



**NORTHERN IRELAND ELECTRICITY plc**

**Response to**  
**Sustainable Development**  
**The Regulator's Role**

**1 August 2008**

## **INTRODUCTION**

This paper sets out the response of Northern Ireland Electricity plc (NIE) to the Utility Regulator's consultation paper entitled "Sustainable Development – The Regulator's Role".

Sustainable development presents significant challenges to all stakeholders within the utility industries – including customers, investors in infrastructure, market participants, governments and regulators. As owner of the electricity transmission and distribution network in Northern Ireland, NIE is working to respond to the challenges it faces in light of Government's targets and aspirations for a considerable increase in the amount of generation from renewable energy sources connected to its network.

The Utility Regulator describes itself as a main gate-keeper to infrastructure investment in the three sectors which it regulates and it clearly has an important role to play. The Utility Regulator is keen to ensure that its own regulation contributes more to sustainable development and NIE is pleased to have the opportunity to contribute to this important consultation.

As requested, we have used the pro forma provided within the consultation paper for our response.

## **Consultation Response Pro Forma**

### **Chapter 1**

**1.1 Respondents to the consultation are asked to comment on whether or not they think any of the proposals in this paper would Impact on equality of opportunity or good relations for any of the Section 75 Groups.**

We agree with the Utility Regulator that the issues raised should not have a disproportionate effect on any of the Section 75 Groups

### **Chapter 3**

**3.1 Respondents are asked to comment on the balance between present and future climate change costs.**

Future climate change will give rise to both social and economic costs. Early investment in sustainable development better hedges the uncertainty of future costs.

NIE's Sustainable Management of Assets and Renewable Technologies (SMART) programme is part of the regulatory framework agreed with NIAUR. The programme supports emerging renewable energy technologies and encourages a sustainable approach to the provision of NIE's network infrastructure to meet customer demand in Northern Ireland. Last year NIE committed over £0.4m under the SMART programme to support photovoltaics, biomass, wind and hydro-electric power projects. NIE also committed £0.5m to the 1.2MW tidal energy project known as 'Seagen', in Strangford Lough, County Down.

In addition, as part of its current price control arrangements, NIE has committed to a £1m Sustainable Networks Programme to fund research focused on identifying the best long-term options for development of the NIE network to accommodate Government objectives on sustainability

The recently published 'All-Island Grid Study' demonstrated that the costs of (i) development of the energy network to accommodate close to zero carbon or carbon neutral energy sources, and (ii) research into secure running with variable energy sources, are small relative to the associated fuel and carbon cost savings.

Costs associated with future climate change should be shared equitably between both future and current customers.

### **3.2 Respondents are asked to give their views on the relationship between sustainability and security and diversity of supply.**

Security of supply has both a short and long term context. In the long-term context, the consultation paper recognises that the promotion of indigenous energy resources helps to broaden the supply base and improves security of supply. However, placing much, or arguably any, reliance upon wind and wave energy to cover demand in the short term (i.e. within any particular settlement period) will reduce security. In these timeframes, there may be a fundamental flaw in arguing that the application of statistical methods can be extended from conventional generators, where the fuel supply for all such generators is assumed to be secure, to variable generators where the energy source of all generators can fall off completely over a very short period (one or two hours). Essentially, the analysis may not be comparing similar risks.

In order to have confidence that security can be maintained in the short term it is essential to have:

- robust interconnection within the island of Ireland and with GB;
- balancing resources including demand side management; and
- an appropriate generation mix; together with advanced forecasting and system management.

Energy storage solutions should also be considered for improving the short-term security of supply. Even then there may be limits to the viability of higher levels of penetration of renewable sources until a stronger culture of load management is established whereby customers participate in energy balance through demand response.

From a networks perspective, there is as yet little guidance as to how security standards should deal with large volumes of renewable generation. Where small levels of penetration are concerned, some relaxation of planning standards may be cost effective – for example, where investment in an additional circuit could be avoided. However, as penetration levels increase, it may again be necessary to revert to the full standard approach. Nevertheless, to ensure security it is necessary to support high levels of renewable energy with corresponding levels of traditional generation capacity.

NIE agrees with the Utility Regulator's recognition of a concern over the greater proportion of renewable resource being in the west of the province where the electricity network is less able to accommodate significant generation capacity. We welcome the Utility Regulator's commitment to continue to work with NIE to examine the need for network reinforcement required to facilitate renewables. While we understand the paper's recognition that network development can have an impact on visual amenity this needs to be balanced against the very significant differential in cost between overhead and underground construction and the need to develop such networks to facilitate the connection of

renewables.

NIE agrees with the Utility Regulator's conclusion that there can be difficulties in developing and gaining agreement on sharing of costs for a cluster of windfarms. It will be important that the Utility Regulator continues to engage fully with both NIE and developers on this issue to ensure that costs are allocated properly for recovery.

**3.3 Respondents are asked to give their views on the degree to which sustainability issues should drive the Utility Regulator's first NI water price review.**

The trend in regulatory practice is for sustainability issues to feature increasingly in utility price controls. The introduction highlights two specific areas within NIE's current price control.

**3.5 Respondents are asked to consider whether a monetary value of CO<sub>2</sub> equivalent or shadow price of carbon ought to be included within guidance on use of business cases.**

Currently, investment in the transmission and distribution network is driven largely by the need to comply with the Transmission and Distribution System Security and Planning Standards ("Licence Standards"). These are in the main, deterministic standards relating to the ability to continue to supply electricity with acceptable quality. The need for network investments should be judged primarily against compliance with the Licence Standards and NIE's statutory obligations.

Network Investment generally has a lifespan of 40 years. Fundamentally, the difficulty in including the monetary value of carbon within the investment criteria is that the future stream of returns to the project are less certain over such a period since fuel and carbon price, in relation to each other, will move over time.

Furthermore, unless the monetary value of carbon is included within the business cases used by all market participants, perverse outcomes would result.

**3.6 Respondents are asked to indicate their preference for inclusion of "carbon footprint" monitoring and target setting within the new regulatory contract at the first NIW price review.**

NIE has no comment on the NIW price review.

On the generality of using carbon footprint statistics we would highlight that NI's carbon footprint will be made up from a number of unrelated activities/sectors ranging from agriculture and transport through manufacturing, energy and water.

A range of government departments manages policy related to these activities/sectors. If the "carbon footprint" is to be utilised, targets should be applied at sector level, and include all processes associated with that activity. Otherwise a licensed operator performing a role within the process is challenged with trying to achieve targets for which it does not have the appropriate authority and control to deliver the required outcomes.

NIE has entered a consultancy and improvement process with Carbon Trust (NI) to reduce its carbon footprint through a number of energy efficiency initiatives. To complement its existing recycling arrangements, NIE has entered into new waste management contracts focussing on maximising recycling volumes and reducing the burden on landfill.

**3.7 Respondents are asked to consider the benefits of going beyond the "Economic Level of Leakage", possibly by the inclusion of the carbon shadow price in calculations.**

We have no comment

**3.8 Respondents are asked to consider the degree to which NIW should be incentivised to increase its uptake of renewable energy and reduce its non-CO<sub>2</sub> gas emissions and mechanisms by which this might be achieved.**

There would be two ways in which this objective could be achieved;

- NIW could purchase renewable energy centrally. This would be entirely a commercial matter and we would make no further comment.
- NIW could generate renewable energy at or near its sites. If security of supply for NIW is to be maintained, this generation may need to be operated in parallel with the NIE network. If such a scheme were to proceed, it would be difficult for NIE to provide preferential network access to NIW over private developers who are willing to invest in renewable energy. That would frustrate the intent of open access in the market. NIE would welcome discussions with NIW to determine opportunities for network access and inform the need for network reinforcement.

**Chapter 4**

Respondents are asked to rate the following existing instruments for the following characteristics: profile; ability to protect customers; and ability to influence customers, on a scale of 1 –10 (1 being poor, 10 being excellent).

<b>Measure</b>	<b>Profile</b>	<b>Ability to protect customers</b>	<b>Ability to influence</b>
<b>The NIE SMART Programme</b>	<b>8</b>	<b>5</b>	<b>6</b>
<b>Gas Industry Promotion</b>	<b>8</b>	<b>5</b>	<b>6</b>
<b>The Energy Efficiency Levy</b>	<b>7</b>	<b>8</b>	<b>6</b>
<b>Price Controls</b>	<b>5</b>	<b>8</b>	<b>5</b>
<b>Key Pad Metering</b>	<b>8</b>	<b>8</b>	<b>8</b>
<b>Energy Efficiency Advice Provision</b>	<b>7</b>	<b>7</b>	<b>7</b>
<b>NIW Sustainability Report</b>	<b>No Comment</b>		
<b>NIW Environment Management System</b>	<b>No Comment</b>		
<b>NIW promotion of water efficiency</b>	<b>No Comment</b>		

**Chapter 5**

**5.1 Respondents are asked to comment on the balance of the Utility Regulator's duty to protect present and future customers.**

From NIE's point of view, balancing to protect present and future customer interests comes down to whether investments are made in advance of, or in response to, market demand. This problem is compounded by the relatively short time taken to establish new generation resources compared to the much longer time to obtain permissions for overhead line network reinforcements. The case of location within the electricity network for wind farm power stations is different to that of traditional generation additions. There is already a wind atlas and a sufficient lodgement of wind farm power station planning applications with DOE (Planning) to ensure that NIE has a high confidence as to what network re-enforcement is required to facilitate the connection of wind-farms between now and 2020

Developing proposals for network investments on readily available information is one way in which the time lag of delivering infrastructure to match generation demand can be reduced. NIAUR should be receptive to this approach. In development terms, the network infrastructure up to 2012 is set now. There is some potential for change and augmentation for 2015-2020 network infrastructure, but the significant change required, particularly in the distribution system architecture, is likely to take longer to deliver. This lag reflects the extent of investment in the current architecture presently employed and the present lack of knowledge or consensus worldwide as to how future active distribution systems will be built.

Therefore, at transmission level and for some distribution circuits, there seems little alternative but to develop proactively these parts of the network ahead of the time when planning approval is granted to developers. In adopting this approach, NIE and NIAUR will need to consider not only the sharing of risk and burden across stakeholders and generations of stakeholders but also develop robust cost recovery strategies which respect inter-generational fairness and minimises distortion between classes of stakeholders.

**5.2 Respondents are asked to comment on the appropriate role of and nature of statutory guidance from Ministers to the Utility Regulator.**

It would seem that the most appropriate role to bestow upon the Utility Regulator is the role of promoting a sustainable future for the energy and water utilities. In particular, there is a difficult role to be undertaken in seeking coordination of recommendations by governmental officials to their respective Ministers in the area of sustainability in these sectors. This would enable improved co-ordination on issues such as, tariff setting to recover income to support infrastructure development projects and promoting the need for strategic infrastructure development within government bodies that grant the appropriate consents.

It would then be appropriate for the Utility Regulator to report against the sustainable energy targets, and progress against the necessary infrastructure projects to facilitate the delivery of these targets, etc.

**5.3 Respondents are asked to highlight actions that they consider might be appropriate or necessary, but that could not be taken under the Utility Regulator's existing powers.**

We understand that in the USA the Federal Energy Regulatory Commission (FERC) can intervene if planning permission is not secured for critical infrastructure developments. FERC can then overrule and issue planning permission because the infrastructure is a national energy requirement. This may appear extreme, but there may be merit in a debate as to whether the Utility



Regulator should have a similar power, within appropriate constraints, to ensure that key decisions on projects are made in a timely manner whilst balancing the interests of stakeholders.

**5.4 Respondents are asked to comment on whether the Utility Regulator should seek to be designated under section 25 (1) of the Northern Ireland (Miscellaneous Provisions) Act 2006.**

We note that the Utility Regulator does not see any practical benefit in being so designated, but we do not have a particular view.

**Chapter 6**

**6.1 Respondents are asked to comment on the three main roles for the Utility Regulator identified in chapter 6 of this paper as:**

- gathering and publishing evidence,
- contributing to wider energy policy,
- regulating differently.

NIE agrees in broad terms that improving information leads to better decision making by policy makers and industry participants. We would however encourage the Utility Regulator to adopt an approach which is not unduly burdensome for utilities. Decision makers are, in the main, interested in approximate values and trends. There is a law of diminishing returns associated with obtaining very precise statistics.

As noted within the document, if the Utility Regulator imposes duties upon regulated companies to gather and process large amounts of additional information, then additional resource would be required for that task and the necessary provision should be made within the respective price controls.

In terms of contributing to the wider energy policy, if additional policy is required in areas where the Utility Regulator has relevant expertise then we would anticipate that policy makers would make use of that resource.

**6.2 Respondents are asked to comment on data, which would be useful but, which is currently unavailable on a regular basis in Northern Ireland.**

NIE believes that although additional data may be useful, in exceptional cases, it would be better in most cases if the Utility Regulator converted the data to usable information. SONI gathers information from NIE and produces both a Generation Capacity Statement and a Transmission System Capacity Statement. This defines our expert view of the load and generation at each bulk supply point, e.g. Bangor, Newtownards, Coleraine, for the present year and the following six years. However, the expert view of the gas industry on load swapping between electricity and gas is an input, as well as other government initiatives on CHP

and efficiency. There may be scope for the Utility Regulator to examine such interactions and to combine separate information from the energy sub sectors to show how energy demand in each locality is changing together with the likely effects of plans and initiatives on each locality. Progress against this regional projection can then be checked, and a determination made regarding which indicators are succeeding and which are less effective and where.

**6.3 Respondents are asked to suggest innovative methods of developing and promoting the gas industry as a means of reducing Northern Ireland's carbon footprint.**

We have no comment.

**6.4 Respondents are asked how the solid fuel and oil industries could contribute to social and environmental sustainability? In addition what approach will best achieve this aim?**

We have no comment.

**6.5 Respondents are asked if the regulatory model used to develop the natural gas network could provide lessons for the promotion of efficient and coordinated heat networks? Do respondents believe that better regulation could aid the development of the community heat industry?**

We have no comment.

## **Chapter 7**

**7.1 The Utility Regulator considers that the following are important when assessing policy proposals. Respondents are asked to score each of the proposals in chapter 7 of this document from 1-10 on the basis of their potential in relation to the following measures:**

- 1 Potential Certainty of Outcome**
- 2 Potential Cost effectiveness**
- 3 Certainty for investors**
- 4 Potential to provide equity for consumers**
- 5 Potential to encourage innovation**
- 6 Good fit with other NI government departments**
- 7 Good fit with competitive energy markets**

We agree that the characteristics of a project listed 1 through 7 are important. However, the characteristics may not all have the same degree of importance and their relative importance may change with the type of policies being considered. Clearly a long term strategy will have a less certain outcome, because the environment is likely to change more radically than during a short term action.

That is not a reason to avoid planning for the long term. Cost effectiveness is dependent upon how the measures of cost are defined. We have already noted that for some assessments, policies and licence standards, we might be better to think of value for money rather than cost alone. We agree that certainty for investors is important otherwise the cost of capital employed is likely to rise. Some policy areas will have less scope for innovation than others, but that does not mean they are unnecessary.

It is our strong view that, if progress is to be made efficiently and in a timely manner, government departments need to act collectively. It is not clear to us whether there is a lead body tasked with achieving cross-departmental policies that will facilitate sustainable development. We place much less reliance upon longer-term initiatives fitting with existing market rules. We understand the issue of regulatory certainty for market players, but point out that market rules need to help deliver long term policy, industry strategy and physical requirement, and not drive them.

Nevertheless, we have attempted to score the measures according to our best understanding of the questions posed.

The proposals are summarised as follows:

	1	2	3	4	5	6	7
a. Cross utility licence condition requiring licensees to have in place environmental policies.	8	6	7	6	4	6	6
b. Cross utility requirement to report annually of sustainability activities and initiatives.	8	5	7	6	6	6	6
c. Requirements on licence holders to provide customers with environmental information in relation to fuel mix in a uniform and easy to understand format, on all bills and promotional literature.	8	4	4	6	5	6	6
d. Strategic investigation into use of "Smart Meters" as a mechanism for delivering better quality and timely information to customers.	6	4	4	6	8	6	6
e. Work with energy licence holders to assess current tariff structures.	8	8	6	5	7	7	7
f. Continue to work with partners and stakeholders to ensure renewable generation can be equitably accommodated on the electricity network.	7	8	5	8	8	8	8
g. Ensure price control processes take into consideration the effect of climate change on electricity and gas networks.	6	6	6	7	8	7	7
h. Carry out a full strategic review of energy efficiency delivery mechanisms	8	8	7	7	7	7	7
i. Develop a strategy in relation to gas promotion, which considers the potential benefits of common arrangements for the transmission and distribution of gas on the island of Ireland.	-	-	-	-	-	-	-
j. Developing sustainability within the NIW price control	-	-	-	-	-	-	-
k. Improving our own practices and procedures.	8	8	5	7	8	7	7

**7.2 Respondents are asked to identify what they consider to be the top three priorities from the above list of proposals and rank them in order of importance.**

Priority 1 - Encouraging Energy Efficiency

It must be correct to first encourage customers to use more efficiently, and to use less of, a commodity that is scarce and creates pollution.

Priority 2 – Electricity Network Access for Renewables

It must also be right to prioritise zero carbon sources over reduced carbon sources, although there may be a short-term cost disadvantage in having to invest customer money now to save later.

Priority 3 - Clarity for licence holders

Clarity for licence holders is likely to be an efficient method of achieving change. We would expect licensees to support the proposals in 7.3 and 7.4 of the consultation paper provided these requirements (for utilities to have in place an environmental statement and report annually on sustainability activities and initiatives) are proportionate. Experience (e.g. transport sector) shows that an initiative is much more difficult to achieve in a distributed sector than when the power to act is concentrated in a small number of organisations. Within the electricity sector such initiatives can require major infrastructural development. It is important to recognise that this usually involves long lead times so it is essential to drive the process from the earliest stage.

**7.3 Respondents are asked to list any further proposals, which they think should be considered.**

The paper suggests consideration of block tariffs. This may be a crude instrument in that it takes no account of the number of persons served in a dwelling or the size or degree of occupancy. There may be some merit in linking initiatives like energy surveys, energy savings initiatives/grants and block tariffs. An approach might therefore be that a lower energy charge is made per unit to dwellings that have improved their energy rating. This would not only penalise excessive usage, but would incentivise efficiency measures, helping to improve the housing stock in a faster time. It would be the customer's responsibility to seek a compliance certificate to avail of the tariff savings.

It is also proposed that the Utility Regulator should consider agreeing funding with regulated utilities to support the continued development of technology and techniques into the development of more sustainable networks.

Consideration should also be given to allow capital investment, to assist with the funding of more sustainable network solutions, in comparison to the solution arrived at by applying the current investment drivers. This may provide a more

pragmatic approach to move towards the inclusion of carbon foot printing within investment decision-making.