



Gas  
Networks  
Ireland

# Dublin Economic Workshop Energy Security, the Role of Policy and the Potential of the Gas Network

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# Resilient energy network for today while enabling the transition to a decarbonised future which will enhance security of supply



Our legacy



Gas of the past

Our essential role



Gas of the present

Our ambition



Gas of the future

# Our essential role keeping Ireland's energy moving



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powering over  
**30%**  
primary energy needs

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powering over  
**40%**  
of heating

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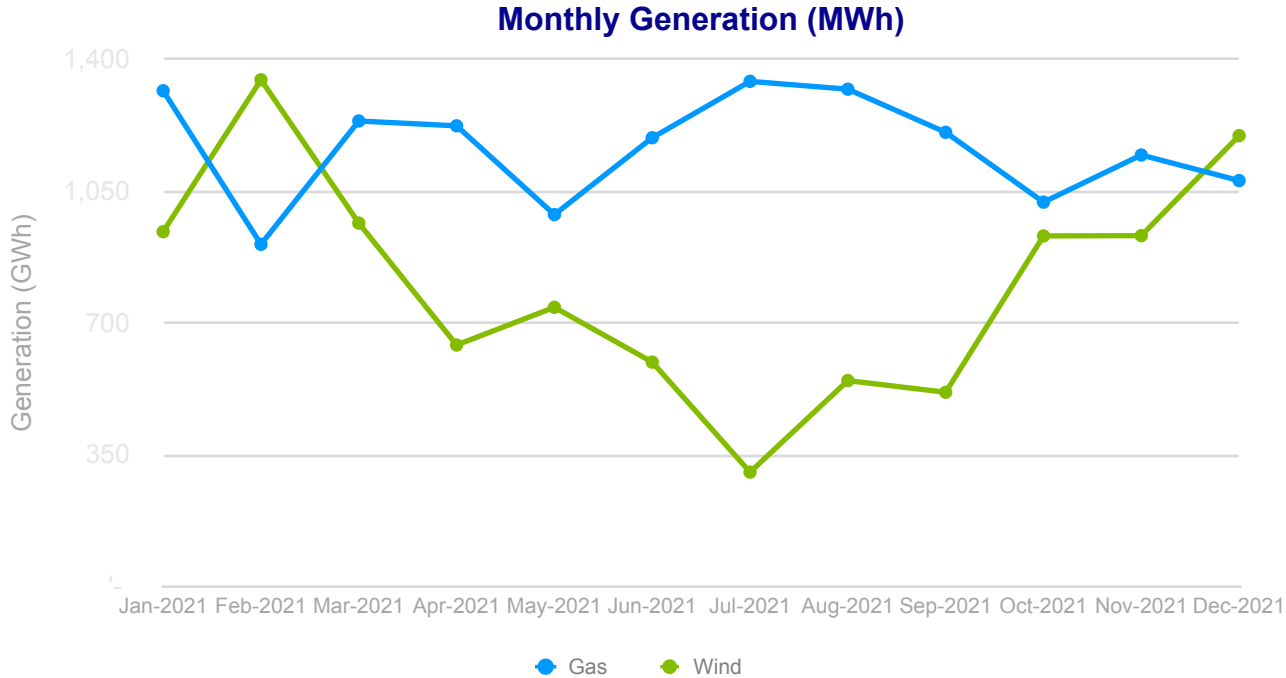


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powering almost  
**50%**  
of electricity generation

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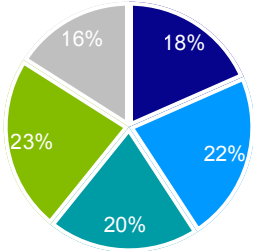
# Our essential role providing flexibility for intermittent renewables



Total generation	Gas 2021 %
Average	<b>46%</b>
Max day	<b>77%</b>
Min day	<b>15%</b>

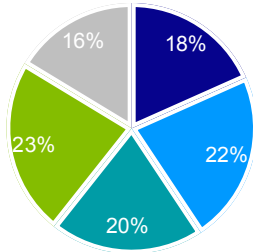
# Ireland's gas supply is reliant on the UK

UK Peak Winter Day Supplies – 25% Surplus

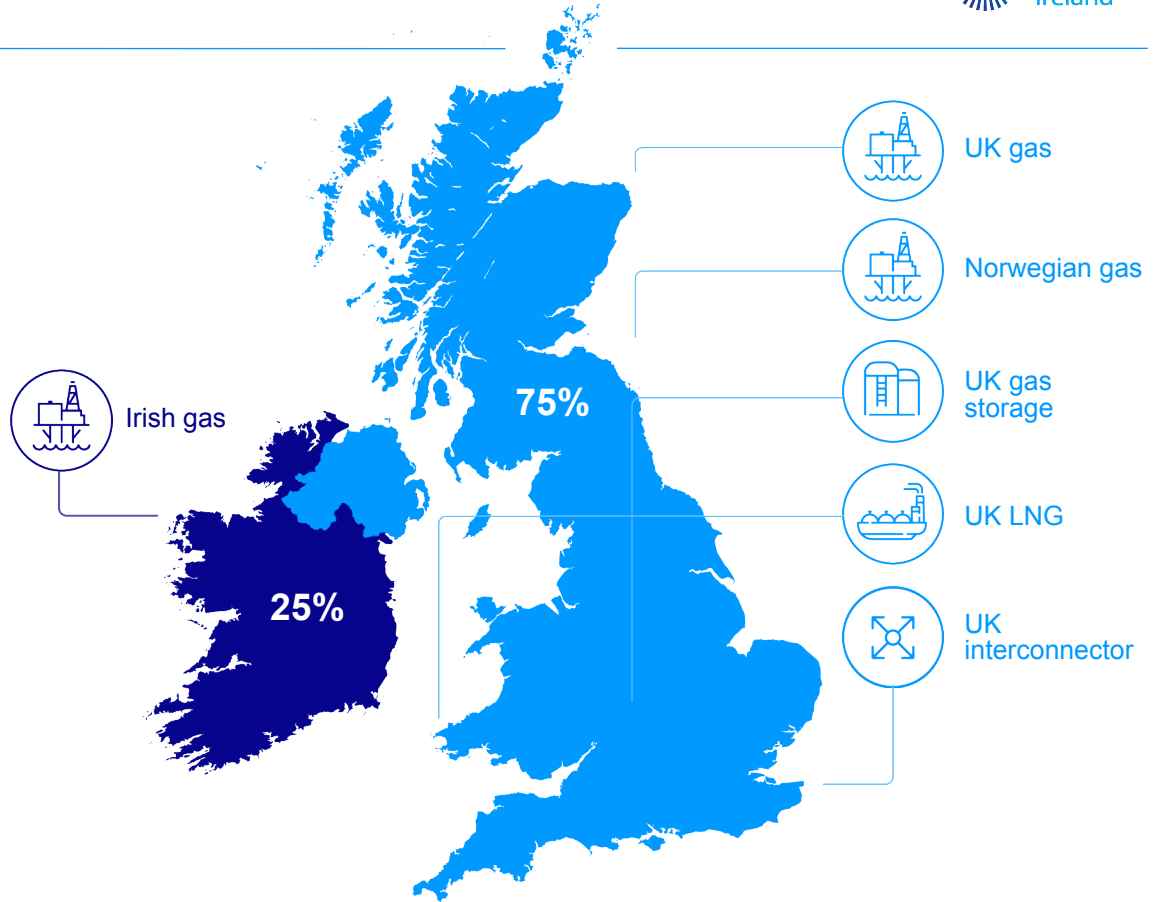


- UK Gas
- Norway Gas
- Continental Europe Interconnection
- UK LNG
- UK Gas Storage

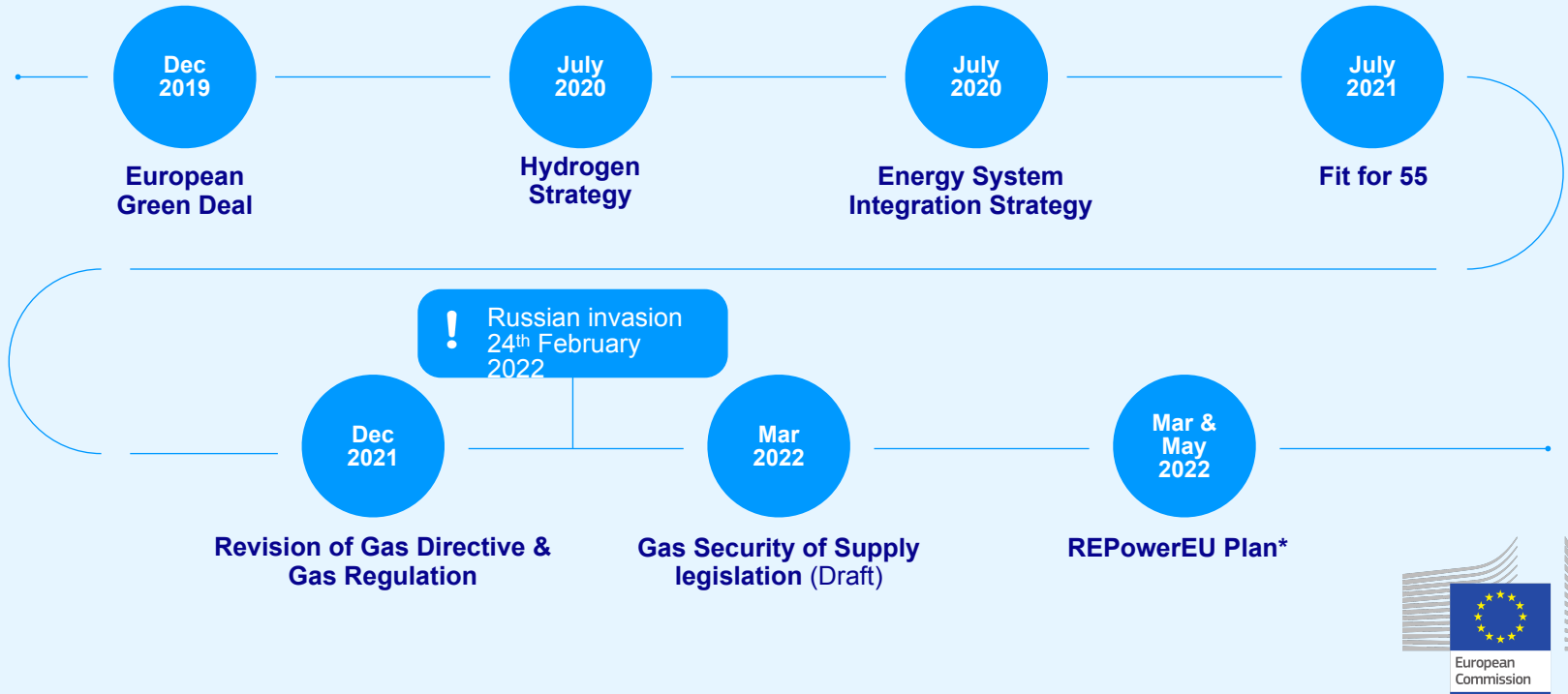
UK Peak Normal Day Supplies – 200% Surplus



- UK Gas
- Norway Gas
- Continental Europe Interconnection
- UK LNG
- UK Gas Storage



# We are decarbonising and diversifying in line with European Policy



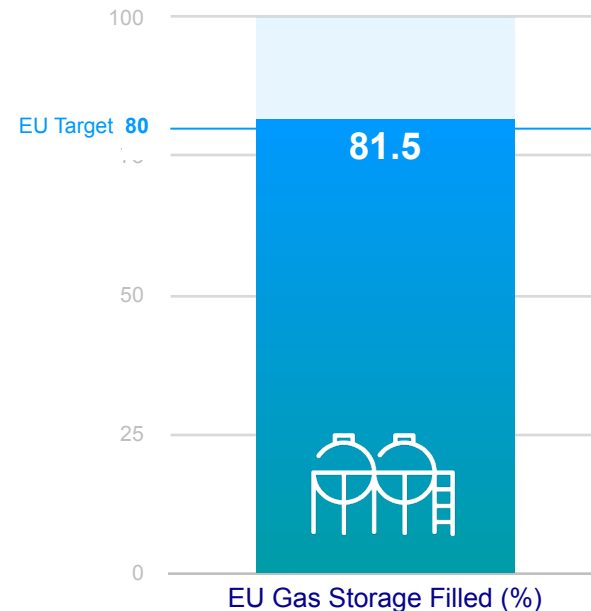
# EU using Storage, LNG, accelerated renewables and demand efficiency to improve security of supply

## REPowerEU (May 2022) – Plan to move EU off Russian fossil fuels

- Reducing the EU's dependence on fossil fuels by boosting energy efficiency, increasing the share of renewables and addressing infrastructure bottlenecks.
  - Diversifying gas supplies, via **higher LNG imports** and pipeline imports from non-Russian suppliers
  - Increased ambition (both scale and timelines) for **biomethane** (doubled) and **hydrogen** (quadrupled); and

## Gas Security of Supply legislation

- A new legal requirement that existing gas storage infrastructure in the EU are **filled to at least 90% (80% for 2022)** of their capacity by the 1<sup>st</sup> November each year.
- For those without storage a requirement to procure 15% of annual gas consumption in other member states (Ireland has a derogation)



UPDATED SEPT. 3, 2022

# National policy is still evolving to address decarbonisation and security of supply



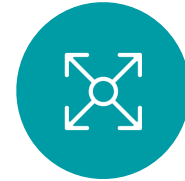
## Climate Action and Low Carbon Development (Amendment) Act 2021

Puts the 'national climate objective' on a statutory basis, which commits to pursue and achieve it no later than 2050.



## Climate Action Plan 2021

A number of initiatives for gas including the development of biomethane and hydrogen on the gas network this will evolve in further CAP's



## The National Energy Security Framework

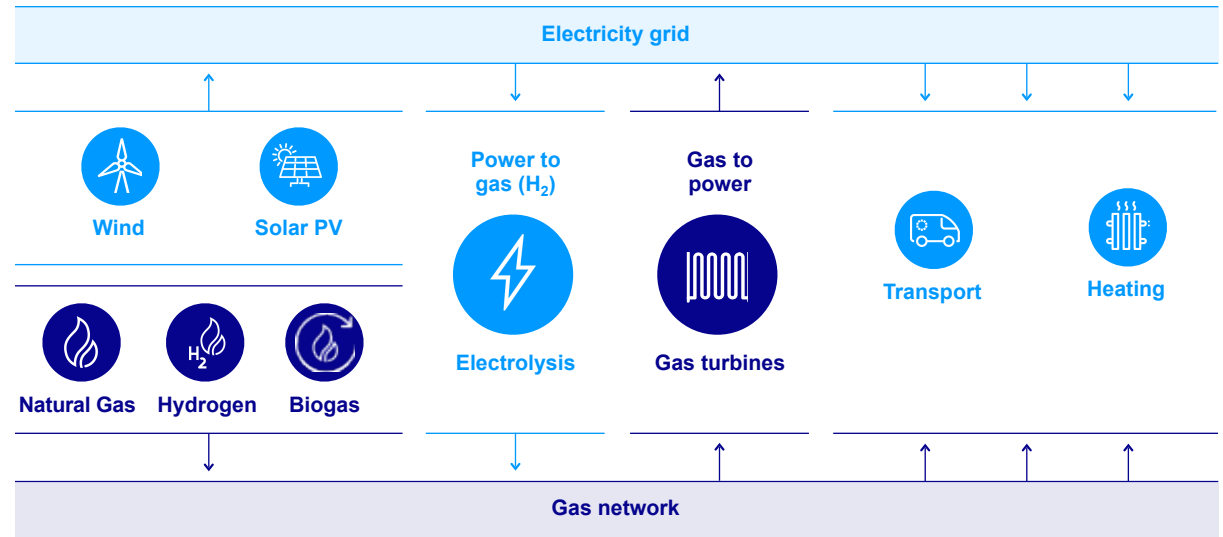
A comprehensive response to impacts on our energy system caused by the war in Ukraine. Gas actions include Biomethane Support, Hydrogen Strategy and Security of Supply Review







# Our ambition - Gas Networks Ireland will be at the heart of Ireland's energy future enhancing security of supply

- An integrated energy system is key to achieving net-zero 2050 and enhancing security of supply
- Decarbonisation of gas infrastructure through increased integration of gas and electricity systems will complete the decarbonisation of the energy system.
- This will also enable us to rely on indigenous produced energy to enhance security of supply

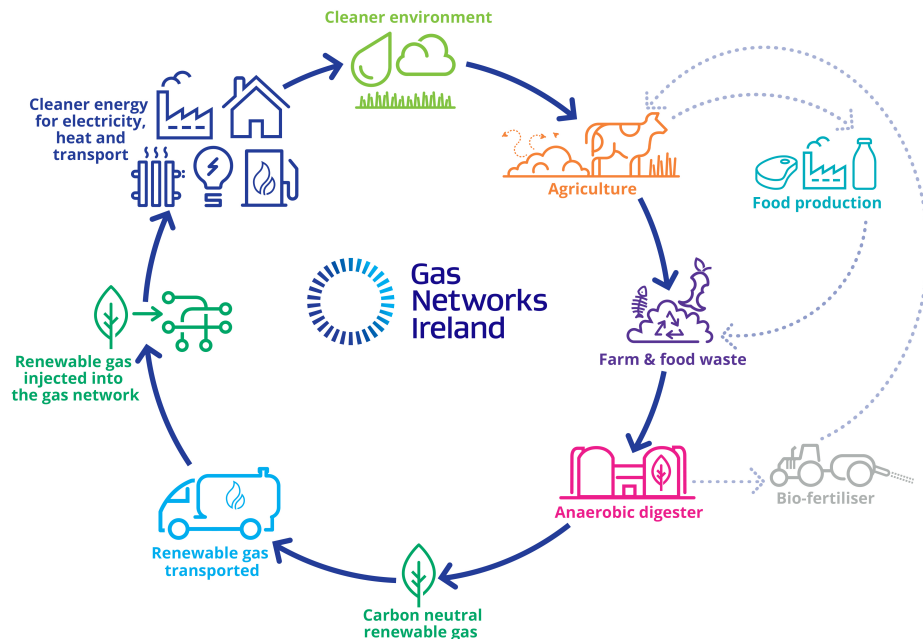
## Vision for future energy systems



# A decarbonisation solution which enhances security of supply

	Biomethane	Hydrogen
 <b>Transmission</b> high pressure gas network	Fully compatible	Adaptation for hydrogen is technically feasible.
 <b>Distribution</b> medium and low pressure network	Fully compatible	<ul style="list-style-type: none"><li>• PE pipelines are compatible with hydrogen.</li><li>• Investigation of the impact of hydrogen on other network materials and components.</li></ul>
 <b>Homes and business</b> – Over 711,000 customers using gas	Fully compatible	<ul style="list-style-type: none"><li>• Update of appliance testing protocols for a 20% hydrogen blend.</li><li>• Development of new hydrogen ready gas appliances.</li></ul>
 <b>Transport</b> network of CNG stations	Fully compatible	<ul style="list-style-type: none"><li>• Update of vehicle testing protocols for a 20% hydrogen blend.</li><li>• Development of new hydrogen ready vehicles.</li></ul>

# Biomethane is being injected today with great potential to further enhance security of supply



Biomethane first flowed onto the gas network in 2019 in Cush Co. Kildare. Annual injection of up to 30 GWh



One of the least disruptive ways to decarbonise heating, transport and power generation



Agriculturally produced biomethane can be delivered sustainably and at scale to significantly reduce agricultural emissions and enhance security of supply



Ireland has the greatest potential per capita to develop biomethane in the EU but we are behind in terms of industry development



Mitchelstown CGI is the next step with annual injection of up to 700 GWh. Policy and funding supports will be key to enabling this facility and future facilities to reach their full potential.

# We are also preparing for the Hydrogen transition

## A net zero gas network evolution

- ✓ **Network blending**  
Biomethane and hydrogen (with storage) displace some natural gas
- ✓ **Network clustering**  
Proximate, scale users migrate to annexed / dedicated hydrogen networks
- ✓ **Network converting**  
Hydrogen displaces all blended gas & clusters reintegrated into the network
- ✓ **Networks converging**  
Hydrogen network enables full exploitation of Ireland's renewable electricity and maximum indigenous green hydrogen

## Growing confidence in the potential for hydrogen on UK NTS



Interconnector hydrogen blend possible and growing from late 2020s onwards



Interconnector hydrogen at 100% possible from 2040 onwards



GNI Research and Development facility built, working with partners and with academic input we are preparing the network for Hydrogen

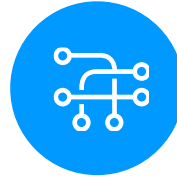
# Providing flexibility and security while delivering a cleaner and more secure energy future for Ireland



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The gas network is the reliable cornerstone of Ireland's energy mix providing flexibility and security

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Gas Networks Ireland is working to decarbonise Ireland's gas network in line with Irish and European policy.

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Using the gas network and renewable gases to reduce emissions also enhances Ireland's energy security and diversity.

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[gasnetworks.ie](http://gasnetworks.ie)



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Thank you