

Intelligent Grid Research Cluster- Project 5

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Section 5.4: Energy Stakeholder Surveys

Issues, Drivers & Barriers of IG-DE

This research phase captured key understandings of the issues, drivers and barriers associated with an IG-DE transition which emerged from an energy survey conducted with 'i-grid' industry forum participants held in Perth on March 11, 2010. The survey findings revealed that while there is consensus among respondents that numerous economic, policy and regulatory and political barriers present challenges to an IG-DE transition, it does not hinder the industry's deployment of viable solutions. A key example is that while 85 per cent of respondents believe that: *"the economic value of IG-DE is not clearly defined and differs across different jurisdictions"*; only 45 five per cent of respondents think that the issue of commercial viability poses a barrier to the industry. Hence, while there is agreement that the economic value of IG-DE is ambiguous, stakeholders are nevertheless optimistic that the economic constraints will be conquered with the right policy framework.

While respondents overwhelmingly support the view that awareness and education is a barrier to IG-DE, only 40 per cent support the belief that: *"IG-DE is less reliable than grid supply"* and is therefore not an impediment. In fact most respondents place less emphasis on the technological impediments and highlight policy and regulatory uncertainty and lack of political will as a greater limitation to IG-DE. The following qualitative stakeholder excerpts echo the sentiment that policy and regulatory uncertainty is a major impediment to an IG-DE transition: *"lack of clear governance arrangements ... lack of incentives for retailers and generators ... energy prices are not cost reflective ..."*.

Key Drivers & Enablers of IG-DE

While environmental imperatives to reduce carbon emissions is considered a key driver, other economic enablers include *"promoting cost effectiveness"* and *"creating a fair and predictable investment environment"* as vital to transform the energy industry. Also significant is that 90 per cent of respondents believe that *"network efficiency"*, *"cost savings"* and *"peak*

demand reductions” are a key motivational force for the industry to pursue IG-DE solutions. However, it is important for energy networks to incorporate broader decision making frameworks where IG-DE is recognized as a genuine alternative. Other key drivers toward an IG-DE transition include the deployment of technological advancements such as the *“smart meters”* combined with *“cost reflective tariffs”*. On the whole respondents believe that the transition process is highly dependent on regulatory and policy certainty on energy generation and efficiency, and emission reductions including government leadership and coordination. Qualitative quotes also demonstrate a call for institutional drivers and enablers that incorporate: *“regulatory reform to promote a triple bottom line approach”*; and *“collaborative (government-private sector) investment arrangement on DE”*.

Qualitative Responses - Single Most Important Driver for IG-DE

With regard to the single most important driver for IG-DE, respondents identified a number of institutional and regulatory drivers. While proving the economic viability of IG-DE and establishing the right price signals is a central theme among the respondents, government leadership and policy direction combined with collaboration between state agencies is also considered vital to the process. Although the capacity for networks to defer infrastructure investment is considered a key driver, the concern is that IG-DE may not be captured by the network and/or recognized by the Regulator. Also considered a driver of IG-DE is the rising cost of electricity which will motivate customers to seek alternative energy generation solutions. From this perspective achieving customer buy-in is considered a key driver and the industry needs to be equipped to meet growing customer demands. The efficient use of scarce commodities are also considered important driver for policy makers.

Energy Source & Technology Mix for Australia

With regard to fuel source, technological and strategic approaches considered viable for Australia’s electricity system, there is overwhelming support for the deployment of *“solar photovoltaics”* including *“peak demand management”* and *“energy efficiency”*. There is

also higher levels of support for the development and deployment of “electric vehicles”; “Combined Heat and Power (CHP) systems”; “solar thermal” and “wind power”.

There is also a mid to high level support attributed to a number of other energy sources and technological solutions, including “energy storage”; “geothermal”; “wave power”, “centralized gas-fired generation” and “micro wind turbines”. While RE sources and technologies are highly favoured, respondents are less favourable toward micro wind turbines.

It is however, not surprising to find that there is less support from respondents for the more controversial and expensive sources and technologies, which include: “carbon capture and storage”; “fuel cells”; “nuclear power”; “hydroelectric power” and “biomass”. Given respondents preferences for sources and technologies that are economically, socially and environmentally responsible it is not surprising to find these options are considered more conflictive for Australia.

The qualitative responses revealed that there is less support for “fuel cells” because of fears that retail gas is too expensive to consider it a viable option. Other options desired for Australia highlighted by respondents include the use of “super conducting cables” and “direct use heat displacement facilities” or “low temperature geothermal”.

Stakeholder’s Qualitative Responses: Most promising Technology/Process

The most promising technology/process in the near term (five to ten years) according to stakeholders’ include the following: (a) the *electric vehicle* is the most popular choice; followed by (b) *smart meters* and the *smart grid* infrastructure in parallel with (c) *electricity market reform, cost reflective pricing and live retail tariffs*. While *energy efficiency, energy conservation* and *energy storage* are important strategies; other promising solutions comprise “*geothermal power*”, “*super conducting cables*”, and a combination of “*solar and wind power with battery storage*”. Also vital to the process is “*incentivising*” all stakeholders toward this goal.

Influential Players in Energy Policy in WA

With regard to who has influence and who should be playing a larger role over policy and regulation, respondents highlighted that: (a) Western Power; (b) the State Government; (c) Department of the Prime Minister and Cabinet; (d) Ministerial Council of Energy (MCE) and the Federal Minister have a strong influence. However, while Western Power is attributed with having greater influence, stakeholders believe that it is the State Government that needs to play a greater role in policy and regulation in WA.

With regard to other key players in the energy stakeholder network, most pertinent is that while the majority of respondents identified the “*Business Council of Australia*” as having some level of influence over policy and regulation, the view is that the “*Office of Energy*” should be playing a greater role. While the *Economic Regulation Authority (ERA)* of WA, *Department of Climate Change; Verve Energy* and the *Independent Market Operator (IMO)* are attributed with having some influence over policy and regulation, there is less support from the respondents for these stakeholders to play greater role.

Qualitative responses also reveal that the following stakeholders not included in the survey have influence in policy and regulation: (a) *Synergy* and *Horizon Power*; (b) consumer advocates, *WACOSS*; (c) *consumers, contractors* and *project/land developers*; (d) *Local Government*; (e) *Universities* assisting in setting the agenda and (f) *State Planning Bodies*.

Stakeholders Who Should Play a More Significant Role

With regard to who should play a more significant role in energy policy and regulation, respondents support the involvement of the following stakeholders to facilitate the deployment of technological innovation: (a) *CSIRO*; (b) *Council of Australia Governments (COAG)*; (c) *Clean Energy Council* and (d) *Energy Networks Association*. There is however, less support for stakeholders perceived as vested interest groups or lacking the technical knowledge to contribute to policy and regulation. For example less support is given to the following stakeholders playing a greater role in policy and regulation: (a) *Local Government*; (b) *Environmental Groups*; (c) *Local Community Representatives* and (d) *Non-Technical Stakeholders*.

Qualitative responses revealed that the following agencies and stakeholder groups should play a more significant role to ensure a diversity of voices are heard by policy makers: (a) *WACOSS /ACOSS* - advocates for energy poverty and consumers' social impact; (b) *Department of Resources, Energy & Tourism (DRET)* and *Department of Climate Change and Energy Efficiency (DCCEE)*; (c) *Office of Renewable Energy Regulator (ORER)*; (d) *Customer feedback* should be passed on to Retailer, Network, Generator and Regulators; (e) *State Planning Bodies* and (f) *Local business groups*.

Conclusion

Although the energy stakeholders highlight a number of economic, market, institutional, political, policy and regulatory, cultural, educational, technological and technical barriers, there is also much optimism about the advancement of IG-DE as the benefits outweigh the impediments. Respondents also identify numerous drivers and enablers that will facilitate the energy industry's transformation process and much emphasis is placed on leadership and collaboration among government, industry and business stakeholders to promote the technological advancements and developments that is expected to overcome the economic and institutional and technical barriers that constrains its deployment.

While proving the economic viability of IG-DE is regarded as the single most important driver for IG-DE, government leadership and policy direction including collaboration between state and federal agencies is considered vital to the process. Although economic drivers exist for networks to capitalise on IG-DE, institutional and regulatory recognition of the benefits is central to the goal. A key driver for IG-DE is the preparedness of the energy industry to engage greater consumer participation seeking alternative energy generation solutions as the price of electricity soars.

While the *electric vehicle* is considered a promising technological advancement in the near future, also vital to the transformation are the *smart meters* and the *smart grid* infrastructure. Although *energy efficiency*, *energy conservation* and *energy storage* are elements of the IG-DE package, other features include market, policy and regulatory incentives to enable the process of change for all energy stakeholders.

While governments and associated energy stakeholder groups are attributed with having influence over energy policy and regulation, respondents want a greater role to be played specifically by the State Government and the Office of Energy to set the agenda for an IG-DE transition. On the whole respondents believe that diverse stakeholder voices including consumer advocates need to be heard by policy makers. However there is less support for vested interest groups such as Environmentalists and other non-technical stakeholders to play a greater role in policy and regulation.