

## Executive Summary

**Workstream 3 - DSO Transition** (WS3) was formed as one of the four core workstreams comprising Open Networks when it launched in January 2017. Its overarching role was to progress the development and implementation of Distribution System Operation and serve as a forum for discussion on DSO related outcomes.

It currently consists of two products: the DSO Implementation Plan (P1) and the Conflicts of Interest and Unintended Consequences Risk Register (P2).

As DSO will be embedded within DNO activities from April 2023 (ED2), WS3's role of encouraging the transition to DSO is complete. With the DSO Implementation Plan now superseded by Ofgem's DSO Output Delivery Incentive (ODI), the recommendation of this paper is that WS3 should be concluded, and the Conflicts of Interest and Unintended Consequences Risk Register become an input for the Open Networks Steering Group.

## Introduction

### About ENA and Open Networks

Energy Networks Association represents the companies which operate the electricity wires, gas pipes and energy system in the UK and Ireland. We help our members meet the challenge of delivering electricity and gas to communities across the UK and Ireland safely, sustainably and reliably.

Britain's energy landscape is changing, and new smart technologies are changing the way we interact with the energy system. On behalf of its members, ENA is leading the Open Networks programme that is transforming the way our energy networks operate. New smart technologies are challenging the traditional way we generate, consume and manage electricity, and the energy networks are making sure that these changes benefit everyone.

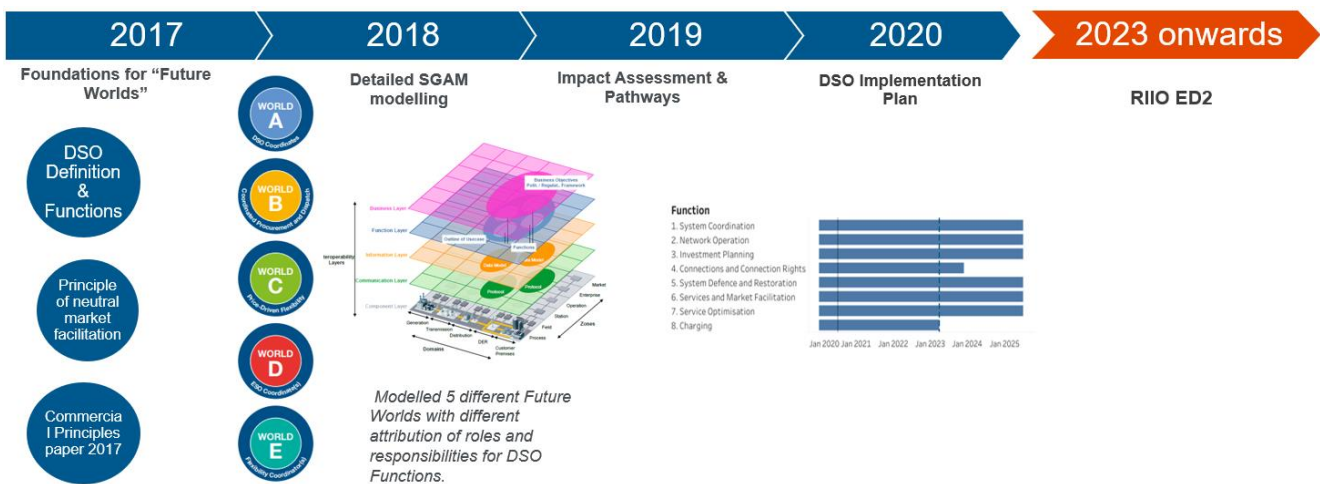
ENA's Open Networks programme is key to enabling the delivery of Net Zero by:

- opening local flexibility markets to demand response, renewable energy and new low-carbon technology and removing barriers to participation
- providing opportunities for these flexible resources to connect to our networks faster
- opening data to allow these flexible resources to identify the best locations to invest
- delivering efficiencies between the network companies to plan and operate secure efficient networks

Visit our [website](#) for further information on the programme and to access our deliverables.

## Background

WS3 has been a key part of Open Networks from the outset. In the first year, after agreeing a short definition of DSO to be used by Open Networks moving forward, work began on the DSO Transition Roadmap determining short-, medium- and long-term objectives with a view of timing, sequencing and cost. In addition, work on the DSO Functional Requirements started, defining the set of core functionalities required for future network and system operation.



## Key Accomplishments

### 2018

- Outlined market functions and system requirements for the emerging DSO role
- Utilised a Smart energy Grid Architecture Model (SGAM) to determine optimal market model options and potential Future Worlds
- Hosted a Future Worlds event with almost 300 attendees
- Applied key learnings, including benefits and drawbacks, of different electricity market models
- Developed the definition of the emerging DSO role and its potential responsibilities in the market embracing the role of neutral market facilitator
- Published the Future Worlds consultation responses

### 2019

- Secured a ground-breaking industry agreement on continuing the transition to DSO
- Consulted on a Future Worlds Impact Assessment
- Decision made on least regrets path to DSO Transition
- Unintended consequences & conflict of interest log published
- DSO Innovation Trials Mapping Report published

## 2020

- Conducted DSO Function Surgeries with Network Operators
- Published the first iteration of the DSO Implementation Plan - an interactive roadmap to deliver DSO, and a transparent data-driven smart grid
- Held a stakeholder seminar to help shape future development of the DSO Implementation Plan
- Conflicts of Interest and Unintended Consequences register updated

## 2021

- Updated the interactive roadmap to deliver DSO containing 544 steps
- Updated the Conflicts of Interest and Unintended Consequences register

## Policy Context

The outputs of WS3 have clearly influenced policy decisions on the role of DSO. In the autumn of 2019 Ofgem issued a position paper on [Distribution System Operation: our approach and regulatory priorities](#) which was written for consumer representatives, industry and other stakeholders, to inform readers about their priorities and ongoing policy thinking about DSO. It particularly focused on work that they believed needed to be delivered in advance of the next electricity distribution price controls (RIIO-ED2) that start in 2023. This in turn informed WS3 work on the planned DSO roadmap.

In Ofgem's December 2019 paper, [Key enablers for DSO programme of work](#), they confirmed that they considered DSO to be a set of functions and services that need to be executed to run a smart electricity distribution network. At this point the Ofgem definition still did not imply a single party as an operator, but recognised roles for a range of parties in delivering DSO. In July 2020 however, Ofgem grouped the DSO functions that they expected DNOs to undertake into three broad roles (**planning and network development, network operation and market development**), underpinned by five principles as part of the [RIIO-ED2 Methodology Consultation: Overview](#). These five principles were broken down into a list of baseline expectations for DSO that DNOs were able to easily align to their commitments under the existing DSO Implementation Plan.

## Recent Developments

In 2022 WS3 has continued to fulfil its overarching role to monitor and steer across all workstreams to progress the development and implementation of the least regrets pathway to Distribution System Operation in line with policy across the programme. That has included continuing to identify and address potential conflicts of interest and unintended consequences. It has also served as a forum for discussion on key DSO related outcomes, including upcoming policy positions, and has considered how those outcomes are taken forward by the various workstreams in the Open Networks programme.

In 2003 however, with the start of the ED2 price control, DSO becomes business as usual for DNOs. The transition will be complete, and DSO will be operational.

In addition, DNOs will be subject to a DSO Incentive, the aim of which is to drive DNOs to more efficiently develop and use their network, taking into account flexible alternatives to network reinforcement. The final content is still being [consulted on](#) but it is intended to evaluate performance against the baseline expectations for DSO, as well as the associated delivery of DSO benefits that emanate from these activities. Ofgem state;

*'It leverages the opportunities to embed robust performance measures, capture stakeholder views and incorporate a more holistic assessment from a performance panel of technical and industry experts.'*

Clearly this is a comprehensive set of metrics designed to assess DNO performance across the full range of baseline expectations for DSO and as such provides an effective substitute for the DSO Implementation Plan that is currently maintained by WS3.

## DSO Implementation Plan

The DSO Implementation Plan has been an excellent tool to monitor DNO's progress towards fulfilling DSO capabilities. This is an interactive roadmap on which network companies outline their path to DSO. Alongside the interactive roadmap there is a [full report](#), [roadmap data](#) and [appendices](#) that provide a consolidation of outcomes from the project to set out a clear pathway to reach DSO. The roadmap takes into account all the key actions and decisions needed to implement DSO and has formed the basis of regulatory and business planning for the networks as they worked with Ofgem ahead of this next price control period.

**Search for steps**  
Only steps will show with the search text, in the step title or in the step description

Enter search text  
ESO

**Function**

- (All)
- 1. System Coordinat...
- 2. Network Operation
- 3. Investment Planni...
- 4. Connections and C...
- 5. System Defence a...
- 6. Services and Mark...
- 7. Service Optimisat...
- 8. Charging

Time frame  
Medium term

**1A.4 Develop common contract for flexibility services**  
All DNOs and the ESO have confirmed that the Flexibility Services Standard Agreement will be adopted. DNO's have confirmed the Agreement will be used for all Flexibility Services. ESO to specify for which services the Agreement will be adopted.

Implementation period: 01/01/2019 - 01/01/2021. Organisations involved: ESO(1), DNO(6)  
Progress of implementation: Not currently planned(0), Initiated(3), Implementing(3), Completed(1)

ENA Product: 2020 WS1A P4 (click to open)

Organisation	Progress	Completion date	Comment	Progress link
ENWL	Completed	01/03/2020		
NGESO	Initiated			
NPg	Initiated	01/05/2020		
SPEN	Implementing	01/03/2019		
SSEN-D	Implementing	01/03/2020		
UKPN	Implementing	01/12/2020		
WPD	Initiated	01/01/2021		

Detailed information on the selected step

However, with the publication of Ofgem's baseline expectations for DSO there is now a clear and consistent view of the minimum requirements, and the new DSO ODI will hold DNOs to account on progress. Consequently, the DSO Implementation Plan is currently going through its final iteration which will be made available [here](#) on the Open Networks website.

## Unintended Consequences and Conflict of Interest Risk Register

The Register was created as part of the wider ENA ONP and Baringa activity on ON Future Worlds in 2018. It was scoped out with stakeholders in a workshop (4/12/2018) and six themes were identified:

- Distributional Customer Impacts
- Risk of Regret
- Operational Viability
- System Security
- System Operator Conflicts
- Market Power and Gaming

It was scoped out as a standalone product in 2019 and the first version was shared with the Open Networks Advisory Group in Autumn 2019. It included Conflicts of Interest and Unintended Consequences of the transition to DSO but NOT risks to the DSO model or operations. The aim of the product was to explore risks and focus on mitigation measures:

- Outputs - spreadsheet to act as a risk log and tracker; recommendations for work in 2020
- Outcomes - transparency for stakeholders; better informed decisions on the design of DSO

Clearly there is still a role for the Register as DSO becomes BAU and further evolves in ED2 under the baseline expectations so following the [current update](#) it will become an input for the Open Networks Steering Group in 2023. As part of that update superseded activities are being removed and the remaining risks will be divided into those being monitored centrally by Open Networks and those to be monitored by individual network companies.

## Stakeholder Engagement

This decision has been agreed by the WS3 membership and presented at the Dissemination Forum. Apart from a question at the Forum about the developing structure of the Conflicts of Interest and Unintended Consequences Risk Register there was agreement that WS3 should be concluded as part of the new Open Networks structure in 2023.

## Next steps

1. WS3 should come to an end in December 2022 in recognition of the clear direction of travel provided by Ofgem's baseline expectations for DSO and the proposed incentive.
2. The DSO Implementation Plan will have a final update in Q4 2022 and made available on the Open Networks website.
3. Ownership of the Conflicts of Interest and Unintended Consequences register will pass to the Open Networks Steering Group after a final update by WS3 in Q4 2022.

Visit our website to find out more about [Open Networks](#)