQUIRES MORE POLICY EXPERIMENTS

This short note proposes a greater role for deliberate policy experiments to help policy-makers and regulators identify the solutions that will best support decarbonisation at the lowest cost. Policy experiments can be effective in a range of contexts - from market design, to price controls, tariff reform and sector coupling.

It seems that nearly every report on the energy sector these days starts with something to the effect of *"the sector is undergoing rapid change…"*. And yet, many commentators identify the slow pace of policy change to date as being an obstacle to decarbonisation. This is not because of a lack of will or ability amongst policy-makers and regulators – it is because these decisions involve difficult trade-offs and have the potential for unintended harms.

So what can policy-makers do to overcome these challenges?

Greater use of policy experiments can help overcome some of the challenges in building the evidence base needed to drive forward policy change.

To develop the evidence base to make decisions in the complex system of decarbonisation, policy-makers will need to run trials of policy options in a lower-risk environment.

Working together with the innovation accelerator Energy Systems Catapult, we are currently supporting BEIS and Ofgem in developing pricing options that could incentivise the uptake and use of demand-side flexibility by domestic energy consumers. This is part of the government's Alternative Energy Markets programme. The aim of this programme is to explore the possibility of testing new pricing options in a real-world environment.

For its Access and Forward-looking Charges Significant Code Review, Ofgem followed a principles-led approach,[1] including taking account of behavioural insights.[2] The testing environment that is being explored under the Alternative Energy Markets programme may allow BEIS, Ofgem and market participants to practically tests these principles. In turn, this could inform future policy decisions on tariffs and on related reforms.

Evaluation should be built into any policy testing environment, as this will maximise the usefulness of the trials for informing future policy-making.

We recently concluded a multi-year evaluation of a regulatory trial in Australia. The Australian Energy Regulator (AER), working with representatives of energy consumers and of network companies, developed 'New Reg' as a pilot designed to address what had become an acrimonious regulatory process. In the New Reg trial, one electricity distribution company (AusNet Services in the state of Victoria) negotiated with a Consumer Forum to inform parts of the business plan it submitted to the AER.[3]

Key to the trial was the inclusion of ongoing evaluation. We reported on the trial at regular intervals – from the establishment of the Consumer Forum and early negations, through to the AER's final determination. Our evaluation identified not only potential improvements in the negotiated settlement process, but also gaps in the broader regulatory framework that applies to Australian energy network companies.

[1] Ofgem, Electricity Network Access and Forward-Looking Charging Review: Open Letter on our shortlisted policy options, 9 March 2020. Access here.

[2] Dr. Moira Nicolson and Beth Moon, Applying behavioural insights to forward looking charging reform - Results from a literature review by Ofgem's Behavioural Insights Unit, July 2019. Accessed here.

[3] Negotiations exclude matter such as the allowed rate of return earned by the network company.

Using experiments for better policy-making

If, as another cliché from many recent reports suggests, the energy sector is becoming increasingly complex then it would be prudent for policy-makers and regulators to adopt new tools to help them meet their duties.

A classic example is the complexity inherent in addressing climate change. The policies that are required to meet a country's decarbonisation targets would change in response to: the latest scientific understanding of climate change and its causes, domestic progress to date, global progress and commitments, the cost and availability of different technologies, citizens and businesses' preferences, and other political imperatives (e.g. poverty-reduction).[4] Deliberate policy experiments offer an important tool for policy-makers to navigate that type of complexity.

Policy experiments are currently an under-used approach

Businesses have incorporated testing into their day-to-day for a long time now. Terms like A/B Testing have crossed over from niche IT language into the mainstream. And some regulators have been proactive in encouraging greater experimentation from the businesses that they regulate. In GB, Ofgem and Ofwat make funding available to the regulated energy and water companies, respectively, to run innovation-based pilots. For its latest price control reviews – RIIO-2 – Ofgem has increased the focus on using its innovation competition funding to support the energy transition.

But policy-makers have been rather slower to adopt the same approach when it comes to their own policies. Below we note two positive examples from Ofgem:

- Following its 2016 investigation of the GB energy market, the Competition and Markets Authority recommended that Ofgem make greater use of testing and trialling to inform policy interventions.[5] Since then, Ofgem has made use of experimental methods through its Behavioural Insights Unit, with the emphasis largely on the retail market to date.
- A number of energy regulators, including Ofgem in GB, run Regulatory Sandboxes that allow innovators to run pilots by giving them time- and/or- location-limited exemptions from some rules. We recently completed an evaluation of Ofgem's Regulatory Sandbox and found that it helped innovators better understand how their innovations impact consumers. But it remains unclear to what extent the lessons from Sandbox trials inform Ofgem's wider policy-making.

Elsewhere, individual policy decisions may not have been intended as deliberate experiments, but seen over a long enough time horizon the evolution of policies often represents some element of "learning by doing". For example, Ofgem's RIIO-1 price controls[6] could be viewed as testing the idea that consumers would be better off if regulatory processes offered the regulated companies more of a "carrot" – such as the fast-track incentive for well-justified business plans. Our evaluation of the RIIO-1 price controls found that the fast-track incentive is likely to have led to consumer savings from the electricity distribution business plans,[7] but we also found that the price control settlement overall skewed in favour of the network companies. The lessons Ofgem took from the RIIO-1 price controls have informed its thinking on the RIIO-2 price controls.

[4] These are also referred to as 'wicked' learning environments. See, for example: R.M. Hogarth, T. Lejarraga and E. Soyer, *The Two Settings of Kind and Wicked Learning Environments*, Current Directions in Psychological Science 24(5):379-385. DOI:10.1177/0963721415591878

[5] CMA, Energy Market Investigation, Summary of final report, 24 June 2016. Accessed here.

[6] Covering 2013-21 for transmission and for gas distribution, and 2015-23 for electricity distribution.

[7] We were unable to establish whether the fast-track incentive led to a consumer benefit when it came to the business plans in transmission and in gas distribution.

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