



# International Gas Union (IGU)

News, views and knowledge on gas – worldwide



## Natural Gas – Part of the Solution to Global Climate Change





## Our Approach to Addressing Climate Change

The world gas industry is facing one of the greatest dilemmas of our times; striking a sustainable balance between supply and demand and the effect of this balance on the climate.

The International Gas Union (IGU) and our members, representing national associations and corporations of the gas industry worldwide and approximately 95 percent of the world's gas market, are committed to actively leading further global efforts addressing the climate change issue.

Regardless of how we each view the climate change issue, climate change represents serious global risks, and it therefore demands a global response. Momentum is building for targeted and cost-effective actions. In recent years, concern has translated into action as international institutions such as the United Nations and the Intergovernmental Panel on Climate Change (IPCC) have begun developing comprehensive climate change policy responses.

Given this outlook the world gas industry must be proactive in promoting energy developments, particularly in:

- improving efficiency and best practices
- the reduction of greenhouse gas emissions
- the development of systems that will optimise the use of renewables



Natural gas is an abundant energy resource found in many regions of the world. These reserves offer a safe, efficient and reliable energy source. Natural gas is the least carbon intensive fossil fuel; unlike other carbon-based fuels, natural gas has a high hydrogen/carbon ratio and therefore emits less carbon dioxide for a given quantity of energy consumed.

### Facts and Figures

- Natural gas is a cleaner burning fuel than coal or oil. When burned, it releases up to 50 percent less carbon dioxide (CO<sub>2</sub>) than coal and 20-30 percent less than oil
- Vehicles powered by natural gas produce 20-30 percent fewer carbon dioxide emissions than vehicle powered by petrol
- Ongoing technology developments enabling the capture and sequestration of CO<sub>2</sub> (CCS) also supports the choice of natural gas
- The lower levels of carbon monoxide, volatile organic compounds, oxides of nitrogen, sulphur dioxide and particulate matter generated by the combustion of natural gas makes the continued and increasing use of this energy resource a significant contributor to improved local air quality

NATURAL GAS

The IGU and our members recognise the importance of our role in reducing global greenhouse gas emissions.

For this reason, the IGU is involved in a variety of initiatives designed to reduce the emission of greenhouse gases.

## The Natural Gas Industry's Greenhouse Gas Reduction Efforts



### Switching to Natural Gas

Given the many advantages offered by the use of natural gas as a fuel source, we encourage the use of natural gas over other fossil fuels that emit more carbon dioxide per unit of energy consumed.

This includes installing cogeneration and combined cycle systems that use natural gas efficiently, as well as encouraging fuel switching in such end-use applications as heating, cooling and vehicle propulsion.



### Energy Efficiency and Conservation

We support efforts to increase the use of energy efficient natural gas operations, appliances and equipment within our industry, as well as in the homes and businesses of our customers. This includes support for:

- public education programmes
- incentives that encourage natural gas users to conserve this non-renewable energy source
- help professionals to choose the most suited technologies to lower energy consumption for the customers



### Industry-driven Greenhouse Gas Reduction Measures

Industry-driven measures provide an excellent opportunity for the natural gas industry to demonstrate leadership and flexibility in the selection of appropriate and cost-effective means of lowering greenhouse gas emissions. Around the world, our members lead a variety of innovative initiatives that have delivered significant reductions in greenhouse gas emissions.

## High Efficiency with Natural Gas

- Based on state of the art technologies, efficiencies of up to 60% can be achieved in electricity generation
- Natural gas based combined heat and power production achieves overall efficiencies of up to 90%
- Condensing boilers used for space heating can achieve efficiencies approaching 100%



### Global Gas Flaring Reduction

The IGU is supporting initiatives taken to reduce the amount of natural gas being burned or flared by bringing down the barriers that prevent a higher rate of associated gas utilisation. The goal is to promote sustainable development by unlocking the value of natural gas currently flared (about 150 bcm per year) to:

- improve energy efficiency
- expand access to energy
- reduce emissions of greenhouse gases



### Research & Development and Transfer of Technology

In cooperation with manufacturers, we are developing new, leading-edge applications for using natural gas, endorsing efforts to use it in conjunction with renewable energy sources, and supporting technology transfers of experience and know-how to developing countries as well as among developed countries.

Research & development will continue to be a central component of our approach to reducing greenhouse gas emissions. Recent advances include the development of “next-generation” fuel cells, and further development for high efficiency gas burners and latent heat recovery.



### Natural Gas and Renewables

With the goal of developing a sustainable energy system, governments have focused their energy policies towards the promotion of renewable energies. Currently, due to a number of political, technical and market related reasons, the expected period over which a full transition to renewable energy will occur is long. There will therefore be a considerable period during which a combination of renewables with fossil energy supplies will be needed.

As zero emission power production is periodical, natural gas is the fuel of choice that can provide reserve and back-up capacity for renewable energy and a large degree of flexibility through storage. This enables the whole energy system to become more robust.



We seek to balance global environmental concerns  
with global energy demand





# Future Outlook

The International Gas Union is committed to playing an important role in addressing the issue of greenhouse gases and climate change.

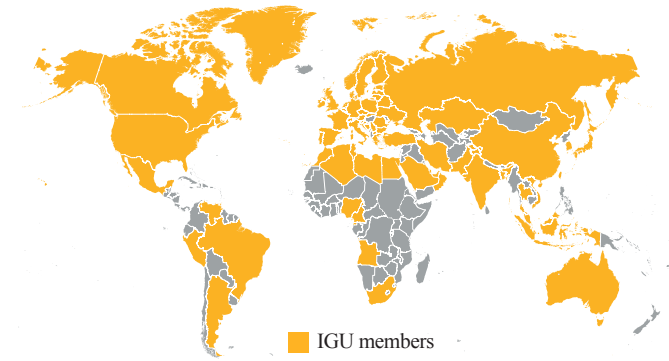
Our position will remain focused on the role of natural gas as part of the solution to climate change, in combination with an ongoing commitment to energy conservation and efficiency, and support for the development of viable renewable energy forms. Close collaboration with various levels of government, as well as key stakeholder groups, will figure prominently in these efforts.

We will also be advocating a sustainable response to climate change – a response that seeks to balance global environmental concerns with global energy demand.

Thus far, the natural gas industry has demonstrated its resolve and value in addressing the climate change issue. As international agreements on greenhouse gas emissions evolve, the International Gas Union and our members will continue to be active participants in the drive to find appropriate solutions. Recognition for the role of natural gas in reducing greenhouse gas emissions will figure prominently in these efforts.

## IGU

The International Gas Union is a worldwide non-profit organisation aimed at promoting the technical and economic progress of the gas industry. The Union has more than 100 members worldwide on all continents. The members of IGU are national associations and corporations of the gas industry. IGU's working organisation covers all aspects of the gas industry, including exploration and production, storage, LNG, distribution and natural gas utilisation in all market segments. IGU promotes technical and economic progress of the gas industry emphasising environmental performance worldwide. For more information, please visit [www.igu.org](http://www.igu.org)



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