



# GAS GOES GREEN

GGG Advisory Group

11 March 2021

DELIVERING THE  
PATHWAY TO  
NET ZERO

# Agenda

1	<b>Welcome</b>	Dr Thom Koller, Programme Lead, ENA
2	<b>2021 Scene Setting Panel</b>	Chris Train, Gas Goes Green Champion, ENA Nicolette Reeds, Head of Future of Gas Strategy and Infrastructure team, BEIS Jane Lumb, Head of Non-Domestic Renewable Heat Incentive and Biomethane, BEIS
3	<b>Updates</b>	Dr Thom Koller, Programme Lead, ENA
4	<b>2021 deliverables</b>	Greg Dodd, Head of Strategic Planning, Northern Gas Networks Colin Thomson, Energy Futures Manager, SGN Dr Danielle Stewart, Long Term Strategy Manager, National Grid Stuart Easterbrook, Future Gas Strategy Manager, Cadent Matt Hindle, Head of Gas, ENA Ollie Lancaster, Net Zero Relationship Manager, Wales & West Utilities
5	<b>Open Networks 2021 plans</b>	Farina Farrier, Head of Open Networks
6	<b>Wrap up</b>	Dr Thom Koller, Programme Lead, ENA

# Advisory Group - Terms of Reference

The Advisory Group is essential to our project to:

- Ensure stakeholders are aware and taking Gas Goes Green into account
- Request input from stakeholders to improve the quality of our deliverables
- Increase awareness about programme risks & issues, ask for views on risks & issues and collaboratively resolve where appropriate

The Advisory Group will provide input to:

- Steering Group on programme scope, progress, risks & issues
- Workstreams with deliverable comments/feedback

We will seek to send information in advance of meetings to ensure that views can be sought in advance. Our objective is to encourage open feedback from you all across all of our work.





# 2021 Advisory Group Timeline

1<sup>st</sup> AG meeting -  
11<sup>th</sup> March

2<sup>nd</sup> AG meeting -  
9<sup>th</sup> June

3<sup>rd</sup> AG meeting -  
1<sup>st</sup> September

4<sup>th</sup> AG meeting -  
1<sup>st</sup> December



# Thank you for joining the Gas Goes Green Advisory Group today

1. If you are unable to play the audio through your device, you can dial in by calling [+44 20 3855 5363](tel:+442038555363) (UK London) (Conference ID: 974 649 044#).
2. Please ensure that your microphone is switched to 'mute' to avoid background noise
3. You may ask questions and make comments, either by raising your hand or via the chat function throughout the meeting. We will be using Polleverywhere → [PolleEv.com/gasgoesgreen](https://PolleEv.com/gasgoesgreen)
4. If you are unable to use chat functionality, try joining the Teams meeting via the Web app using incognito / private browsing (preferably with Chrome or Edge)
5. **The meeting is recorded and will be shared on ENA's YouTube Channel**
6. If you would like to contact the programme team directly, please do so at [GasGoesGreen@energy networks.org](mailto:GasGoesGreen@energy networks.org)

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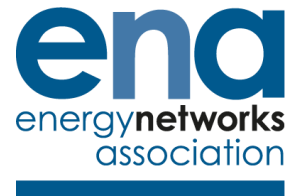
## 2021 scene setting panel

- Chris Train, Gas Goes Green Champion, ENA
- Nicolette Reeds, Head of Future of Gas Strategy and Infrastructure team, BEIS
- Jane Lumb, Head of Non-Domestic Renewable Heat Incentive and Biomethane, BEIS





# Updates



## Households and businesses set to benefit from biomethane boost

12 OCTOBER 2020



## Together we can turn-up Britain's hydrogen heating, gas industry tells Prime Minister

18 DECEMBER 2020



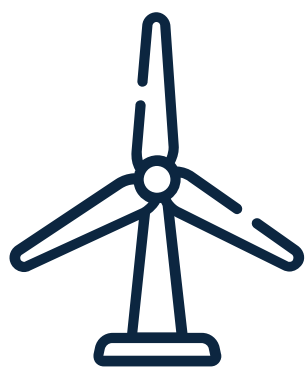
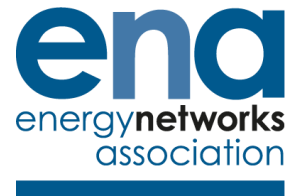
## Gas grid companies plot course to Britain's first hydrogen town

21 JANUARY 2021





# 2020 continued



Developing the pathway to net zero



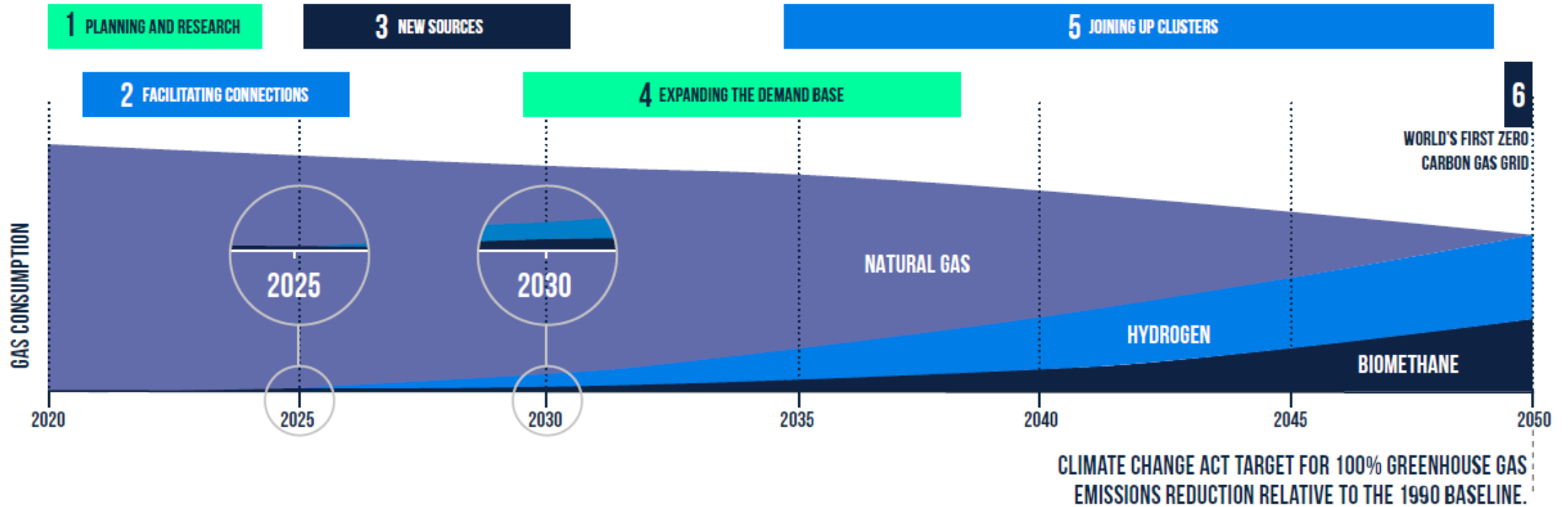
Transport Pathways







# Decarbonising the gas grid



**GAS GOES GREEN**

**Workstream 1  
Investing in net zero**



1.1 Net Zero Strategy & Scenario



1.2 Zero Carbon Commitment (v2)



1.3 Local, regional and national pathways and planning studies

**Workstream 2  
Gas quality and safety**



2.1 Blending delivery timeline

**Workstream 3  
Consumer options**



3.1 Hydrogen: Cost to Customer



3.2 Licensing regime for industrial clusters



3.3 GHG reduction potential for off grid communities



3.4 Impact of reducing gas demand

**Workstream 4  
System enhancement**



4.1 Supporting green gas producers



4.2 Opportunities for CHP conversion



4.3 Network fugitive emissions

**Workstream 5  
Hydrogen transformation**



5.1 Delivering BEIS/industry hydrogen activity



5.2 Hydrogen connection agreement

**Workstream 6  
External affairs and stakeholder engagement**



6.1 Green gas data



6.2 Defining a smart gas network

# Workstream 1 – Investing in net zero

This workstream considers the decarbonisation commitments made by the networks for RII02, for the period 2021-26, as well as future investment work that may be required to deliver net zero. Deliverables in this workstream will examine the role the gas networks have in delivering the cost optimal route to a net zero future in a balanced energy system.



**Network net zero strategy and scenario**



**2021 Zero Carbon Commitment**



**Local, regional and national pathways and planning studies**

## Workstream 2 – Gas quality and safety

Deliverables in Workstream 2 will prepare for the transition of the gas network to enable low carbon gases of biomethane and hydrogen to be transported and distributed safely and to a maintained quality. This is a first step that needs to be taken in this area of the pathway to net zero.



**Blending delivery timeline**

# Workstream 3 – Consumer Options

Deliverables here will evaluate the implications on consumers of net zero compliant gases and whole systems interfaces.



**Hydrogen: cost to consumer**



**A proposed licensing regime for industrial cluster hydrogen infrastructure**



**Assess options and GHG reduction potential for off grid communities**



**Impacts of reducing gas demand**



# Workstream 4 – System Enhancement

This workstream is focused on enhancing the energy system to facilitate low carbon and renewable gas, to make it easier for new connections to connect, to reduce costs and to improve system operation to accommodate different gases.



**Supporting Green Gas producers**



**Assess opportunity for CHP engine plants on electricity tariffs**



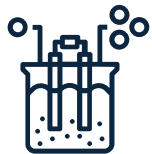
**Network fugitive emissions**

# Workstream 5 – Hydrogen Transformation

The gas networks have been working together to provide the necessary technical, safety, quality and financial evidence to demonstrate the viability of using the gas networks to transport and distribute 100% hydrogen through existing and new networks.



**Delivering BEIS/industry hydrogen programme**



**Hydrogen connection agreement**

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# Britain's Hydrogen Network Plan

- Blueprint for delivery of the hydrogen economy
- Sets out how networks will deliver against the government's ambitions for:
  - Hydrogen blending from 2023
  - Four decarbonized industrial clusters by 2030
  - At least 5GW hydrogen production by 2030
  - A 2030 Hydrogen Town building on earlier trials and pilots





# Delivering the Hydrogen Network Plan

	HOUSEHOLDS	INDUSTRY	POWER	TRANSPORT
SAFETY	Domestic 100% hydrogen safety case - Hy4Heat (led by BEIS)			
	Distribution grid 100% hydrogen safety case and other safety studies- H21 and phase 2, H100 FIFE, Network safety and impacts board projects.			
	Transmission grid re-purposing safety and feasibility- HyNTS future Grid phase 1			
SECURITY OF SUPPLY	Hydrogen network operation and resilience - transmission modelling. Distribution modelling. System operator transition to Hydrogen			
	Market framework for hydrogen - Gas Markets Plan ( GMaP)			
	New hydrogen networks - Aberdeen vision ( new network element) HyNet Homes			
	Hydrogen Production directly connected to networks- project Cavendish, H100 Fife, H21 Phase 3 , HyNet homes			
CUSTOMER FOCUS	Cluster Hydrogen - Networks support to industrial cluster projects, including HyNet, zero Carbon Humber, Acorn, Net Zero Teesside, South Wales industrial Cluster and Southampton water			Enabling hydrogen in transport - H2GV, Cadent Gas Transport pathways
	Domestic use trials: 100% hydrogen Neighbourhood and 100% hydrogen village- H100 Fife. H21 Phase 3, HyNet homes	Hydrogen de blending for specific customers- De-blending N1A, HyNTS Future Grid Phase 2		
	Testing of 20% blending for 2023 start- HyDeploy, HyDeploy2			
	Energy content billing to allow blending - future billing, Real Time Networks			
	Hybrid Heating and hydrogen - Project Freedom, HyHy, HyCompact			
	Mains replacement and readiness for hydrogen, including training- iron mains risk reduction programme, network training programme.			
SUPPLY CHAIN	Entry Connection for decarbonised gas- Entry connection standardisation			
	Cross- sectoral stakeholder engagement to communicate hydrogen network plan and secure feedback			

# Workstream 6- External affairs and stakeholder engagement

This workstream will receive feedback on the programme and will engage stakeholders on the environmental, economic and social benefits of a decarbonised gas grid.



**Green gas and power generation data**

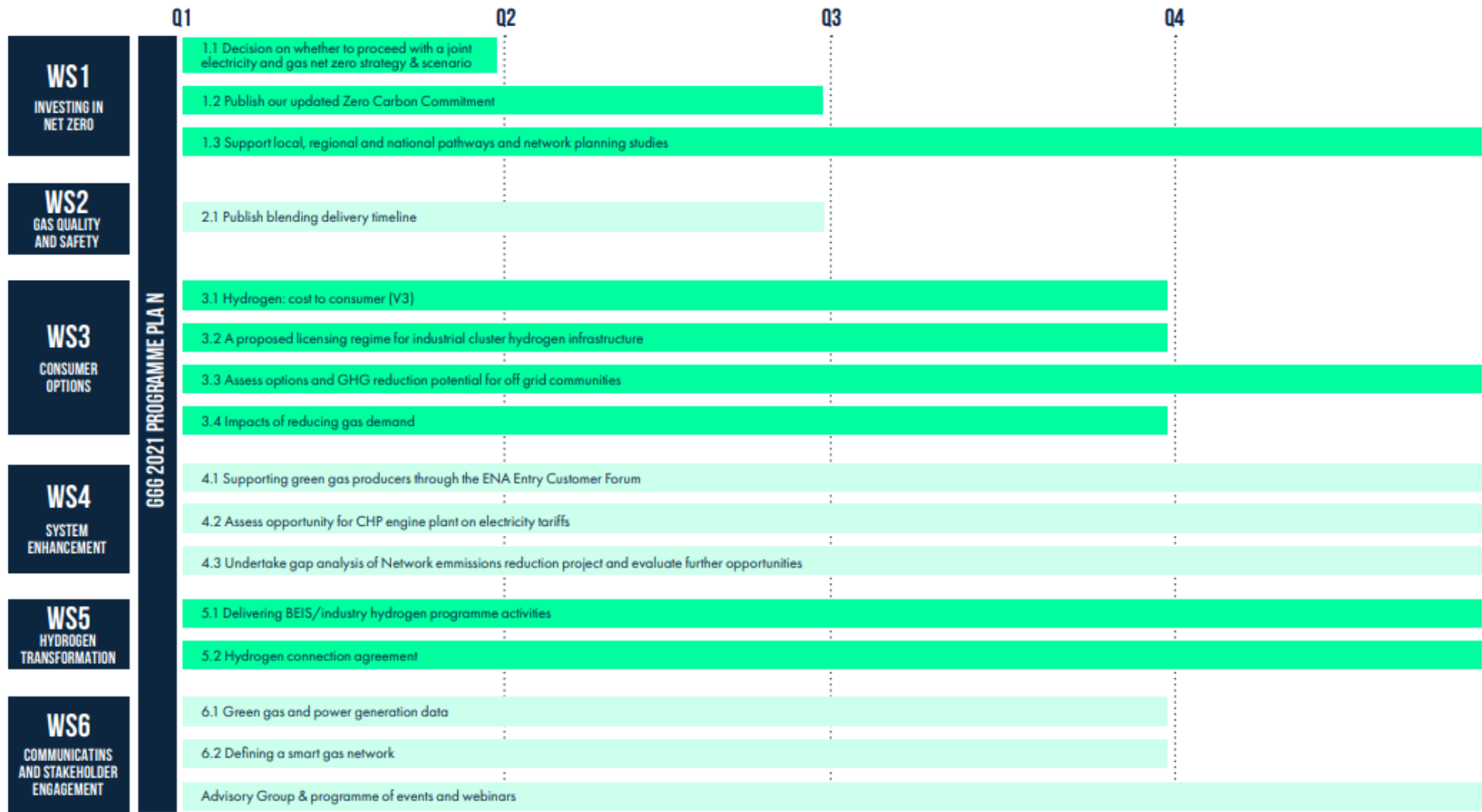


**Defining a smart gas network**





# 2021 timeline



GGG 2021 PROGRAMME PLAN



# Open Networks Project

Farina Farrier  
Head of Open Networks



# Open Networks – Delivering a Smart Grid



ENA's The Open Networks Project is a major industry initiative that is powering Britain forward to Net Zero by enabling homes, businesses, and communities to provide clean energy back to the networks. Open Networks is delivering a smart grid by opening up new markets, and building an all inclusive energy system



The Open Networks Project will help customers connect and break down barriers, enabling customers to access multiple markets to provide services; all the while reducing cost for consumers through more cost effective planning



Late last year Government launched the Prime Minister's Ten Point Plan, the Climate Change Committee's Sixth Carbon Budget and the Energy White Paper. The publication of these plans means we now have clear policy pathways for UK decarbonisation, and the Project is now better positioned than ever before to tackle the important and ambitious target of achieving Net Zero by 2050.



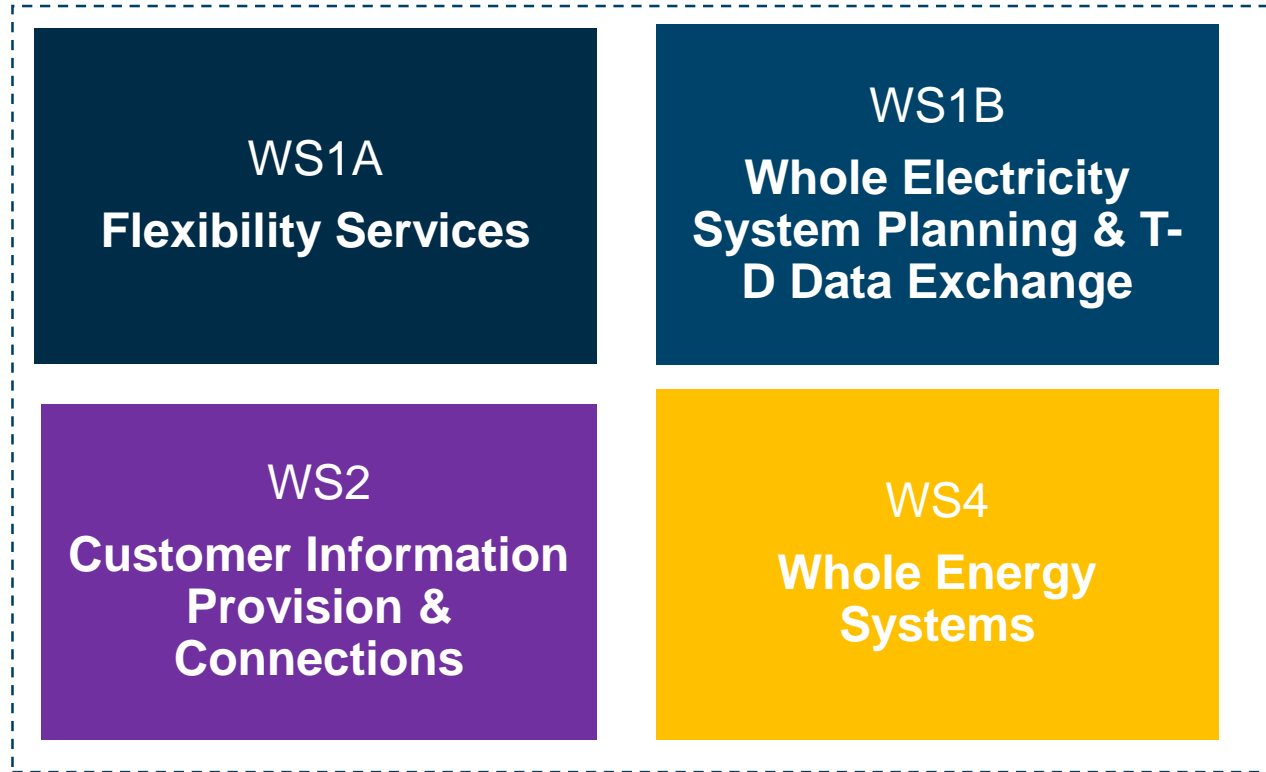
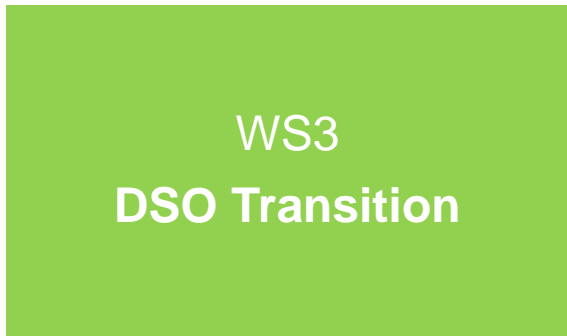
We are taking a 'learn-by-doing' approach; we are using innovation funding to trial and test aspects of the various future electricity system options to drive the key changes needed to transition to a Net Zero emissions smart grid.

A short animation on the Project can be found at: [https://youtu.be/te\\_d34zldJ8](https://youtu.be/te_d34zldJ8)

# 2021 Areas of Work

*Longer term focus.*

*Taking ownership of the overarching DSO Implementation Plan.*

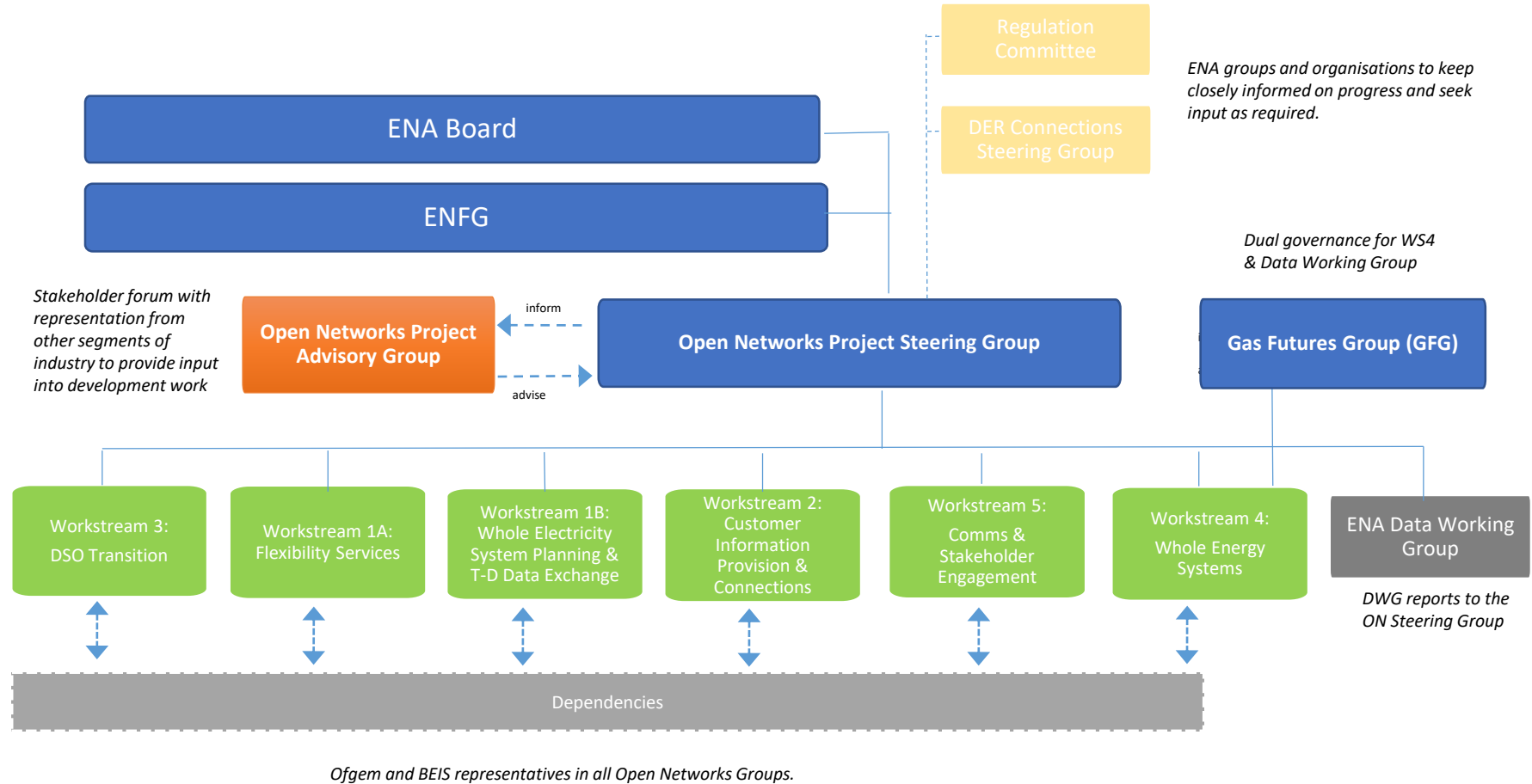


*Progressing short to medium term developments for DSO*



*Overseeing stakeholder engagement and comms across the project.*

# Governance





# WS4 - Focus areas & Products

## 2021 Products

### Whole Energy System

Delivering benefits for customers and consumers by realising more cost-effective network investment and operation across the electricity and gas networks.

### Whole System CBA (P1)

*Further development of the CBA methodologies defined in 2020.*

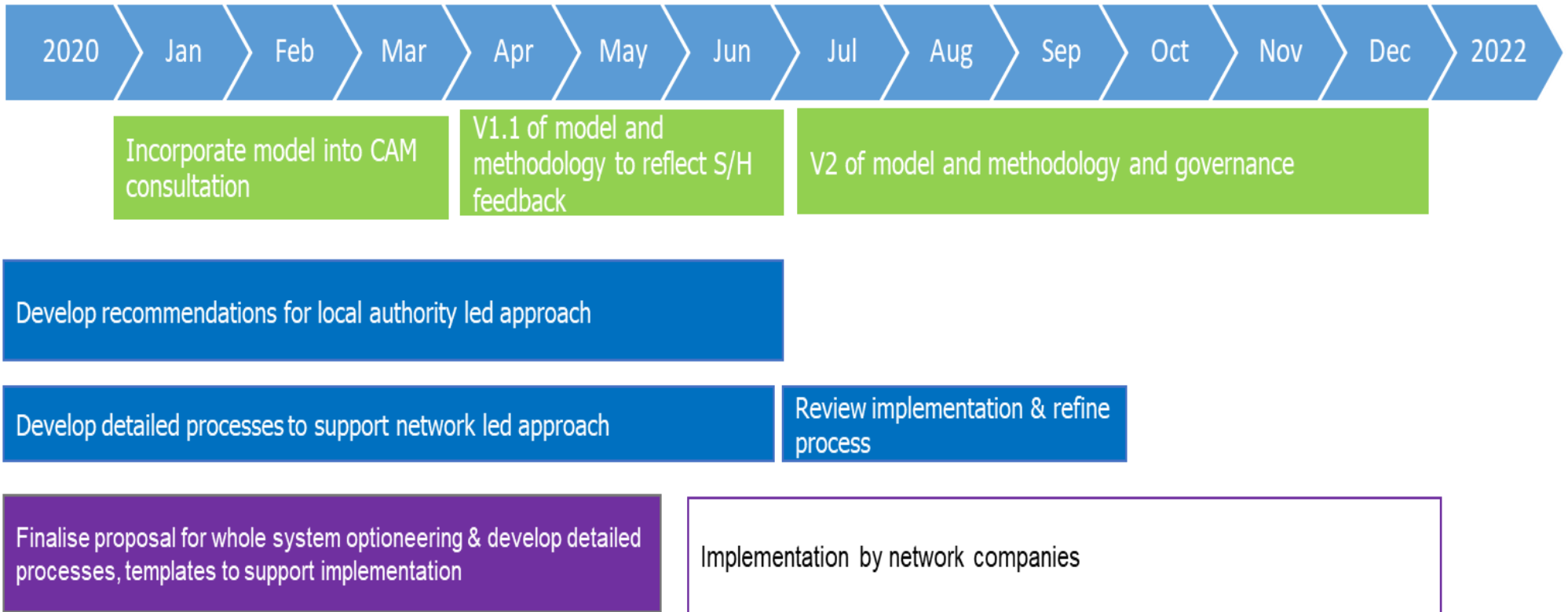
### Investment Planning (P4)

*Building on 2020 optioneering proposals for implementation.*

### Coordinated Gathering of Regional Data (P3)

*Driving short term network led and long term local authority led approaches.*

# WS4 Timeline



## Useful Links

Project Scope for  
2021

2020 End of Year  
report

Stakeholder  
events &  
supporting  
material

DSO  
Implementation  
Plan

*We welcome feedback and your input*  
*[Opennetworks@energynetworks.org](mailto:Opennetworks@energynetworks.org)*

Click [here](#) to join our mailing list

# Thank You

- Materials from this meeting will be:
  - Circulated via email
  - Uploaded to the [Resource Library](#) on ENA's website
  - The recording will be uploaded to [ENA's YouTube channel](#).
- Invites for 2021 meetings have been sent out:
  - 9th June
  - 1st Sept
  - 1st Dec
- If you have any questions or comments please email [GasGoesGreen@energynetworks.org](mailto:GasGoesGreen@energynetworks.org)

THANK YOU

