Innovation and Energy Governance – lessons to be learned from New York State?

Catherine Mitchell

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New Thinking For Energy



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Overview

- Introduction to IGov
- What is the energy governance problem?
- New York REV as an interesting example
- Lessons to be learned for NY REV for GB

What is IGov?

- Innovation and Governance for a Sustainable Economy
- Our definition of governance includes policies, institutions, rules and incentives, as well as the 'politics' behind those policies, institutions, rules and incentives
- It is a 5 person, 4 year comparative study between GB, Denmark, Germany and some States in the US looking, in particular, at how governance enables, undermines or channels innovation within the electricity and gas system, in particular focussing on demand reduction, demand response and distributed generation (D3)
- It aims to produce a governance framework for GB and a series of case studies of governance arrangements which are particularly detrimental to enabling a GB energy system focused on D3

The 'change' problem for energy governance

- Most energy systems around the world are trying to work out how to decarbonise their energy systems whilst keeping them secure and affordable
 - with different degrees of urgency, and
 - with differences in characteristics of those energy systems

Some electricity systems are rapidly changing because of new technologies, changing economics, and changing social preferences

The cost of rooftop PV systems in Germany (Fhg, 2015)



Increasing amounts of variable power alters operational needs of electricity systems considerably

Source: Agora's 12 Insights from Germany's Energiewende



Changes are already having a major existential impact on European Utilities, leading to their restructuring



Even in countries without strong support, deployment of some renewables is happening quicker than expected

ofgem Making a positive difference for energy consumers

Solar PV deployment in the UK compared to expectations



Solar PV

Current deployment now c. 8 GW (source: Cornwall Energy)



This leads to policy and governance questions such as:

- How to make individual country (and regional ie Europe) energy systems more flexible to better integrate variable power renewables?
- How to make them more 'smart' to enable better integration and efficiency of operation?
- How to make them more energy efficient meaning using as little energy as possible; using it efficiently where they do use it – including with DSR
- How to overcome inertia ie stimulate change can this occur in a centralised system?
- What to do with the incumbents? / losers?

Energy systems will have to transform – but how to do it?

- IGov is looking at this from the perspective of governance, and the various roles of regulators, businesses, local authorities, customers, citizens
- And this includes issues to do with
 - legitimacy, and relationships and heirarchy between different institutions
 - whether data is a public good, or should be bought
 - the balance between markets and regulation / direction
 - Public versus private interest
 - about capacity (of different institutions or actors), including training
 - technologies, and their enabling environments
 - political processes, and their inclusivity

New York State is an interesting example

- The NY Reforming the Energy Vision (NY REV) says, its vision is to question the two assumptions of the traditional utility paradigm:
 - that there is little or no role for customers to play in addressing system needs; and
 - that the centralised generation and bulk transmission model is invariably cost effective due to economies of scale.
 - NY REV says: 'Distributed resources should be re-evaluated to determine how demand management can be used not as a last resort but rather as a cost-effective primary tool to manage distribution system flows, shape system load and enable customers to choose cleaner, more reliable power options'

New York Energy Snapshot



IGov

Building Blocks

- DR programs
- Performance-based rate incentive
- Revenue decoupling
 mechanisms
- Interconnection
 standards
- Standby rates
- TOU tariffs
- Energy efficiency programs & bonds
- Customer-sited Renewable Portfolio Standard;
- Advanced energy technology R&D
- Green Bank
- Statutory net metering
- NY Sun Initiative
- Build Smart New York
- Charge NY

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Regional Greenhouse Gas Initiative

Creating Value via the Distribution Service Providers is the big change

Traditional

NY REV



New Revenue Model – creating a whole new value proposition – the DSP



As – is Market Model in NY

Industry Structure Model, New York 2015



To-be Market Model in NY



Future Industry Structure Model, New York

Moody's verdict : credit positive

REV would be credit positive if it promotes an orderly adoption of new technologies for the public good

We believe it is credit positive that state regulators are encouraging utilities to adopt a business model that could help them stay ahead of technological changes which are certainly coming to the utilities industry. These technology risks include the falling cost of solar and storage and the increased technological ability for customers to control their bills. Harnessing those new technologies under a long-term plan like REV may prove to be more orderly than an alternative of scrambling to react to changes after they have already happened. REV could also mitigate the risk of customers bypassing the utility system to the economic detriment of both the customers and the utilities.

What lessons from the NY REV can be learned for GB?

- Political buy-in
- Building blocks
- Direction / agency
- Data
- Still open question about whether the fundamental restructuring of governance in one go is right
 - Will it work? Is the design too complex; too 'market' based; too 'big bang'
- Utilities becoming more worried as their revenue appears to become more risky
- Original two questions that the NY REV set out to challenge have not yet been answered

In GB, policies for a more energy efficient system don't make sufficient headway



Governance issues act as a block / underminer to their success





Governance needs of getting from here to there

