

Smart Grid Forum WS1 (Assumptions and Scenarios)

Terms of reference and work plan

Purpose

To develop a shared set of credible assumptions and scenarios, building consensus within the Smart Grid Forum, of expected electricity demand that will need to be met by electricity distribution networks from now until 2030 in order to:

- provide guidance to network companies in preparing well justified business cases to underpin their RIIO-ED1 business plans (initial business plans will be submitted to the regulator for discussion in mid-2012);
- inform more general discussions at the Smart Grid Forum on the opportunities for and barriers to the development of smarter networks; and in support of other workstreams (in particular WS2 to develop an evaluation framework);
- act as a resource available to the ENSG in its development of a 2030 vision for electricity transmission ensuring continuity of argument and analysis; and
- input into the development of the Government's electricity systems policy.

Rationale

Electricity distribution networks provide services to those parties that seek connection to them. The distribution companies have little scope to influence and/or control developments in other areas of the energy infrastructure that impact on their networks. There is uncertainty about the services that distribution networks will be required to provide in the next two decades and beyond. In particular, the timing, scale, and nature of future electrification of commercial and domestic heating, electrification of transport and distributed generation. All these developments could have profound impacts on the necessary capacity of distribution networks and the services that they will be required to deliver. To be in a position to address future network challenges, the investments made in the next distribution price control review (RIIO-ED1) will be critical to ensuring that the distribution networks play their part in the low carbon transition in an efficient way.

To help reduce uncertainty and provide a firmer platform on which network companies can base future investment plans, and to give the regulator greater confidence in making investment decisions, there is a need for leadership to reach a consensus on likely future projections based on the best available analysis.

The workstream will publish a guidance document in early 2012 which will inform initial investment proposals leading up to the RIIO-ED1. This will be formally agreed in 2015 and will define distribution network investment for the period 2015 to 2023. The clear intention is that the outputs will be supported by Ofgem so that they will have credibility with the DNOs in influencing their business planning processes.

Methods of working and timings

DECC will lead this workstream drawing primarily on analysis developed by DECC policy teams (DG, EV, heat), and DECC's 2050 Pathways team.

DECC analysis will be supplemented and reviewed by members of the SGF WS1, with particular support from Ofgem and the ENA.

In mid/late September, DECC and Ofgem will organise a joint workstream meeting drawing together (SGF workstreams 1, 2, and 3) as well as DECC policy leads and the 2050 team, to discuss the methodology and findings of DECC scenarios to check whether the direction of travel it is consistent with workstream needs. Emerging conclusions will be presented at the 3rd SGF in October and made available to other workstreams following endorsement by the SGF.

A draft report will be circulated to all SGF members by December 2011 for comment, with a final report ready for sign-off at the 4th SGF meeting in early 2012.

DECC will organise regular joint WS1, policy lead and 2050 scenarios team meetings during this project.

The report will be published in early 2012.

Summary timeline

- 2nd SGF meeting (20th July) – Terms of reference and working group discussed and agreed in principle
- w/b 5th September – Terms of reference finalised and signed-off virtually
- Mid September – workshop to discuss methodology and initial findings
- Joint Workstream Meeting WS1,2,3 (Mid/late September) to check WS1 assumptions and scenarios are consistent with other workstream needs
- 3rd SGF meeting 20th October – Initial findings presented
- December 2011 – draft report for comment
- 4th SGF meeting (early 2012) – report finalised for publication

Deliverables

The main deliverable will be a publication which, as a minimum, will present projections on a national basis of the take up of electrified heat, transport, and distributed generation, from the present day to 2030. Where possible these will be stated in terms of penetration (% households), total capacity (GW), and volumes (TWh). In the case of DG, both commercial (or community based) and micro (households – wind/solar) will be considered. Where possible, a range will be provided with some guidance as to influencing factors and triggers that might lead to higher trajectories.

The report will endeavour to provide further granularity and “colour” to the analysis where possible and relevant. For example, this might include distinguishing between regional, urban and rural contexts; patterns of EV charging (home, car park, work, street); expected clustering patterns; as well as the impact of storage on demand

profiles (e.g. giving consideration to the proportion of heat pumps that will be linked to heat storage). SGF members will be encouraged to give their views as to what additional information is most helpful. However, to maintain the integrity and credibility of the report, this detail will only be included where it is backed up by strong evidence and where we have confidence in the assumptions.

The report will also identify analytical gaps and, where appropriate, recommend further analysis to fill these gaps.

Risks

Risk: Focus of the workstream is wrong – output is not useful to DNOs in making investment decisions.

Mitigation: Clear Terms of Reference and active participation of the working group, Ofgem and the ENA.

Risk: Delivery is delayed and constrains progress of other workstreams (particularly WS2).

Mitigation: Dedicated lead in DECC; clear internal targets and milestones; close working with Ofgem lead on WS2 and other workstreams to sequence inputs as they are needed; periodic update to ENSG on progress and vice versa.

Risk: Conclusions drawn are inaccurate.

Mitigation: Close interaction with policy teams in DECC; input from external analysis to ensure all perspectives are covered; review and sense check both internally in DECC, as well as with Ofgem, the SGF working group and externally with the ENA.

Risk: Failure to reach consensus on scenarios and assumptions within SGF.

Mitigation: Focus on understanding the areas in which consensus can be reached, and identifying the analysis needed in the areas where it cannot be reached.

Resources

This work will be managed by DECC, but other specific roles include the following:

- DECC policy leads: provide existing analysis and develop as required;
- SGF members: review analysis with the aim of developing an analytical; consensus
- Ofgem has also agreed to provide some staff resource.