



Manifesto of the European Gas Industry



Brussels

October 2018

GasNaturally Policy Recommendations

- ✓ Fully implement a well-integrated and interconnected internal gas market across Europe and use the already-existing gas network as the backbone of the future EU energy system.
- ✓ Deploy natural gas to displace, wherever possible, coal in power generation and heating, while integrating variable renewable electricity.
- ✓ Take full benefit of all European gas resources – natural, decarbonised and renewable – while expanding RD&I programmes for CCS/CCUS, natural gas-to-hydrogen, power-to-gas, and biogas/biomethane.
- ✓ Take a holistic approach to methane emissions reductions by addressing all emitting sectors in the upcoming EU strategy.

The gas industry is keen to actively support the EU's efforts to meet its commitments under the Paris Agreement. This Manifesto outlines ways our industry can contribute in an affordable and sustainable manner for its citizens, businesses and governments, while also increasing security of supply.

Affordability and innovation need to be at the centre of the new 2050 GHG emissions reduction strategy. This will allow the EU to retain the support of its citizens for significant emissions cuts, allow citizens to take active ownership of the transition and inspire other countries to follow its leadership.

The gas industry is committed to making the EU strategy for long-term GHG emissions reduction successful by:

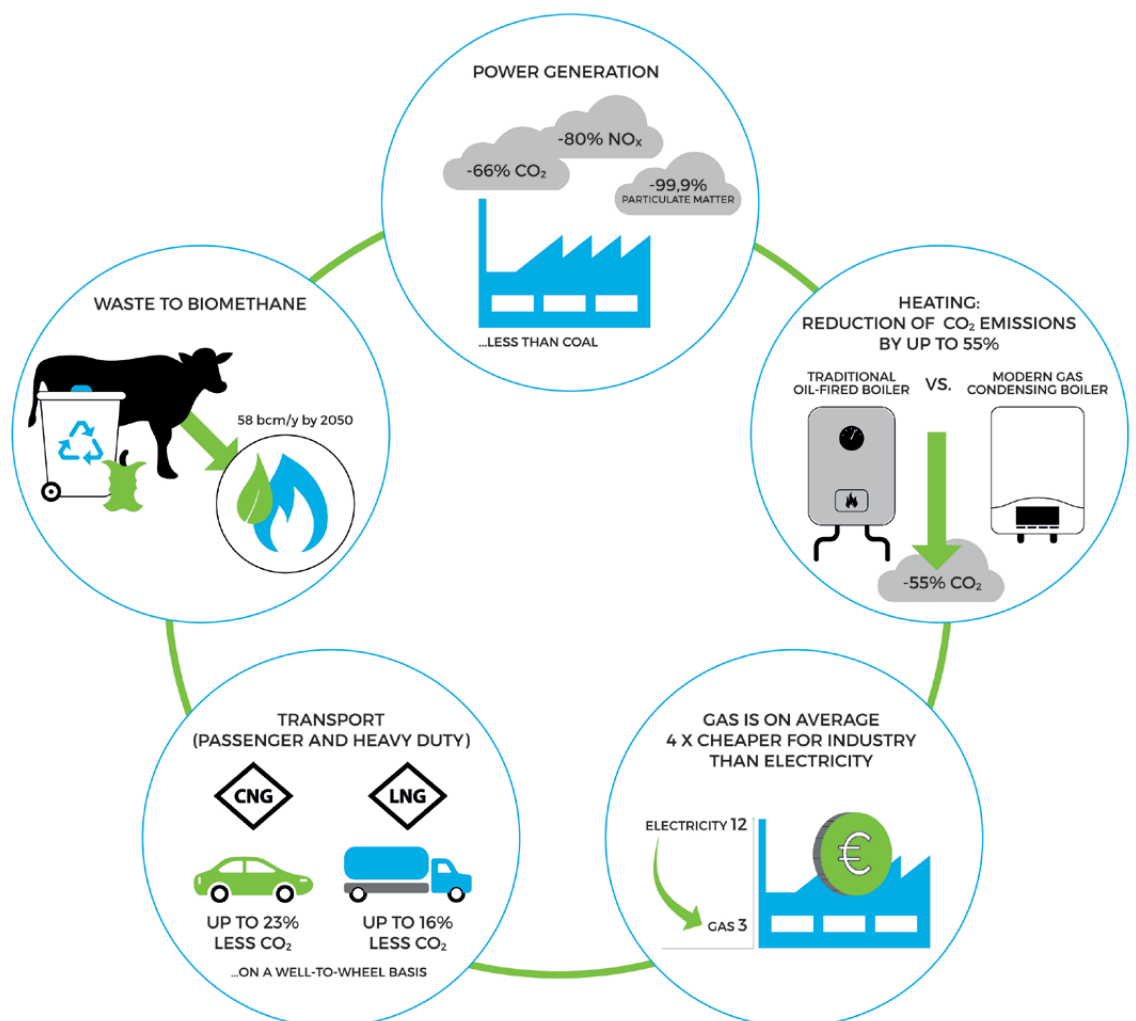
1. Enabling fast and cost-efficient GHG emissions reduction in the industry, power generation, heating, agriculture and transport sectors by replacing higher carbon fuels.
2. Optimising infrastructure costs by using the existing gas network as the backbone for a reliable, hybrid energy system with an increasing share of variable renewables to provide backup and storage.
3. Overcoming technical challenges of the energy transition and increasing the options available to consumers by development of innovative renewable and low-carbon gas projects.
4. Continuously improving the efficiency and further lowering emissions of gas itself, including emissions of methane, by reducing venting and fugitive emissions.

1. Enabling fast and cost-efficient emission reduction

An economy-wide decarbonisation in line with the Paris Agreement will require more than just electrification based on renewable power generation. Using the virtues of both electricity and gas is the most efficient and fastest way to create a sustainable low-carbon economy.

A credible deep GHG emissions reduction strategy needs to offer solutions for all parts of the economy, including the hard-to-electrify and hard-to-decarbonise sectors – heating, industrial processes, agriculture, and passenger and heavy-duty transport, which together account for around three-quarters of Europe's energy consumption.

Gas is a fast and cost-efficient solution to reduce these emissions drastically, as of today.



Focus on transport and air quality



Gas refuelling stations require little additional infrastructure, can be implemented in multi-fuel stations and operated in self-service mode. The number of CNG and LNG stations is growing steadily. In the last 5 years, the number of CNG stations grew from 2 600 up to 3 400 units, while the number of LNG stations increased by a factor of 5, reaching 150 stations in 2018.



Over 90% of world trade in goods is by ship. As the global economy expands, this trade is expected to increase by nearly 50% in absolute terms by 2030. LNG in shipping is a cleaner and more flexible solution. LNG as a marine fuel reduces SOx by up to 100%, NOx by up to 90% and CO2 by up to 25% while also emitting few particulates.

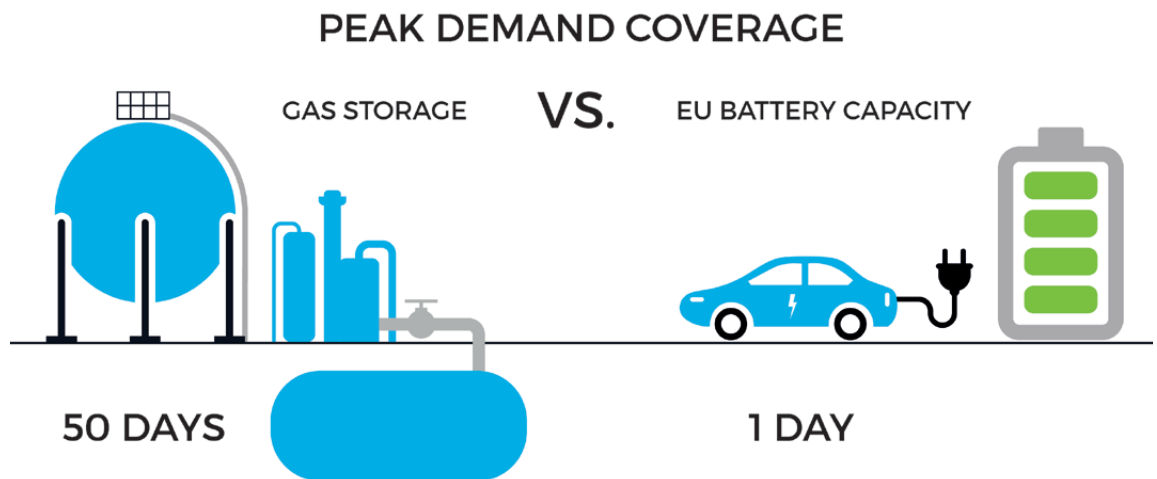


Many European citizens still use coal or wood to heat their homes. This has serious health and environmental impacts, which can be reduced by switching to gas-based heating systems. In Poland, where 80% of private households still use coal for heating, the gas industry has launched a 'Switch to Gas' programme offering co-financing of the installation of gas boilers to improve indoor and outdoor air quality and combat smog.

2. Optimizing infrastructure costs and stabilizing the system

Gas provides the flexibility needed to harness an increasing share of variable renewable electricity. During seasonal demand variations, when there is too little wind and sun, modern gas-powered generation supplies the consumers with the electricity they need.

Gas not only serves as essential backup for variable renewable electricity, the gas infrastructure offers the possibility to store low-carbon energy on a large scale through technologies such as CCS and power-to-gas which converts surplus electricity into renewable gas. Such storage capacity is vital to meet the seasonal heating requirements of many of the EU's citizens.



There is enough gas storage available in the EU to meet 50 days of peak gas demand. Even if every car in the EU were electric, the combined battery capacity would store only 2% of this energy.

Focus on EU gas production

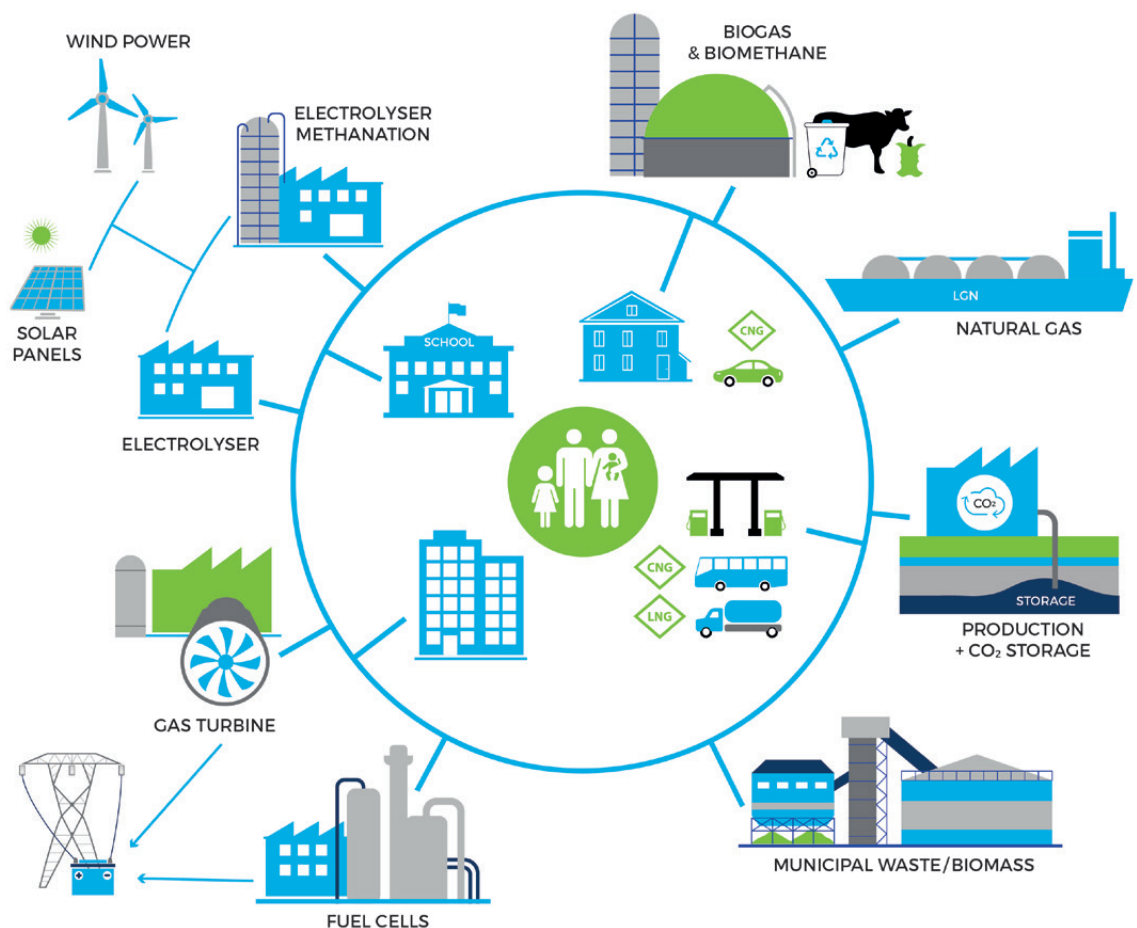
- ✓ There are at least 5 100 billion cubic meters of remaining natural gas resources in Europe. This could cover 50% of EU gas demand for another 25 years. Responsible exploration and development of Europe's gas resources will also provide skilled jobs and generate government revenues for decades to come. In 2015, gas generated around 80 billion in net government revenues in the EU28 & Norway.
- ✓ Since 2013, biomethane production in Europe has been rising by over 85% annually, while the installed electric capacity in the biogas sector has been rising by almost 10% annually.
- ✓ While most hydrogen produced today is from steam methane reforming, some studies estimate that cumulative electrolyser capacity of 2.8 GW could be installed in Europe by 2025, bringing green hydrogen to consumers.

3. Overcoming the technical and economic challenges of energy transitions

The European gas grid needs relatively small investments in missing links in several regions to complete the internal market.

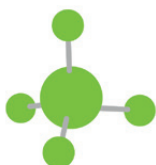
Renewable and low-carbon gases have considerable potential for growth. Biomethane from waste or biomass, synthetic methane and hydrogen can all be used in stand-alone equipment or blended with natural gas in the existing infrastructure.

Using this infrastructure to enable the transport, storage and distribution of renewable and low-carbon gas would significantly lower the total EU energy system cost and, accordingly, the transition costs borne by consumers. In parallel, it would contribute to delivering the climate and energy objectives set out in the Paris Agreement.



Focus on net-zero emissions

- ✓ Did you know that our industry is working on projects in power-to-gas, hydrogen and CCS to create net-zero or negative emissions instrumental to carbon neutrality?
- ✓ Recent examples include the world's first demonstration plant for storing wind energy in the natural gas grid at WindGas Falkenhagen, trial injections of hydrogen into natural gas distribution in Dunkirk, and a large-scale CCS project connected to a waste-to-energy plant in Oslo.
- ✓ Carbon removal technologies will be needed to make up for emissions from sectors where decarbonisation is not feasible for technological or economic reasons.



Biomethane:

CO₂ emissions from combustion are offset thanks to sustainable source of gas.



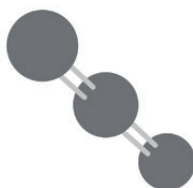
Hydrogen produced via steam methane reforming:

CO₂ content is removed from methane, captured and stored.



Hydrogen produced via electrolysis:

No CO₂ emissions arise if the process is powered with renewable electricity







Biomethane/biomass with CCS:

Negative CO₂ emissions can be achieved since CO₂ has been already captured in growing the energy carrier.

4. Improving the GHG footprint of the gas value chain

Tackling methane emissions needs a holistic approach if it is to achieve results. The gas industry works hard to improve its own energy efficiency and reduce its GHG intensity. Avoiding vents, energy losses and fugitive methane emissions makes economic sense to our industry and we are committed to doing our part of the effort.

GasNaturally members are actively addressing the issue and contribute to transparency via studies and initiatives such as the Methane Guiding Principles to overcome uncertainty about total methane emissions from the entire gas value chain and to work together towards minimising them. Currently, methane emissions from the gas industry represent 0.6% of all EU GHG emissions and there has been a 51% reduction in fugitive methane emissions from natural gas activities between 1990 and 2016.

METHANE EMISSIONS IN THE EUROPEAN NATURAL GAS MIDSTREAM SECTORS IN 2015 ¹		ANTHROPOGENIC CO ₂ EQUIVALENT
LNG TERMINALS 	4.700 TONNE CH ₄ 0,002% COMPARED TO THE EU28 SALES	0,003%
UNDERGROUND STORAGE 	38.000 TONNE CH ₄ 0,01% COMPARED TO THE EU28 SALES	0,02%
TRANSMISSION 	133.000 TONNE CH ₄ 0,05% COMPARED TO THE EU28 SALES	0,08%
DISTRIBUTION 	339.000 TONNE CH ₄ 0,12% COMPARED TO THE EU28 SALES	0,21%

¹(Marcogaz, 2017)

Focus on methane emissions

Examples of methane and other GHG emissions reduction programmes in the gas industry include:



Spain: Implementation of the best available techniques and practices led to a 48% reduction in venting since 2014 and a 22% reduction in fugitive emissions since 2015, thanks to the Leak Detection and Repair (LDAR) campaign carried out in recent years.



Netherlands: An LDAR campaign resulted in the reduction of methane emissions by over 50%, or 2 644 tonnes.



Globally: Through the Oil and Gas Climate Initiative (OGCI), multiple companies have committed to reduce collectively the methane intensity of aggregated upstream gas and oil operations by one-fifth by 2025.

We commit to work with EU policymakers to enable:



Increased use of natural gas in power generation to displace, wherever possible, coal and to provide the flexibility necessary to integrate renewable energy sources.



Expansion of R&D&I programmes for all promising technologies with long-term CO₂ reduction potential, such as natural gas-to-hydrogen, power-to-gas, biogas/biomethane, CCS and CCUS.



Application of a holistic approach to methane emissions reduction, addressing all emitting sectors in the upcoming EU strategy on methane emissions.



Political commitment to domestic production of all EU gas resources – natural, decarbonised and renewable – to raise competition in the market and reduce costs for consumers.



Full implementation of a well-integrated and well-interconnected internal gas market across all EU Member States.



The possibility for gas to benefit from the Project of Common Interest processes and Connecting Europe Facility funding, which are crucial for many Member States.



www.gasnaturally.eu



@GasNaturally



/gasnaturally

