

Renewable Energy Politics Under Ambitious Policies: Comparing Ontario, California & Texas

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MOTIVATION

- Links between Canada / US on energy policy
 - Air quality
 - Interties and electricity exports
 - Oil exports
 - Climate change
- Potential for policy exchange and learning

THREE CASES

California

Texas

Ontario

THREE POLICIES

Renewable Portfolio Standard (RPS) - Texas and California

Feed-in Tariff (FIT) - Ontario and California

Net-energy Metering (NEM) Policies - California

POLICIES

Renewable Portfolio Standards (RPS): quantity targets for specific technologies, by a certain year

Net Energy Metering (NEM): Allowing citizens, corporations and communities feed distributed generation onto the grid and be paid the retail price

Feed-in Tariffs (FIT): standard purchase price (¢/kWh), purchase requirement and long-term contract

RESEARCH QUESTION

Ambitious sub-national renewable energy policies in North America.

1. What factors enabled these ambitious policies to be enacted; and,
2. What factors have lead to their success or weaknesses during implementation?

Table 1. Descriptive Statistics on Three Cases of Ambitious Renewable Electricity Policy in North America

	California	Ontario	Texas
<i>Policy instrument</i>	Multiple, including Renewable Portfolio Standard, Feed-in Tariffs and Net-Energy Metering	Feed-in Tariffs	Renewable Portfolio Standard
<i>Population, 2012</i>	38 million	13.5 million	26 million
<i>Size of Electricity System</i>	67,000 MW (2010 EIA)	33,000 MW (2014 OPA)	108,000 MW (2010)
<i>Renewables capacity</i>	Wholesale: 15,500 MW DG: 4,400 MW Total: 19,900 MW (2013, CEC, CPUC)	Operational: 3,500 MW (2013, OPA) Under contract: 8,200 MW (2013, OPA)	12,350 MW (2012, ACORE)
<i>Percentage renewables</i>	16% (2012, ACORE)	4% (2013)	8% (2012, ACORE)
<i>Electricity price (cents/kWh)</i>	Residential: 17 average (range: 13-36) Commercial: 15 average Industrial: 11 average (EIA, Nov 2013)	Residential: 9 average (range: 7-13) (Note: time of use pricing in effect.)	Residential: 11.68 Commercial: 7.90 Industrial: 5.77 (EIA, Nov 2013)

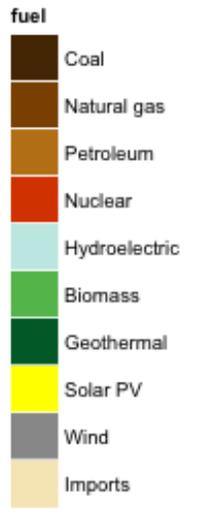
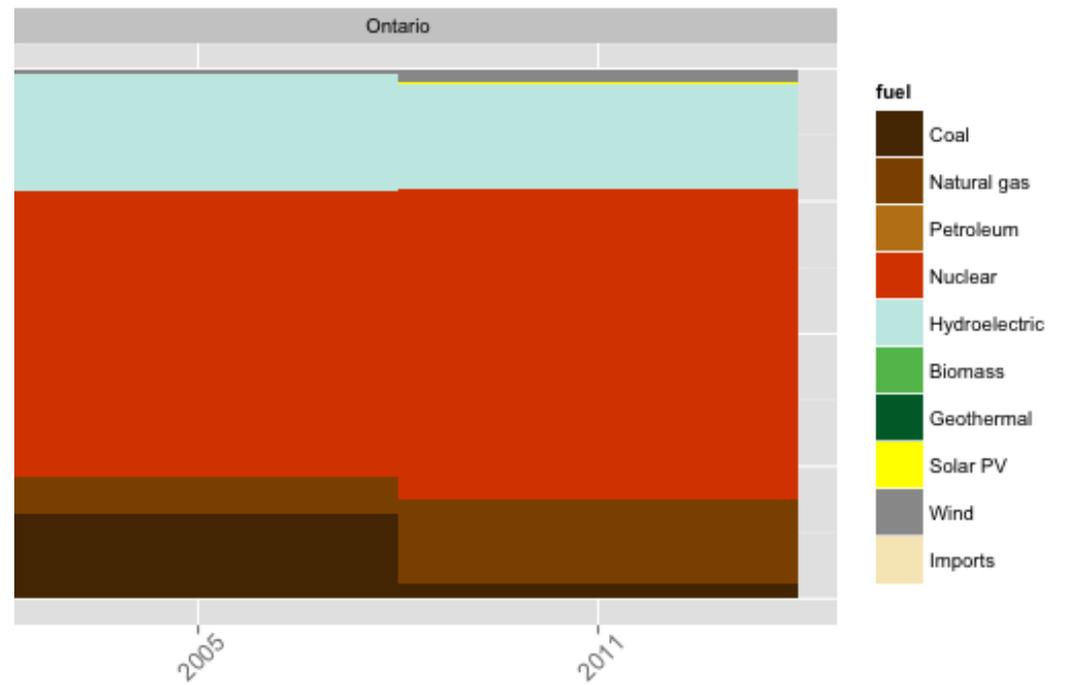
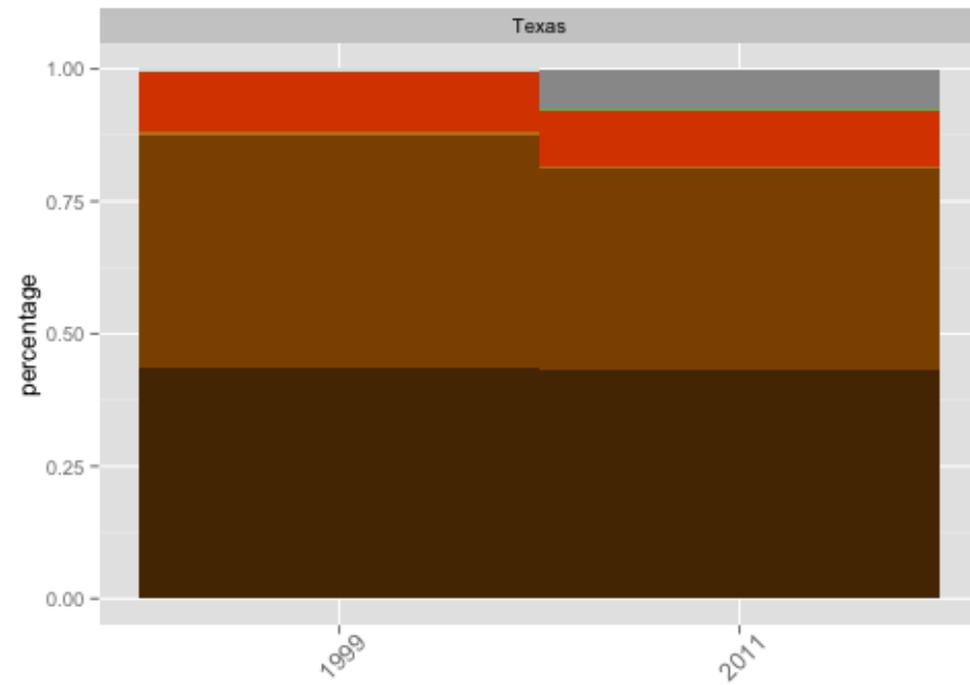
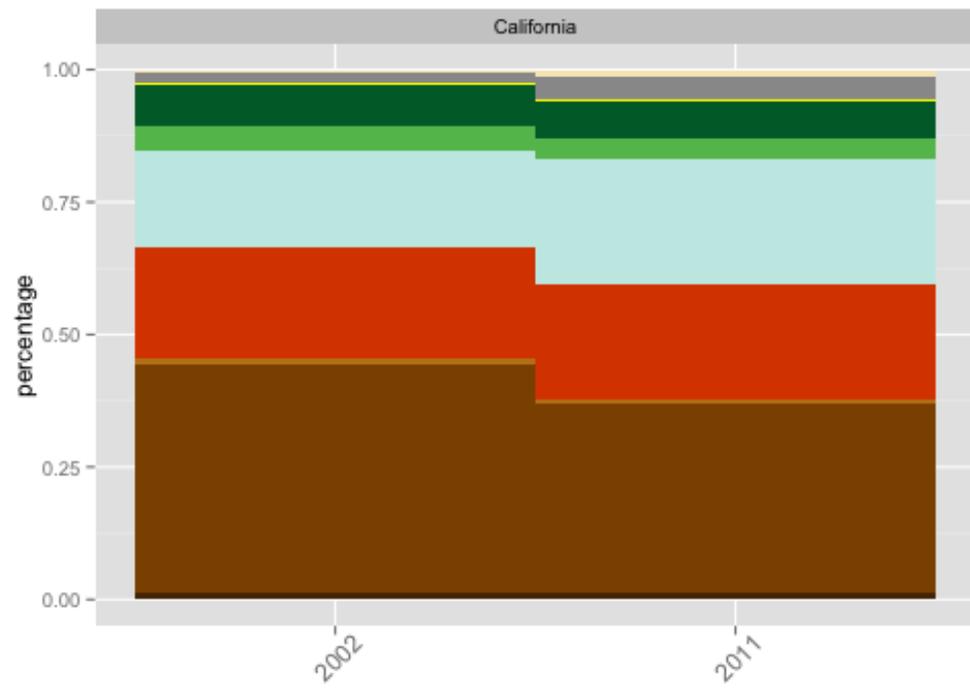
ENACTMENT

- Policy enactment through multidimensional reform bills
(‘Christmas trees’) and/or during crises
 - California:** electricity crisis, financial crisis
 - Texas:** electricity restructuring, air quality crisis
 - Ontario:** air quality crisis, supply shortage, financial crisis
- Changing narratives to motivate renewables policy over time

RESTRUCTURING & ENACTMENT

- Structure of electricity system affects opposition during enactment
 - California:** utilities discredited after crisis => reduced opponents
 - Texas:** electricity restructuring => increased natural gas opponents during attempted solar RPS expansion
 - Ontario:** restructured entity crown corporation (OPG) => reduced opponents

ELECTRICITY MIX PRE & POST IMPLEMENTATION

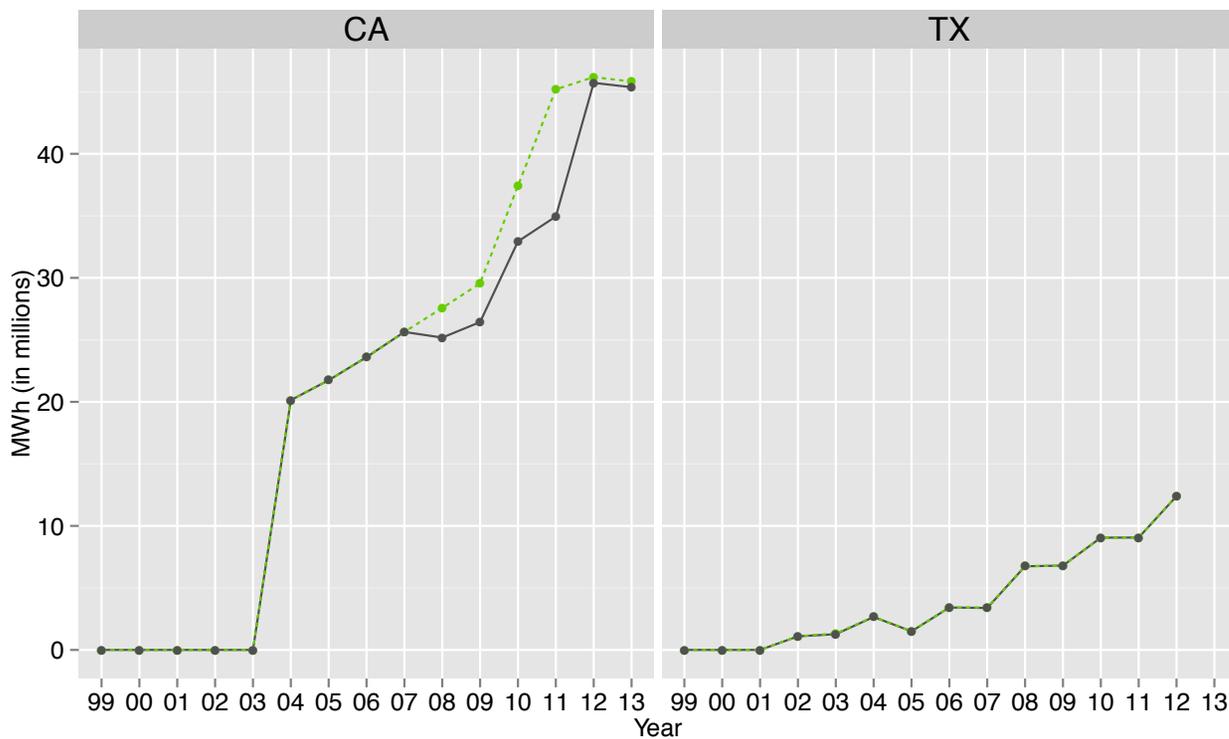


RENEWABLE ENERGY CAPACITY

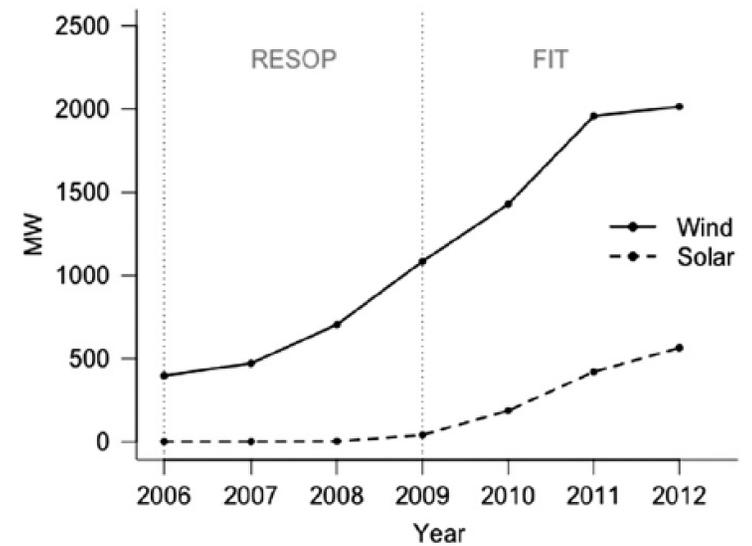
California

Texas

Ontario



—●— MWh Produced
- -◆- - Goal



IMPLEMENTATION

- Once implemented, policies grow:
 - New advocates that come to defend policies, principally energy companies
 - New opponents that attack policies, particularly utilities and local communities, against infrastructure in their backyards
- Major narratives are contested:
 - **Cost:** Acute with FITs and NEM, which often favor solar PV; NEM debates center around “cost-shifting” and valuing externalities
 - **Technology:** Impacts on nearby communities; intermittency

POLITICS SHIFT AT IMPLEMENTATION

- **The fog of enactment:** inability to see past enactment into implementation politics

Texas - goal versus target wording meant policy was never expanded to include solar

- solar pushes down wholesale price, conflict with gas companies

California - now at 50% target, utilities did not anticipate scale of policy

Ontario - change in Planning Act and inability to predict backlash against wind turbines

POLICY FEEDBACK

- **Interest group capture:**

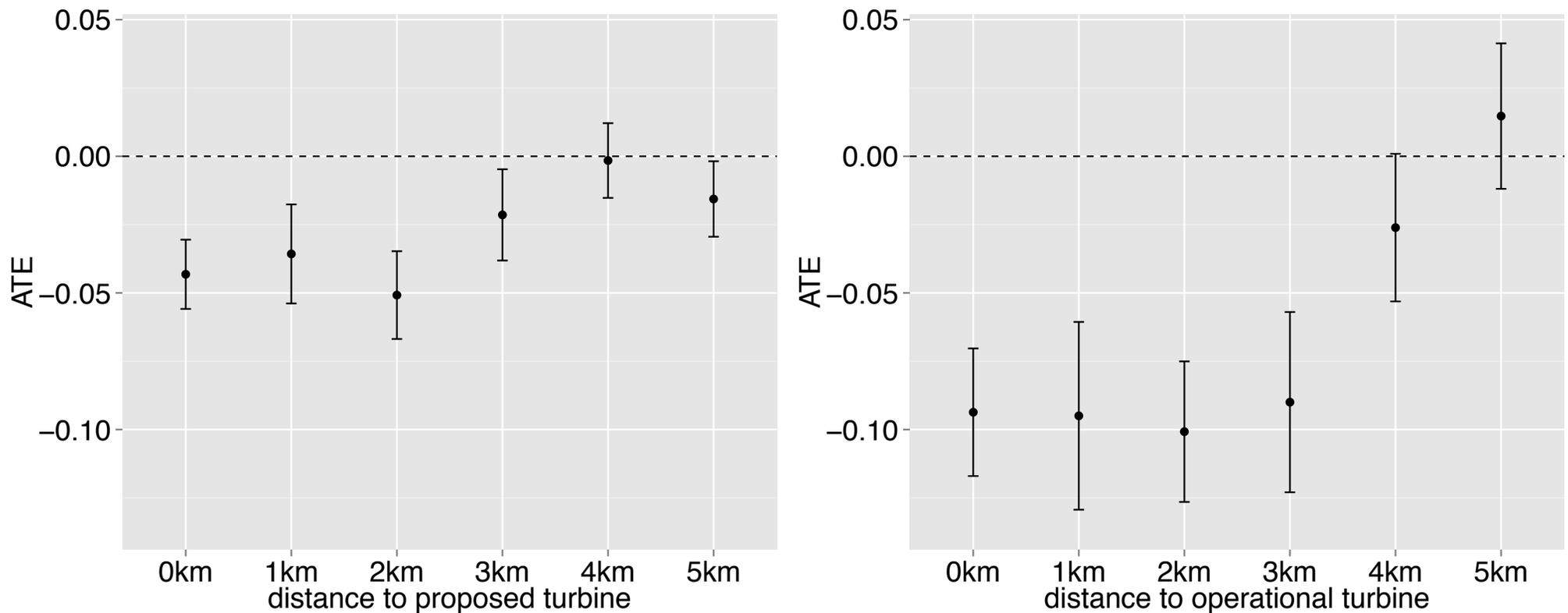
- utilities, oil and gas companies can capture policy process
- new energy companies can contest them, solar leasing most key

- **Spatially distorted signaling:**

- mass publics that are spatially concentrated can signal preferences more clearly to government (Stokes, 2015)

ONTARIO

FIGURE 3 Estimates of the Decline in the Liberal Party Vote Share Using Fixed Effects Estimators



Note: Each group represents precincts that are a given distance from treatment, from 0 km (in precinct) to 5 km away from a proposed or operational turbine.

EXPLAINING POLICY ENACTMENT & CHANGE

- Texas/California: Interest groups have played a greater role in driving or inhibiting policy change.
- Ontario: Interest groups enabled enactment in but public opinion and costs have driven policy change.
 - policy costs
 - wind turbine impacts

SPIILLOVERS

- Cost reductions
- New actors cross jurisdictional lines
 - Solar companies: SolarCity, Sunrun, FirstSolar
 - Electric vehicles: Tesla
- Concentrating opponents

CONCLUSION

- Transforming the electricity system to address climate change is politically contentious
- The political dynamic will depend on the scale of the project, whether utilities are able to profit, and public support particularly in communities with infrastructure.
- Although NGOs proved critical for enactment, renewable energy corporations may be critical during implementation, to defend against retrenchment

Why, we have just begun to commence to get ready to find out about electricity. This scheme of combustion to get power makes me sick to think of—it is so wasteful....

You see, we should utilize natural forces and thus get all of our power. Sunshine is a form of energy, and the winds and the tides are manifestations of energy. Do we use them? Oh no! We burn up wood and coal, as renters burn up the front fence for fuel. We live like squatters, not as if we owned the property.

- Thomas A. Edison, 1916

Thank you

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POLICY ENTREPRENEURS

- Consumer advocates, environmental NGOs and small-scale energy associations or individual renewable energy companies were key advocates
- Large-scale renewable energy associations have proven ineffective lobbyists
- Utilities often have an advantage over other groups, given their long history with Public Utility Commissions (PUC)