

Sustainability First Annual Report 2011

Foreword from the Chairman

2011 was a year of change at Sustainability First. Highlights include the start of the ambitious three-year project '**GB Electricity Demand Project- *realising the resource***', and publication in March of Gill Owen's paper '**It's not just about the money – taking the hassle out of energy saving**'¹, a paper investigating the factors hampering the uptake of energy efficiency measures in the domestic sector. In line with Sustainability First's knowledge sharing and dissemination objectives, a workshop was held to discuss the findings of this paper.

Through its work, Sustainability First continued to contribute to the policy debate on energy efficiency and the electricity demand side response.

Separately, Sustainability First's Gill Owen and Judith Ward were asked to join the Northern Powergrid (formerly CE Electric) Low Carbon Network Fund smart grid project 'Customer-Led Network Revolution', to provide expert challenge assistance to the project. This has included assistance with devising behavioural trials, and knowledge sharing and dissemination work.

GB Electricity Demand project

This three-year project was developed by Judith Ward and Gill Owen, following on from their previous work on Smart Tariffs. The project aims to identify the potential resource which the electricity demand side could offer into the GB electricity market through demand response and demand reduction.

It is funded in its first year by Northern PowerGrid under their Low Carbon Network Fund project, and funded in years 2 and 3 by a consortium of sponsors.

In July 2011 Maria Pooley joined as Sustainability First's first full-time employee. As Research Officer she divides her time between working on the GB Electricity Demand project and assisting with the administration and financial running of Sustainability First overall.

Ted Cante (Chairman)

¹ Available from the Sustainability First website at <http://www.sustainabilityfirst.org.uk/publications.htm>

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1. About Sustainability First

Sustainability First was set up to develop new approaches to sustainability. It develops implementable ideas in a number of key policy areas – notably, energy, water and waste - where it can make a difference. It undertakes research; publishes policy and discussion papers; organises high level seminars and other events. Its primary focus is on policy and solutions within the UK, but draws on experiences and initiatives both within and outside the UK.

It is a registered charity with independent trustees – www.sustainabilityfirst.org.uk.

Sustainability First’s trustees are: Ted Cantle (Chair); Phil Barton (Secretary); Trevor Pugh (Treasurer); John Hobson; Derek Osborn; David Sigsworth. Its projects are developed by the trustees and a number of associates and consultants.

Sustainability First’s associates are: Gill Owen and Judith Ward. Maria Pooley is Sustainability First’s research officer.

Since 2006, Sustainability First has undertaken a series of major multi-sponsor studies on GB household smart energy meters that develop and disseminate knowledge and insight in the fields of energy efficiency, smart metering, smart energy tariffs and demand response².

Currently Sustainability First’s main project is the **GB Electricity Demand** project, which began in April 2011. It is supported in its first year under the Northern Powergrid (formerly CE Electric) Low Carbon Network Fund project - and thereafter for a further two years to April 2014 via a multi-sponsor group.

² Sustainability First published smart meter papers are available on the website – www.sustainabilityfirst.org.uk

2. Sustainability First - People

Ted Cattle CBE (Chair) is Professor and Executive Chair of the Institute of Community Cohesion (iCoCo). He was formerly the Deputy Chairman of the Environment Agency, Chief Executive of Nottingham City Council and Chair of the DTI Construction Task Force for local government.

Phil Barton is the Chief Executive of Keep Britain Tidy, the charity which campaigns for a cleaner, greener England and which runs a range of environmental programmes including EcoSchools, Green Flag Awards for greenspaces and Blue Flag beaches. Keep Britain Tidy has recently merged with Waste Watch and launched a new national local pride campaign: Love Where You Live. He formerly worked on regeneration skills for the NWDA, for Defra on rural voluntary sector policy and for Groundwork UK.

John Hobson is an independent policy adviser working on construction, education and sustainability. Previously he was Construction Director in the Department of Trade and Industry.

Derek Osborn CB is a senior environmentalist advising on long-term strategic issues for governments, international bodies, business and the voluntary sector. He is a member of the European Economic and Social Committee and vice-president of their Sustainable Development Observatory for Europe. He is also president of the Stakeholder Forum for Our Common Future, and a member of other Boards in the private and voluntary sectors.

Trevor Pugh is Strategic Director, Environment and Infrastructure directorate, Surrey County Council, and has held senior positions in a number of London boroughs. Trevor is an environmental scientist and has championed sustainability in construction and across the range of local authority services.

David Sigsworth is Chairman of Sigma Capital Group plc, Vice President of the Combined Heat and Power Association, and Chairman of the Scottish Environment Protection Agency. He has recently been appointed Chair of the Scottish Fuel Poverty Forum, which advises the Scottish Government. He was a main board director of Scottish and Southern Energy plc until March 2005.

Sustainability First Associates

Dr Gill Owen has undertaken extensive research and published widely on energy efficiency, smart meters, distributed energy and demand side response. She is a part-time Senior Research Associate at the Energy Institute at University College London, Vice Chair of the Government's Fuel Poverty Advisory Group, a Non-Executive Director of the water regulator Ofwat and Chair of the REAL Consumer Assurance Scheme for microgeneration. She was a Commissioner of the UK's Competition Commission for ten years until 2002 and has also been a non-executive board member of the energy regulator, Ofgem. She has continued a close involvement with Ofgem as a member of Ofgem's Social Action Strategy Review Group and Consumer Challenge Group. She is a member of DECC's Smart Meters Consumer Advisory Group (and was also a member of this group when it was run by Ofgem).

Judith Ward is an energy policy professional with long-standing practical experience of both the utility and consumer worlds. Over the past six years, Judith has published extensively on policies for GB household smart meters, smart tariffs and demand response with Sustainability First. Her long-term career was with National Grid (1990-2004), where her last role was a six-year period as Group Head of Public Affairs. In her early career, Judith worked in policy roles with the House of Commons Environment Select Committee and the national Electricity Consumers' Council. Judith has a master's degree in Energy Resources Management. She is currently a part-time adviser to the UK Business Council for Sustainable Energy, a Trustee of the Institute for European Environment Policy, and an Honorary Fellow of the Energy Policy Group at the University of Exeter. Judith is a member of the DECC / Ofgem Smart Grids Forum.

Sustainability First Research Officer

Maria Pooley joined Sustainability First in July 2011, working full-time on the GB Electricity Demand project. Maria is an energy policy professional with five years' experience working for the energy and environment consultancy AEA, where she specialised in climate change policy for clients including local authorities, regional development agencies, DECC, Defra and EU bodies. She has a first degree in Natural Sciences from Cambridge and a masters in Environmental Technology, Energy Policy from Imperial College.

3. The 'GB Electricity Demand – *realising the resource*' project

The Sustainability First project on **GB Electricity Demand** began in April 2011. It is supported in its first year under the Northern Powergrid Low Carbon Network Fund project - and thereafter for a further two years to April 2014 via a multi-sponsor group.

Sponsors include : BEAMA ; British Gas ; Cable & Wireless ; EDF Energy ; Elexon ; E-Meter Strategic Consulting; E.ON UK ; National Grid ; Northern Powergrid ; Ofgem; ScottishPower Networks ; UK Power Networks.

Work is coordinated through a **Smart Demand Forum** whose participants also include a number of key consumer bodies: Energy Intensive Users Group, Which?, Consumer Focus and National Energy Action; plus DECC and the sponsor group members.

The project aims to identify the potential resource which the electricity demand side could offer into the GB electricity market through demand response and through demand reduction. The project aims to:

- Evaluate and understand the potential GB electricity demand-side resource across all economic sectors (including the role of distributed and micro-generation).
- Develop a clearer understanding of the economic value of this resource to different market actors and to different customers over the next 10-15 years.
- Evaluate the key customer, commercial, regulatory and policy issues and interactions.

The project will develop a substantive knowledge-base, and provide visibility and thought-leadership for GB electricity demand-side issues. The project is undertaking work relevant to:

- GB smart meter deployment.
- Low Carbon Network Fund projects – emerging lessons and insights from the LCNF projects will be fed into the project.
- Proposals for Electricity Market Reform.

The work programme is being delivered through the Smart Demand Forum, through annual wider stakeholder events, and through a series of published papers and other materials. The Sustainability First team is Gill Owen, Judith Ward and Maria Pooley.

Additional expertise and inputs are provided by Serena Hesmondhalgh of Brattle Group who is developing a quantitative all-sector demand model. Stephen Andrews is supporting the project on Distributed Generation and Micro-Generation.

Key themes for the project include:

- **Customer Response and Consumer Issues** – A key focus for the project is to understand successful and cost-efficient demand-side participation from a customer perspective (household, industry, commercial and public sectors). This will include experience provided through the LCNF trials (e.g. tariffs, remote control of appliances, technologies such as micro-generation, electric vehicles etc.) and similar initiatives in the UK and elsewhere. For households, this will include any particular issues for the fuel poor and potential distributional impacts.
- **Commercial** - Practical realisation of demand-side services - given different roles and requirements in the value chain. Issues include: the nature of commercial agreements, the role of third parties (DNOs, ESCOs, aggregators), the kind of information-sharing likely to be necessary between parties etc. – drawing from practical experiences of the LCNF Trials and other experience in the UK and elsewhere.
- **Regulatory** – near and longer term regulatory factors that impact upon development of an active electricity demand-side for Great Britain – including current agreements between market actors, statutory codes, incentives in price controls, settlement, and third-party requirements. This will include experiences within the LCNF trials, and also feed into future considerations for price controls, RIIO and other thinking on innovation incentives.
- **Public Policy Issues** – likely economic value and potential contribution of the demand side to: cost-efficiency across the electricity sector; security of supply; carbon-emission reductions. Business models, approaches and incentives for integrating the demand side into the electricity market, including its interactions with Electricity Market Reform, smart meter roll-out and energy efficiency schemes such as the CRC Energy Efficiency Mechanism, Green Deal and Energy Company Obligation.

The project will also draw upon relevant information from demand side developments in other countries (notably the EU and US) to inform its work.

Papers in Year 1 and 2 of the project include:

- **Paper 1:**
GB Electricity Demand in 2010 - baseline data and context (October 2011).
- **Paper 2:**
GB Electricity Demand 2010 and 2025. Initial Brattle Electricity Demand-Side Model - Scope for Demand Reduction and Flexible Response (February 2012).
- **Paper 3:**
What demand-side services could GB customers offer in 2010?
Industry paper (Interim -March 2012, final paper expected - July 2012).
Household paper (May 2012).
- **Paper 4:**
What demand-side services can provide value to the electricity sector? (June 2012).
- **Paper 5:**
The electricity demand-side and wider policy developments
- **Paper 6:**
The electricity demand-side and distributed generation

Future topics in Years 2 and 3 are also likely to include:

- **Evolution of commercial arrangements, alignment of commercial drivers, regulatory incentives and prospective business models for development of a more active electricity demand-side**
- **Electricity demand and consumer issues**
- **Active I&C Customers**
- **Active Household and Micro-business Customers**
- **Longer-Term Demand-Side Innovation and Realisation**

GB Electricity Demand project - Progress in 2011

The GB Electricity Demand project had the first two meetings of the Smart Demand Forum, in July and October 2011. The first project paper – ‘*GB Electricity Demand – Paper 1- Context and 2010 baseline data*’ - was published in October 2011 on the Sustainability First website (since then a further two papers have been published). The project is on track in respect of all deliverables required to the end of March 2012. In addition to these key deliverables, Gill, Judith and Maria have been attending other meetings and speaking at events to publicise the project and share its lessons.

4. Customer Led Network Revolution (CLNR) Low Carbon Network Fund (LCNF) project

The Low Carbon Network Fund Projects will trial a range of existing and new network technologies tied into the customer-side, to accelerate de-carbonisation. Northern Powergrid (formerly CE Electric) is leading this project and other partners include Centrica (British Gas).

Sustainability First's Gill Owen and Judith Ward provide "expert challenge" assistance to the Northern Powergrid LCNF North East England project, Customer-Led Network Revolution, assisting with devising behavioural trials and assistance with knowledge sharing/dissemination.

This included co-organising and presenting at the LCNF Stakeholder Forum on May 25th in London.

5. 'Taking the hassle out of energy saving' – energy efficiency paper

In March 2011 Gill Owen published the paper 'It's not just about the money – taking the hassle out of energy saving'³.

This paper investigated the factors hampering the uptake of energy efficiency measures in the domestic sector, in spite of available funding for energy efficiency measures.

Chief among the factors holding back the uptake of free energy efficiency measures were:

- Lack of knowledge/confusion about the best or most suitable energy efficiency measures for each household.
- Perceived costs exceeding perceived benefits (including the 'hassle factor').
- Lack of trust with either those either funding or installing the energy efficiency measures.

In addition to the paper, Sustainability First and the UKBCSE also organised a workshop to discuss its findings. This was jointly chaired by Ted Cantle and Abigail Burrige of the Local Government Association and attended by representatives of energy suppliers, DECC, consumer organisations and energy efficiency delivery bodies.

This research was sponsored by Earth Resources Research and EAGA Plc.

³ Available from the Sustainability First website at <http://www.sustainabilityfirst.org.uk/publications.htm>

6. Responses to consultations

1) Sustainability First submitted a response to the DECC consultation on ‘the Take-off of a Demand Response Electricity Market with Smart Meters’ (reference CEER – C11-RMF-31-03) (June 2011).

The consultation response was based on the previous research carried out by Judith Ward and Gill Owen on ‘Smart Tariffs and Household Demand Response for Great Britain’ – published on the Sustainability First website.

2) Sustainability First also responded to the DECC consultation on Electricity Market Reform – specifically on an electricity demand side Capacity Mechanism (October 2012).

The full text for both consultation responses is available at http://www.sustainabilityfirst.org.uk/gbelec_documents.html

Sustainability First is a registered charity and a company
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