

# Cleaner transport

Reducing harmful emissions and improving health



## Climate change is one of mankind's greatest challenges

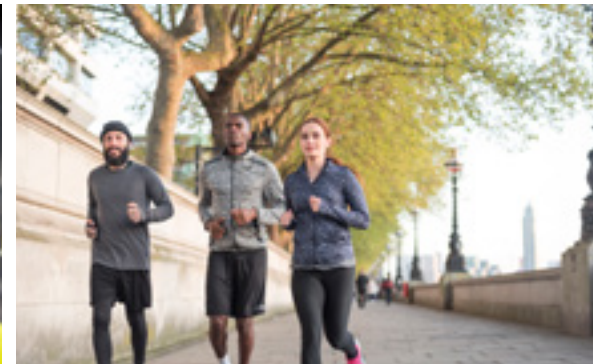
The UK needs to reduce carbon emissions in all sectors; particularly in transport which is now reported as the [highest emitter of greenhouse gases](#).

Air quality and its impact on the health of the population, particularly in urban environments and from diesel emissions, is a major concern. The Royal College of Physicians estimates 40,000 deaths per year are attributable to [exposure to outdoor air pollution](#). The health problems resulting from exposure to air pollution have a high cost to people who suffer from illness and

premature death, to our health services and to business. In the UK, these costs add up to more than £20 billion every year.

Collectively, we need to take action now to reduce harmful emissions in transport. The UK has potential to be a world leader in the decarbonisation of transport.

The energy and automotive sectors are two of the most significant in the UK economy. Working together, we can deliver economic growth and opportunity for Britain.



# 40,000

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## Successfully integrating millions of electric vehicles

By 2040 there could be as many as 36 million electric vehicles on the roads in the UK, so we're working on the following priority areas:

### A network of ultra-rapid chargers

- We're exploring how to support a network of transmission-connected ultra-rapid chargers at key strategic locations e.g. motorway services.
- They are crucial for 'range-anxiety' and journey planning, enabling the electric vehicle (EV) market to expand quickly and successfully.

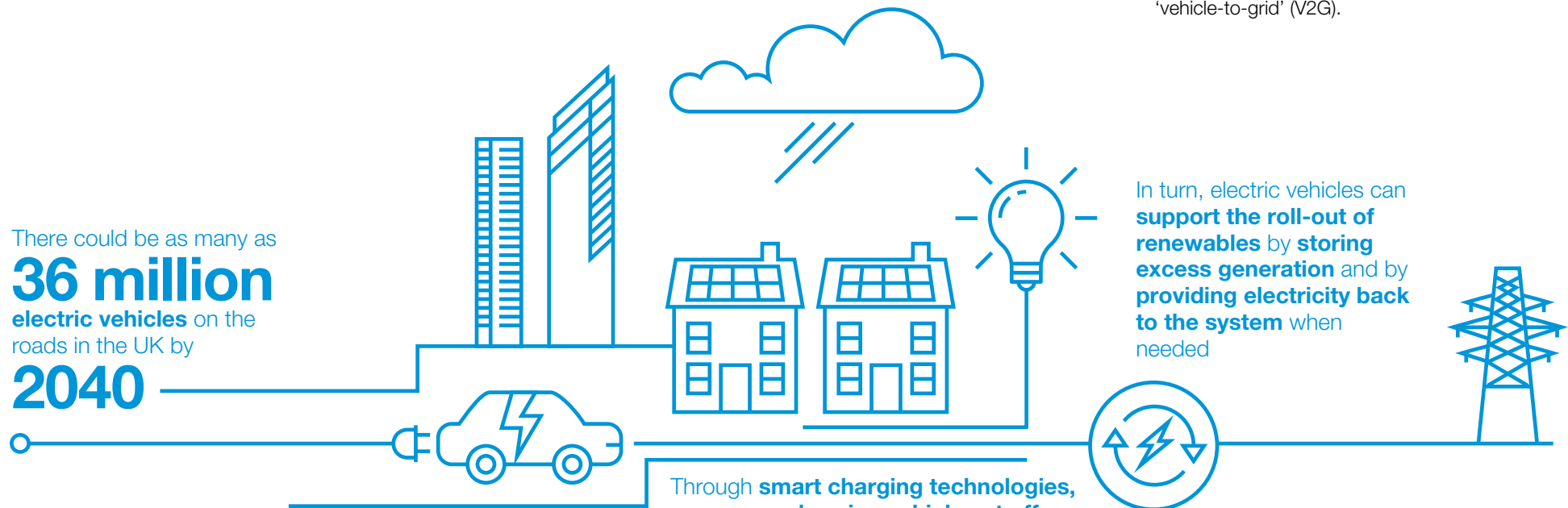
### Manage when vehicles are charged

- We're driving the need to manage when electric vehicles are charged. 'Smart charging' will smooth demand on the electricity system.
- It will ensure that increases at peak times remain manageable and it will also make best-use of existing generation capacity.

### EVs could help balance the electricity system

- When plugged-in, EVs could provide flexibility to help balance the supply and demand of electricity, potentially reducing costs for consumers.
- This could also include using EVs to supply electricity from their batteries back to the grid, known as 'vehicle-to-grid' (V2G).

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In turn, electric vehicles can **support the roll-out of renewables** by **storing excess generation** and by **providing electricity back to the system** when needed

Through **smart charging technologies**, consumers **charging vehicles at off peak times** and through **vehicle-to-grid technology**, the increase in peak electricity demand from vehicles could be as little as

**8 GW**  
in 2040

## Making a rapid impact on harmful emissions with gas vehicles

There are significant gains to be made across a range of harmful emissions, by converting freight from diesel to natural gas; even if this is an interim step towards zero emission freight vehicles. So the priorities we are working on are:

### Strategic gas filling locations

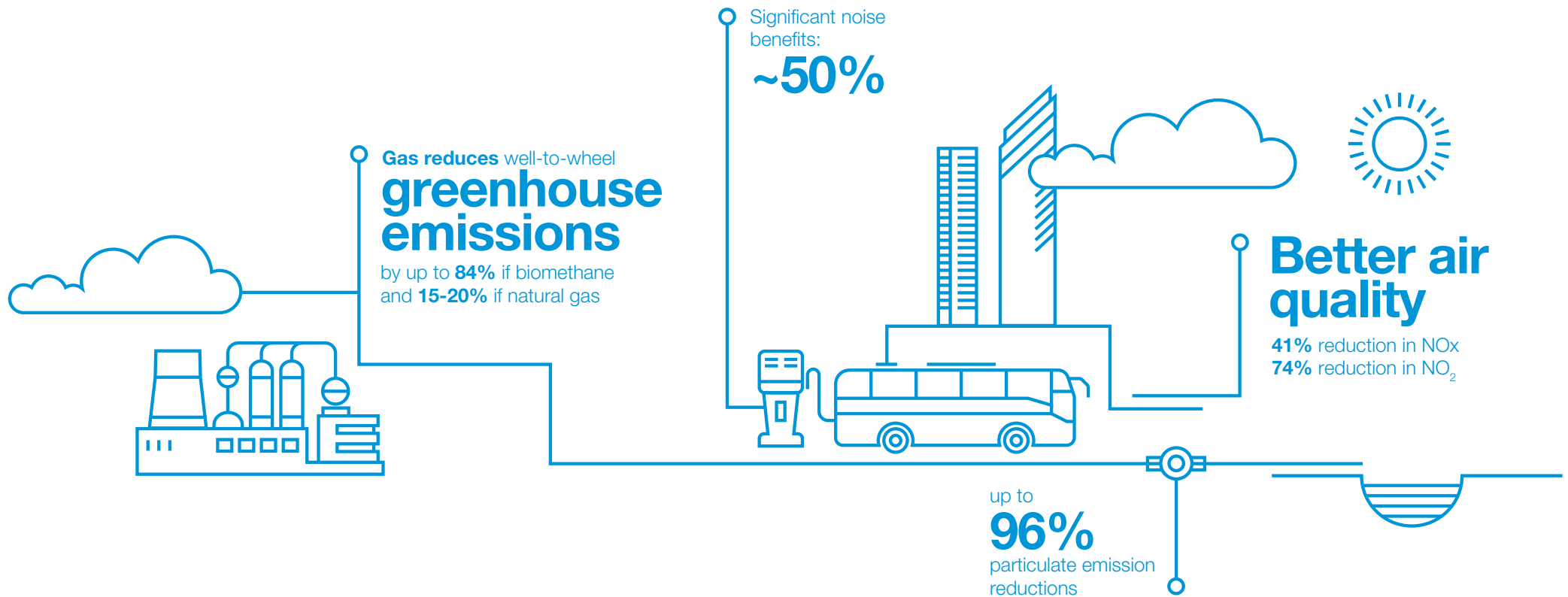
- Making compressed natural gas (CNG) more available via our network will make it easier for companies to convert freight vehicles from diesel.
- So we're working with a range of organisations to identify strategic gas filling locations and agree how to make this happen; as well as exploring the volume potential for Biomethane and BioSNG.

### Delivering solutions cheaper and faster

- Project CLoCC, 'Customer Low Cost Connections', is significantly cutting the time and cost to connect to our gas transmission network.
- If you have a connection you want to discuss, let's talk; or for more information please visit [www.projectclocc.com](http://www.projectclocc.com)

### Supplying liquefied natural gas (LNG) for transport

- We operate the only UK LNG tanker loading facility, located at our Isle of Grain site.
- It allows operators to load LNG and transport it to filling stations, or to industrial / commercial customers for use with their fleet.



## Hydrogen gas also has potential as a zero emission fuel for vehicles

There is a significant link between hydrogen vehicles and the easy availability of hydrogen supply. Therefore, if we start to see the development of a nationwide hydrogen economy, we will consider what investments will be needed to assist likely supply and demand changes on the national transmission system, and the impact of a large number of new hydrogen fuelling stations.

