

# ESO Forward Plan 2019-21

22 January 2019



# ESO Forward Plan 2019-21

Fintan Slye

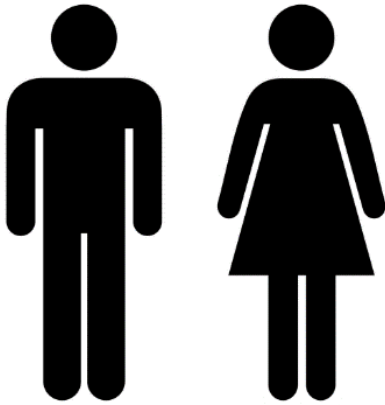
*Head of UK System Operator*

Kayte O'Neill

*Head of Strategy & Regulation*



# Housekeeping & Agenda



**Break - 11.15-11.30**

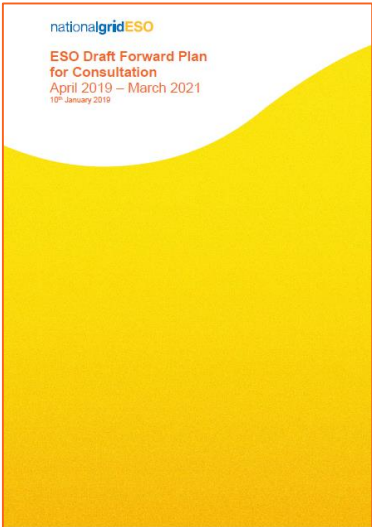


**Lunch - 13.10**

# Our Forward Plan



ESO Forward Plan  
2018-2019



ESO Draft Forward  
Plan 2019-2021

Long Term Vision

Plan of work and our plan to deliver  
consumer benefit in 2019-21

Performance metrics

Stakeholder engagement approach

# Our SO Mission focuses us on delivering value

**We keep the lights on and the gas flowing round the clock for GB energy consumers; we play an essential role in enabling the transition to a more sustainable energy future.**

Therefore we believe that:

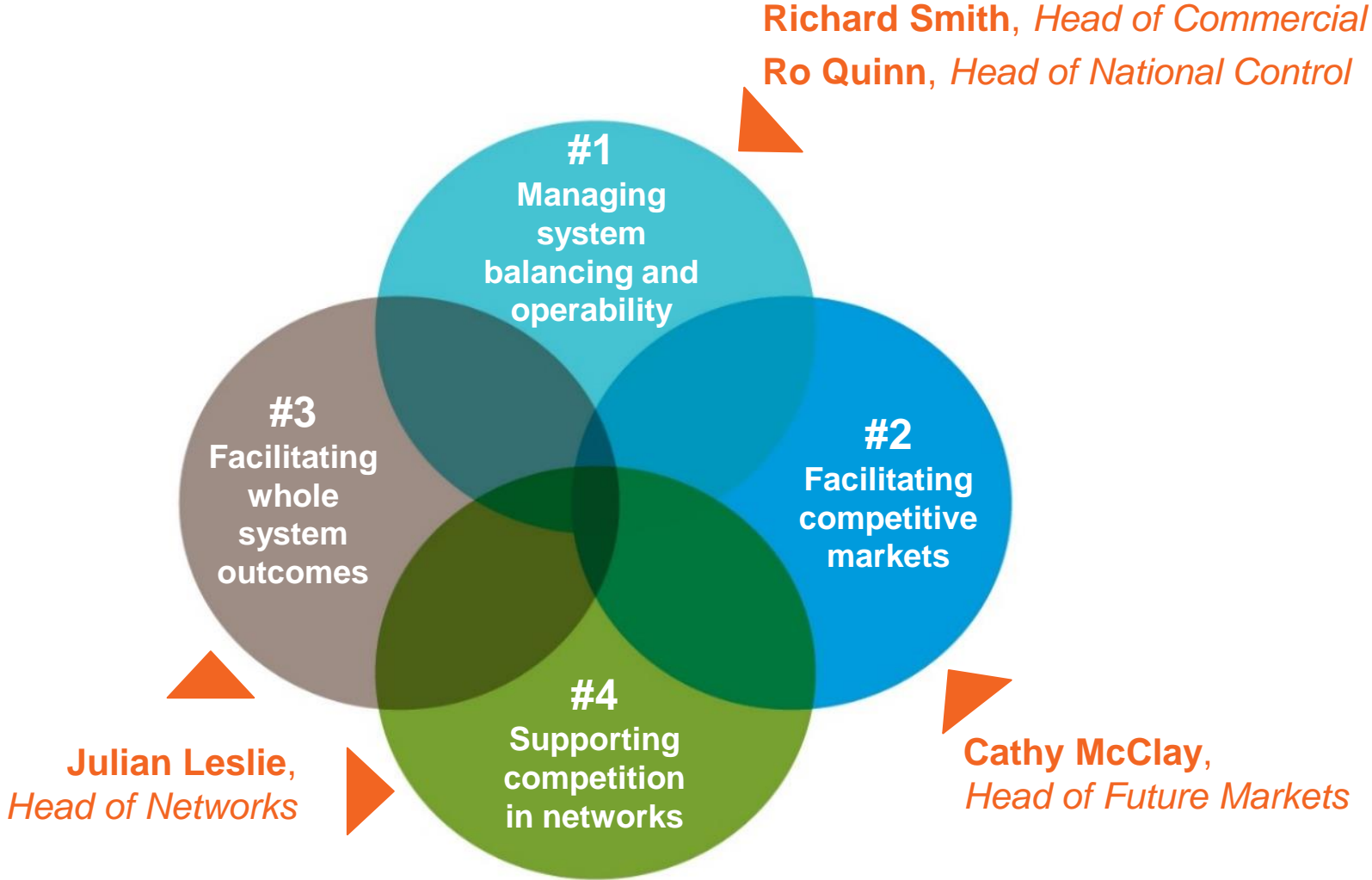
- We deliver value for consumers first and foremost, while also ensuring that we build and maintain trusted partnerships with our customers and stakeholders
- We influence the energy debate positively with our independent perspective
- Through using markets, data and networks in new ways across gas and electricity, we help move GB towards a more reliable, affordable and sustainable energy world
- An incentivised for-profit model ensures we deliver the best long-term outcomes for consumers, society and the GB economy

# Delivering consumer benefit



**Average electricity customer's year bill  
2017/18: £577**

# Our four ESO roles



# Delivering exceeding outcomes in 2019-21

## Operations



Uninterrupted, safe and secure system operation



Managing system balancing costs



Operability reports



Energy forecasting



Data portal

## Markets



Reforms of balancing services



Wider access to the BM



Thought leadership on electricity network charging



Transform industry frameworks

## Networks



Commercial contracts and enhanced systems to facilitate balancing services from DER



Whole electricity system thought leadership



Whole system data exchange & operability

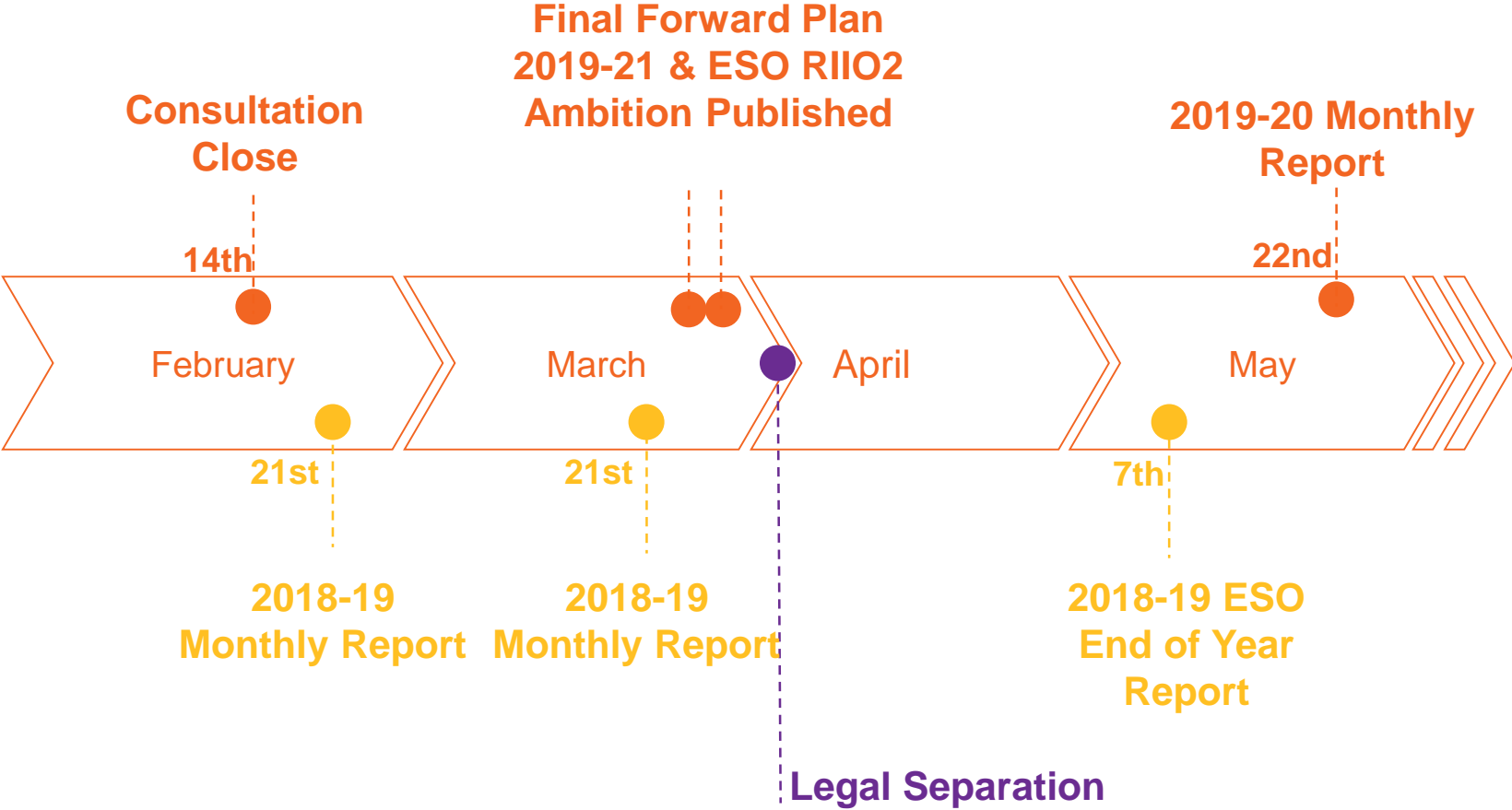


Pathfinder projects & study tools

**nationalgrid**ESO



# Shaping our plan: next steps





# Role #1: Managing system balancing and operability

Richard Smith

*Head of Commercial*

Ro Quinn

*Head of National Control*

# Our Long Term Vision



## Principle 1

Support market participants to make informed decisions by providing user friendly, comprehensive and accurate information

## Principle 2

Drive overall efficiency and transparency in balancing services, taking into account impacts of ESO actions across time horizons

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# Principle 1: Support market participants to make informed decisions by providing user friendly, comprehensive and accurate information

We are going to deliver



This will facilitate

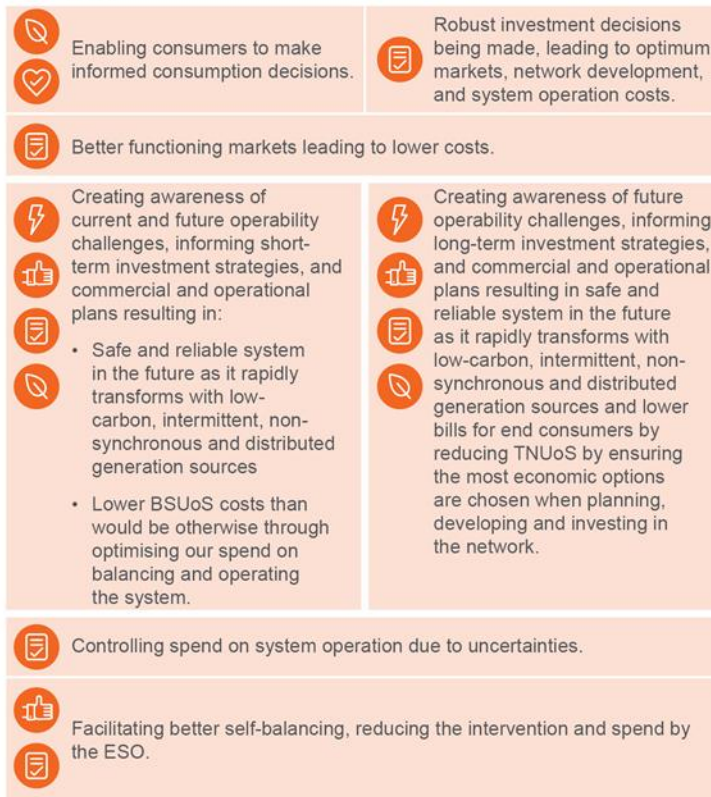
Better informed decisions taken by market participants

Greater understanding of system operation and our needs










Reduced uncertainty for market participants

Benefiting energy consumers in 2019-21

Post 2019-21



# Principle 1 Deliverables

Ref	Deliverable	Delivery Date	Meeting or exceeding baseline expectations	Delivering Consumer Benefit
1.1	<b>Summer Outlook</b>	Q1 2019-20 & 2020-21	Meeting baseline	
1.2	<b>FES</b>	Q2 2019-20 to Q3 2020-21	Meeting baseline	
1.3	<b>Winter Outlook and Winter Review and consultation</b>	Q1 2019-20 to Q3 2020-21	Meeting baseline	
1.4	<b>Electricity Operational Forum</b>	Q2, Q3 and Q4 2019-20 and 2020-21	Meeting baseline	 
1.5	<b>Electricity National Control Centre (ENCC) visit days</b>	Bi-monthly open door visits in Q1, Q2, Q3, Q4 2019-20 and 2020-21	Meeting baseline	
1.6	<b>Insight on balancing decisions taken</b>	Costs for thermal constraints: Q2 2019-20. Costs for voltage constraints: Q3 2019-20.	Exceeding baseline	 
1.7	<b>Insight on constraint boundaries</b>	Q2 2019-20	Exceeding baseline	
1.8	<b>Publish Forecasting Strategy Project roadmap</b>	Q1 2019-20	Exceeding baseline	 
1.9	<b>Publish half-hourly photovoltaic (PV) forecasts to market, 24 times a day</b>	Q1 2019-20	Exceeding baseline	
1.10	<b>Publish four additional wind forecasts to the market</b>	Q2 2019-20	Exceeding baseline	
1.11	<b>Publish an additional Day-Ahead demand update at 12:00pm every day</b>	Q2 2019-20	Exceeding baseline	
1.12	<b>Make energy forecasts more accessible via a dedicated website and Applications Programming Interfaces (APIs)</b>	Q3 2019-20	Exceeding baseline	
1.13	<b>Open Data</b>	Data explorer page on website: Q1 2019-20	Exceeding baseline	
		New data portal: Q3 2019-20	Exceeding baseline	 

# Principle 1 Metrics

## Metric 1 - Information provision scorecard

We publish data and information to the market on a regular basis; some required by our licence or code obligations and others as our commitments to the market. We will use a scorecard to summarise the information provision per quarter to show that we are continuing to provide the information needed by the market. This will include:

## Metric 2 – Firm Frequency Response (FFR) information provision improvement metric

During this year, our performance has improved from more than 70% of tenders received being for periods when we have no requirement to less than 50% of the tenders being for periods when we have no requirement. To measure this outcome, we will measure the percentage of dynamic tenders that are submitted for periods when we do not have a requirement.

### Performance Benchmarks

**Exceeds benchmark:** Less than 40%

**In line with benchmark:** Between 40-50%

**Below benchmark:** Greater than 50%

## Metric 3 – Energy forecasting accuracy metric

To measure our performance, we will use the monthly forecasting accuracy of our day ahead demand forecast and day ahead Balancing Mechanism Unit (BMU) wind forecast. To do this, we will use the following steps:

- Create the monthly and seasonal targets based on the average forecasting error over the past three financial years.
- Compare each monthly forecasting accuracy with the predefined target to identify whether we have achieved our target for the month.
- Count the number of months where we have met the target and compare it to a pre-set scale defining the success criteria.

Managing and forecasting the electricity system is becoming more and more difficult. This is mainly due to the growth of distribution connected generation, change in customers' behaviours and additional penetration of technologies such as batteries and smart meters.

For this reason, we believe that, in order to achieve an annual performance in line with expectations, the metric should deliver at least five months with improved forecasting accuracy compared to the same months over the last three financial years.

This means that during the year we would have improved forecasting accuracy for at least 5 out of 12 months. At the same time, we strive to improve our forecasting accuracy across the whole year to provide added value to market participants and consumers.

### Performance Benchmarks

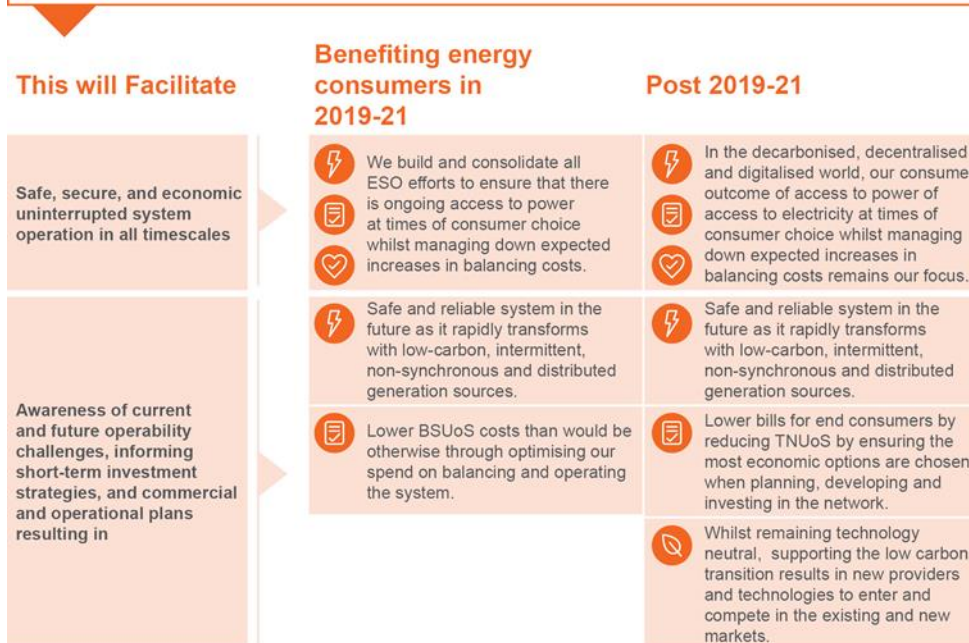
**Exceeds benchmark:** 8-12 months **In line with benchmark:** 5-7 months

**Below benchmark:** 0-4 months
































# Principle 2: Drive overall efficiency and transparency in balancing services, taking into account impacts of ESO actions across time horizons

## We are going to deliver



# Forward Plan Deliverables for 19/20 - Principle 2

	Activities	Deliverables	Meeting or Exceeding Baseline	Delivery Date	Delivering Consumer Benefit
1	Uninterrupted safe, secure system operation	Security Metrics	Meeting		    
2	Operability reports and information	Operability Strategy report and updates	Exceeding	Q1 & Q3 19/20	 
3	Transparency around our data used in our ENCC and close-to-real-time decision making	Publication of operational planning data	Exceeding	Q1 19/20	  
		Future of the ENCC	Exceeding	Q1 19/20	  
4	Electricity Operational Forum and Stakeholder engagement	Electricity Operational Forum	Meeting		 
5	Addressing operational issues	Rollout of loss of Main Protection Settings, including procurement methodology, tender rounds, reviewing methodology	Exceeding	19/20	 
6	Upgrade Information Systems	Frequency and Time Equipment	Meeting	Q4 19/20	 
		Ancillary services dispatch platform (ADSP)	Meeting	Q2 19/20	 
		European Network Codes	Exceeding	Q3 19/20	 
		Pi gateway refresh (Scottish Tos)	Meeting	Q4 19/20	 
7	Balancing Cost Management	Balancing Metric			   



# Forward Plan Metric for 2019/20 – Principle 2

## Benchmark

A new simple benchmark for expected balancing costs will be derived from the application of a linear trend through five year moving averages of historic balancing cost (excluding Black Start), beginning with the rolling mean for 2009-2013 to 2013-17.

We intend to use historical data to develop a baseline of costs. By applying a historical dataset that intrinsically reflects a broad range of operational situations we can capture a sufficient number of observations that the System Operator has encountered to establish a baseline for costs.

**The historical data produces a benchmark for 2019-20 of £1018.7m**



## Adjustments

In recognition that there are a number of foreseeable fundamental drivers that might impact balancing costs but which historical costs might not reflect, we will also include additional adjustments. The adjustments for these foreseeable fundamental drivers this year are:

### HVDC availability

Availability of the Western HVDC Link will continue to have a downward impact on the rolling average, reducing the constraint spend we would anticipate for managing flows from Scotland into England.

**We forecast a reduction in balancing spend of £136.4m**

### RoCoF and Vector Shift

A programme of work is planned to start in 2019-20 to change the settings of existing RoCoF relays and replace Vector Shift relays

**We forecast an increased balancing spend of £100m and £10m for direct payments to generators to change their settings**

### South East reinforcement work

We anticipate higher costs in operating the system caused by the unavailability of transmission assets in the South East of the network. This will be for 12 weeks and is to deliver reinforcements recommended by the Network Options Assessment (NOA) process.

**We forecast an increased balancing spend of £60m to manage transmission network flows during this work.**

### Other Drivers

Scottish Security – additional cost to manager generator outages in Scotland

Capacity Market Suspension could increase balancing costs where margins are short

**Overall Benchmark for 2019-20  
£1052.3m**

# Shape our Forward Plan

#FPr1

<https://www.sli.do/>



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## **Role #2: Facilitating competitive markets**

Cathy McClay

*Head of Future Markets*

# Our Long Term Vision



## Principle 3

Ensure the rules and processes for procuring balancing services maximises competition where possible and are simple, fair and transparent

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## Principle 4

Promote competition in the wholesale and capacity markets

# Principle 3: Ensure the rules and processes for procuring balancing services maximises competition where possible and are simple, fair and transparent

## We are going to deliver










# Principle 3 Deliverables

Ref	Deliverable	Delivery Date	Meeting or exceeding baseline expectations	Delivering consumer benefits		
3.1	Rollout of full functionality in frequency response auction trial	Q2 2019-20	Exceeding baseline			
3.2	Report on development of new frequency response product suite	Q4 2020-21	Exceeding baseline			
3.3	Report on auction trial	Q1 2021-21	Exceeding baseline			
3.4	Market design for reformed reserve products	Q4 2019-20	Exceeding baseline			
3.5	Report on our plan for retaining standard products	Q1 2019-20	Meeting baseline			
3.6	Start migration of non-BM Short-Term Operating Reserve (STOR) providers to ASDP	Q2 2019-20	Meeting baseline			
3.7	Implementation of Pan-European replacement reserve standard products	Throughout 2019-21	Meeting baseline			
3.8	Communicate reactive power requirements & historic spend	Q2 2019-20	Exceeding baseline		 	
3.9	Implement approach for efficient reactive power flows between networks	Q2 2020-21	Exceeding baseline			
3.10	Work with industry to determine future role for reactive power and design more competitive reactive power services	Q4 2018-19 – Q2 2020-21	Exceeding baseline			
3.11	Commence implementation plan to enable rollout new approach to competitive reactive power services	Q3 2020-21	Exceeding baseline			
3.12	Power Potential trial with UK Power Networks (UKPN)	Q2 – Q4 2019-20	Exceeding baseline			
3.13	Review learning from Power Potential	Q4 2019-20	Meeting baseline			
3.14	Alternative Approaches to Restoration	Q1 2019-20	Exceeding baseline			 
3.15	Develop and evolve a market approach for the procurement of Black Start services	Q4 2019-20	Exceeding baseline			



# Principle 3 Deliverables

Ref	Deliverable	Delivery Date	Meeting or exceeding baseline expectations	Delivering Consumer Benefit
3.16	Deliver innovation projects to unlock demand flexibility	Q1-Q4 2019-20	Exceeding baseline	 
3.17	Power Responsive Stakeholder Engagement	Q1 2019-20 – Q4 2020-21	Meeting baseline	
3.18	Clearer accession requirements for BM participation and enable aggregated BMU participation in balancing services	Q1 2019-20	Meeting baseline	  
3.19	Use better technology/systems to improve efficiency of installing communications with BM providers and optimising BMU dispatch	Delivery throughout 2019-20	Meeting baseline	
3.20	Support industry work on providing and delivering against Physical Notifications (ELEXON led) and also support on work on accurate settlement for behind the meter	Q3 2019-20	Meeting baseline	
3.21	Raise code modification to apply Power Available consistently across technical & commercial codes	Q1 2019-20	Meeting baseline	 
3.22	Publish Power Park Module signal best practice guide	Q2 2019-20	Exceeding baseline	
3.23	Deliver Power Available integration phase 1	Q3 2019-20	Exceeding baseline	
3.24	Publish wider strategy on flexibility from intermittent generation	Q4 2019-20	Exceeding baseline	
3.25	Deliver Power Available integration phase 2	Q1 2020-21	Exceeding baseline	
3.26	Feedback approach	Q1 2019-20	Meeting baseline	
3.27	Improved online resources	Q1 2019-20	Meeting baseline	

# Principle 3 Metrics

## Metric 5 - Provider Journey Feedback

### Metric

Feedback score from the four key points identified in the provider journey:

#### 1. Onboarding Survey Questions

1.1 I found it easy to find the information I needed?

1.2 I was provided with information of sufficient quality to enable me to make an informed decision?

1.3 What can we do to improve the accessibility of our information? (Free comments box)

#### Tendering

1.4 What type of participant are you?

1.5 I have the information I need to understand Firm Frequency Response tender results. On a scale of 1-5, with 1 for disagree and 5 for agree.

1.6 On a scale of 1-5, with 5 being the most useful how would you rate the usefulness of the Firm Frequency Response results webinar?

1.6 What can we do to improve transparency of the Firm Frequency Response tender results?

#### Contracting

#### Query management

(Questions 1 & 2 are rated on a 5-point scales: strongly agree to strongly disagree)

### Performance Benchmarks

**Exceeds benchmark:** average of 3.5/5 or above

**In line with benchmark:** average of 2.5 or above

**Below benchmark:** average less than 2.5



# Principle 3 Metrics

## Metric 6 - Reform of balancing services markets

### Metric

#### **Metric part one:**

This metric will measure how reforms are facilitating the entry of non-traditional providers into balancing markets. We will map service provider technology types against current services and the accessibility of these services has been categorised into three groups:

- Red – significant barriers to entry with no solution implemented
- Amber – interim solution implemented
- Green – Interim solution implemented to enable commercial access

#### **Metric part two:**

This metric will measure the direction of travel away from bilateral arrangements, towards open and accessible market opportunities. We have attributed balancing spend to three categories that describe the openness of the procurement approach:

- Commercial (bilateral)
- Mandatory
- Tendered

On a quarterly basis information will be presented in a chart for each service that shows cumulative spend broken down into the three categories of procurement approach to provide supporting narrative on our progress.

### Performance Benchmarks

**Exceeds benchmark:** Completing >75% of deliverables, and the shift in service accessibility, would constitute the metric exceeding the benchmark.

**In line with benchmark:** Completing 50-75% deliverables, and the associated shift in service accessibility, would constitute the metric being inline with the benchmark.












**Below benchmark:** Completing <50% deliverables would constitute below the benchmark.

# Principle 4: Promote competition in the wholesale and capacity markets


We are going to deliver



# Principle 4 Deliverables

Ref	Deliverable	Delivery Date	Meeting or exceeding baseline expectations	Delivering Consumer Benefits
4.1	Meeting calendar & transparency of workgroups	Q1 2019-20	Meeting baseline	  
4.2	Governance process FAQs, improved guidance material and critical friend review	Q2 2019-20	Meeting baseline	
4.3	Facilitation of pre-modification discussions	Q3 2019-20	Meeting baseline	
4.4	Incorporation of all 14 Code Administrator Code of Practice (CACoP) Principles	Q3 2019-20	Meeting baseline	
4.5	Engage all parties to understand information requirements for code modifications and provide executive summaries on modifications	Q1 2019-20	Meeting baseline	 
4.6	Code administrator website	Q3 2019-20	Meeting baseline	
4.7	Governance surgeries	Q2 2019-20	Exceeding baseline	
4.8	Historical timelines & horizon scanning: cross-code	Q2 2019-20	Exceeding baseline	
4.9	Horizon scanning: strategic	Q3 2019-20	Exceeding baseline	
4.10	Stakeholder seminars	Q4 2019-20	Exceeding Baseline	
4.11	Leadership in the successful transformation of electricity access and charging	Q2 2019-20	Exceeding baseline	   
4.12	Leadership in the Energy Codes Review	Q1 2019-20	Exceeding baseline	
4.13	Working for you on European matters	Q1 2019-20	Exceeding baseline	
4.14	Unlocking whole system network development opportunities	Q1 2019-20	Exceeding baseline	
4.15	Developing and driving targeted market improvements	Q1 2019-20	Exceeding baseline	 
4.16	Facilitate electricity network charging reform through Charging Futures	2019-21	Exceeding baseline	

# Principle 4 Deliverables

Ref	Deliverable	Delivery Date	Meeting or exceeding baseline expectations	Delivering Consumer Benefits
4.17	Improve our ESO charging query processes	Q1 2019-20	Meeting baseline	
4.18	Improve understanding of our onboarding processes and streamline to meet our customer needs	2019-20	Meeting baseline	
4.19	New data reports for BSUoS	Q1 2019-20	Exceeding baseline	
4.20	Reform of website content in to a user-centric knowledge base	Q2 2019-20	Exceeding baseline	
4.21	Publications and guidance of the impact of charging reform to our customers	Ongoing from Q2 2019-20	Exceeding baseline	
4.22	Introduce new 'new entrant' e-learning on charging	2019-20	Exceeding baseline	
4.23	Improve the digital customer experience for TNUoS, BSUoS and Connection Charging Data; including the introduction of a new NGESO billing system	Q1 – Q4 2020-21	Exceeding baseline	
4.24	Establish a 'cross party' approach to onboarding, mapping out whole industry requirements	Q1 – Q4 2020-21	Exceeding baseline	

# Principle 4 Metrics

## Metric 7 - Code administrator: stakeholder satisfaction

### Metric

We acknowledge that there is considerable effort required to successfully achieve the step change required in this area, so for 2019-20, we continue to target increased performance for each of our codes when benchmarked against our previous CACoP survey scores.

### Performance Benchmarks

**Exceeds benchmark:** Increased overall performance across all of our three codes (STC/CUSC/Grid Code) in the 2020-21 CACoP survey due to be carried out in spring 2020; benchmarked with our previous scores.

**In line with benchmark:** no improvement in overall performance across all of our three codes (STC/CUSC/Grid Code) in the 2020-21 CACoP survey due to be carried out in spring 2020; benchmarked with our previous scores.

**Below benchmark:** Decreased overall performance across all of our three codes (STC/CUSC/Grid Code) in the 2020-21 CACoP survey due to be carried out in spring 2020; benchmarked with our previous scores.

In addition to CACoP surveys, we will also seek feedback from our stakeholders through the use of surveys at set points in the year and following key deliverables such as the conclusion of workgroups. These survey's will be able to target our stakeholders' key expectations of the service we provide them and give continuous feedback for us to respond to and iterate on our improvements.

**Exceeds benchmark:** Increased overall performance across all of our three codes (STC/CUSC/Grid Code); benchmarked with our previous scores.

**In line with benchmark:** no improvement in overall performance across all of our three codes (STC/CUSC/Grid Code); benchmarked with our previous scores.

**Below benchmark:** Decreased overall performance across all of our three codes (STC/CUSC/Grid Code); benchmarked with our previous scores.

# Principle 4 Metrics

## Metric 8 - Charging Futures

### Metric

Our success as lead secretariat should be judged against our ability to maintain the overall scores for these measures throughout the year. This will be calculated by periodically repeating the survey throughout the year and averaging these scores. These scores will then be compared against the initial baseline score.

### Performance Benchmarks

**Exceeds benchmark:** Average scores from surveys undertaken throughout the year are higher than the baseline score.

**In line with benchmark:** Average scores from surveys undertaken throughout the year equal the baseline score.

**Below benchmark:** Engagement scores achieved throughout the year fall below the baseline score.

As further evidence of the outcomes that we are achieving for Charging Futures members, we will supplement the primary survey measures through the continued collection of supporting metrics. Many of the secondary metrics will be determined through an assessment of the utilisation of the Charging Futures web portal ([www.chargingfutures.com](http://www.chargingfutures.com)).

# Principle 4 Metrics

## Metric 9 – Year ahead forecast vs outturn annual BSUoS

### Metric definition and targets

This metric compares the BSUoS forecast made at the start of the financial year against outturn using the concept of an Absolute Percentage Error (APE)<sup>7</sup>.

**Exceeds benchmark:** exceeding target is under 10% APE.

**In line with benchmark:** proposed baseline target is less than 20% APE.

**Below benchmark:** underperforming greater than 20% APE.

Performance can be driven by within year events so we won't have a clear picture of the result until the end of the year. We therefore don't expect to report on this measure on a monthly basis and introduce metric 9 at a monthly granularity.

## Metric 10 – Month ahead forecast vs outturn monthly BSUoS

### Metric

The metric will count the occurrences of absolute percentage error (APE) for our monthly forecast with outturn data available at month end

### Performance Benchmarks

**Exceeds benchmark:** Exceeding is meeting baseline performance and five or more forecasts less than 10% APE.

**In line with benchmark:** Of the 12 forecasts over a financial year, baseline performance is less than five forecasts above 20% APE.

**Below benchmark:** five or more forecasts above 20% APE.

# Shape our Forward Plan

#FPr2

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**Roles #3:  
Facilitating whole  
system outcomes**

**& Role #4:  
Supporting  
competition in  
networks**

Julian Leslie

*Head of Networks*

# Our Whole Electricity System Ambition

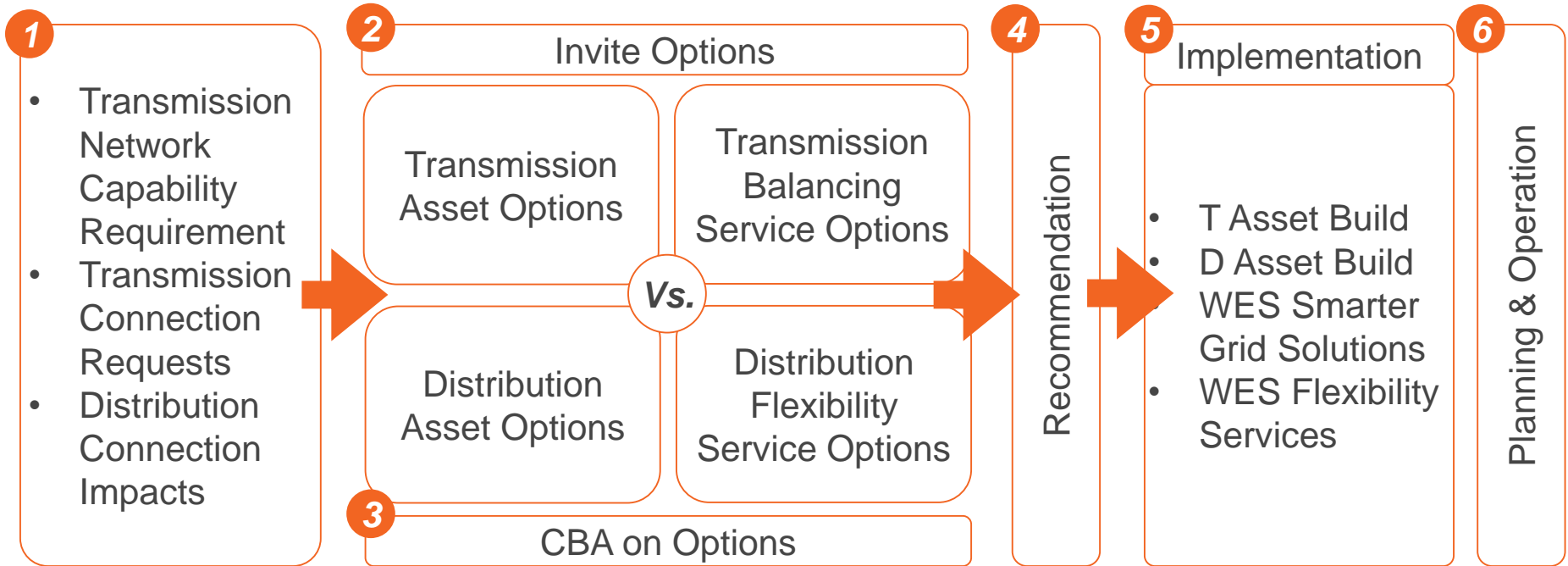
Our whole electricity system **ambition** is that:

- Planning, development, investment and operation of the GB networks will be optimised on a whole electricity 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**.
- **Best overall value for consumers will be achieved**, irrespective of the ESO or DSO performing the analysis.

The **story so far**:

- First two RDPs progressing through their delivery phase
- Two further RDPs well under way, with a fifth in early-stage development
- Increased engagement activity across network users
- Regional WES solutions to transmission needs being tested via NOA pathfinding projects

# Possible 'Whole Electricity System' end-state for Network Investment, Planning & Operation

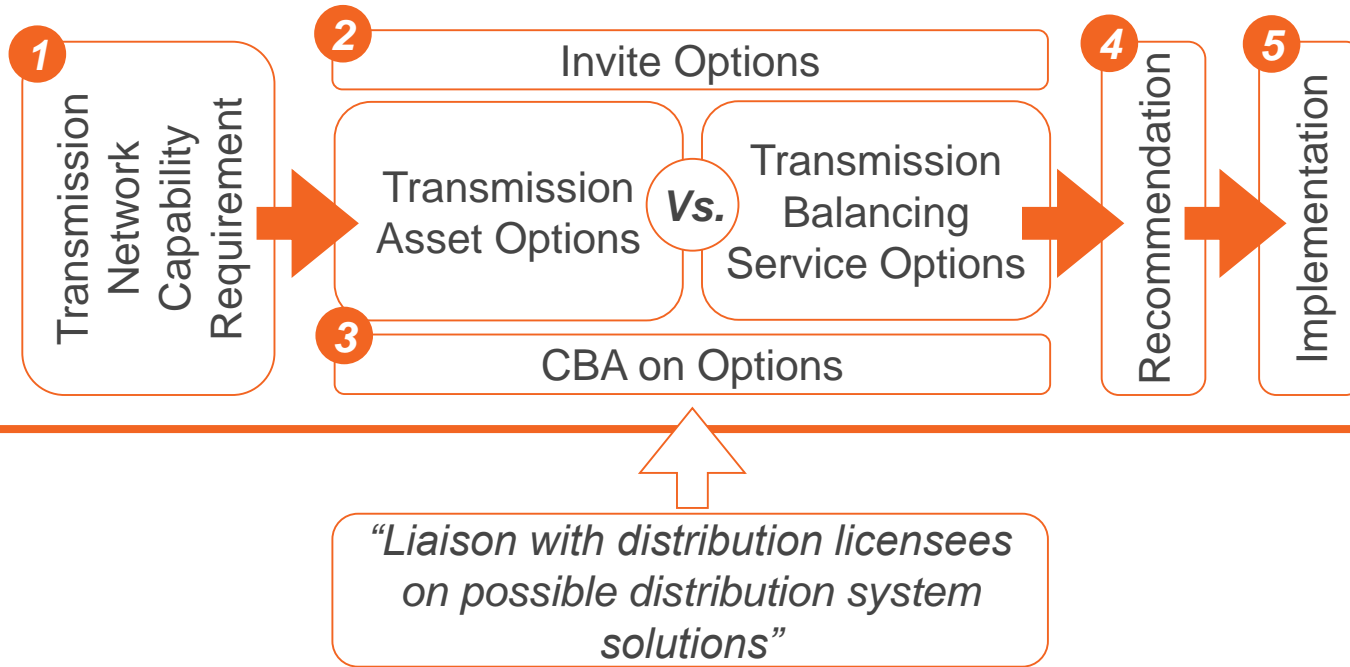


# Network Investment



# Existing transmission approach to network Investment

**RIIO Baseline**



**Key:**

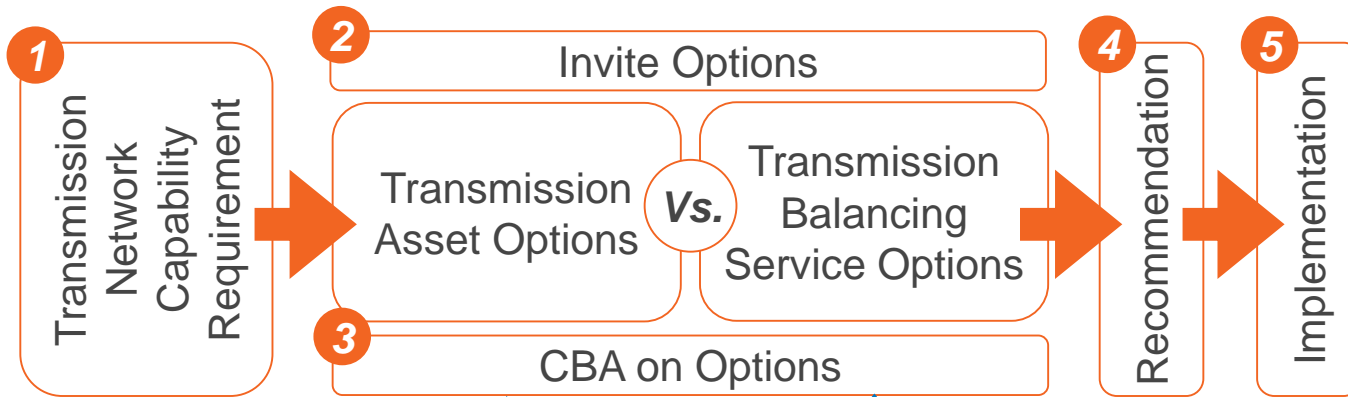
*Incremental improvements through RIIO-T1*

*Currently out of scope for T*

*FP deliverables to address gaps*

# Towards a 'Whole Electricity System' approach to network Investment

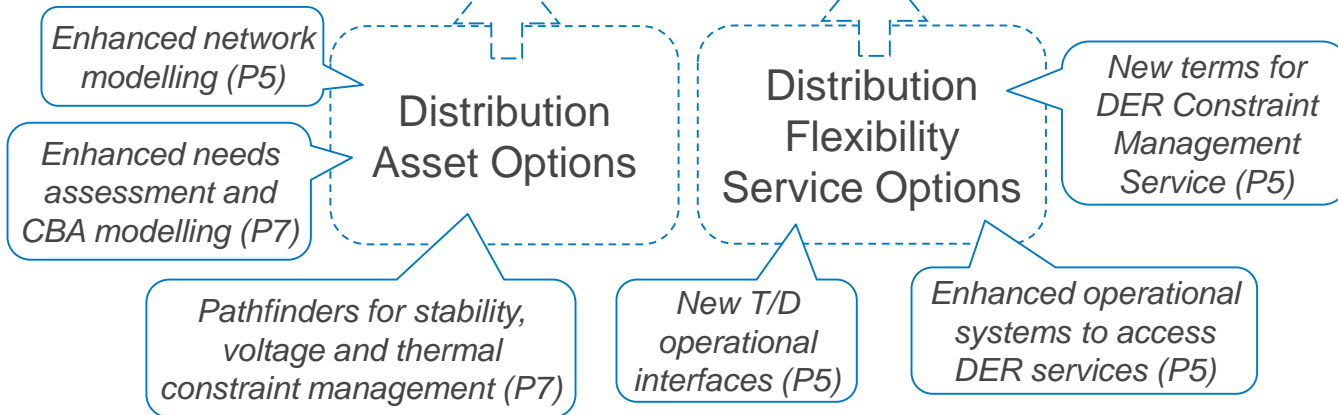
**RIO Baseline**



**Key:**

- Incremental improvements through RIO-T1* (Solid orange box)
- Currently out of scope for T* (Dashed blue box)
- FP deliverables to address gaps* (Blue callout box)

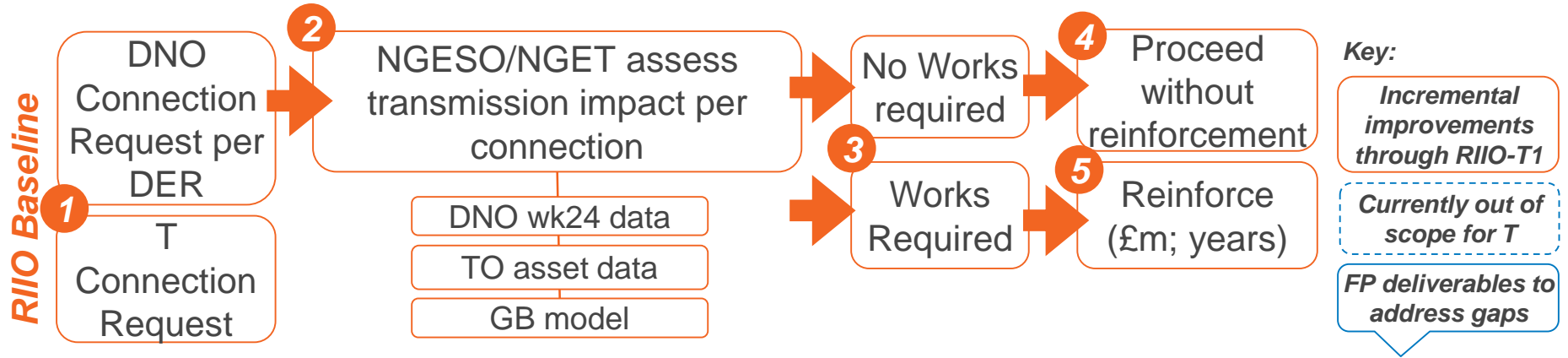
**Exceeding Baseline**



# Network Connection

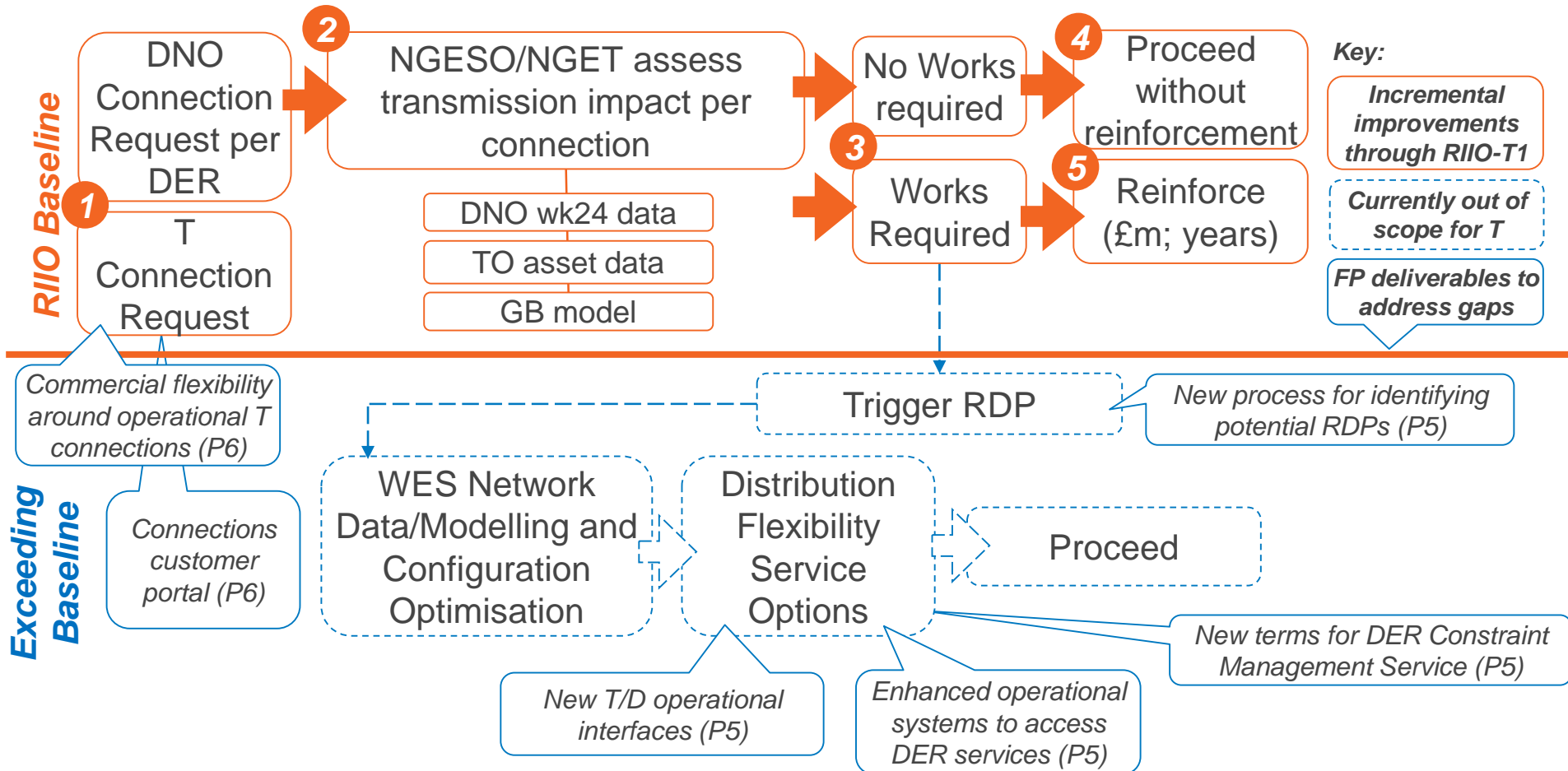


# Existing Transmission approach to network connection





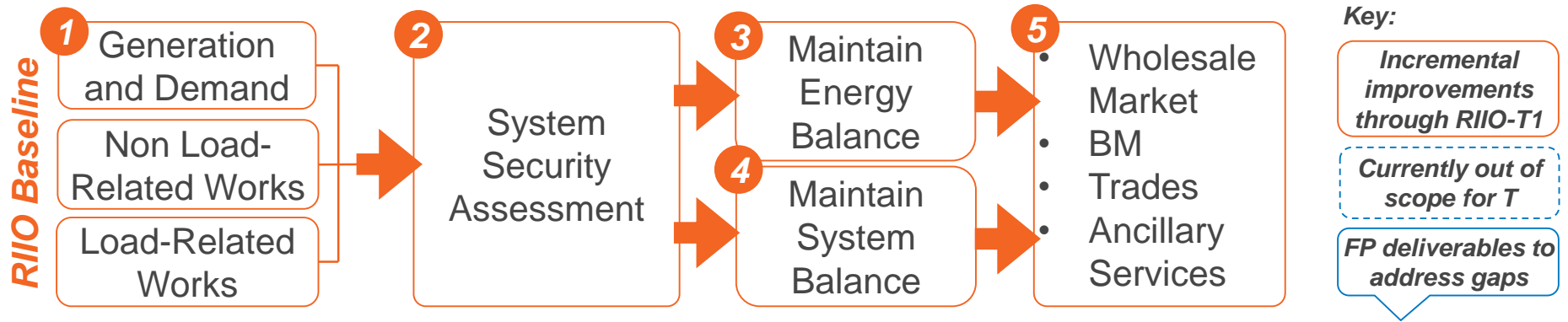
# Towards a 'Whole Electricity System' approach to network connection



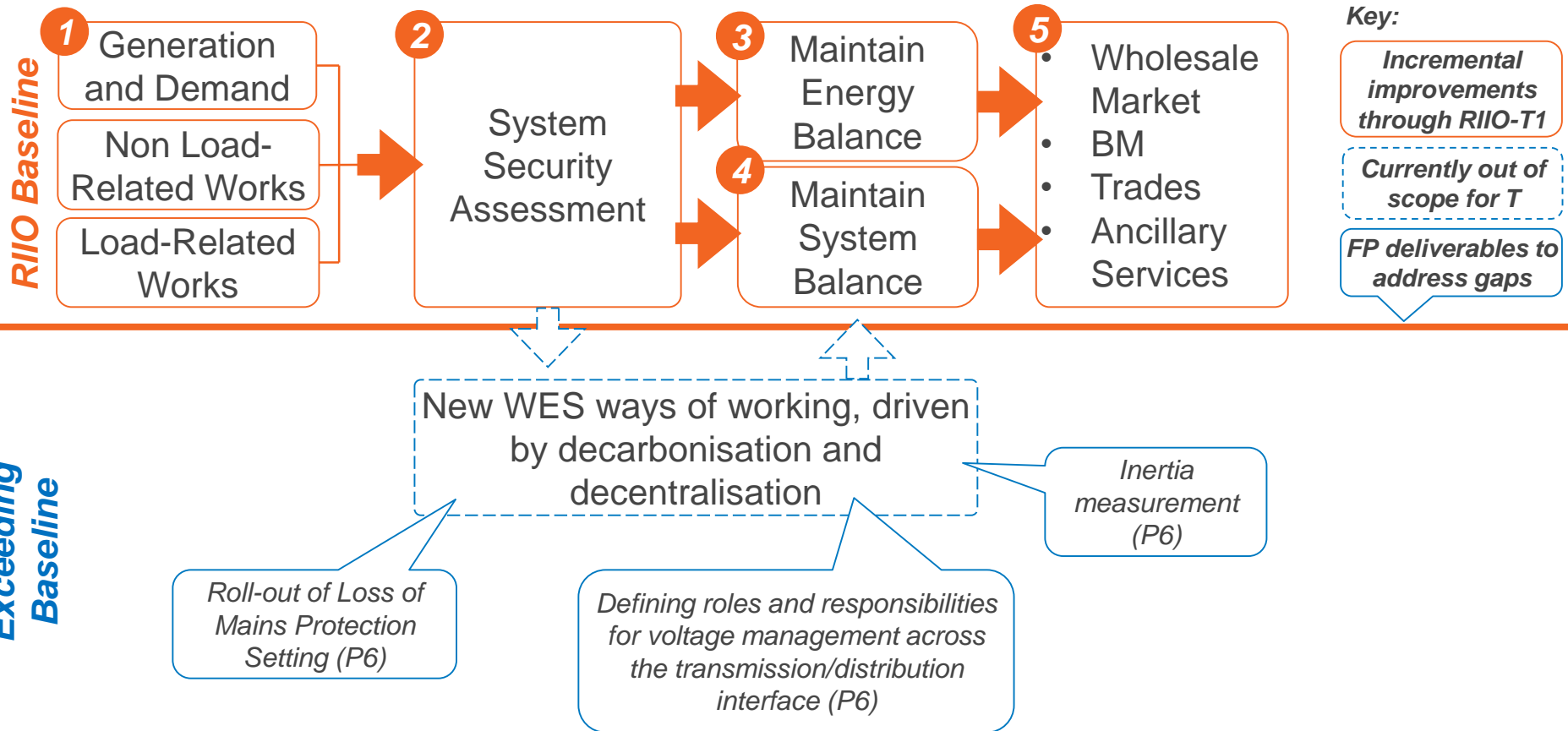
# Network Planning & Operation



# Existing Transmission approach to network planning & operation



# Towards a 'Whole Electricity System' approach to network planning & operation



# Principle 5 Deliverables

Ref	Deliverable	Delivery Date	Meeting or exceeding baseline expectations	Delivering Consumer Benefit
5.1	Commercial contracts for balancing services from DER	Q4 2019-20	Exceeding baseline	
5.2	Enhanced systems to facilitate balancing services from DER	Q2 2020/21	Exceeding baseline	
5.3	Automated dispatch capability for generation in highly constrained areas	To be confirmed.	Exceeding baseline	
5.4	RDP identification process	Q3 2019-20	Exceeding baseline	

# Principle 5 Metrics

## Metric 11 - Whole system, unlocking cross-boundary solutions

### Metric

Assessment of the performance will be on an ex-post basis, using:





- 1.The level of DER MW that have signed contracts to connect to the distribution networks; and
- 2.A narrative setting out how we have established the conditions under which these new connections have been made possible.

The baseline date for each region is that when the conditions to facilitate further connections were established; as follows:

Region	Date
South-East England	1st April 2019
South-West England	1st April 2019

This metric is designed as a measure of the effectiveness of the systems, contracts and processes we implement in 2019-21, as measured by new capacity contracted at distribution level.

# Principle 6 Deliverables

Ref	Deliverable	Delivery Date	Meeting or exceeding baseline expectations	Delivering Consumer Benefit
6.1	Extended roll out of enhanced whole system data exchange	Q2 2019-20	Meeting Baseline	
6.2	Commercial flexibility around operational connections	Q1 2019-20	Exceeding Baseline	
6.3	Roll out of Loss of Mains Protection setting	Commencing Q1 2019-20	Exceeding Baseline	
6.4	Defining roles and responsibility for voltage management across the transmission-distribution interface	Q3 2019-20	Exceeding Baseline	
6.5	Inertia Measurement	Q3 2019-20	Exceeding Baseline	
6.6	Transmission Outage and Generator Availability (TOGA) replacement	Q4 2019-20	Meeting baseline	
6.7	Customer journey mapping - outage planning	Q1 2019-20	Meeting baseline	
6.8	Connections customer portal		Exceeding baseline	
6.9	ESO thought leadership – how our role will evolve	Q1 2019-20	Exceeding baseline	
6.10	Whole Electricity System learnings paper	Q2 2019-20, update Q2 2020-21	Exceeding Baseline	
6.11	ENA Open Networks project 2019 ESO input	Q3 2019-20	Meeting baseline (although certain roles may be exceeding)	
6.12	ENA Open Networks project Whole Energy System lead	Q1 2019-20	Exceeding baseline	

# Principle 6 Metrics

## Metric 12 - System access management

### Metric

This metric looks to drive down the number of planned outages that are delayed by more than an hour or cancelled by us in the control phase due to process failure, investigating the reason for cancellations and putting in place changes into the process where appropriate to prevent a repeat. Sometimes we should cancel system access requests that have been accepted into the plan because these are no longer securable or the costs are too high. We will continue to cancel system access requests where needed; however this number should be as low as practical to avoid costs for external stakeholders and our costs in re-planning these requests. The tension between these two aspects is dynamic and so the ESO will work to reduce the number of control phase cancellations out of every 1,000 system access requests.

This measure is a count of the number of outages out of every 1,000 delayed by more than an hour or cancelled within day.

### Performance benchmarks

**Current performance:** 11.5 delays more than an hour or cancellations within day per 1,000 outages accepted into the master outage plan.

**Exceeds benchmark:** Less than 10.4 per 1,000 outages (more than 10% reduction).

**In line with benchmark:** 10.9 -10.4 per 1,000 outages (5-10% reduction).

**Below with benchmark:** More than 10.9 per 1,000 outages (less than 5% reduction).



# Principle 6 Metrics

## Metric 13 - Connections agreement management

### Metric

This metric will measure how long it takes from the point of notification for these agreements to be updated. This metric drives efficient and effective management of existing connections contracts by measuring the percentage of contracts up to date within nine months.

### Performance benchmarks

**Current performance:** = 86%.

**Exceeds benchmark:** >90% of agreements to be updated within nine months of notification.

**In line with benchmark:** 80-90% of agreements to be updated within nine months of notification.

**Below benchmark:** < 80% of agreements to be updated within nine months of notification.

## Metric 14 - Right first time connection offers

### Metric

To measure the quality of a customer's connection offer we will use a right first time measure. The right first time metric will report all connection offers signed within a calendar month and identify if a 'reoffer' has been made (i.e. the offer was not right first time and needed rework) and what the root cause for the rework was. Any reoffers directly attributable to the ESO will impact the performance of the metric. Any rework driven by a TO or driven by a customer change to requirements during the process will be excluded from the metric performance but reported for information only.

### Performance benchmarks









**Current performance:** = 94%.

**Exceeds benchmark:** >95% of offers right first time.

**In line with benchmark:** 95% of offers right first time.

**Below benchmark:** < 95% of offers right first time.

# Principle 7 Deliverables

Ref	Deliverable	Delivery Date	Meeting or exceeding baseline expectations	Delivering Consumer Benefits
7.1	Stability pathfinder	Q1 2019-20 to Q1 2020-21	Exceeding baseline	
7.2	South Wales and Mersey Voltage pathfinder	Q1 to Q2 2019-20	Exceeding baseline	  
7.3	Pennines Voltage pathfinder	Q1 to Q2 2019-20	Exceeding baseline	
7.4	Constraint Management Pathfinder	Q2 to Q4 2019-20	Exceeding baseline	
7.5	Voltage needs identification tools/ processes	Q1 to Q3 2019-20	Exceeding baseline	  
7.6	Thermal probabilistic assessment tool / process	Q2 - Q3 2019-20	Exceeding baseline	
7.7	Improve accessibility of the Electricity Ten Year Statement (ETYS) and Network Development Assessment (NOA) publications	Q1 2019-20 to on-going	Meeting baseline	 

# Principle 7 Metrics

## Metric 15 - NOA consumer benefit

### Metric

This metric will count how many of the reduced-build options that have been submitted to the NOA process appear in the optimal path and, where this is the case, what their consumer value is. Further it will also include the number of non-TO solutions received for system needs assessed by a NOA style approach, and the consumer benefit these solutions deliver, where the need is not driven by network compliance.

For clarity, we will only include reduced-build options that have been initiated by us as this will drive us to continue to be proactive in looking for these options.

This metric will include two aspects: the number of reduced build options appearing in optimal paths and non-TO solutions, and the consumer value driven by these options. The number of options is expressed as a count and the consumer value will be based on £/kW saving for alternative options against traditional build options or against taking actions in the balancing mechanism.

### Performance Benchmarks

**Exceeds benchmark:** Larger number of value-add options than target and consumer benefit greater than or equal to 10% in excess of target.

**In line with benchmark:** Number of value-add alternative options meets target and consumer benefit within 10% of target.

**Below benchmark:** Number of value-add alternative options below target and consumer benefit below 10% of target.

# Shape our Forward Plan

#FPr34

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# Preparing our Final Forward Plan



Please send your consultation response to  
[box.soincentives.electricity@nationalgrid.com](mailto:box.soincentives.electricity@nationalgrid.com)

Please give us feedback on today's event:  
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