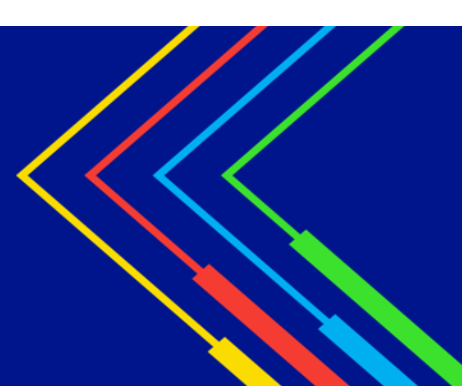


National Grid's Response to Department for Transport's Jet Zero Consultation

8th September 2021



National Grid sits at the heart of Britain's energy system, connecting millions of people and businesses to the energy they use every day. We understand our responsibilities to the environment and future generations, so we are committed to developing innovative solutions to enable the transition to a clean inclusive economy and environment that targets carbon reductions and air quality. Furthermore, as we look ahead toward recovering from the COVID-19 pandemic, it is important that we seize the opportunity to be world leading in decarbonising our economy as a driver of economic growth. We are committed to working closely with Government, regulators, and industry in order to bring energy, transport and digital together to deliver this ambition. We are delighted to respond to the Department for Transport's consultation and would welcome further engagement. Additionally, National Grid has three helicopters in its fleet and uses them for asset evaluation, inspection, and visual patrol purposes.

National Grid welcomes the proposals set out in the consultation and they align with what we have heard from stakeholders in the aviation sector. We will continue to engage with stakeholders to understand their requirements and how we can help to achieve the targets for 2040 and 2050. We anticipate greater demands for electricity and therefore investment in electricity infrastructure to support the airports themselves, short haul electric flights and for 'power to x' fuels.

The production of alternative fuels such as synthetic fuels or hydrogen is an energy intensive process and the capacity provided through high-voltage electricity transmission connections will be critical to meeting this demand. Our primary focus is to look at airports as transport hubs for both passenger and freight vehicles, and how we can support in the energy intensive process of producing alternative fuels.

We have grouped some of our responses to several the consultation questions to avoid repetition, as set out below:

Clear goal, multiple solutions

Question 1:

Do you agree or disagree that UK domestic aviation should be net zero by 2040? How do you propose this could be implemented?

Our Response:

As a critical enabler for net zero, National Grid supports the target of net zero domestic aviation by 2040. We are neutral when it comes to technology and fuel type, and we fully support the need to accelerate zero-emission aviation. From an implementation perspective, it is critical to recognise the need to develop affordable alternative technologies and incentivise their early uptake. This includes technologies and policies referred to in the consultation that promote Zero Emission Flight. An important measure is the increased uptake of Sustainable Aviation Fuels (SAF). The production of these fuels is an energy intensive process and National Grid can support this by engaging with key stakeholders to understand their energy requirements. This would allow us to make the right grid infrastructure investments that would ensure the energy capacity is available when and where it is needed.

Furthermore, the Government should develop a detailed roadmap to decarbonise high-demand transport terminals such as airports. It should cover all aspects of the process to ensure targets are met, including electricity network infrastructure requirements. This will provide much needed certainty to investors and key stakeholders in the aviation sector. With SAF being a very important 'drop in' option, it is essential that the roadmap includes where the production facilities could be located, what their energy requirement would look like and how it would get to the producers. National Grid is happy to support with this roadmap to help meet net zero aviation targets.

Question 2:

Do you agree or disagree with the range of illustrative scenarios that we have set out as possible trajectories to net zero in 2050? Are there any alternative evidence-based scenarios we should be considering?

Our Response:

National Grid agrees with the range of illustrative scenarios set out in the consultation. These scenarios broadly align with what is being discussed by the Committee on Climate Change in their 6th Carbon Budget. Both papers take into account key points such as the uptake of SAF, improving efficiencies and demand management through carbon pricing. It is less likely for a single measure to be able to help achieve net zero aviation targets. Therefore, it is imperative that all of these measures are backed up with realistic evidence-based assumptions which go hand-in-hand to achieve net zero in the aviation sector.

Question 3:

Do you agree or disagree that we should set a CO2 emissions reduction trajectory to 2050?

Question 3a:

Should the trajectory be set on an in-sector CO2 emissions basis (without offsets and removals) or a net CO2 emissions basis (including offsets and removals)?

and

Question 3b:

Do you agree or disagree with the possible trajectories we have set out, based on our high ambition scenario, which have in-sector CO2 emissions of 39 Mt in 2030, and 31 Mt in 2040 and 21 Mt in 2050, or net CO2 emissions of 23-32 Mt in 2030, 12-19 Mt in 2040 and 0 Mt in 2050?

Our Response:

National Grid supports the need to set out CO2 emissions trajectories. We believe that a realistic, evidence-based trajectory can serve as a roadmap for the future of net zero aviation. On the choice of trajectory, the in-sector basis appears to be the more suitable choice as it is more in line with the view the Committee on Climate Change proposed in its 6th Carbon Budget, which suggests using offsets for residual emissions. That budget also sets an ambitious target of reducing carbon emissions by 78% in 2035 as compared to 1990 levels. Therefore, we believe there is room for the trajectory to be more ambitious to align with the 6th Carbon Budget.

Question 4:

Do you agree or disagree that we should review progress every five years and adapt our strategy in response to progress?

Our Response:

National Grid agrees to the need for regular progress reviews to keep track of milestones. However, we suggest that it may be beneficial to schedule more regular reviews and use the five year review for strategic direction.

Sustainable Aviation Fuels (SAF)**Question 7:**

Do you agree or disagree with the overall approach for the development and uptake of SAF in the UK?

and

Question 8:

What further measures are needed to support the development of a globally competitive UK SAF industry and increase SAF usage?

Our Response:

National Grid agrees with the overall approach towards Sustainable Aviation Fuels. To understand the energy requirements for the sector, we are engaging with key stakeholders to understand their energy requirements, whether that is to produce SAF or to support the charging capacity needed for short haul electric flights. It is important to maximise

efficiencies where possible by making informed decision on where the SAF infrastructure will be located and how they will be powered.

A globally competitive SAF industry needs to be supported by ambitious incentives that support the uptake of SAF. There is also a need to include measures that ensure these fuels will be available and affordable to be used by the aviation sector.

Zero Emission Flight (ZEF)

Question 9:

Do you agree or disagree with the overall approach for developing zero emission flight in the UK?

and

Question 10: *What further measures are needed to support the transition towards zero emission aviation?*

Our Response:

National Grid agrees with the overall approach towards Zero Emission Flights, as this would have a positive impact on helping to achieve net zero targets. Transitioning to hydrogen-electric and battery-electric flights requires infrastructure such as on-site aircraft charging and hydrogen production, both of which require a large increase energy demand. We also re-iterate the importance of SAFs as a 'drop in' option and its timely uptake. National Grid are here to enable these solutions and ensure that the right grid infrastructure is built efficiently and where appropriate ahead of need.

This response represents the views of National Grid Electricity Transmission (NGET). NGET owns the high voltage electricity transmission network in England and Wales. We connect sources of electricity generation to the network and transport it onwards to the distribution system, so electricity can reach homes and businesses. Following the legal separation of the Electricity System Operator (ESO), their views are not represented in this submission.

In responding to the consultation, we have only addressed questions that are relevant to NGET.