

# Our Forward Plan 2019-21

Summary

# Introduction

As the System Operator for Great Britain, we are privileged to sit at the heart of the nation's energy system, running the gas and electricity networks safely and efficiently while enabling and accelerating progress towards a low-carbon energy future. This also means that, together with our stakeholders, we are responsible for tackling some of Great Britain's most pressing energy challenges.

The world of energy is undergoing fundamental transformation. Cleaner forms of energy like wind and solar are increasingly replacing traditional fossil fuel generation; energy storage is becoming mainstream and consumers are increasingly becoming more active in making energy choices through the electric vehicles (EVs) and solar panels they buy.

Those changes will continue as the industry evolves over the next decade towards 2030 and beyond. They will present huge challenges for the infrastructure and security of energy supplies, which lie at the heart of our role as Great Britain's System Operator – and we too will need to evolve to meet these challenges if we are to remain at the heart of Great Britain's energy system.

## A visual guide to the Forward Plan

Alongside our Forward Plan, we wanted to provide stakeholders with a more visual guide to our long-term vision, how this delivers benefit and subsequently the activities that we are going to deliver in 2019-21 on the way to achieving this vision. We have provided references to where you can find more detail on these activities within our full Forward Plan, which also includes performance metrics which we will use during the year to track our performance.

As we begin delivery against this plan in April 2019, we continue to welcome stakeholders to discuss and challenge our plans to ensure we are delivering the right activities that deliver most benefit for consumers. We will share our progress through monthly reports which can be found on our website; if you would like to find out more about our Forward Plan please contact [box.soincentives.electricity@nationalgrideso.com](mailto:box.soincentives.electricity@nationalgrideso.com).

**Fintan Slye**, Director of UK System Operator



# 2019 Forward Plan

Share our unique energy perspective through our **Insights documents**.

Increase **information access** by developing a user-friendly self-service information portal.

Provide greater **transparency of data used by our ENCC**, sharing operational planning data as we prepare the ENCC for the future.

**Address** current and future **operational issues** identified by our Operability Strategy Report.

Deliver an **Energy Forecasting Strategy** roadmap increasing the number of forecasts provided.

Share greater information on how we balance the system and provide our **operational insights**.

Actively **managing balancing costs** against a backdrop of decentralisation, decarbonisation and digitisation.

**Upgrade of information systems** including Energy Forecasting System, Ancillary services dispatch platform.

# 2021 RIIO-2

Transform the operation of the electricity system so that, by 2025, we will be able to operate a carbon free electricity system.

Provide greater transparency of our selection and utilisation of resources.

Transform the data we make available by providing a clear interface to all ESO data so it can be easily accessed and interrogated.

By 2023 all market participants 1MW and above will be able to participate directly in our balancing service markets and the Capacity Market.

By 2025 we will deliver security of supply against a clear standard agreed with Government. We will be responsible for all elements of the Capacity Market.

A sandbox market environment will sit alongside our established markets to enable co-development of solutions to operability issues such as system inertia and stability.

Create a fully digitalised Grid Code which is principles-based, simple to understand and navigate, and enables the flexibility required to support the energy transition.

Ensure a whole system approach is taken to optimise planning development, investment and operation of GB's energy networks.

Deliver an auction platform for procurement of **frequency response**.

Increase the transparency of our **reactive** power procurement.

Enable wider access to **Balancing Mechanism**.

Develop new approaches to system **restoration** (also referred to as Black Start capability).

Fundamentally review and reform our **response and reserve products** to align with future operability needs and EU standard products.

Promote industry development of demand side flexibility via **Power Responsive**.

Transform the **customer experience** for network charging.

Facilitate electricity network charging reform through **Charging Futures**.

Facilitate **code change** to enable all network users to understand and contribute to the code change process.

# 2030

Our Mission is to enable the transformation to a sustainable energy system and ensure delivery of reliable affordable energy for all consumers.

Success in 2025 looks like:

- An electricity system that can operate carbon free
- A strategy for clean heat, and progress against that plan
- Competition everywhere
- The system operator is a trusted partner

Bring our expertise to drive industry as it navigates a complex energy transition, facilitating informed whole system thinking.

Reduce friction for participants in their interactions anywhere on the electricity network.

Facilitate competition across all dimensions – enabling all viable options to compete for delivery of solutions to network problems.

Actively support Ofgem and industry to deliver a model for onshore competition that maximises consumer benefit.

Transform **industry frameworks** to enable decentralised, decarbonised and digitalised energy markets.

Making **Electricity Market Reform** easier for participants

Implement a first of a kind system to measure system inertia in real-time and use it to optimise **real-time operation, service procurement and network development**.

Identify operability solutions as an alternative to network asset solutions through our **Regional Development Programmes**.

Provide **whole electricity thought leadership**.

Identify opportunities to more flexibly operate the network and further roll out enhanced **whole system data exchange**.

Use **enhanced study tools** to assess the year-round transmission network needs.

Lead **pathfinder projects** to develop the necessary processes to support delivery of new whole system ways of working.

- Manage system balance and operability
- Facilitating competitive markets
- Facilitating whole system outcomes
- Competition in networks

# Role 1

## Managing system balance and operability

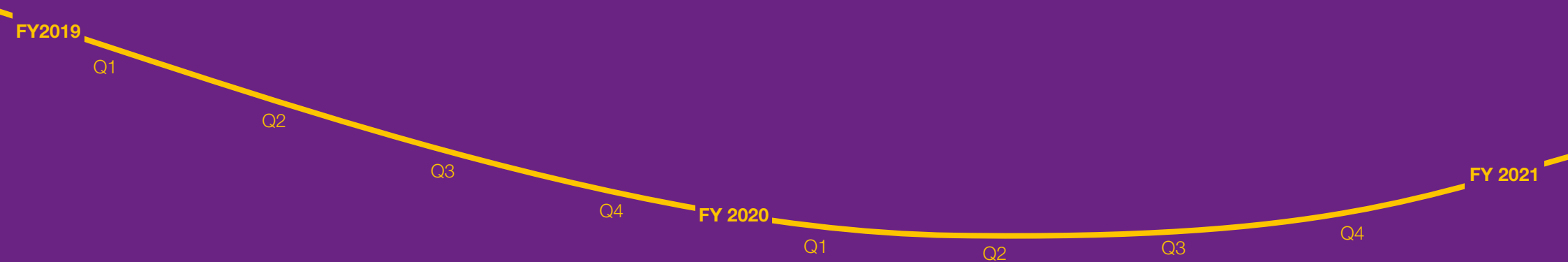
### Our long-term vision

Our vision is to drive overall efficiency and transparency in balancing, taking into account impacts of our actions across time horizons. Looking to 2030, we need to find the optimum way of carrying out balancing and operability actions in a low-carbon, decentralised and digitised world. We will act as residual balancer, taking actions needed to balance and operate the system efficiently, ensuring stable balancing costs amongst a world of change. Alongside this we want to improve confidence in our forecasts, increase transparency of our balancing actions and provide more comprehensive information which is accessible to all.

### How does this deliver consumer benefit?

We anticipate the increasing importance of keeping the lights on as the energy sector continues to transform. Decarbonisation and decentralisation of generation combined with changes in how energy is consumed and the required infrastructure changes needed will see the cost of balancing increase without intervention. We will act in the short and long-term focussing on delivering consumer benefit through managing down the expected increase in balancing cost. This cost is paid through the BSUoS levy on suppliers and transmission-connected generators.

### Our plan for 2019-21 – click on each to learn more



# Role 2

## Facilitating competitive markets

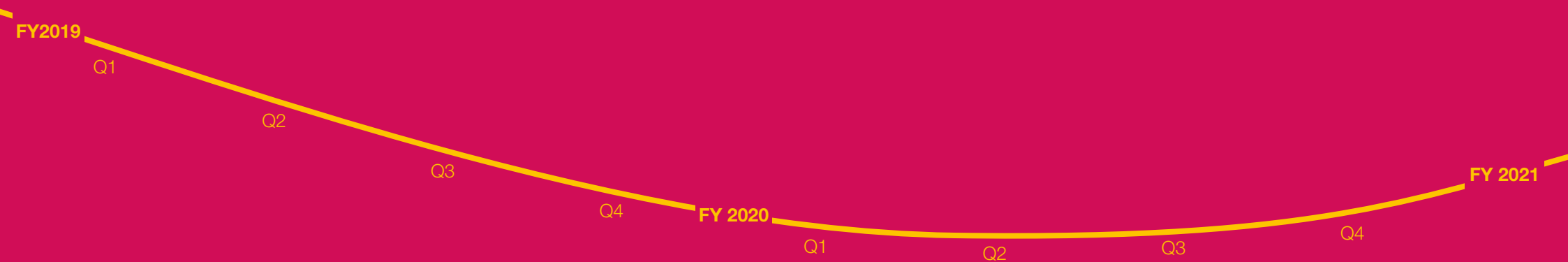
### Our long-term vision

It is essential that we have the appropriate markets in place both to deliver economic security of supply in this low-carbon world and to facilitate the transition to this new world. We are acting to build the future ancillary service and wholesale markets by 2023, all market participants 1 MW and above will have equal access to all our ancillary service markets and the balancing mechanism. We want to transform access to the capacity market such that by 2025, we will be trusted to deliver security of supply against a clear standard agreed with the Government. We want our codes to facilitate the rapid change required to deliver the UK's 2050 carbon reduction target. By 2025, our codes and code governance will no longer be perceived as a barrier to change.

### How does this deliver consumer benefit?

A report for the Committee on Climate Change has indicated that system costs to consumers could increase by £3 billion to £5 billion per annum by 2030, and by almost £8 billion per annum by 2050, unless significant new sources of flexibility are attracted onto the system. Our work on Balancing Service Markets is undertaken with these future savings for consumers in mind, we are focussed on understanding and removing barriers to entry in our markets to attract new sources of flexibility. This increases competition in the short-term and creates the pipeline of new flexibility sources needed to balance the system in the future and deliver the £3 billion to £5 billion per annum savings by 2030.

### Our plan for 2019-21 – click on each to learn more



# Roles 3 and 4

## Facilitating whole system outcomes and supporting competition in networks

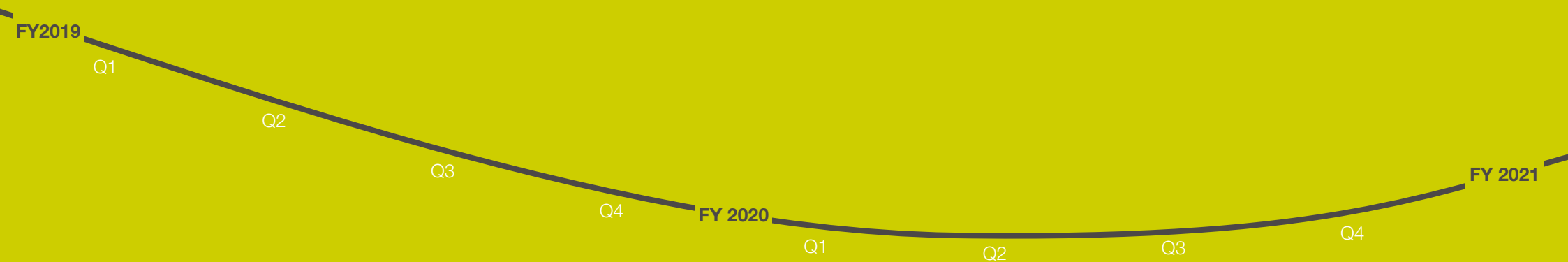
### Our long-term vision

Our overarching ambition is that the planning, development, investment and operation of Great Britain's networks will be optimised on a whole system basis, irrespective of ownership boundaries. Solutions to ESO challenges will be open to a full range of participants, facilitating both market and asset solutions; and we will work to deliver best overall value for consumers, irrespective of the ESO or DSO performing the analysis.

### How does this deliver consumer benefit?

Taking a whole system view of risk and resilience will ensure that the roles and responsibilities of all parties are clearly understood, including the responsibilities for operating the whole electricity system safely and securely. This will enable more efficient use of distributed flexibility, allowing providers to stack services and revenue streams, improving the business case for new sources of flexibility. Alongside this timely, effective and competitive network development will ensure we have a network that is always ready for the demands placed upon it and operated securely whilst securing sufficient investment in network capacity enabling new, low-carbon sources of electricity to connect and continue to decarbonise the energy system.

Our Plan for 2019-21 - click on each to learn more



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