



Electricity industry participants  
and other interested parties

*Promoting choice and  
value for all customers*

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5 December 2007

Dear colleague,

### **287/07 - Long-Term Electricity Network Scenarios (LENS) – report on scenarios inputs and second consultation**

This letter follows on from our open letter<sup>1</sup> of 12 November 2007 and sets out the background and context to the accompanying report on scenarios inputs. It also asks some questions about the proposed inputs for developing scenarios contained in that report, and explains the consultation process going forward.

#### **Background and context**

As explained in our last open letter, the main **objective** of the LENS project is to facilitate the development of a range of plausible electricity network scenarios for Great Britain for 2050, around which industry participants, Government, Ofgem and other stakeholders can discuss longer term network issues.

Ofgem considers that one of the outcomes of the LENS project will be to help set the contextual framework for future price control reviews. In doing so, we aim to ensure that flexible revenue allowances are compatible with plausible long-term outlooks for electricity networks. Nevertheless, the formulation of strategies on the basis of the scenarios output falls outside the scope of the LENS project. Accordingly, the LENS project will not prescribe particular investment strategies for regulated network companies, and there will be no direct link between the output of the project and DNOs' business plans requested for DPCR5. Instead, we envisage that the project will facilitate subsequent strategic thinking for the sector concerning the medium to longer term future.

In developing plausible long-term electricity network scenarios, we are focusing on the following question (the "**focal question**"):

"What would be the impact of markets, policy<sup>2</sup>, environmental, geopolitical and technology futures on GB power networks<sup>3</sup> and their regulation?"

<sup>1</sup> Available on LENS page of the Ofgem website, <http://www.ofgem.gov.uk/NETWORKS/TRANS/ELECTRANSPOLICY/LENS/Pages/lens.aspx>, Ref. No 273/07.

<sup>2</sup> In this question, the term "policy" does not include energy and regulatory policy as these are considered to be under the control of the "recipient group". It refers instead to wider economic/social and environmental policies, and other policies that may be relevant for GB power networks, as explained in the LENS methodology published with our 12 November open letter. The methodology also set out that the intended "recipient group" for the project consists of electricity consumers and organisations that represent them, network companies, power generators, suppliers, Government and Ofgem.

<sup>3</sup> Power networks are the transmission and distribution assets (primary current carrying plant and associated operating systems) that transport electrical energy from sources to load points.

The LENS methodology statement published with the 12 November open letter sets out how this focal question will be considered and the next steps of the scenario development process. These steps comprise information gathering, identifying “themes”, sketching possible “pathways”, writing scenario storylines, modelling scenarios, and identifying potential implications of the scenarios on the focal question (resulting in the identification of key issues for networks and the regulation of networks).

## Report on scenarios inputs

The report on scenarios inputs relates primarily to the information gathering step of the scenario development process. It sets out relevant input data and information that have been collated and reviewed by the project team, and uses these to develop a set of “proposed inputs” for the project that are specifically relevant to GB power networks as per the focal question of the project. The proposed inputs are for further consultation and review by stakeholders and other interested parties. The report also begins the process of identifying the main themes emerging from the proposed inputs.

The report is the first of three main outputs of the LENS project. The next two outputs are a draft scenarios report, which is scheduled for publication by February 2008, and a final scenarios report, which we intend to publish by June 2008. Our intention for the final scenarios report is that it will set out four or five plausible and robust scenarios for GB electricity networks for 2050 as well as our views on key issues for networks and for the regulation of networks going forward.

The report on scenarios inputs has been prepared for Ofgem by the Institute of Energy and Environment (InstEE) of the University of Strathclyde, with input from the Policy Studies Institute (PSI) of the University of Westminster, and peer review from SPRU at the University of Sussex. As explained in our open letter of 12 November, Ofgem’s academic partners on the LENS project are playing a key role in proposing inputs into the scenario development process, modelling, and developing draft and final scenarios for GB electricity networks in 2050.

### *Summary of report*

The inputs report reviews earlier scenario initiatives in related areas, for example the SuperGen 2050 work<sup>4</sup>, and describes their relevance to the focus of the LENS project (ie, future GB electricity networks). It also reviews the information that has been gathered so far through the consultation process (in response to our 15 June open letter<sup>5</sup> and at the LENS workshop<sup>6</sup> on 17 August) and parallel work on scenarios being undertaken through the Electricity Networks Strategy Group’s (ENSG)<sup>7</sup> Horizon Scanning project.

From these sources, the report outlines a series of “**proposed inputs**” for the scenario development process. These proposed inputs can be categorised in two ways, namely “high level inputs” and “network specific inputs”.

In summary, there are six proposed **high level inputs**:

- consumer behaviour
- economic landscape
- energy demand
- environmental landscape

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<sup>4</sup> Full references are provided in the report.

<sup>5</sup> An Ofgem summary of the responses (as well as copies of the responses themselves) can be found on the LENS page of Ofgem’s website, <http://www.ofgem.gov.uk/NETWORKS/TRANS/ELECTRANSPOLICY/LENS/Pages/lens.aspx>.

<sup>6</sup> Presentations, an Ofgem summary note of the workshop, and slides from break-out sessions can be found on the LENS page of Ofgem’s website.

<sup>7</sup> <http://www.ensg.gov.uk/>

- political/regulatory landscape, and
- international context.

There are seven proposed **network specific inputs**:

- electricity demand
- electricity generation
- security, quality and performance of supply
- transmission and distribution network architecture
- network technology development and deployment
- power network sector structure, and
- transitional issues.

The report also identifies areas for further investigation (within some of the proposed input topics set out above), to be conducted in parallel as the project progresses.

The report concludes with initial thoughts on potential scenario “themes” that are based on these proposed inputs (to be refined further as the project progresses). Identifying such themes forms the next step in the scenario development process, as explained in the LENS methodology. Three **potential themes** are identified in the report, and are captured by the following terms:

- “External landscape”
- “Consumers”
- “Network role”

The report provides further details on what is meant by these terms, and the LENS methodology explains how themes are used to construct scenarios.

### **Ofgem’s views**

Whilst we have worked with our academic partners in the development of the inputs report, we are keen to hear the views of stakeholders and other interested parties on any aspect of it, and in particular on the proposed inputs for the scenario development process. We want to ensure that all potentially relevant inputs to the scenarios are being identified at this stage of the project, so that the final scenarios will be robust. We aim to produce four or five final scenarios that are sufficiently distinct from each other and that, between them, cover the full spectrum of plausible outcomes for GB electricity networks in 2050.

We invite views from a broad audience. In addition to the parties identified as the “recipient group”<sup>8</sup> for this project, other parties we would particularly like to hear from include the academic/scientific communities, equipment manufacturers, environmental groups and any international stakeholders who may be interested in this work. We want to encourage fresh new thinking on future GB electricity networks and welcome views from all informed parties.

### **Consultation questions**

We seek views from respondents on the following questions:

**Question 1:** Do you agree that the “proposed inputs” set out in sections 4.1 and 4.2 of the report identify all the relevant inputs for the scenarios, given the project’s focus on GB electricity networks in 2050? As appropriate, please identify any other inputs that you consider should be taken into account, including reasons why.

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<sup>8</sup> As defined in the LENS methodology of 12 November (see footnote 2).

**Question 2:** Do you agree with the input areas earmarked for further investigation in section 4.4 of the report? As appropriate, please identify any other areas that you consider warrant further investigation, including reasons why.

**Question 3:** Are you aware of any further sources of information not yet identified in the report that may be relevant for the LENS project, for example in relation to other inputs that you consider should be taken into account (Question 1) or other areas that you consider warrant further investigation (Question 2)? If so, please provide references.

**Question 4:** Do you agree that the “potential themes” stated in section 5 of the report are suitable (in light of the methodology, objective and focal question for the project)? As appropriate, please identify alternative themes that you propose for developing scenarios, including reasons why.

**Question 5:** Do you agree that the “proposed inputs” (and “potential themes”) identified in the report will enable us to produce four or five sufficiently distinct scenarios that, between them, cover the full spectrum of plausible outcomes for GB electricity networks in 2050? If not, how can we best address this?

**Question 6:** Do you have any other comments on the inputs report or any other issues that you wish to raise at this stage of the scenario development process?

It would be helpful if respondents could answer these specific questions in their responses and use the question numbering set out above.

### Next steps

We welcome views on the consultation questions set out in this letter. Written responses should be received by **18 January 2008** and should be sent to:

Robert Hull  
Director, Transmission  
Ofgem  
9 Millbank  
London SW1P 3GE

It would be helpful if responses could be submitted both electronically at [LENS@ofgem.gov.uk](mailto:LENS@ofgem.gov.uk) and in writing.

Unless marked confidential, all responses will be published by placing them in Ofgem’s library and on its website [www.ofgem.gov.uk](http://www.ofgem.gov.uk). Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004. Respondents who wish to have their responses remain confidential should clearly mark the document(s) to that effect and include the reasons for confidentiality. Respondents are asked to put any confidential material in the appendices to their responses.

During the consultation period, there will be an opportunity for stakeholders and other interested parties to discuss their views on the report on scenarios inputs and the consultation questions set out in this letter at the **second stakeholder workshop** which will be held in London on **14 December 2007**. This workshop was first announced in our open letter of 12 November and we invite all interested parties to attend. Some places are still available and details on venue, times and how to register can be found in the workshop invitation we distributed on 27 November, a copy of which can be found on the LENS page<sup>9</sup> of Ofgem’s website.

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<sup>9</sup> <http://www.ofgem.gov.uk/NETWORKS/TRANS/ELECTRANSPOLICY/LENS/Pages/lens.aspx>

Any questions about the project or this letter should, in the first instance, be directed to Erik Sleutjes on 020 7901 7329 or [Erik.Sleutjes@ofgem.gov.uk](mailto:Erik.Sleutjes@ofgem.gov.uk). InstEE, our lead academic partner, can be contacted through Graham Ault on 0141 548 2878 or [G.Ault@eee.strath.ac.uk](mailto:G.Ault@eee.strath.ac.uk), although on any regulatory aspects of the LENS project stakeholders should contact Ofgem instead.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Robert Hull', with a horizontal line underneath.

**Robert Hull**  
**Director, Transmission**