Powering the Energy Debate
"Microgeneration – Small is Beautiful?"

Notes from a seminar held at Ofgem on 13 December 2006

Houses adorned with wind turbines and solar panels have attracted publicity recently, mostly on the grounds that they are seen as quirky. But the prospect that these and other household-scale electricity generators might become as much a part of Britain's streets as the satellite dish is not as far out of the question as it was only a few year ago.

The possibilities for so-called 'microgeneration' emerged from the latest event in Ofgem's 'Powering the Energy Debate' seminar series. An audience of more than 80 heard four speakers give a largely positive outlook for the technology in the seminar '*Microgeneration: Small is Beautiful?'* on 13 December, chaired by Ofgem Chairman **Sir John Mogg**.

A common theme emerging from the debate was that the UK population is, more than ever, in touch with the importance of environmental issues. All the speakers saw a part for microgeneration in energy production - but the current planning regime is viewed as a major obstacle to its progress.

Sir John's opening comment was: "Everybody's doing it." He was referring to the fact that a good number of the audience at the event had only hours before been at the launch of the government's initiative by Secretary of State for Communities and Local Government Ruth Kelly who had announced a package of measures for households to reduce emissions. The Secretary of State unveiled proposals aimed at cutting emissions by about 5 per cent by 2050, from new housing alone. She also announced a consultation on progressive changes to building regulations to deliver zero-carbon new homes by 2016.

Sir John said Ofgem has been active in the same arena – "some say it should have been more active," he added. Moving to microgeneration in particular he said there was a need for simplifying the arrangements for selling surplus electricity. "Clearly the current arrangements are non-existent, opaque or complex.

"We look to the industry to facilitate change." Ofgem, he said, "encourages change, and if nothing happens then, and only then, we make licence changes and so resort to regulation".

The first speaker, **Dr Alan Knight**, of the Sustainable Development Commission said awareness of climate change has advanced apace in the past year. Findings from recent research by the Commission, showed, he said, that one of the greatest impacts of microgeneration has been to accelerate that awareness still further. "Once people had microgeneration explained to them and what it does, it made them think about their whole lifestyle. It has made a huge contribution to making people aware of their environmental impact."

Market research, he said, has shown that 73 per cent of citizens believed all new homes should include microgeneration. 80 per cent of those surveyed said government should subsidise its installation.

Dr Knight described how, in a separate survey of microgeneration owners, participants who had inherited the equipment when they bought the property began to criticise their own lifestyle once they understood the technology. "Arguably the greatest contribution microgeneration is making in its early days is to make people aware of their impact on the environment."

Dr Knight said there was a need to get people "reconnected to nature" to better understand their impact on the environment and he said microgeneration was better than any other means for achieving that reconnection.

Speaking from the floor **Rachel Bradley** of B&Q said the wind turbine has become a "hero product" – while many customers had yet to buy microgeneration, seeing it on sale inspired them to buy other products to improve the energy efficiency of their homes.

Philip Sellwood, Chief Executive of the Energy Saving Trust (EST) agreed with Dr Knight that the understanding of how their behaviour affects the environment was increasing "among politicians and public alike". The interest shown in new microgeneration products such as those marketed by B&Q demonstrated a "real appetite for microgeneration" according to Sellwood. He went on to say that this interest has been further demonstrated by a £30 million programme run by the EST which included setting up sustainable energy centres offering advice on renewable energy. In the first six months of the scheme, three such centres produced carbon savings at a cost of £10 a tonne with some 100,000 customers advised.

Microgeneration, Sellwood said, is “vital to energy security in the UK and one of the most realistic options for cutting carbon dioxide emissions”. He said an EST study has shown that microgeneration has the potential to meet up to 40 per cent of the UK’s electricity needs by 2050 and to reduce carbon emissions by 15 per cent. However, he warned that the government needs to have policies in place that will cope with the level of demand that will eventually arise.

EST research has found that three quarters of the public thought renewable microgeneration should be part of all new housing developments. Of 15 per cent who claim to have seriously considered microgeneration only 2 per cent have done anything and all complained of barriers – mainly cost, regulation and poor information, Sellwood said.

The costs and complexity of planning are prohibitive, he said. “We’ve been here before - 20 years ago planning permission for satellite dishes was almost as complicated. That is now better. We need that replicated for microgeneration.”

And he called for fairer prices for exported electricity: “Consumers don’t get anything like enough for exported power compared to the cost to import according to research by [electrical manufacturer’s body] Beama.”

He went on to extol the potential gains to the fuel poor that microgeneration could bring. “The fuel poor can’t afford it but it holds promise to solve many of the problems of fuel poverty.” He described a pilot scheme in Scotland using biomass and heat pumps for properties outside the gas network which, he said, highlighted a number of issues that thwarted the technology’s potential to benefit the fuel poor. These included problems with the storage, supply and cost of wood pellets; shortage of contractor skills; and the need for a fairer price for exports.

“We can’t wait for the market to mature” he warned. Capital grants were, he insisted, needed in the early stages to lift microgeneration from a small niche into the mass market where he said microgeneration had the potential to eliminate fuel poverty and to “deliver in large quantity” greater security of supply, energy efficiency and reduced carbon emissions.

Scottish and Southern Energy Chief Executive **Ian Marchant** forecast a future energy sector that had places for microgeneration as well as conventional plant. “Micro and macro camps tend to argue with each other and knock each other’s possible contribution. In reality we need both,” he said.

Marchant praised Ofgem for “steering a good middle ground without throwing out the good we‘ve already got” while handling the pace of change that microgeneration and other environmental considerations have brought to the energy sector. Nevertheless he levelled criticisms at Ofgem, the government, microgeneration manufacturers and his own sector for what he saw as various shortcomings.

He looked to Ofgem to deliver a “sensible coherent licensing policy for microgeneration”.

He urged the government to overhaul the planning regime to remove what he considered to be one of the greatest obstacles to microgeneration and conventional generation. Marchant was the most vocal but not alone in singling out the planning process as a serious obstacle to microgeneration. “We need to make planning as easy for microgeneration as it is for building a conservatory - one saves energy while the other uses energy and [the system] is the wrong way round,” he said.

Utilities, he said, had to innovate to make metering easier and to make it easier for domestic scale generators to export power. And he added that utilities need to innovate with new packages for financing microgeneration.

He went on to put microgeneration’s contribution in context by pointing out that one CCGT is equal to 100,000 heat pumps plus 700,000 solar thermal installations plus 800,000 photovoltaic generators and one million rooftop wind turbines. The microgeneration industry, he said, needed to deliver reliable technology, and reduce its production costs. “It’s too much of a cottage industry and needs to move out of the garden shed into state-of-the-art factories,” he said.

Dave Sowden, Chief Executive of The Micropower Council, agreed that the industry needed to consolidate. While the bulk of microgeneration sales came from small companies, he said, the industry will never achieve the technology’s potential to contribute 30-40 per cent of the UK’s electricity generation by 2050.

Sowden said Ofgem had shown leadership in removing regulatory barriers to microgeneration. He criticised the grant system as pitched wrongly for an industry that had potential to be as large as microgeneration promised to be.

He said the government had “not done a bad job” in removing regulatory barriers but there remained more to do. There were, he said, gaps in fiscal policy including the ineligibility of domestic microgeneration users to write down their

investment where companies could. An EST/DTI study last year had, Sowden said, shown that this fiscal imbalance demanded strategic consideration from the Treasury. He said the "piecemeal" approach taken to date was not in line with microgeneration's potential to meet a large chunk of domestic demand.

He echoed Sellwood in criticising the existing grant scheme for microgeneration projects as not befitting what was set to be a key industry. Applicants, he said, had to "beat a path to the DTI's door every three years". Grants, he said need to be more of a "market transformation programme, not propping up what's already there."

From the floor

After the presentations from the panel there followed enthusiastic questions and comments from the audience.

In response to a call from Charlie King of the GMB union for government intervention to stimulate the market for microgeneration products so UK-made equipment could prevail over imports, Marchant warned that it may already be too late: "We may have lost that game already." But he forecast other opportunities: "There are skill shortages in people who go into houses and say what is needed and in people to put the stuff in."

John Hall of John Hall Associates asked how microgeneration can take off when most householders don't want to pay for it even if they did see it as a good thing. Subsidy, he said amounted to more tax.

Sellwood said a fundamental influence on change was the sense that customers would get a return on their investment. Dr Knight said it was important to end the perception that microgeneration was "quirky". He said the government could make it more credible by making it near impossible to build a house without it.

Sowden warned that it was wrong to look at current prices and illustrated his point with the question: "Who would have bought their own PC 25 years ago?" He went on to say that the perception of a payback was important for mass market microgeneration but it was not the only factor. He said house builder Gleeson had shown that the premium commanded by houses fitted with photovoltaics was greater than the cost of the equipment. He said people were seeing a link between property prices and environmental performance. Ruth Kelly's target of carbon neutral new build homes by 2016 and the Chancellor's pledge to exempt

zero carbon homes from stamp duty were, he said, paving the way for mass take-up of microgeneration.

Marchant pointed out that the installation cost becomes insignificant when it is part of the design. Under the current system he said “the cheapest KWh is the last one you buy but it has the highest social cost.” He said when tariffs reflect excess energy consumption then self-generation will increase.

Microgeneration, he said, could be the cheapest solution to fuel poverty but the question of who should pay remained unanswered. He pointed out that the social cost benefits improved the case for spreading the bill across all consumers for microgeneration-based projects to tackle fuel poverty.

Peter Kindt of Proven Energy asked whether the bias toward large-scale generation that emerged from “number crunching” meant that microgeneration should command a premium. Marchant said the intermittency of microgeneration export meant that there was no case for a premium. Sowden said the Renewables Obligation already provided a premium but transaction costs wiped it out. Sellwood said the need to engage customers meant that a “reasonable rate” for exports was justified but not a premium which would distort the economics.

If you are interested in registering for future ‘Powering the Debate’ Seminars, contact Susan Gemmell on susan.gemmell@ofgem.gov.uk