



IGov Primer

Distribution Service Providers and Valuing Distributed Energy Resources

Context

Distribution Service Providers (DSPs)

The traditional three roles of utilities of planning, operations and market administration are being challenged by developments in technology, public policy goals, user preferences and business models. This raises questions over the future of the role of traditional distribution utility model. Is it still valid that the distribution entity should still have responsibility for the three roles; are there new functions (for example, local market coordination and balancing) which the distribution entity needs to take on; are there functions it should lose? There is a central question within this about how current Distribution Network Operators (DNOs) evolve, and whether they should (or should not) be transformed from current 'passive' distribution utilities into 'active' market facilitators, market balancers at the local grid supply point (GSP) area level and system coordinators/managers.

Some sort of coordinating distribution entity will be vital as electricity systems continue to become more decentralised and flexible, and as the electricity, heat and mobility sectors become more inter-related. DNOs could become DSPs which are regulated and incentivised to facilitate a service and customer led approach to the supply and demand of energy, storage, system requirements and any other resource transactions customers may wish. This is essentially the current 3DNO role + additional ones.

Alternatively, the 'wires' company could be separated from the system operation role of the distribution entity. In this situation, the SO becomes the DSP which also becomes the active market facilitator and area market coordinator and balancer.

We are uncertain which model is best, because of the practical ability of the DNOs to transform into DSPs – even with new and appropriate incentives. If we could be certain that the DNO could transform rapidly into a DSP under appropriate incentives, our theoretical preference is to keep the wires and SO roles together because it seems to us a DSP is better placed to run an efficient distribution entity if they can bring energy and system values together. This would also exclude the wires arm from doing (or owning) any non-wires activities. This is discussed in detail in the [Form and Function blog](#).

However, we also understand that this move of DNOs into active distribution entities may be wishful thinking, and the easiest option may be to separate the wires out from the SO.

Much of the IGov discussion about DSPs takes place in blogs / presentations about [the New York Reforming the Energy Revolution \(NY REV\)](#), which has a primer all of its own.

We also see an expanded distribution function as a central part of a [fit-for-purpose energy governance framework](#), and that also has a primer of its own. We think that the distribution entities require a new performance based regulatory mechanism and that is discussed both within the [NY REV primer](#) and within the [RIIO primer](#).

Valuing Distributed Energy Resources

This primer also covers Distributed Energy Resources (DER). We think that the valuing of a DER resource within an area – for example under the GSP points - is a central building block for an energy efficient and affordable energy system. Such an assessment is best undertaken via an area based co-ordinated approach. We think DSPs are the best institution to value DERs and to coordinate local areas, hence the decision to bring both these two inter-linked issues together in this primer. For a good overview of the importance of valuing DER and how to go about doing that, see the blog on [DER assessment processes and a methodologies](#).

2019

- Jul (blog) [Market Design Issues for a smart, flexible, sustainable and secure energy system](#) summarises a series of blogs looking at how electricity markets need to change to support a low carbon future
- Jul (blog) [Governance for local energy transformations](#) looks at the importance of local energy governance and puts forward the idea of Local Transformation Plans
- Sept (paper) [Getting energy governance right: Lessons from IGov](#) – the final design version of our research and thinking on reforming energy governance in the UK. It considers the importance of governance; key principles it should follow; and it put forwards a new governance framework.
- Sept (presentation) [Whole Energy System Coordination for a Net Zero Future](#), given at Potsdam this presentation discusses the importance of governance and IGov’s framework
- Nov (presentation) [What reform is required of the current energy system/governance?](#) A high level overview of key changes IGov think are needed

2018

- Jun (presentation) [DNO to DSO Alternative Models – is moving to a DSO the right approach?](#) Given to Utility Week Live this sets out our underlying arguments for DSPs and valuing DER.
- Oct (blog 1) [Name, Form and Function of Distribution Entities – clarity and agreement needed across the world](#) provides a detailed overview on the differences between name and function in respect to DNOs, DSPs, and DSOs. It then highlights the need for reform of distribution entities and their regulation to meet the needs of the emerging energy system.
- Oct (blog 2) [Name, Function and Form of Distribution Entities – A brief description of the James McGinness 4 Blog Series](#) reviews a US blog series on the future needs / functions / form etc. of a fit-for-purpose distribution entity.

2017

- Feb (presentation) [Smart and Flexible: a Vision for 2020 –Distribution Service Providers](#) given to PRASEG this sets out the key role that DSPs can play in addressing system change and compares them to DSOs.
- Mar (blog) Reset the reset Blog 1: [we need institutional governance reform, and we need it now](#) includes a discussion on valuing DER and the use of DER assessments in CA and NY.
- Mar (blog) Reset the reset Blog 3: [Walking the Walk: we need to agree a DER assessment process and a methodology to value DER which fits with a smart and flexible energy system](#) provides a detailed look at the NY and CA approach and calls for institutional reform in GB to ensure that DER is properly assessed and valued.
- Apr (blog) [The Solution to South Australia’s blackouts – a market which rewards DER](#). A case study of the 2016 storms & 2017 heatwave in S. Australia and the impacts it caused, with an explanation of the role can DER play in providing system security.

- Jun (blog) [mapping DER via a regulated process](#) looking at the how DER is built and valued in the New York State and California and the role of distributed energy resource plans in enabling this.
- Jun (blog) [DSO or DSP – why it is the function rather than the name that really matters](#) looking at how people describe DSOs and DSPs and then focussing in on why the function they play is so essential to system change.
- Jul (presentation) [International perspective and decentralised markets](#) given to Pixie Energy Launch and looking at how DSPs become the ‘heart’ of a new energy system.
- Sept (submission) [Comments on WPD’s DSO Transition Consultation Document](#) setting out our view on this DNO plans to transition to a DSO. Whilst welcoming the plan, we felt they should be more ambitious and think beyond the DSO model to become a full DSP.

2016

- Jan (blog) [Energy Distribution Service Providers – another piece of the governance puzzle](#) An early discussion of what a DSP is, what role it could play and how it links to wider institutions in a changing energy system.
- May (roundtable) [Distribution Service Providers \(DSP\): a transformative energy system institution?](#) This IGov workshop discussed the concept of DSPs and examined their value versus Distribution Service Operators. The event pages contains the aims, agenda, participants and a range of presentations on the topic.
- Apr (slide pack) [Distribution Service Providers – an update](#). This is a slide pack that has been updated several times (last refresh was Dec 17). It visually sets out a detailed overview of what DSPs are, what role they play and how they fit into the future energy system.
- May (presentations) [Introduction to DSO vs DSP... potential regulations and incentives](#) given to the above workshop and introducing DSPs and the NY REV; plus putting them into context with system change: [Setting the context: The current framework for innovation in distribution grids](#).
- Jun (presentation) [Distribution Service Providers \(DSP\) a transformative energy system institution?](#) An overview of the challenges and opportunities facing energy systems with an introduction to DSPs as a generic model, NY REV model and CA model.
- July (blog) [Transformative Regulation - comparing NY REV to RIIO](#) and arguing that the transformational nature of the NY REV was related to the DSP concept.

2014

- Oct (Paper) [Energy networks and distributed energy resources in Great Britain](#). Examines the rules and incentives governing electricity, gas and heat networks from the perspective of how far these facilitate or prevent a shift towards an energy system with more DER.
- Oct (blog) [Network governance and distributed energy resources](#) providing a short summary of the above working paper.

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