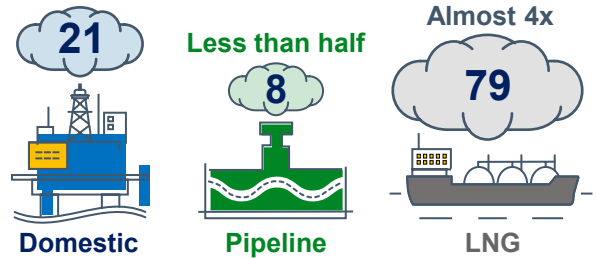


# Carbon footprint of UK natural gas imports

## Carbon intensity of UK imported natural gas

At 21 kgCO<sub>2</sub>/boe<sup>1</sup>, the average carbon intensity<sup>2</sup> of UK gas production is lower than the average carbon intensity of all sources of natural gas imported to the UK (except pipeline imports from Norway). The average carbon intensity of imported Liquefied Natural Gas (LNG) is almost four times the carbon intensity of UK production.

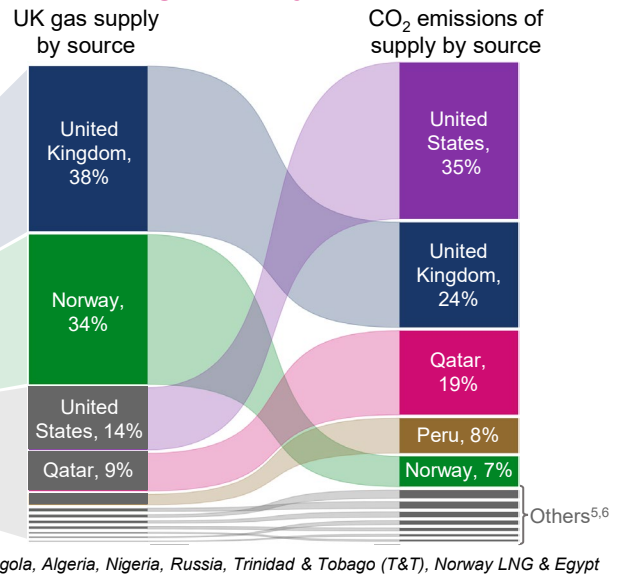
### 2022 average carbon intensity (kgCO<sub>2</sub>/boe)



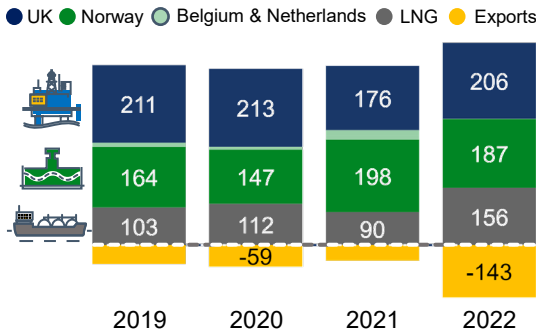
## UK gas supply mix and carbon dioxide emissions

In 2022, gas imports to the UK accounted for 63% of its natural gas supply. The UK helped to meet the surge in European LNG demand by increasing its LNG imports (by 74%) and then exporting the surplus supply to Europe through pipelines (240% increase from 2021).

### 2022 UK gas supply and emissions

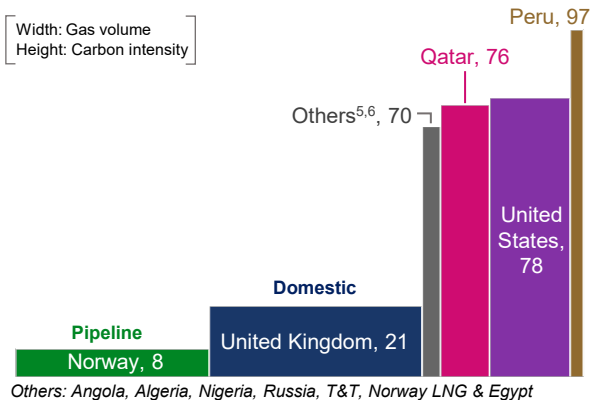


### UK 2019 – 2022 gas supply (mmboe)<sup>3,4</sup>

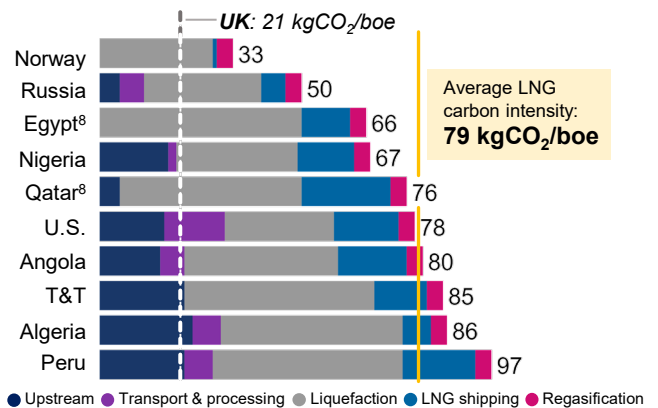


## 2022 UK gas supply carbon intensities

### 2022 carbon intensity (kgCO<sub>2</sub>/boe) by gas volume and by country



### 2022 UK LNG import carbon intensity (kgCO<sub>2</sub>/boe) profile<sup>7</sup> by country



• This factsheet summarises a comparison of carbon intensity of the UK's domestic production to that of imported LNG and pipelined gas.  
 • Given the lack of standardised monitoring, measurement and reporting of emissions across natural gas lifecycle stages and global sources, as well as uncertainties, all import emissions values are best estimates.  
<sup>1</sup> All estimates of carbon dioxide emissions and carbon intensities are sourced from Rystad Energy's Gas and LNG trade emission analysis dashboard (July 2023).  
<sup>2</sup> Carbon intensity = Carbon dioxide (CO<sub>2</sub>) emissions per barrel of oil equivalent (boe) produced.  
<sup>3</sup> Gross supply. The UK is a net gas importer but seasonally exports significant gas volumes to the Republic of Ireland, Belgium and The Netherlands.  
<sup>4</sup> Source: Department for Energy Security and Net Zero (DESNZ) Energy Trends: UK Gas <https://www.gov.uk/government/statistics/gas-section-4-energy-trends>. Assuming 1 boe = 5800 standard cubic feet of natural gas.  
<sup>5</sup> Others: Countries with import volumes less than five million boe in 2022. <sup>6</sup> Average intensity of grouped countries = Sum of emissions divided by sum of import volumes.  
<sup>7</sup> The LNG value chain stages: Upstream, Transport & processing, Liquefaction, LNG shipping & Regasification.  
<sup>8</sup> Egypt and Qatar's data is not disaggregated for all five LNG value chain stages.  
 • Natural gas imported via Belgium and Netherlands is a mix of gas from Norway, Russia, Germany & France. In 2022, imports from Belgium and Netherlands made up only 1% of pipelined gas imports as the pipelines from Belgium and Netherlands were almost exclusively used to export gas to Europe between April and December.  
 • No LNG imports were received from Russia between April and December 2022. During Q1 2022, Russian LNG originated from the relatively new arctic Yamal LNG plant.