SDC Submission to

Sustainable Development – The Regulator's Role

A Utility Regulator Consultation Paper

July 2008

1. The Sustainable Development Commission (SDC)

1.1. The SDC is the Government's independent advisor on sustainable development, reporting to the Prime Minister, the First Ministers of Scotland and Wales and, in Northern Ireland, the First and Deputy First Minister. Through advocacy, advice, appraisal and capacity-building, we help to place sustainable development at the heart of Government policy.

1.2. The SDC welcomes the opportunity to contribute to this consultation paper. We are encouraged that the Utility Regulator, in recognition of its explicit secondary duty as Water Regulator, will 'contribute to the achievement of sustainable development'. However, although that duty is not explicit in the other dimensions of the Regulator's roles, it is clear that there is a *de facto* responsibility to embrace sustainable development by virtue of the Regulator's duties to have regard to the interests of vulnerable groups and to have regard to the effects of the regulated industries on the environment. In other words, the Regulator has a responsibility to contribute to the two major goals of sustainable development, *viz*

- Living within environmental limits
- Ensuring a strong, healthy and just society

1.3. As the energy landscape has changed in recent years, the result of a greater understanding of the potential impacts of climate change and the need to move towards a low-carbon economy in the future, it is timely for the Regulator to consider how it might adopt a more active role in promoting sustainable development. In this response, the SDC considers how the Regulator intends to do so in the context of these two over-arching principles.

2. The Utilities' Role within the NI Sustainable Development Strategy

2.1. The NI Executive's Programme for Government includes sustainability as a cross-cutting key theme. In committing to ensure that the principles of sustainability underpin all its activities and in declaring that it will demonstrate that commitment through its decisions and actions, the Executive has recognised the criticality of sustainable development.

2.2. The Executive has stated its intention to publish a new sustainable development strategy (NISDS), succeeding the original document, 'First Steps towards Sustainability'. It will be developed to take account of the Programme for Government, the Investment Strategy for Northern Ireland and to provide a high degree of synergy with other relevant Executive strategies. Plainly, major targets such as the ones you have quoted on greenhouse gas targets and the delivery of the Water Framework Directive objectives, are likely to remain in place. That being so, the utilities will continue to have a significant role in helping to deliver targets within the NISDS and its subsequent Implementation Plan.

3. Questions from the Consultation

3.1. Balancing present and future climate change costs

3.1.1. The Stern Review emphasises the need for investment decisions over the next decade to develop electricity supply networks in a way that will encourage the move towards a low-carbon economy. The Programme for Government reiterates the Executive's existing target of reducing greenhouse gas emissions by 25% below 1990 levels by 2025; renewables will need to make a contribution to the achievement of that target.

3.1.2. SDC recognises and concurs with the need to provide adequate infrastructure and the consequent investment implications for the necessary long-lived assets. In our view, that investment should seek to accommodate a wide range of different supply and demand scenarios in the future. It should seek to develop a flexible and responsive network that can accommodate renewables and small-scale generation. Distribution systems will, therefore, need to be capable of carrying electricity in two directions to facilitate new technologies seeking connection to the system in the future.

3.1.3. In pursuing a "balanced generation portfolio" (para 2.11), it is our view that, in future, low-carbon generation is likely to be a dominant characteristic and more creative solutions to balancing the grid should be sought. If storage still necessitates major technological advances, there are present opportunities in demand management, which could be further exploited.

3.1.4. If the model of cost-reflective pricing (para 2.12) is deemed to be appropriate for Northern Ireland, it must also incorporate the inter-generational equity implicit in environmental costs. Just as future generations should correctly bear part of the cost of the assets put in place today, so today's consumers must bear an appropriate portion of the likely costs of environmental compensation that will be necessary in future. We live with the consequences of past economic and political decisions, made with little thought for the long term or for their impact on the environment, a legacy of unsustainable development. We should not compound those mistakes in the light of our present level of knowledge of future consequences.

3.1.5. Another implication of cost orientation to be considered is its impact on social equity. Indeed, in the case of energy and water, we acknowledge that the Authority already has a duty to have regard to the interests of identified vulnerable groups.

3.2. Security and Diversity of Supply

3.2.1. It is clear that the present supply of energy in Northern Ireland makes the region especially vulnerable to the interruption of its source supplies. It follows, therefore, that any indigenous energy source is beneficial to combating fears about security of supply. Since those local sources are most likely to consist of non-fossil fuels – wind, biomass, tidal – the mutual advantage to sustainability and security of supply is obvious.

3.2.2. The consultation paper makes reference to the difficulties of coping with the variable generation capacity of renewables like wind. It reiterates the fact that the transmission network was originally designed to accommodate dispatchable generation plant. An acceptance of this *status quo* has the inevitable consequence of discouraging the development of the very generators – indigenous and sustainable - whose contribution should greatly be encouraged. The Regulator should make redoubled efforts to remove the barriers to renewable generators identified in its paper. (para 3.41 on).

3.2.3. As part of its developing renewable energy policy, the EU has already requested member states to ensure that the transmission and distribution system operators provide priority access to the grid system of electricity produced from renewable energy sources.

3.3. Sustainability, 'carbon footprint', carbon pricing and NI Water

3.3.1. The challenges faced by NI Water, especially those imposed by the EU Water Framework Directive, are significant. It is widely accepted that NIW has inherited a legacy of chronic under-investment, manifested in a sewerage system that was not fit for purpose and which is the subject of an extensive programme of investment in new plant.

3.3.2. The CEEQUAL Excellent award secured by the NI Water Service for its Greyabbey & Kircubbin wastewater treatment works is a clear demonstration of intent and should set a benchmark for all similar subsequent building works under the Investment Strategy for Northern Ireland. As part of the investment programme, NIW should be encouraged to deploy renewable energy technologies within new works. The voluntary commitment of 20% (para 3.50) is commendable, precisely in line with EU targets. NIW could usefully incorporate that specific target in its business plans, thereby improving some of the rather vague existing targets (para 4.39). This would help to bring it alongside some of NI's leading private sector companies, such as BTNI & Bombardier, which have demonstrated a corporate commitment to energy efficiency and the use of renewables.

3.3.3. Commitments within the NI Sustainable Development Strategy and its supporting Implementation Plan demonstrate the government's wish to protect the freshwater environment. To deliver a target of 90% compliance with Water (NI) Order 1999 consent standards, a set of key actions for the Department for Regional Development and the (then) Water Service includes the introduction of sustainable drainage systems. There is little evidence of progress on this commitment and SDC would encourage the Regulator to pursue its suggested action (para 3.63) of exploring with NIW the potential for much greater use of SUDS. In addition to the benefits illuminated (paras 3.61, 3.62), the use of SUDS offers some potential reductions in energy use. SDC understands that a DOE policy on SUDS is expected to be published in the near future.

3.3.4. If this region has yet to experience any lengthy period of water stress, the predictions of the effects of climate change could alter that situation. The respected climate modelling work for the island of Ireland undertaken by NUI, Maynooth, broadly predicts an East-West split, with the North & West becoming wetter and windier, the South & East becoming drier and warmer. That the overwhelming bulk of the population on the island is to be found on the eastern seaboard should sound a warning.

3.3.5. The NI water consumption figures quoted (para 3.53) demonstrate a stable level of use. The UK Government's sustainable development indicators show some small fluctuations in domestic *per capita* usage, but with some clear evidence of reduced consumption among metered customers (c 120 l/day), when compared with unmetered consumers (c 160 l/day). These statistics reflect the statement (para 3.59) that reductions of around 10% are attained following the fitting of domestic meters. The contentious public debate provoked by water charges is unlikely to be over, but the findings of the NI Consumer Council in its 2007 poll showed strong (70%) support for metering.

3.3.6. SDC supports the use of smart metering for electricity use and many of the arguments for the use of electricity meters – and more sophisticated billing - which provide information on usage to the consumer must equally apply to water consumption. As the paper observes (para 3.51), domestic use of water will entail a concomitant increase in energy use, so measures to enhance water conservation in the home will have a dual benefit.

3.3.7. There is also ample scope for the re-use of water within buildings and, as yet, limited application of the appropriate technologies to facilitate that re-use. The Regulator embraces energy efficiency as part of its role and should extend similar principles as part of its aim to promote sustainable development in respect of its water duties.

3.3.8. The SDC's recommendation to Ofgem in our report, *Lost in Transmission* seems equally appropriate to the current consultation, viz

3.3.8.1. Use the Government's Green Book Guidance and institute a social cost of carbon in compliance with government department practice, with a range of £35-£140/tC with the mid-point of £78/tC (for 2008); to be updated in line with any new social cost of carbon that is agreed within government once its evaluation of the implications of the Stern Report recommendations is complete.

3.3.9. Defra published updated guidance on incorporating climate costs into policy analysis in December 2007. This guidance replaces the social cost of carbon with the shadow price of carbon as the recommended approach for evaluating climate change impacts and gives a figure of £26/tCO_2 for emissions in 2008.

3.4. Existing Instruments

3.4.1. SDC welcomes the Single Electricity Market initiative (para 4.14) and its underpinning objective to accommodate the increased contribution of renewable generation. Our *Lost in Transmission* report identified (in Chapter 5) a number of barriers to low-carbon electricity generation in GB and we would draw the attention of the Regulator to those barriers and our subsequent recommendations, many of which will be useful as the market framework develops through the SEM.

3.4.2. The Grid Study (para 4.15) will help to identify some of the issues that need to be considered when formulating future energy policies throughout the island. SDC further welcomes the intention of the Regulator to facilitate the smooth entry of wind generation into the SEM and we strongly encourage the speedy implementation of actions to achieve that end.

3.4.3. We are impressed with the evident success of the SMART programme (para 4.20). We suggest that the Regulator might consider drawing on the experience of its Californian counterpart to incorporate components of energy efficiency and demand reduction into the framework as well. We showcase the California experience of decoupling energy demand in the *Lost in Transmission* report (Chapter 6), where the implementation of a range of measures has allowed California's *per capita* use of energy to remain relatively flat over the last 30 years while the US, as a whole, has seen *per capita* increases of 45 per cent.

3.4.4. The contribution of the Energy Efficiency Levy (£11m in the period 2001-2008) has been a useful supplement to the £98m spent by the Department for Social Development on the Warm Homes Scheme over the same period. However, the NI Audit Office, in its recent report on the scheme, has identified a series of shortcomings and SDC strongly supports many of its recommendations.

3.4.4.1. The current level of fuel poverty in NI of 34% - 225,000 households - is plainly unacceptable; it has risen since 2004 and the Department seems to have little chance of securing its goal of eliminating fuel poverty from vulnerable households by 2010. Rather, the current round of steep fuel price increases can only serve to exacerbate the situation

3.4.4.2. The NIAO report contends that, in addition to focussing the Warm Homes Scheme grants towards those in fuel poverty who need help the most, the support should also be directed towards the most energy inefficient homes. SDC concurs with these measures and suggests that the Scheme could be further enhanced by embracing renewable technologies, where appropriate. By so doing, the fuel-poor will be further assisted by reducing their exposure to the price volatility of fossil fuels.

3.4.5. The Regulator's use of price controls to influence the development of networks is significant, as illustrated in the deployment of capex allowances to facilitate changing demand profiles. We encourage a continued focus on this role.

3.4.6. SDC views with concern the idea that gas companies are incentivised to increase the volumes of natural gas sold in NI (para 4.31). While we can agree that natural gas is less carbon-intensive than, say, oil for heating, this merely makes it a 'less bad' fuel, rather than a 'good' one. We recognise that the Regulator has a primary duty to promote the use of gas and the paper has earlier argued (para 3.27) that the carbon dioxide reductions achieved through conversion to gas are significant. However, such reductions would be even more substantial if customers were to move from, say, solid fuel to renewable energy systems.

3.4.6.1. We are encouraged that gas company representatives are trained to advise on energy efficiency and that the new equipment installed as a result of conversion to gas is likely to be much more fuel-efficient, but this still seems to be at odds with the incentive to sell a greater volume of the fuel.

3.4.7. SDC applauds the use of the keypad meters already installed in many NI homes (para 4.33, 7.5 on). We also welcome the fact that keypad meter customers benefit from a 2.5% reduction on the standard tariff. We note that direct debit customers receive a 4% reduction and might question the true cost-reflectivity of the keypad discount. Nevertheless, we would encourage the wider use of the technology and encourage the Regulator to see the pilot phase extended to the use of truly 'smart' meters. By giving households real-time information on use and ensuring that every bill is an accurate and informative portrayal of energy use, we will develop the possibility of achieving a material step-change in end-user energy efficiency. SDC has designed an example of what a properly informative energy bill might look like, here attached as Appendix A. (para 7.7)

3.5. Statutory Duties of the Regulator

3.5.1. The Regulator's primary duty provides the overarching framework for its approach to the development of the utility industry. In our Ofgem report, the SDC identified the need for its objectives to be aligned with the goals of the government's energy and environment policy, to ensure that the development of the energy networks and markets facilitates the transition to a low carbon economy. One way to achieve this, for Ofgem, would be to incorporate greenhouse gas emission reduction into its primary objectives.

3.5.2. Of particular concern in the present consultation is the Regulator's statutory duties in gas where the primary duty is the promotion of the industry. Whilst we accept that natural gas is a lower carbon fuel than coal or oil, it is still a fossil fuel with significant climate impacts, as well as security of supply concerns. The Regulator's duty to promote the gas industry may create a bias against renewable energy sources, which could have environmental impacts and may affect competition among heating fuels. This could mean that gas is installed in areas where a renewable source would be more appropriate and create lock-in to a fossil fuel technology which could have been avoided if that bias did not exist. For example, the consultation discusses the

regulator's plan to develop a gas promotion strategy. This may reduce CO_2 emissions in the short term but it may not be the appropriate investment in the long-term for a low carbon energy system. With its current remit, the Regulator is not in a position to promote renewable heat in the same way; this is in stark contrast with the duty to promote renewable sources under the Single Electricity Market (SEM).

3.5.3. In electricity, there appears to be an inconsistency between the Regulator's general duties and its duties in relation to the SEM. For example, the SEM Committee must promote the use of energy from renewable sources and the Regulator must implement the Committee's decisions in relation to SEM matters. However, grid management is also a key issue for renewable generators and, even if good market arrangements are put in place, the development of renewables may still be blocked if the network arrangements create barriers to renewables.

3.5.4. There is also a question of the interpretation of the relative weight given to the interests of current and future consumers. As mentioned earlier, long-term environmental impacts will have a cost for future consumers and these should be fully incorporated into the Regulator's decisions. The Regulator should clearly set out how it interprets the interests of present and future consumers. As recommended in our Ofgem work, this should include allowing for defensive investment in technologies that can contribute to tackling wider environmental challenges.

3.6. The Regulator's SD role

3.6.1. SDC welcomes the Regulator's proposals to collect more, and more segmented, data on energy consumption (para 6.9). It is intended that a suite of sustainable development indicators will be published. A draft set, under consideration by Ministers, contains several high-level measures relating to climate change and energy but these lack the detail of the equivalent UK suite and as the *Northern Limits* ecological footprint report observed, segmented data on energy consumption have not been readily available in NI. Such information is invaluable to effective targeted policymaking.

3.6.2. The illustrative point (para 6.15) on the relative motivations of installations of gas and non-gas systems is pertinent. One effect of the new NI building regulations has been to necessitate the use of much more efficient boilers, when new equipment is being installed. There is anecdotal evidence that some installers are still fitting old-style heating systems, on the basis of cheaper initial costs. Clearly, it is an area that would benefit from greater regulation.

3.6.3. SDC would support the Regulator's direct involvement with the development of heat networks and would encourage a promotional role, although there would need to be some consideration about how that might 'compete' with the Regulator's existing duty with regards to gas.

3.6.4. SDC supports the proposals (para 7.3 & 7.4) to instigate licensing conditions on environmental policy and annual sustainability reporting. We would additionally encourage the Regulator to consider a process to incentivise licensees, providing some 'carrot' to complement the 'stick'.

3.6.5. The paper has noted (para 4.32) that NI customers have supported NIE's eco-energy tariff. NIE's capacity to deliver this 'green' supply is limited to 25,000 customers, or less than 4% of the households in the province. SDC would welcome an increase in this upper limit, if the Regulator is content that the tariff genuinely reflects NIE's procurement of equivalent quantities of renewable energy, additional to any statutory obligation already in place. In this respect, and as the electricity market

is opened further to competition in NI, we would encourage the Regulator to monitor closely the development and marketing of green tariffs.

3.6.6. We support the suggestion that tariff structures should not encourage the consumption of increased volumes of fuel (para 7.11) but we cannot reconcile this assertion with the price control mechanism that incentivises the gas industry to increase the volume of gas sold in NI (para 4.31).

3.6.7. We welcome the Regulator's plans to ensure that all capital expenditure profiles take account of future climate change. Equally, any such infrastructural works should be built to very low-carbon standards, given their expected long asset life.

3.6.8. We support the further development of ESCo models in Northern Ireland and the potential such companies may provide for innovation, a core principle of the NI SD Strategy.

3.6.9. SDC has published a guide for government organisations, *Driving Change*, which offers advice to those involved in writing SD Action Plans. While its primary focus is on the Whitehall departments, it contains principles and processes which will be of value to the Regulator as it seeks to draw up an internal sustainability policy (para 7.24). We attach the document as Appendix B.

Sustainable Development Commission
July 2008

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AB12 3CD

Account details
Account number: S1234567890
Tariff: Standard

COST

Your gas and electric bill this month is £54.50
Your total bill for the year is expected to be £500.

Your next bill could be £51
if you implemented the energy saving measures on page 2. This would total £280.57 for the year.

PRICE

How we worked out your bill

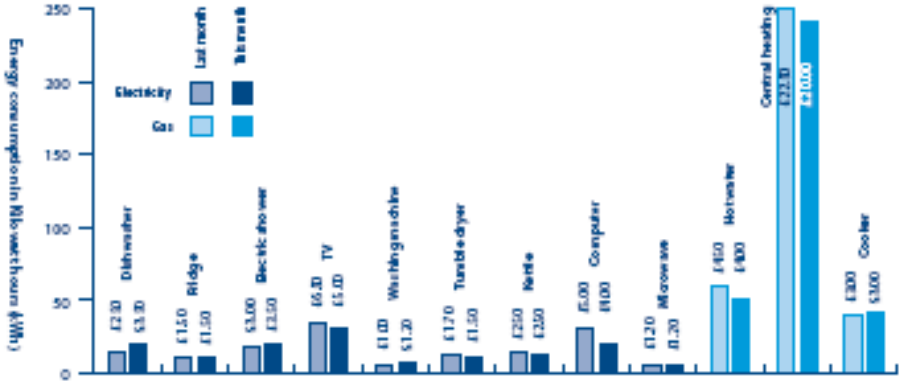
Electricity
Price per kilowatt hour (kWh) = 11p
You have used 250kWh
This has cost 250 x 11p = £27.50

Gas
Price per kilowatt hour = 9p
You have used 300kWh
This has cost 300 x 9p = £27.00

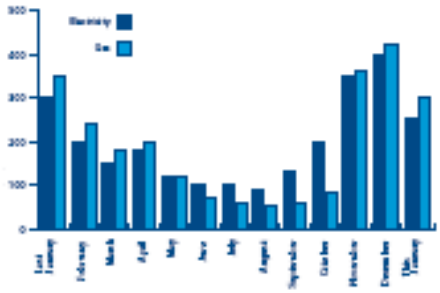
CO_2

You are emitting 4.26 tonnes of CO_2 a year.
This could be 1.36 tonnes a year if you implemented the energy saving measures on page 2.

YOUR ENERGY USE



Your energy consumption over the last 12 months
in kilowatt hours



YOUR ENERGY SAVINGS

Your ideal rating is C.
You could be saving £219.43 per year.

Your current rating is D, costing you £500 per year.

For more details on how you could improve your energy rating see page 2 of this bill.

YOUR ENERGY SAVINGS

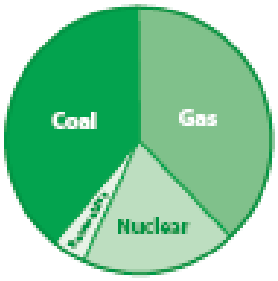
Recommended Improvements

These are the top improvements that could help you save on your fuel bills and help decrease your household's impact on the environment. The annual savings shown are for the individual item, the combined savings shows how much you could save by taking all energy saving measures. Improvements with a long 'Payback Period', like double glazing have other benefits as well as reducing your heating bills. These could include improvement in aesthetics and reduction in noise.

Improvement area	Typical cost	Typical savings per year	CO_2 saved per year (tonnes)	Payback period
Fit low energy light bulbs	£55.00	£20.70	0.566	3 yrs
Install up to 250mm of roof insulation	£274.00	£11.02	0.312	20+ yrs
Install draught proofing	£104	£16.30	0.07	6 yrs
Upgrade your boiler to an A/B rated one (exceptional)	£1500	£43.58	0.041	35 yrs
Turn your thermostat down 1 degree	Free	£34.62	0.06	0 yrs
Buy an 'A rated' TV	£599	£5.39	0.019	50 yrs
Plug to turn off computer and printer after shutdown	£35	£7.86	0.88	5 yrs
Buy an energy saving kettle	£20	£2.10	0.002	10 yrs
Install cavity wall insulation	£394	£77.86	1.009	5 yrs

You could save approximately £219.43 if you implemented these energy saving measures.

Your energy is currently generated from these sources.



Your energy could be generated 100% from renewable sources.
To change call 0800 123 4567 and ask for details of our Green Tariff.