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Exploring public support for climate action and renewables in resource-rich economies: The case of Scotland

EPRG Working Paper 1934

Cambridge Working Paper in Economics 1987

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Scotland is the rare example of a resource-rich economy that is taking an ambitious approach to climate action, so we use a series of public deliberations to try to understand how the Scottish public reconciles the tension between historic dependence on fossil fuel extraction and more recent environmental aspirations.

Scotland has undergone rapid decarbonization within the past decade despite continued oil and natural gas extraction in the North Sea. In 2009, Scotland set an ambitious target to reduce emissions by 42% from 1990 levels by 2020. By 2017, emissions had been reduced by 46.8% from 1990 levels to 40.5 $MtCO_2eq$, however, accounting for the Scotland's participation in the EU Emissions Trading Scheme (ETS), which is the formal basis for assessing its target, emissions were 46.1 $MtCO_2eq$, which only translates to a 39% reduction from the baseline, just missing its annual target for 2017 established in the Climate Change (Scotland) Act 2009.

Emission reduction has largely occurred through decarbonization of the Scottish energy supply by closing fossil-fuel burning facilities, improving energy efficiency, and dramatically expanding renewable energy production. Currently, Scotland generates almost three-quarters of its electricity from renewable energy sources. The leading sources of renewable energy are onshore wind and hydropower, followed by offshore wind, biomass and solar. Despite the rapid decline in power sector emissions, other key sectors, namely transport (37.3% of emissions), agriculture and related land use (26.1%), and business and industrial processes (22.2%), have shown much less change in emissions since 1990.

At the same time, ambition has been rapidly escalating. In May of 2018, Scotland passed a bill to further reduce emissions by 90% by 2050 which was met with criticism for not being aggressive enough. More recently, quickly following on a Committee on Climate Change report on net-zero in May 2019, the British Government agreed to set an overall net-zero target by 2050, in so doing the Scottish government adopt a 2045 target for net-zero because of its particular circumstances.

One strategy for emission reduction which has been considered by the UK government is carbon dioxide capture and storage (CCS). CCS has been included as an integral part of emissions reduction pathways yet implementation has been slow. The Peterhead gas-fired power station in Northeastern Scotland was twice been flagged as a potential location for a government-funded CCS project but has not been taken forward, most recently in 2015, when the Conservative government abruptly cancelled its competition shortly before it was meant to award £1 billion to one of the two finalists, which included Peterhead.

Our research involved conducting a series of initial focus groups in Peterhead, Aberdeen, and Edinburgh on energy in Scotland, including thoughts on CCS. We were particularly interested in deciphering any differences between communities reliant on oil and natural gas extraction (in Peterhead and Aberdeen) and those less reliant (in Edinburgh). Participants in all locations noted the challenges associated with the decline in the oil and natural gas industry and were supportive of expanding renewable energy production. Our panels revealed that awareness of CCS was very low in all venues. Even in Peterhead, the location of a proposed major government-funded CCS project led by Shell, which would have brought significant investment into the town, only one resident (out of 19) was aware of the proposed CCS project. Once provided with some information, participants were concerned about safety and cost. They were also reluctant to have CCS funded by taxpayers. However, they did perceive it as a way to potentially utilize existing infrastructure to minimize emissions and saw the potential for future employment opportunities. Despite claims of best practice in Shell's community engagement, clearly overall public appreciation for the project was low and this may help explain why there were few consequences from the Conservative government ultimately cancelling the project in 2015.

We subsequently conducted citizens juries over two full days in both Edinburgh and Aberdeen to gain a deeper understanding of the Scottish public's views on the energy challenges facing Scotland, and what they recommended should be done by the Scottish government. Citizens perceived rising energy costs, declining fossil fuel resources, and energy independence as the preeminent challenges. Safety and the environment were two key factors that citizens in both juries thought should be a priority. Our findings indicate strong support for diversification in Scotland's energy portfolio with continued renewable energy production expansion. Respondents were also supportive of continued R&D in low-carbon technologies such as CCS. Finally, the participants we consulted supported greater state intervention through the nationalization of Scotland's energy resources with profits being fed back into local communities, state-led energy firms or local energy companies.

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