The Politics of Renewable Energy and Ambitious Policies: Comparing Ontario, California, and Texas

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Throughout the twentieth century, fossil fuels have dominated electricity production. However, negative externalities associated with fossil fuel combustion, including poor air quality, climate change, and chemical pollution, have caused many to argue that societies should transition their electricity systems away from fossil fuels and towards renewable energy technologies (Caldeira, Jain, and Hoffert 2003; Hoffert et al. 1998; Trancik, Chang, Karapataki, and Stokes 2014). Given the lack of pricing of these environmental harms directly, for example through a price on carbon and other pollution, governments have turned to other tools to incentivize action. The three most prominent policies to date are renewable portfolio standards (RPS), feed-in tariffs (FIT), and net-energy metering (NEM).

Both RPS and FIT policies operate on the large, wholesale side of the electricity system. An RPS sets a quantity for the amount of renewable technologies to be required, usually as a percentage of the electricity mix. A FIT sets the price for renewable technologies and lets the quantity follow. Often, the RPS will compel a utility to procure additional renewable electricity using a similar process to traditional resources. FITs allow new, standard contracts to be developed outside of the traditional procurement process. Both of these approaches attempt to pull new technology into the market, rather than penalizing

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existing technologies for their emissions (Nemet 2009). They often lead to large-scale, centralized projects. Furthermore, these policies are often justified on economic development terms, since their large scale creates opportunities for new industries to develop (Rabe 2009; Stokes 2013).

In contrast, NEM policies are used on the retail side, behind the customer's meter, and often lead to distributed generation (DG), meaning smaller-scale electricity sources located where their energy is consumed. NEM is often favoured to incentivize DG systems and citizen participation in renewable energy production. When a customer installs a renewable energy project, typically solar photovoltaic (PV), they use their own energy when this source is available and they need power. When they are still producing energy but not using it, NEM allows them to be paid for the electricity they contribute to the grid. The term NEM implies that the price is set at the full-retail rate, meaning a customer is credited back for the energy they provide to the grid at the full electricity price, including transmission and distribution charges. In practice, NEM may refer to policies that credit customers the full retail rate or much less. Overtime, NEM customers draw less and less energy from the grid and are compensated for the energy they provide, causing their electricity bill to go down.

This summary – a complement to my workshop presentation – highlights the politics of passing and implementing the three most ambitious attempts in North America to transition the electricity mix towards renewable resources. It asks what factors enabled these ambitious policies to be passed, and what factors have led to their successes or weaknesses during implementation. Looking at both policymaking and implementation allows for an examination of how these policies have changed over time, in part through policy feedback, wherein new policies have created new actors that come to defend the policies when attacked, or expand the policies when strategic opportunities arise (Campbell 2003; Pierson 1993; Skocpol 1992).

In each case, governments used public policy to move away from conventional technologies, including coal and natural gas, towards renewable energy resources, including wind, solar PV, and geothermal. California, Texas, and Ontario have each enacted and implemented large-scale renewable energy policies. In California, an eclectic, bureaucratic approach has relied on a wide variety of policy instruments to drive technology adoption at a variety of scales throughout the economy, using all three major policies. In Texas, a market-based approach has been dominant. An RPS policy that passed as part of deregulation measures in 1999 was later expanded, leading to a large wind energy construction boom. In Ontario, a 2003 commitment to phase out coal created a policy window for renewables, with the government relying on a FIT to spur technological deployment. Each of these policies was enacted during key moments of change or crisis: an electricity crisis post-deregulation in California, during deregulation in Texas, and after the financial crisis in Ontario. Thus, ambitious policies were passed during moments of major policy reform, which provided opportunity for advocates.

Once these renewable energy policies were passed, implementation proved difficult and was politically contested. Cost concerns have grown in California, particularly with the large adoption of rooftop solar through net metering (NEM). With over 150,000 DG solar systems installed, the existing electricity rate structure has come under stress. As a result,

fundamental electricity rate reforms were taken up in 2013. In Texas, while wind deployment has proven successful, shifts in partisan support for renewable energy have caused the legislature to fail to pass similar laws that would support solar deployment, despite excellent resources. In addition, building out new transmission capacity has proven costly, with the state spending $7 billion. In Ontario, local communities have vocally protested wind turbine developments, leading the government to modify the policy to, in effect, exclude wind technologies altogether (Stokes 2013). In addition, poor pricing for solar technologies led to $1 billion in unnecessary costs, according to one report (Auditor General of Ontario 2011). Across all cases, costs and technological impacts have proven politically contentious.

While the energy policy literature largely treats this transition away from fossil fuels and towards renewables as a question of technological availability and economic cost (Frondel, Ritter, Schmidt, and Vance 2010; Haas et al, 2004; Hoppmann, Peters, Schneider, and Hoffmann 2013; Menanteau, Finon, and Lamy 2003; Neuhoff 2005; Owen 2006), technologies and costs are both interpreted through political institutions (Geels, Hekkert, and Jacobsson 2008; Meadowcroft 2009; Rabe 2004; Sovacool 2009). Interest groups, politicians, and citizens frame policies as cost-effective or expensive depending on their views on externalities, local impacts, and the role of the government in supporting technological transitions. Further, supportive and opponent interest groups change over time. Renewable energy policies can create and destroy actors, whether they be incumbent utilities or new energy companies. Over the course of the coming decades, contestation and policy rollback may be common once policies are implemented, since incumbents will resist losing market share and resources.

Understanding the electricity system's ongoing transformation will require detailed political case studies that allow for the causes and consequences of policy decisions to be understood. This summary and presentation attempted to provide three such cases. The actors involved in enacting renewable energy policies differ from those who come to defend these policies when they come under attack during implementation. This occurs because the policies have created new actors that are well-equipped to defend the policies during attack—through a process called "policy feedback." However, utilities often remain well-financed organizations, and they are increasingly hostile towards renewable energy policies, since implementation has shown these policies to be problematic for their business model. These political dynamics will make addressing climate change more difficult than anticipated. Ultimately, it is not just a matter of passing renewable energy or climate change policies; it is a question of successfully transforming institutions to allow for the necessary technological change in the electricity sector to occur.

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