

## The impact of distributed generation on the utility business model

### A forthcoming customer event

On Wednesday 23 April Cornwall Energy and Menlo Energy Economics will host a joint event at the Institute of Directors in London to examine the impact of increasing levels of distributed generation on the traditional utilities' business model.

#### Introduction

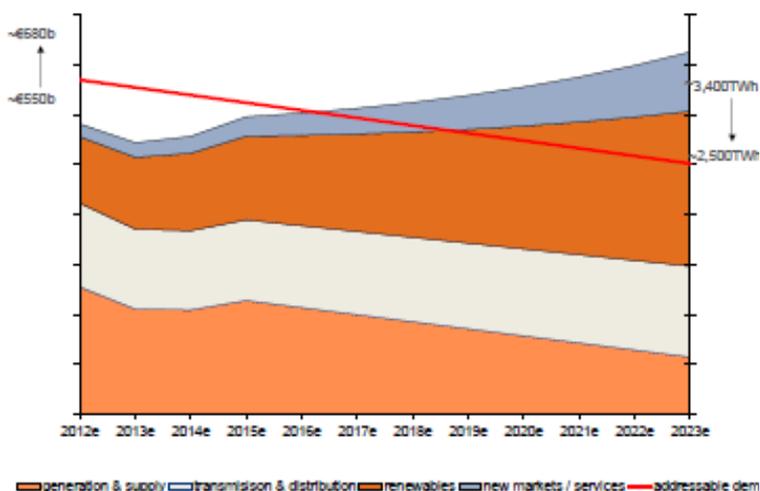
The rapid growth of distributed generation (DG), solar PV and micro-grids represents a significant milestone in the evolution of the power industry. Advances in technology, coupled with rapidly falling costs, are allowing a growing number of customers to self-generate some or most of the electricity they need—bypassing the grid-supplied electricity.

This decentralised energy revolution is already underway in a number of high retail tariff regions such as Germany, California and Australia, and is expected to reach other regions over time. Throughout Europe, the rise of DG in both the domestic and non-domestic sectors is a response to environmental concerns, rising power prices, and government policies. In parts of the US, the leasing model, coupled with tax subsidies, has fuelled adoption of DG for residential customers.

DG will play an important role in solving the energy trilemma of ensuring security, tackling affordability and reducing greenhouse gas emissions. But the impact of customer self-generation on the traditional revenue stream of incumbent suppliers will grow and could be quite significant, as it is likely that customers will still depend on the central grid for

peak use. This means utilities will have to maintain infrastructure and generating capabilities even as revenues from consumption decline. Utility executives around the world are watching the rise in levels of DG and trying to determine the best ways to react to this challenge.

#### The addressable market for utilities in Europe could reduce by 50% over the next two decades



Source: Citi

#### Setting the scene

There have been a number of reports, published over the last year or so, on the status and future of the energy market. These include investment bank Citi's analysis *Energy Darwinism: The Evolution of the Energy Industry* and PwC's *Energy Transformation: The Impact on the Power Sector Business Model*. They provide a spectrum of viewpoints and forecasts concerning upside and downside impacts of decentralising the grid through distributed generation: utility fixed and variable costs, consumer pricing, grid stability, falling "addressable" markets, competition, and diversification.

*Energy Darwinism* predicts that, by 2030, 71% of investment in power generation—estimated at \$9.7tn—will be in renewables or clean technologies. It forecasts more or less a doubling of DG over time. Combining the declining size of the electricity market in terms of volumes with the declining market share for conventional generation, utilities in Europe could suffer a 50%+ decline in their addressable market (see chart above). The report identifies upstream, midstream and downstream utility options for repositioning within the energy market value chain.

In its report, PwC suggested that 94% of respondents predicted a "complete transformation" or "important changes" to the power business model. But only 33% of European respondents said it would be likely or highly likely that increasing

levels of DG will force utilities to significantly change their business models. Within Europe, 17% said distributed generation represents a threat, with 83% thinking it presents an opportunity for the big utility companies.

According to PwC, 61% of respondents “see high or very high scope for performance improvement” in customer relations and services. Strategies rated as likely or very likely to be successful for customer relationships in a distributed generation market include: services to provide distributed generation; help consumers save energy through efficiency contracts; help “prosumers” (self-generating consumers) share energy through intelligent grids; become “energy partners” rather than “energy suppliers” to customers; enter new markets where demand is expected to grow rapidly; and diversify into other home or business services.

### Agenda

In a seminar to be held on 23 April, academics and commentators will present the evidence for the shift to DG, and debate the implications that the move will have on the role of the utility company.

Setting the scene, Fereidoon Sioshansi from Menlo Energy Economics will describe the fundamental drivers of change with significant impact on the electricity supply industry, including the flattening of demand, the rapid rise of renewables and recent growth of decentralised energy resources. He will also outline the likely impacts of increased levels of DG on the traditional stakeholders whose revenue model is still largely dependent on a flat tariff applied to volumetric consumption.

Malcolm Keay of Oxford Institute for Energy Studies will argue that electricity market and pricing structures (where kWh pricing applied to volumetric consumption still the norm) are ill-adapted to the characteristics of a decarbonised supply side—especially in view of technological innovations in distributed energy. He will also consider various options for a pricing structure linking supply and demand.

Paul Nillesen, PwC, and Michael Pollitt from the Judge Business School, Cambridge University, will examine the utility companies’ response to the surge in DG and look at a new utility business model.

Finally Christoph Burger from the European School of Management and Technology in Berlin will provide an update on Germany’s decentralised energy revolution.

These presentations will be followed by discussions with our expert panellists: Stephen Littlechild, Judge Business School, University of Cambridge; Derek Bunn, London Business School; Stephen Woodhouse, Pöyry Management Consulting, Oxford; and Catherine Mitchell, University of Exeter.

This free event will take place on 23 April at the Institute of Directors, 116 Pall Mall, London. Registration will begin at 2.30pm ready for a 3pm start.

A drinks reception will follow at 6pm.

Sioshansi will also be publishing a book later this year, looking in more depth at DG and the impact on industry business models. More information can be found on the [Menlo Energy Economics website](#).

**To request a place please contact Georgie Graver by email ([admin@cornwallenergy.com](mailto:admin@cornwallenergy.com)) or by phone (01603604422). The full agenda can be found on our [website](#).**

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