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Gary Martin
Commission for Energy Regulation
Dublin

30 May 2014

RE: CER draft Strategy 2014 to 2018

Dear Mr. Martin,

Smart Grid Ireland welcomes the opportunity respond to the CER's Draft corporate strategy 2014-18. Please find our response attached.

As a collaborative network involving public and private companies and bodies on the island of Ireland, SGI has a broad interest in the future CER strategy in Ireland as it indicates the roadmap for regulation over the coming years to 2018.

The members of Smart Grid Ireland include some of the largest international companies engaged in the electricity and ICT sectors and bring a wealth of knowledge and experience to bear on the sustainable development of energy systems.

We trust that you will find our response to be informative and constructive and would be very happy to engage with CER in any further discussions on the strategy or any work plans emerging therefrom.

Yours sincerely,



Tony Carroll
Chief Executive



Paddy Turnbull
Chairman



CER Draft Strategic Plan 2014-18

Response from Smart Grid Ireland

Introduction

Smart Grid Ireland welcomes the opportunity to respond to the CER Draft Strategic Plan 2014 - 2018

As a collaborative network involving public and private companies and bodies on the island of Ireland, SGI has a broad interest in the future CER strategy in Ireland as it indicates the roadmap for regulation over the coming years to 2018. SGI also supports broad alignment between the strategy in the Republic of Ireland and Northern Ireland so that the electricity networks can be managed and developed in a co-ordinated and efficient manner for the benefit of all customers on the island.

We are also interested in the continued integration of smart technology devices and systems into mainstream electricity network development. We believe that CER has a pivotal role in creating the correct conditions to facilitate the regulated utilities investing in the innovative devices and systems that will, over time, become cornerstones of the future electricity systems in Ireland, to bring long term benefits to all consumers.

Smart Grid Ireland, in its advocacy of smart grid technology and systems, supports the transition towards a low carbon energy sector for Ireland, North and South, and believes that this transition should take place in the most cost-effective way possible. As such, SGI shares the government's and regulator's views that modern energy infrastructure is crucial for the creation of competitive energy markets and to enable Ireland to meet its broader climate and energy goals. It is also vital for economic prosperity: "It is abundantly clear that economic opportunity exists in every facet of the energy industry, and that a modern, robust energy system is a key enabler for future economic growth." (Green Paper on energy).

We also share the view that energy infrastructure is a precondition for a functioning internal market and that incentivised investment to develop this infrastructure will strengthen the internal energy market and achieve objectives of common interest. We strongly believe that this will contribute to:

- Further energy decarbonisation;
- Facilitation of the connection of renewables;
- the creation of competitive energy markets;
- Increased security of supply; and



- Create the conditions to establish Ireland as a “living lab” for smart grids, thus creating economic opportunity and employment, and helping to reduce the incidences of fuel poverty

The achievement of these benefits requires a regulatory regime which supports national policy, which provides certainty to investors, encourages appropriate risk and looks towards the long term interests of consumers. To quote the recent Government’s green paper on Energy: “The regulatory framework, as well as delivering energy policy, must be stable, certain and predictable. New investors and existing participants alike require regulatory stability. Perceptions of regulatory uncertainty, or of irrational or ad hoc behaviour, will deter investors and new players from entering a market, depriving the system of potential cost and efficiency gains. A stable, relatively certain regulatory environment will help to create a climate for investment and ensure that the cost of capital for new and existing investors is kept as low as possible, including for network investors.”

In relation to the specific objectives and strategies we would comment as follows:

Mission, Vision and Values

We are in agreement with the statements of mission, vision and values contained in the draft document

The Commission’s Strategic Goals 2014 – 2018

We are in agreement with the goals chosen

Strategic Goal One – To ensure that “electricity and gas are supplied safely” – facilitating a world class public safety record.

While we are in agreement with the strategies outlined in the draft document, we believe that there is a necessity for the Commission to be pro-active in allaying consumer fears in relation to infrastructures which, while being intrinsically safe, have attracted an unwarranted association with health issues. Most of these fears are unfounded and may in fact be misguided. An example would be the scares over the levels of EMF radiation, despite the assurances of the WHO and responsible scientists.

We would therefore recommend adding a specific action under section 1.4 “Safety Promotion & Public Awareness - Undertaking comprehensive promotion and public awareness campaigns”; e.g.

“1.4.6 We will investigate any areas of public health concerns in relation to energy infrastructures and, where they are found to be erroneous, we will engage in pro-active awareness campaigns to allay such fears”

Strategic Goal Two – To ensure that “the lights stay on” - Secure electricity supplies from production to consumption.

We welcome the support for Eirgrid and the commitment to the continuing development of the networks and the integration of renewable energy. However we believe that the strategy should specifically reference smart grids. The emergence of smart grid technology, particularly at distribution level is a world-wide phenomenon. European estimates for the required investment are of the order of €40B (ref 1), with US estimates an order of magnitude higher (ref 2). While we recognise and welcome the fact that, to date, CER has supported significant RD&D initiatives on the networks, we believe that the strategy should make clear its support to the DSO for the trial and implementation of advanced smart grid technologies in addition to its support for the TSO.

Changing weather patterns brought on by climate change are a cause for concern, particularly in relation to the increased frequency of severe weather events. These can have a major impact on supply security, as evidenced by the devastation to many parts of the country earlier this year. Smart grid investments, such as increased automation and control and self-healing network loops, were an important mitigating factor in these network outages. It is imperative that both of the system operators continue to invest in conventional and emerging innovative technologies to combat the effects of climate change.

We would therefore recommend an additional measure of success for Strategic Goal 2; e.g.

“Support the development and deployment of advanced network technologies (smart grids) to increase network efficiency, to ensure optimum integration of the growing levels of distributed energy resources (DER), and to build resilience to the impacts of climate change”

2.1 Infrastructure: Electricity Networks

We agree that development of the transmission network to support large scale renewable development across Ireland will be of great importance. Part of this development must include the exploitation of the latest smart technologies which can make better use of existing capacity; e.g. dynamic line rating, phasor measurement units, high temperature conductors etc. (ref 7) This strategy should also recognise the fact that over half of all renewables will be connected at distribution level and that increased observability and control on the distribution system is essential if this is to be achieved in an efficient and economic manner. This has been recognised by the European Council of Utility Regulators in its priority programme for 2014 (ref 3).

The strategy also needs to recognise the increased risk which network operators incur in trialling new technology and to make special provision to incentivise operators to undertake such investment in emerging technologies. This has been the subject of a major study by Eurelectric released in early May, this year (ref 4). Other jurisdictions have already made this provision and Ireland has a real opportunity to gain a major strategic advantage in this international race with the proposed North Atlantic Green Zone (ref 5)

We would recommend an additional action under 2.1; e.g.

“We will incentivise network operators to trial and deploy emerging smart grid technology to increase the efficiency, reliability and sustainability of the electricity system”

2.2 Interconnection – future connection projects

We agree with the position on interconnection but would recommend a change in the wording: “.....only proceed with further interconnection projects requiring consumer support,.....” to “.....only proceed with further interconnection projects which are of long term benefit to consumers,.....”

2.3 Generator Adequacy /Power System Resilience

During the life-time of this strategy it is likely that solar PV will achieve grid –parity in Ireland. This, together with increased EV penetration, and other forms of DER, will increase the complexity and threaten the reliability of the distribution system. The strategy needs to take this into account and the Commission needs to work with the DSO to ensure that consumers will not be adversely affected by this inevitable

development. In this regard, appropriate incentivisation is important to the deployment of emerging technology. “In the coming years, the Irish grid will need to meet growing demand for electricity, and incorporate higher penetration of renewable energy sources. This combination of requirements presents new network management challenges.”
(Green paper on Energy)

It is also important that the TSO and DSO work together to achieve system-wide stability for the electricity infrastructure.

We would recommend an additional action under this heading; e.g.

“We will work with the DSO to identify new forms of distributed energy resources and seek to mitigate the risks they may pose to the operation of the distribution system.”

Strategic Goal Three – To ensure that “the gas continues to flow” – Secure natural gas supplies with improved diversity of sources.

We agree that the security of gas supplies is of vital interest to the electricity industry and in that regard the strategy should recognise the strategic importance of indigenous gas in the context of diversity of sources.

Strategic Goal 4: To ensure a reliable supply of clean water and efficient disposal of wastewater

Irish water should be encouraged to make use of best emerging smart technology in its operations and metering and to facilitate O&M and asset management.

Water infrastructure is also a major user of electricity and Irish Water should be encouraged to participate in demand management and system service provision to minimise its electricity costs.

Strategic Goal Five - To ensure that “the prices charged are fair and reasonable” - Fully competitive retail and wholesale markets delivering fair prices to customers.

We agree that services be provided at the lowest possible efficient cost to consumers. This should take into account the long term benefits of infrastructure development and the need to undertake RD&D in the area of new smart technologies. The network companies must be key players in delivering this and must be incentivised appropriately to take the deployment and development risks to deliver these objectives. For example, a number of European countries have allowed a premium level of return in such investments by the utilities. (ref 5)

We know that the development of new technologies has enabled customers to participate in commerce, politics and almost every domain in a revolutionarily effective manner and now this is also possible in the electricity sector. Be it through more effective load management in the home or at work, or electric vehicles, small generation or storage installations, this new technology can be profitable for customers and allow for more efficient or sustainable electricity infrastructure development. (ref 6)

5.1 Wholesale Electricity: The Single Electricity Market

The promotion of market driven provision of system ancillary services must be backed up with appropriate investment in a smart network that derives as much value as possible from the existing electricity infrastructure and optimises investment in traditional and new technologies. Market mechanisms to deliver services can only fully deliver value when the appropriate infrastructure is in place. Strong emphasis must be placed at a regulatory level on the linkage between network development and effective market operation.

5.2 Competition in Markets and Competitive Prices

The advent of smart metering and cloud based data could see the entry of non-traditional suppliers into the market with bundled services, of which energy would be a component. The Commission should ensure that the market design is not unduly restrictive in relation to supplier offerings, while also seeking to protect the long term interests of consumers

5.3 Incentivising Monopolies

We agree that the Commission should encourage contestability, particularly in the area of connections, while ensuring that quality and safety and sustainability of assets are not compromised.

We agree that utilities should be incentivised to improve performance. However they should also be incentivised to research and deploy new smart technologies and to prepare for a new energy paradigm, featuring prosumers, distributed energy resources and much greater levels of network management and control at all voltage levels. As monopolies have no underlying strategic reason to deploy new technology, we would therefore recommend an additional action under this strategy; e.g.

“we will also incentivise monopolies to undertake research and development of new technological solutions that facilitate developments in the competitive markets”

5.4 Innovation & Consumer Welfare

We agree with the Commission’s proposals on smart energy meters and believe they will be of major benefit to consumers, not only in terms of energy cost savings, but also in facilitating smart grids and the continued development of network automation and control.

We believe that the co-operative effort with the Northern Ireland regulator in relation to I-SEM should be extended to the area of smart metering to ensure that the metering system is fully supportive of the emerging market structures.

As an all-Island body with access to international experience in this area, Smart Grid Ireland would be happy to support this and offer any assistance we can in relation to consultation or other inputs. Our members comprise many multinational companies who have extensive experience in this area.

We have already begun the task of setting up a working group of our members to consider issues related to smart metering on the island as a whole, such as:

- i. functionality,
- ii. Communications infrastructure
- iii. Privacy and cyber security
- iv. interoperability

This group will follow the very successful model employed by the BEAMA which has a working group on metering to assist DECC in the development of the GB smart metering scenario. We would be happy for this group to provide an industry view to CER (and NIAUR) in relation to smart metering.

Strategic Goal Six - To ensure Regulation is Best International Practice – Living up to our Values.

We agree with the content of strategic goal six, particularly in relation to development of staff expertise. The Commission uses external consultant support to advise on a range of regulatory, technical, economic and legal positions. We believe that the Commission must retain and develop sufficient internal expertise to ensure that the consultant support is effectively managed, and the received advice is effectively used to inform best practice regulatory policy

In conclusion we are happy to engage with the Commission on all matters relating to the electricity sector and smart grids in particular. As well as being an all-island body with significant global companies among our members, we are also founding members of the Global Smart Grid Federation (which we currently chair). Please do not hesitate to contact us for any clarification or other information you may require in relation to our submission.

References:

1. Rough estimates, place the investment need in "intelligent" network infrastructure, at both transmission and distribution level, at around EUR 40 billion up to 2020. Failure to invest will lead to insufficient integration of large-scale renewables capacities and deployment of electric vehicles as well as lack of regional cross-border demand-supply optimisation. As a result, peak demand in electricity could be up to 5% higher by 2020 and up to 8% by 2030 respectively, with corresponding needs for investment in expensive peak load and back-up generation assets.

European Task Force for the implementation of smart grids in the European Internal market 2012

http://ec.europa.eu/energy/gas_electricity/smartgrids/taskforce_en.htm

2. There is broad consensus that substantial investments are needed to modernize the electricity system through new technology and other improvements. Between 2010 and 2030, estimated costs for modernization range from \$340 billion to \$480 billion (EPRI 2011); however, benefits are estimated at \$1.3 trillion to \$2 trillion over 20 years—roughly three to five times the investment.

Workshop on technology, measurement and standards challenges for the smart grid (NIST March 2013)

3. The Council of European Regulators (CEER) has the following in its priority programme for 2014

i. CEER wants to pursue one 'horizon' issue which we believe will have significant impact on the regulation of the energy sector in the years to come: the future role of Distribution System Operators (DSOs). We recognise that the introduction of new technologies into distribution networks, the increase in the connection of generation capacity at lower voltage levels, and the growing role of the demand side will significantly affect the role of DSOs. It will also facilitate the development of new services for consumers which could be provided by new actors such as aggregators. CEER considers that it would be timely to have a broad debate on the implications of these developments on the future role of DSOs and on the related regulatory framework.

4 Economic regulation of DSOs should be revised in order to incentivise DSOs to make efficient long-term investments. EURELECTRIC recommends:

- defining a long-term policy not only for producers and consumers but also for networks;
- setting the regulated rate of return in a way that is transparent and based on long-term stable cost of capital consistent with the assets' lifetime;
- improving predictability of the regulatory formula;
- removing RD&D from efficiency targets set by the regulator, allowing a higher return on investments and a risk adjusted depreciation period for projects with significant risks and further encouraging financing of large scale smart grid demonstration projects;
- ensuring timely cost recovery of the smart meter roll-out by DSOs.

Electricity Distribution Investments – What Regulatory Framework do we need?

Eurelectric May 2014

5 Internationally this approach is gaining traction. This international stance is in recognition of the need for innovation, efficiency and promoting the facilities and benefits which all customers should be able to achieve.

- i. Ofgem (in Great Britain) and AEEG (in Italy) have put in place tailored incentive mechanisms to encourage network companies to pursue innovation/demonstration projects. In Italy, eight pilot projects have been selected by the regulator. To these projects 2 % extra WACC is approved for 12 years. In Finland, the regulatory model applicable from 2012 to 2015 includes an innovation incentive allowing a proportion of R&D costs to be passed through to customers. Similarly, in Norway, regulation allows for passing through of RD&D costs to a certain level since 2013.
- ii. This has already attracted increased interest for cooperation in R&D and Pilot projects. In the UK the LCNF fund is stimulating innovation and new investments, creating new business cases for parties across the electricity sector and providing opportunities for customers to participate and become engaged.
- iii. The EU has strongly mandated this transition, with an emphasis on smart metering and smart grids in legislation including the Third Energy Package, the Energy Efficiency Directive, the European

Infrastructure Package and Connecting Europe Facility. (see appendix for more examples)

- iv. The awarding of the Ireland / NI proposal (North Atlantic Green Zone) as a Project of Common Interest is based on rigorous assessment and cost benefit, establishing that this innovative means of investing in the distribution system offers significant societal benefits. This project and similar work is based on the premise that carbon abatement, renewables, and energy efficiency targets can be met in a cost effective manner through innovation, monitoring and real time control in the face of the fundamental fact of asset depreciation and inevitable replacement.

6 A Smart Grid employs innovative products and services together with intelligent monitoring, control, communication, and self-healing technologies in order to:

- Better facilitate the connection and operation of generators of all sizes and technologies.
- Allow consumers to play a part in optimising the operation of the system.
- Provide consumers with greater information and options for how they use their supply.
- Significantly reduce the environmental impact of the whole electricity supply system.
- Maintain or even improve the existing high levels of system reliability, quality and security of supply.
- Maintain and improve the existing services efficiently.
- Foster market integration towards European integrated market.

Definition, expected services, functionalities and benefits of smart grids: accompanying documents to communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions

7 In addition to developing a grid operation strategy and investing in infrastructure, the grid must also be adapted to operate in a 'smarter' manner, to enable system flexibility that will allow the potential of smart metering in bringing energy efficiency benefits to consumers, and allow the integration of high volumes of electricity from renewable sources into the system. A smart grid would also better facilitate electric vehicle usage, electricity storage (utility and distributed scale), effective energy efficiency technologies, and enhanced consumer control over energy usage. Due to our proven record of engaging with information and communications technologies (ICTs) and our strong research infrastructure, Ireland has become a world leader in smart grid research and deployment.

DCENR Green Paper on energy May 2014