Electricity Network Transformation Roadmap

Insights from Global Jurisdictions, New Market Actors & Evolving Business Models

The Accenture contribution to the Energy Networks Australia and CSIRO, Electricity Network Transformation Roadmap.

August 2016
Summary

Key Question

What & where are the most relevant & innovative electricity business models and market constructs that can inform the future evolution of electricity markets to 2027?

Approach

1. In-depth review of 7 global jurisdictions...

2. and 7 ‘New Market Actors’...

3. to inform the future of 5 network business models

Findings

For Australia the time for incremental change in the electricity sector has passed. Global markets are rapidly forging new directions.

The Distribution Optimiser Model is the new status quo on the way to an ‘Energy SupraNet’
Jurisdictional Comparison

1. Less sophisticated networks and market structures are frontrunners in visionary reform.

2. Ambition is not always correlated to underlying capability.

3. Liberalised markets are not always best equipped to deal with change.
The jurisdictions face common challenges:

1. Demand Disruption
2. Consumer Behaviour and Liquid Expectations
3. Competition from all Sides is Expanding
4. Targets and Constraints from Regulators
5. Capability Challenges
6. Goal Definition and Trade-offs

Key Insight:
Collaboration and a new vision across a wider partner ecosystem reap results.
To resolve the issues, there are 9 key issues to address:

1. New tariff/pricing models
2. Wholesale market interactions
3. Facilitating open access to the grid
4. Ring-fencing
5. Consumer protections
6. Grid automation
7. Communities and microgrids
8. Enabling new retail models
9. Enabling data sharing
Value creation and industry disruption from NMAs challenge traditional business models and the established ecosystem.

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<td><strong>Data driven trading / community models</strong></td>
<td><strong>Innovative customer value extensions</strong></td>
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“Ebay of energy” | Stem  
“Energy on cruise control” | Powerpeers  
“Airbnb of energy” |
| Mojo  
“Costco of energy” | Telstra  
“Home services supermarket” | AGL NE  
“Virgin Group of energy” |
| Tesla/SolarCity  
“Tesla of energy” |  |  |
Given the changing ecosystem, distributors have to rethink their business models to remain relevant.
Key Learnings:

- Evolving network operator business models will benefit more from longer term visions.
- A vibrant and competitive retail sector aids third party innovation.
- Visionary reform helps to align network operators with enhanced customer outcomes.
- Focus on Distributed Energy Resources (DER) interconnection.
- Wholesale market participation can open up new value streams and enhance grid reliability.
- Government aided ‘experimental room’ facilitates partnerships to build new business models.
- NMAs provide an opportunity to partner and co-create value.
Enter the visionaries – the time for incremental change has passed.
Insights from the world’s most dynamic markets show that new directions are being rapidly forged. Some jurisdictions are leapfrogging traditional market liberalisation reforms or are in the process of establishing radically new market structures. Others are progressing through targets, mandates and cross industry convergence.

Plan for change – or risk being left behind.
There are disruptive market actors springing up taking and creating new market opportunities. Globalisation means disruption occurs quickly. Technology developments and consumer trends take little notice of existing regulations, opening the door to innovation and market forces providing a platform for new entrants. As seen with Uber in the taxi industry, policy makers and regulators must act now or risk having to play catch-up.

Set the Vision - start running in the same direction.
DERs are creating major disruption. If not addressed in a comprehensive way – facilitating the ecosystem to create value whilst optimising the grid, the industry risks creating significant sub-optimal outcomes. New market actors are facilitating and accelerating these changes. What is needed is a compelling industry vision and a simple roadmap that aligns all parties. Where possible, take the learnings of other jurisdictions to accelerate with renewed vigour.

The Distribution Optimiser Model – the new status quo.
New business models for network operators are unfolding. These are not standing still but are further evolving. It is clear that the Distribution Optimiser Model is becoming the target model in most similar jurisdictions around the world. However this has a number of variants and is in many ways requires jurisdictional specific grid, regulatory and customer interventions.

What this ultimately means is that a ‘wait and see’ strategy for Australia will inevitably fail and result in lost opportunities for both Australian businesses and Australian citizens.
Further information
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