Our pathway to Net Zero (external)

Our direct emissions

27th March 2020

nationalgrid

Welcome to our webinar on our pathway to Net Zero

- Thank you for joining us! You will be joined in listen only mode.
- Please do not unmute yourself or turn your camera on.
- Please note we will be recording this webinar.
- The recording, slides and Q&A will be made available on our website.

Your hosts:

Alison Fulford
Environmental Manager
Alison.Fulford@nationalgrid.com

Carolyn Gardner
Incentives Officer
Carolyn.gardner@nationalgrid.com

Agenda

1. The net zero challenge
2. Our commitment
3. Our approach
4. Next steps
5. Future engagements

Quick Poll #1

What is the reason for your interest today?

- To learn about National Grid's commitment to net zero
- To learn about more about the pathway to net zero
- General interest
- All of the above
- Other

Electricity Transmission

01

The net zero challenge

nationalgrid

UK commits to net zero CO2 emissions by 2050

News story

UK becomes first major economy to pass net zero emissions law

New target will require the UK to bring all greenhouse gas emissions to net zero by 2050.

Published 27 June 2019
From: Department for Business, Energy & Industrial Strategy and The Rt Hon Chris Skidmore MP

Chris Skidmore signs legislation to commit the UK to a legally binding target of net zero emissions by 2050

The UK is now committed by law to the most aggressive climate target in the world

The country also went two whole weeks without burning coal for electricity.

By Umair Irfan | Updated Jun 27, 2019, 4:37pm EDT

SHARE

NET ZERO
energy • waste • water

MOST READ

UK government commits to net zero CO2 emissions by 2050

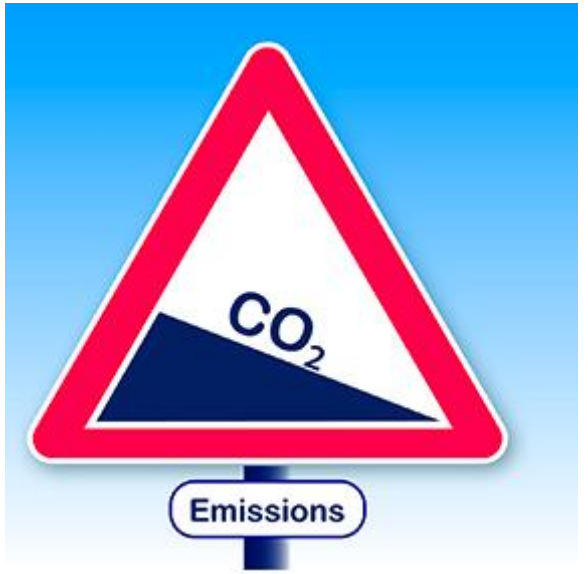
Image Credit : "Wind Turbines" by Johnny Greig via Flickr is licensed under CC BY 2.0
June 13, 2019

What does net zero actually mean?

‘Net zero’ refers to achieving an overall balance between emissions produced and emissions taken out of the atmosphere.

This contrasts with a gross-zero target, which would reduce emissions from all sources uniformly to zero, a net-zero emissions target is more realistic because it allows for some residual emissions.

In a net-zero scenario the residual emissions from these sectors are allowed as long as they are offset by removing emissions using natural or engineered sinks.



Why net zero by 2050?

If other countries follow the UK's lead and reach net zero emissions by 2050, the Committee on Climate Change advised there would be a 50% chance of avoiding that 'catastrophic' 1.5° C temperature rise by the year 2100.

2050 was also seen as the first realistic date for net zero emissions to be achieved, balancing the urgent need to take action with the inevitable impact on the economy.

Electricity Transmission

02

Our commitment

nationalgrid

National Grid commits to net zero by 2050

National Grid has made a new commitment for reducing its own direct greenhouse gas emissions to **net zero** by 2050. It had previously set a goal for a 70% reduction by 2030 and 80% reduction by 2050 and is already on track to achieving them, having delivered a 68% fall in emissions to date.

National Grid Electricity Transmission

Our work involves building and maintaining the electricity transmission network – safely, reliably and efficiently. We connect sources of electricity generation to the network and transport it onwards to the distribution system, so electricity can reach homes and businesses.

Our net zero commitment:

0%

We will reduce our own direct greenhouse gas emissions to net zero by 2050

Quick Poll #2

What do you think of our net zero targets?

A) These targets are ambitious

B) These targets seem about right

C) They are not ambitious enough

D) I don’t know

Electricity Transmission

03

Our approach

nationalgrid

Our Underlying Assumptions

This webinar is focused on what we would like to achieve, assuming that there is **suitable funding** agreed for the RIIO-ET2 period from 2021-2026 and beyond.

Uncertainty Mechanisms

Meeting the government's net-zero legislated target at lowest cost to consumers requires us to have a suite of mechanisms that deal with cost and volume uncertainty whilst allowing us to maintain the strong efficiency.

We will work with Ofgem ahead of the start of the T2 period to confirm an appropriate Uncertainty Mechanism which will allow investment to flex meet net zero requirements like critical SF6 interventions

A three step plan

Step 1

Our direct emissions

We will reduce carbon emissions we can directly control through changes to our behaviour, policies and operations.

Key areas (scope 1 and 2 emissions):

- Release of insulating gases
- Energy used at our offices and operational sites
- Business and employee travel
- Transmission losses

Step 2

Our indirect emissions

We will reduce carbon emissions we can control indirectly through our wider value change via influencing our customers and supply chain.

Key areas (scope 3 emissions):

- Capital carbon/construction
- Supply chain emissions

Step 3

Facilitating a net zero energy system

We will enable the UK's progress to net zero by putting forward collaborative, innovative, and whole-system solutions to support policy makers deliver a low-carbon energy system.

Key areas include:

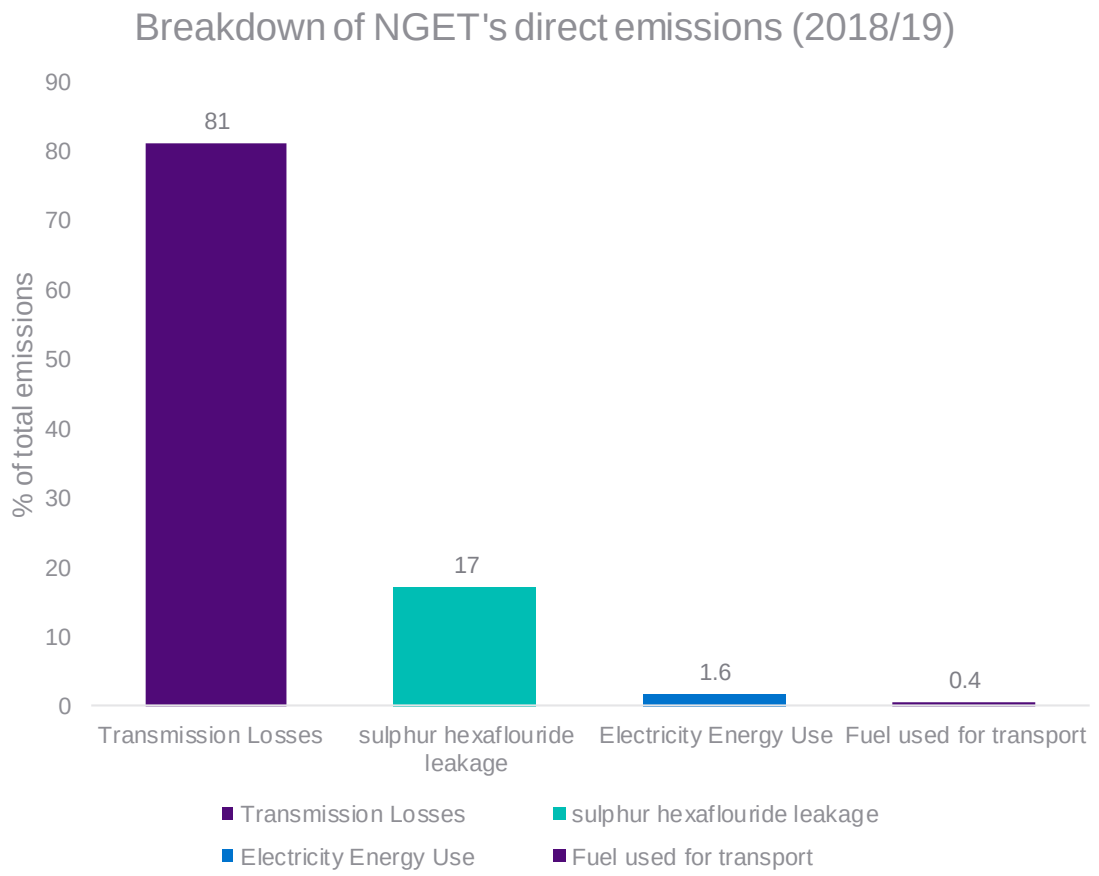
- Connecting new renewable generation
- Working as a whole system
- Using system flexibility to unlock network capacity

1. Our direct emissions

We will achieve net zero for our scope 1 and 2 emissions by 2050, with interim targets of:

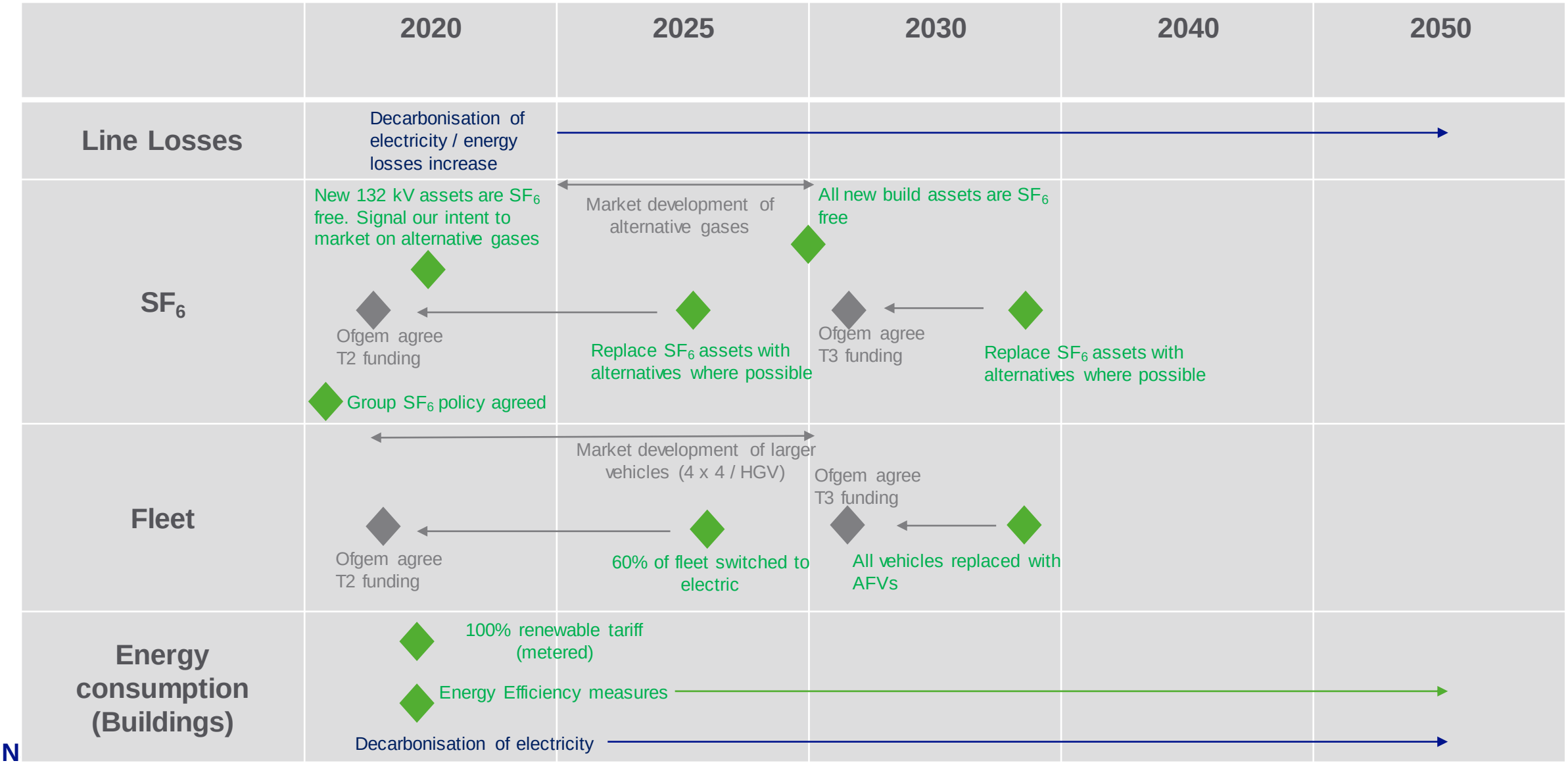
- **50% reduction by 2030 and,**
- **34% by 2026 from a 2018/19 baseline**

These are science-based targets, in line with limiting global temperature rise to 1.5C above pre-industrial levels.



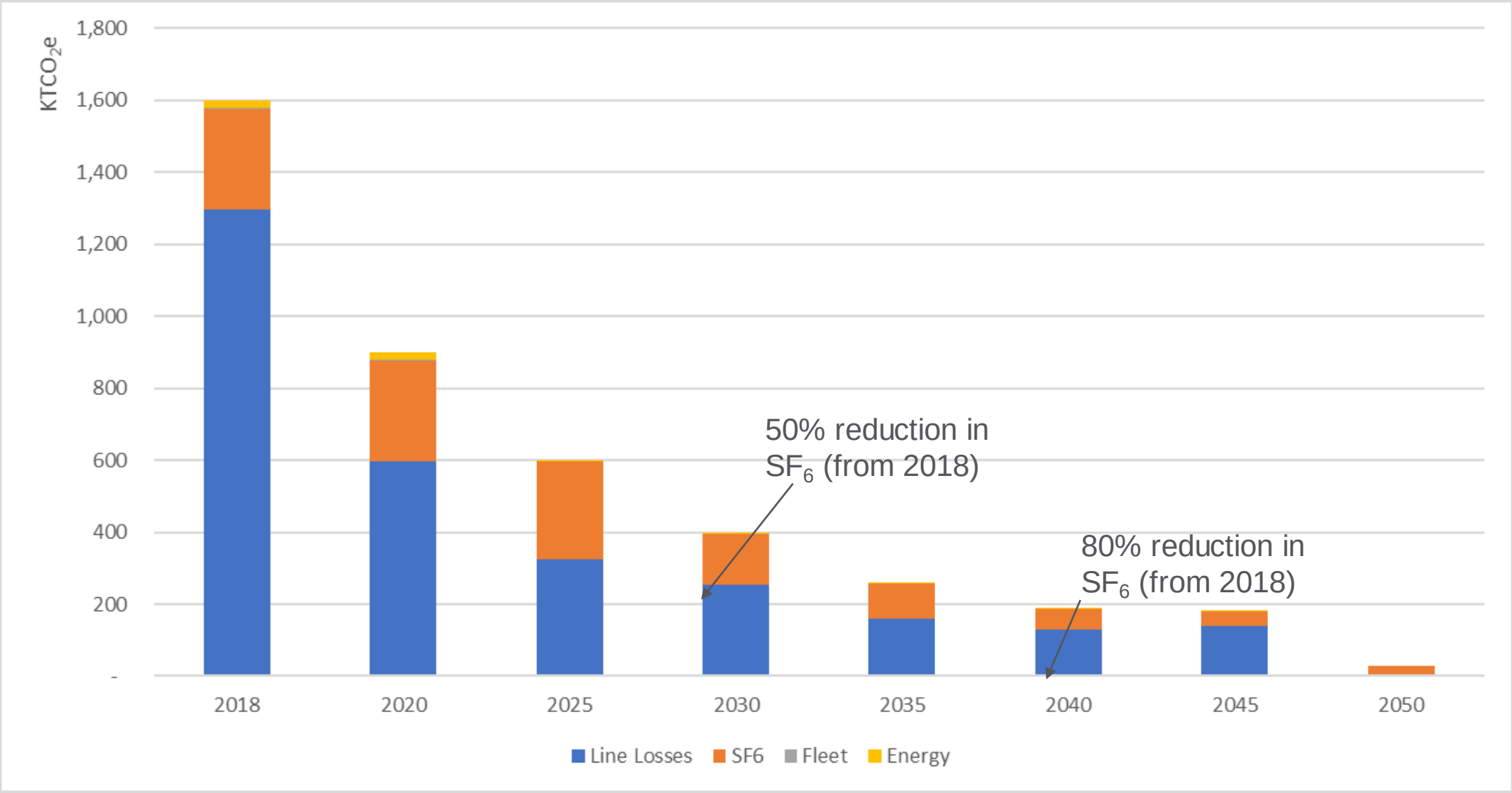
Electricity Transmission Roadmap to 2050 net-zero

ASSUMPTIONS
ACTIONS
CONDITIONS



N

Electricity Transmission emissions reduction



Transmission Losses

81%

NGET's emissions

The largest source of carbon emissions is from transmission line losses. We factor these losses into our investment decisions by applying a different carbon price to different conductors, which is the method we use to select investments that are economically justified.

There is a limited amount we can do to cost effectively reduce the emissions from transmission losses because they are mostly caused by the distance over which electricity travels. As electricity generation continues to decarbonise, the carbon emissions from the losses will decrease.

Because we have little control over these emissions, we will focus our attention to the other sources of our emissions, where we do have direct control.

Use of insulating gases

17%

NGET's emissions

In December 2019, NGET revised PS(T)005 & PS(T)028 – the policies that state our position on SF_6 gas and Substation Insulation. The intention is to minimise the amount of new SF_6 added to the system and prefer alternative technologies where commercially viable.

We have deployed 420kV GIB using g^3 gas from GE at Sellindge and Littlebrook, as well as 132kV at Lister Drive. This helps to avoid up to 150,000 tonnes of CO_2 being added.

We are developing 132kV GIS at Rugeley using AirPlus gas from ABB, due in 2021. This will include the Circuit Breaker element too.

We will deliver 132kV Live Tank GCBs in May 2020 using AirPlus from ABB.

We are looking at all schemes being developed for areas to deploy non-SF_6 technology. This review is applicable at all voltage levels and does take into account cost, technology availability and GWP of alternative technology.

Energy used at our offices & operational sites

1.6%

NGET's emissions

We will:

- **Purchase 100% of electricity we use from renewables**
- **Focus on an efficiency-first approach to decrease the carbon emissions from our office energy use by 20% from a 2019/20 baseline**
- **Create a substation energy efficiency programme**

Business and employee travel

0.4%

NGET's emissions

We will:

- **Replace 100% of our fleet with Alternative Fuel Vehicles (AFVs), where market alternatives are available today (2019)**
- **Reduce carbon emissions for our business transport by 10% on T1 averages**

Quick Poll #3

What do you think of our approach?

A) These targets are ambitious

B) These targets seem about right

C) They are not ambitious enough

D) I don't know

2. Our indirect emissions

We will reduce carbon emissions we can control indirectly through our wider value change via influencing our customers and supply chain.

We will:

- **Deliver net zero construction by 2026 following PAS 2080 guidelines**
- **75% of National Grid's top 250 suppliers (by category/spend) will have carbon reduction targets**

3. Facilitating a net zero energy system

We will enable the UK's progress to net zero by putting forward collaborative, innovative, and whole-system solutions to support policy makers deliver a low-carbon energy system.

We have looked at energy scenarios which would deliver a net zero 2050 generation mix and are using these to identify and anticipate future upgrades to the transmission system.

We will:

- **Be flexible to deliver the investment needed for net zero in the 2020s as the route to net zero is not yet clear**
- **Invest in equipment and technology to support the electricity system operator (ESO) to operate a net-zero carbon electricity system by 2025**
- **Work with stakeholders to overcome cross-sector challenges**

Quick Poll #4

Will you be interested in learning more about our approach to reducing indirect emissions and facilitating a net zero energy system?

A) Yes

B) No

C) Maybe

Electricity Transmission

04

Next steps

nationalgrid

Timelines and Next Steps

Externally

1. Dialogue with Ofgem on-going
2. Draft decision in summer
3. Final decision by end of year

Internally

- Working with key teams to gear up for this change
- Procurement and contracts
- Engagements

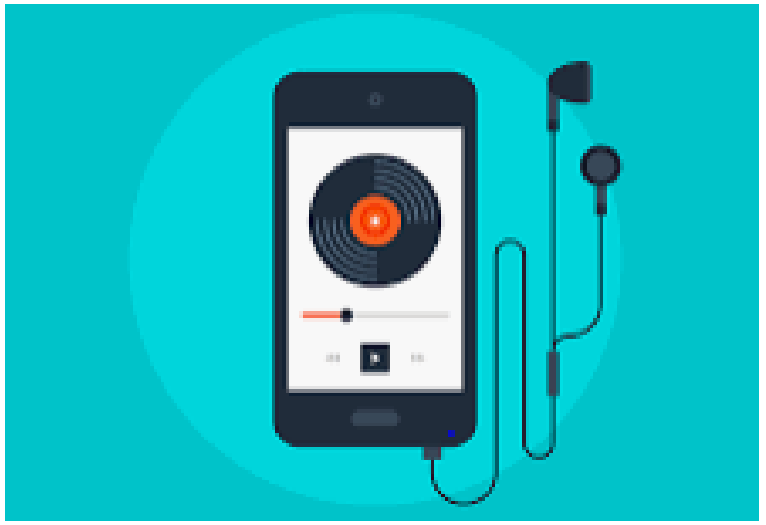
Electricity Transmission

05

Future engagement

nationalgrid

How would you like us to communicate progress?



Quick Poll #5

What is your preferred method of engagement?

A) Email

B) Webinars

C) Podcasts

D) Yammer

E) Social media

F) Brown bag lunch sessions

G) Other…

Any questions?

nationalgrid