

Written evidence submitted by Ofgem (GIB 23)

About Ofgem

Ofgem welcomes the opportunity to provide evidence to your inquiry on the Government's proposals for a Green Investment Bank. We are the Office of the Gas and Electricity Markets. Protecting consumers is our first priority. We do this by promoting competition, wherever appropriate, and regulating the monopoly companies which run the gas and electricity networks. The interests of gas and electricity consumers are their interests taken as a whole, including their interests in the reduction of greenhouse gas emissions and in the security of the supply of gas and electricity to them.

Our Response

Ofgem considers the main components of the inquiry to be outside of the scope of our remit and to be the responsibility of the Government. Correspondingly Ofgem cannot comment on the requirement for a Green Investment Bank, its objectives, priorities or funding and governance structures. However, we feel that we have some relevant information to provide to the Committee in relation to the inquiry. This includes:

- Some of the findings of our Project Discovery assessment of how the energy market can deliver secure and sustainable energy supplies. This work looked at some of the significant financing challenges faced by the industry.
- Our role in creating and administering the Low Carbon Networks Fund, which is designed to encourage innovation in network delivery. This fund was wrongly identified in the Report by the Green Investment Bank Commission as a cash fund for innovation trials. In fact it is part of the regulated company revenues and is funded through electricity network operators raising charges to consumers to fund the selected projects. If good projects are not found, consumers will not be charged.
- Our experience and role in administering mechanisms for ensuring investment in the electricity and gas networks. Ofgem has recently introduced a new regulatory framework ("RIIO") which will form the basis for securing £32 billion of network investment by 2020.
- Our role in creating (with the Government) the successful tender regime for encouraging new investment in offshore cables which attracted almost £4 billion of investment appetite for the first nine transmission links worth around £1.1 billion.

Part 1): Project Discovery Work: Cost and availability of finance

As part of our year-long study into whether the current arrangements in GB are adequate for delivering secure and sustainable electricity and gas supplies over the next 10-15 years, Ofgem found that around £200 billion worth of investment would be needed by 2020. The work from Discovery has now fed in to, and been taken over by, the Government's Electricity Market Reform process.

The "Discovery" investigation (published Feb 2010) highlighted that while investor confidence appeared to be recovering from the global financial crisis, there was still a question as to whether the high levels of investment needed in the UK energy sector over the next decade will be available at a reasonable cost given the riskiness of the investment environment.

Discovery concluded that the markets' willingness to lend or invest and the associated cost of funding will be determined by the perceived risks in the GB energy sector relative to other sectors and markets. Low forward liquidity in power markets and uncertainty surrounding

future carbon prices and subsidy levels were key risk factors facing investors. It also found that any perception of heightened policy and regulatory uncertainty, particularly given the long term nature of the investments required, may also push up the costs of financing them.

Discovery assessed that the bulk of the investment required in the GB market is likely to be focussed on riskier activities such as generation (especially renewables), gas storage and smart meters. Raising debt for these types of investment looked challenging, implying that a higher degree of equity finance may be required to meet funding requirements. The primary sources of such funding remain pension and infrastructure funds, other private sources of equity and sovereign wealth funds.

Companies can expand their balance sheets to fund new investment through borrowing, equity and bond issuances, but we assessed that they may start to face the constraint of limited market demand for further issuances should the companies become over-borrowed. Management teams may well proceed cautiously and multi-national players may prioritise investments in markets with a higher degree of confidence in achieving good returns.

However, Ofgem would add that while Discovery did find the above, Ofgem has not concluded whether a Green Investment Bank is or is not the solution. There are a number of ways to improve financing, both involving and not involving the creation of such an institution. Ultimately, it is for Government to decide how it best wants to tackle the financing challenge.

Part 2) The Low Carbon Networks Fund

Rationale for a fund

The future use of the electricity distribution networks will change considerably with the increased take-up of low carbon initiatives such as distributed generation (DG), demand side management (DSM), electric space heating, electric vehicles and electricity storage. This could require significant changes to the way these networks are designed and operated, and the commercial role the network operators (DNOs) play. For example, they may need to introduce more intelligence onto the networks to make sure they can adapt quickly to the changing pattern of network use and connect new users promptly without having to wait for new transformers or lines to be installed.

DNOs will need to better manage energy flows on their networks. Advances in technology, as well as the new data that will become available through smart meters could enable the DNOs to run the networks more efficiently, by directing energy around the grid in a more flexible way. More efficient movement of energy will allow the grid to better manage peaks in demand.

Network companies will need to innovate in the way they design, build, operate and charge for usage of their networks to deliver smarter networks and encourage customers to change their behaviour. The DNOs also need to anticipate and explore how they can ensure that the significant investments required in the future are cost effective and fit for purpose.

During the last electricity Distribution Price Control Review (DPCR5), Ofgem recognised that the regulatory framework whilst successful in incentivising efficiency and customer service, has not operated to encourage the companies to trial and innovate, since the companies believed they would gain little benefit and bear all the risk. Ofgem therefore decided to introduce a mechanism to incentivise network innovation.

Introduction to the fund

In the Final Proposals of DPCR5, we proposed a £500m Low Carbon Networks Fund (LCN Fund) to encourage the electricity distribution network operators (DNOs) to use the price control period (1 April 2010 to 31 March 2015) to try out new technology, operating and commercial arrangements.

The LCN Fund will enable the DNOs to run trials to explore which technologies and commercial and operating arrangements are likely to provide best value for money for network users while helping to tackle climate change. We anticipate that the projects may highlight the technical, regulatory, commercial and legal changes that may be needed to ensure that the networks can meet the needs of users into the future. We also anticipate that the trials may reveal information about the way that consumers respond to the deployment of new technology. We expect these trials will help to inform the business plans that the DNOs submit to us at the time of the next price control review.

A key feature of the LCN Fund is the requirement that learning gained from projects can be disseminated, to maximise the benefits of the trials so that customers get value for money for their "investment" and receive the subsequent network cost savings and/or carbon benefits.

How the fund actually works

Currently electricity distribution network operators have price controls which are set every five years. These controls determine what expenditure is needed on each of the regional monopoly networks and what amount the network operator can recover from customers. The costs are passed onto energy suppliers in the form of distribution charges, the cost of which they reflect in the energy bills paid by their customers.

Although described as a "fund", the LCN Fund is actually part of the price control mechanism. There is no available pot of money to be used like a Government grant or a Carbon Trust loan, rather the costs of the selected projects are passed on to consumers via distribution charges as outlined above. We consider this makes it very different to the other funding mechanisms mentioned in the Report by the GIB Commission.

More specifically, the LCN Fund consists of two tiers. DNOs will be able to use the First Tier to recover a proportion of expenditure incurred on small scale projects and to recover expenditure incurred to put in place the people, resources and processes to progress small innovative projects. The total expenditure that a DNO can recover from the First Tier is subject to an annual limit, amounting to £20 million across all DNOs per annum.

The Second Tier provides total funding of up to £320m over the five years (£64 million a year) for a small number of significant "flagship" projects. Ofgem will hold an annual competition for project funding and the DNOs will compete against each other for an allocation of the funds. The annual process involves DNOs putting forward outline project proposals for Ofgem to assess whether they meet the eligibility criteria. This is then followed by an annual call for, and submission of, full proposals. Ofgem (advised by a panel of independent experts) will decide which projects (if any) are to be awarded funding, against a predefined set of criteria.

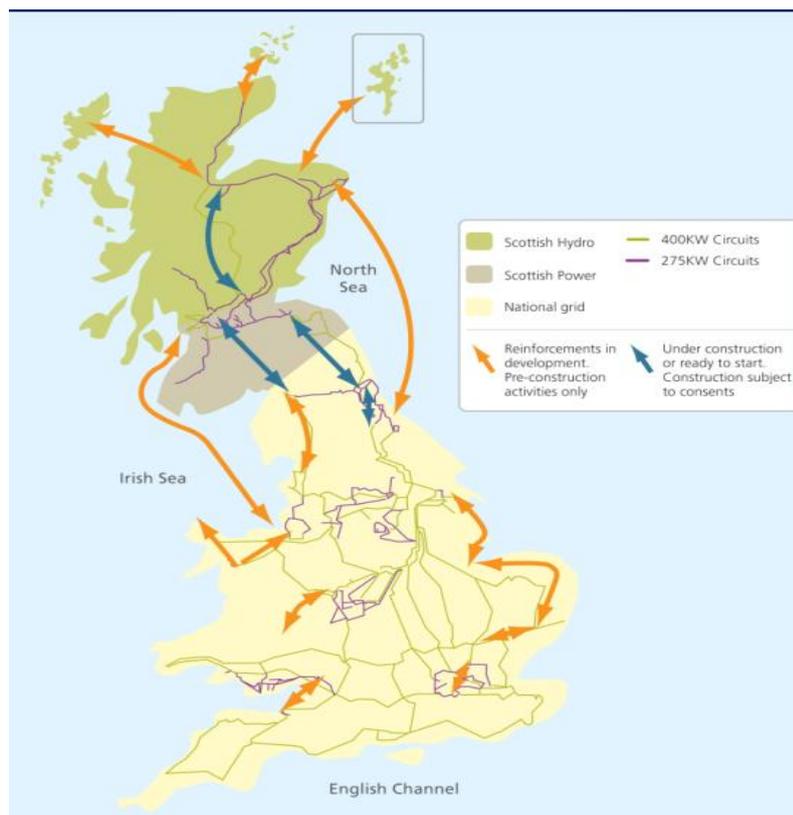
If a project is selected, costs will be spread across all of the DNOs (and therefore socialised across consumers). DNOs will transfer their share of the funding to the DNO with the winning project over the first year of the project implementation. Just as the costs are socialised, so too must be the benefits. Successful bidders have to demonstrate how they will pass on information to other companies so that the benefits are realised for all consumers.

Ofgem is part of the way through the first round of Second Tier Project evaluations. We have been encouraged by the projects received, which involve a wide range of partners and collaborators, and cover a broad range of areas including three “smart cities” and a range of projects aimed at investigating accommodating electric vehicles, distributed generation and wind energy intermittency. Ofgem will publish its decision by the end of the year.

In addition, a discretionary reward worth £100m over the five year period enables Ofgem to reward successful delivery and projects that bring particular value in helping the DNOs understand what investment, commercial arrangements and operating strategies they should be putting in place to provide security of supply at value for money for future network users, while doing all they can to tackle climate change. We will seek to use the discretionary reward to imitate the commercial benefits of innovation through rewarding DNOs for successful innovation by relating these rewards to the risks that their shareholders have borne (relative to customers) and the benefits associated with that innovation, as well as any learning arising from it. This will not, typically, give rise to the same level of rewards that unregulated companies enjoy with successful innovation because under the LCN Fund DNOs will typically only fund 10 per cent of the expected costs with customers funding the other 90 per cent.

Part 3) Regulating the Networks and encouraging investment

Of the £200 billion of investment needed by 2020 highlighted by Project Discovery, about £32 billion will be spent upgrading the electricity. This includes investment in the onshore and offshore grids. The diagram below illustrates some of the key onshore investments.



In order to ensure the necessary investment, as well as ensure that this investment is underpinned by innovation and delivers security of supply, Ofgem has fundamentally changed the way in which it regulates networks. Following a comprehensive two-year review, we have scrapped the old RPI-X regime, which set each of the regional network companies' regulated performance over each five year “price control” period. While RPI-X was very successful in securing £35 billion of investment over its lifetime, Ofgem did not think it provided the flexibility needed to meet the challenges that the industry now faces.

The solution: “RIIO”

RIIO (Revenue=Incentives+Innovation+Outputs) is the successor to RPI-X and Ofgem’s solution to the challenge. The RIIO model takes the best from RPI-X, but places far more emphasis on the delivery of specific outputs (e.g. network reliability) through a framework which heavily encourages innovation. This will support the delivery of environmental outputs and the delivery of smarter grids. It will protect consumers by rewarding those companies that innovate and invest efficiently, meeting their outputs, but will penalise those companies which perform badly for consumers with lower returns on their investment.

RIIO is designed to ensure that companies can operate economically and will be able to raise finance effectively through the regulated asset base. However, there will be no bailout for companies that make mistakes and get into financial trouble.

Each price control will continue to be set ahead of the period of activity. Targets will be set in advance, which continue to provide companies with the incentive to minimise costs.

Costs will be passed on to consumers more in line with the benefits incurred. If the benefits of a certain project will last over 20 years then it is reasonable to expect the costs to be spread over that time. Asset values will also be depreciated more in line with actual their lifetimes.

Innovation funding will be embedded in the RIIO framework through fund for Gas Distribution and Transmission which operate in similar way to the Low Carbon Innovation Fund. Whilst there will be a separate “virtual pot” of funding for gas trials and for electricity trials, both transmission and distribution companies will be competing for the same funding. In addition, third parties will also be able to compete to run trials.

Investment in the offshore grid

The offshore regulatory regime for licensing offshore electricity transmission, introduced in 2009 by the Department of Energy and Climate Change and Ofgem, uses competitive tendering to ensure the cable connections are delivered on time and at reasonable cost. Essentially, any company can bid for the right to own and operate offshore transmission links in return for a 20-year regulated revenue stream. The aim is to encourage competitive bids and new entry into an area that was the preserve of National Grid, Scottish Power and SSE (the existing network operators).

The early signs from this process are positive. The first round of tenders was very successful, attracting almost £4 billion of investment appetite for all nine transmission links worth around £1.1 billion. It has resulted in overall forecast savings of £350 million for offshore wind farms and ultimately consumers, and attracted new entry for firms like Balfour Beatty.

The key features of the offshore regime for investors are:

- A 20 year RPI-linked revenue stream under a licence. This provides offshore transmission operators and investors with long-term regulatory certainty
- Bidders wishing to become Offshore Transmission Owners (OFTOs) have to bid their required revenue as part of the competitive tendering process
- Strong incentive regime which is availability-based and with no energy volume/price risk or stranding risk for the OFTOs

Ofgem will commence a second transitional round of tenders later this year for assets for around 2GW of capacity, with a potential asset value of around £1.8 billion. In total high

voltage cable links worth over £20 billion will be needed to connect a potential of around 50 GW of offshore wind over the coming years.

I hope that you consider this information useful and that it forms the basis for an interesting discussion at the evidence session.

Office of the Gas and Electricity Markets (Ofgem)

15 October 2010