

# Global Vision for Gas

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## The Pathway to a Sustainable Energy Future

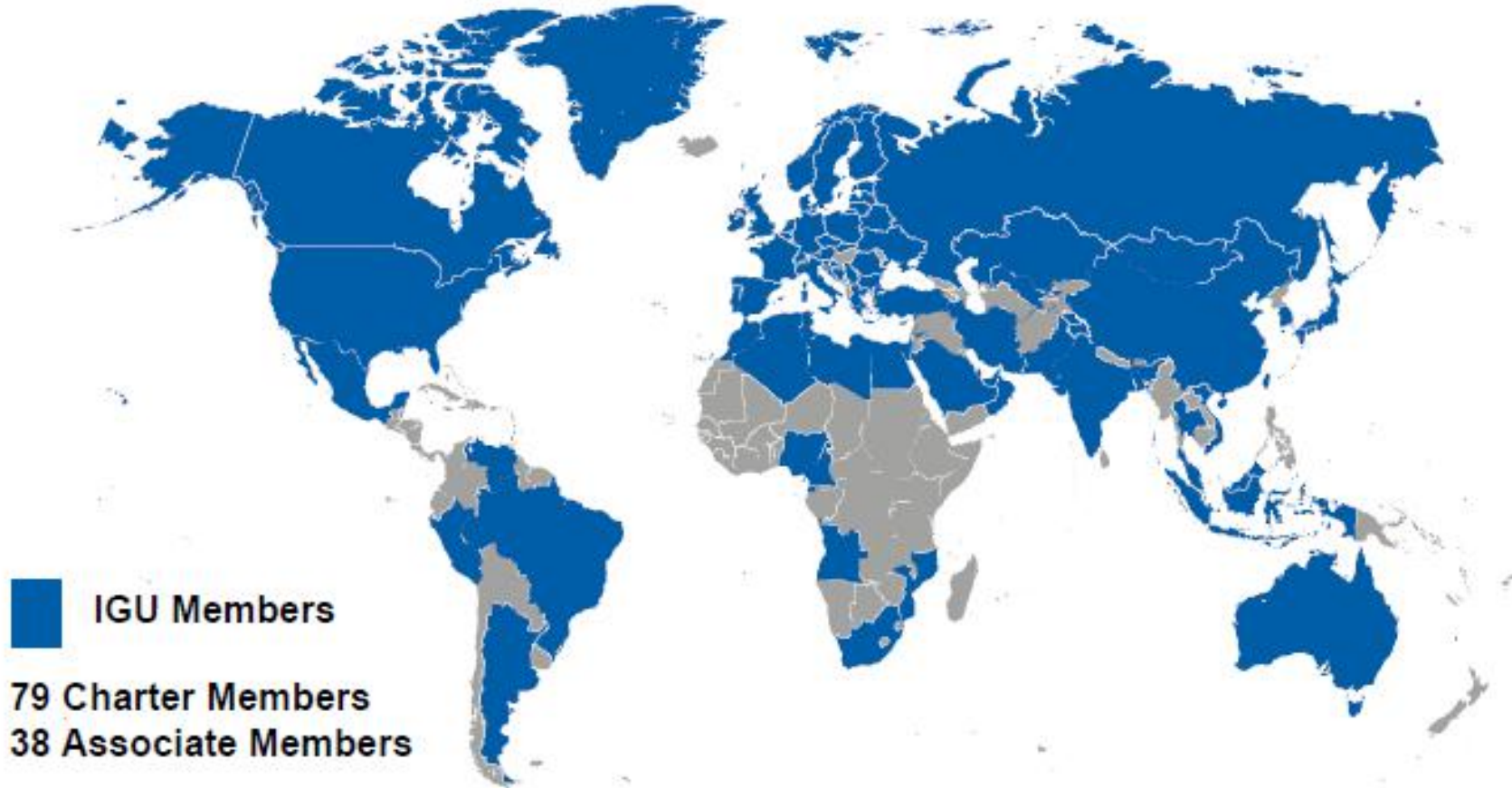
Carolin Oebel  
Senior Advisor to the Secretary General

Budapest, 5 October 2012



IGU represents more than 95 %  
of the global gas market

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# The global energy future

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## Impacting the global framework:

- Rising population – from ca. 7 to 9 billion in 2050
- Human strive for a better life
- Technological progress
- Air quality & climate change concerns



## The world needs:

- More energy
- Cleaner energy
- Safe energy
- Affordable energy

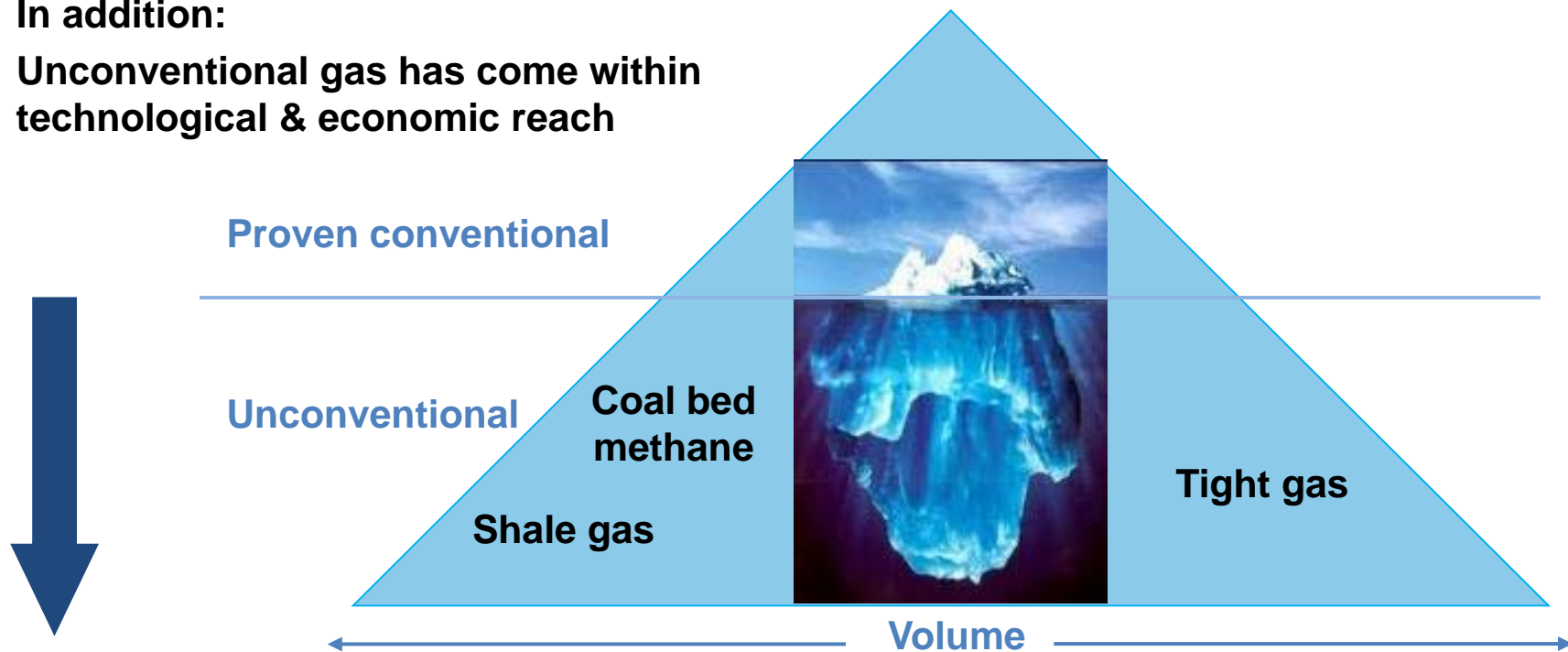


# Natural gas resources are abundant

## Proven conventional reserves\* are growing

In addition:

Unconventional gas has come within technological & economic reach



**The total long-term recoverable conventional gas resource base is more than 400 tcm, another 400 tcm is estimated for unconventional: only 66 tcm has already been produced.**  
*- IEA-Golden Age of Gas 2011-*

\* 190 tcm in 2010

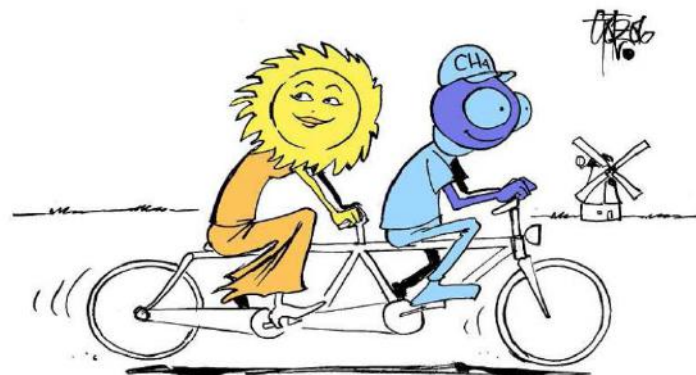
# Natural gas can enable renewable energy

## Natural Gas - Wind - Solar

Natural gas can produce clean base load support for variable renewables



**An ideal combination**



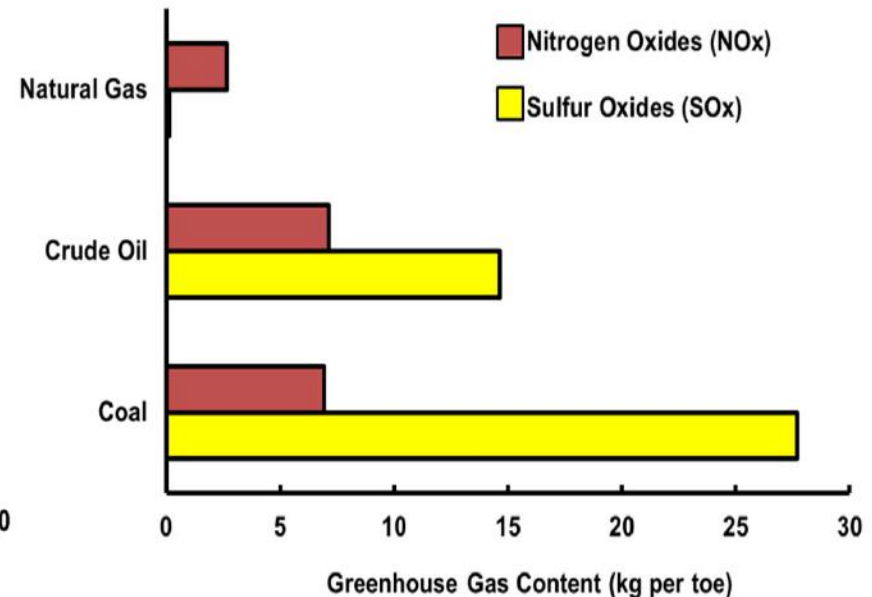
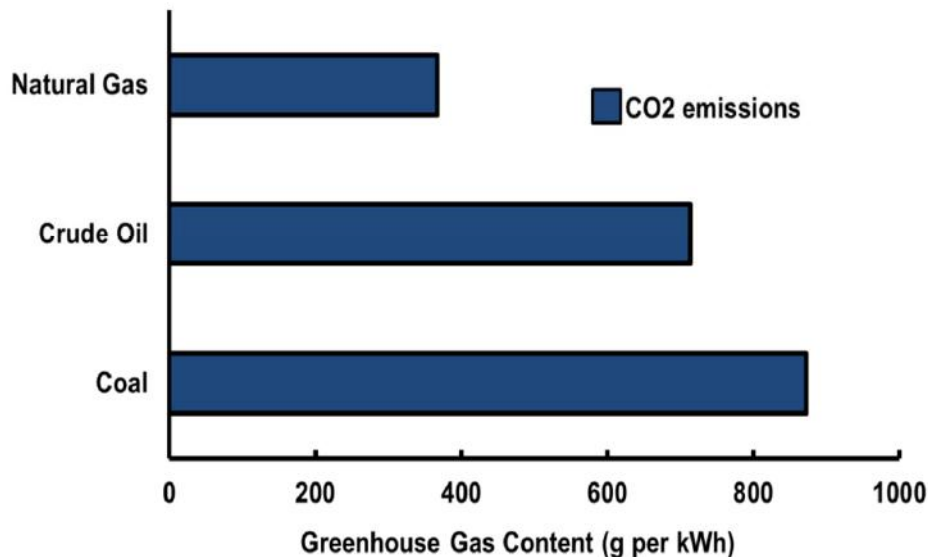
# Natural gas can contribute to better air quality and to mitigating climate change



## Natural gas is a clean-burning and low carbon fuel

Carbon dioxide emitted during electricity generation by fuel\*

NOx and SOx content by fuel



Ad \*: Power generation efficiencies assumed: Natural gas 55%, crude oil 37%, coal 39%



# Natural gas for transportation



**Natural gas is applicable for most kinds of transportation**

# Investment in natural gas infrastructure does not predetermine future energy landscape

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## Adaptability of natural gas is key advantage:

- **Gas-fired generation can evolve in a variety of directions:**
  - Capture carbon through retrofit technology
  - Partnership with variable sources of renewable power generation
  - Greater inclusion of carbon-neutral biogas
- **Gas pipeline and storage system provides further future options for:**
  - CO<sub>2</sub>
  - Biogas
  - Hydrogen

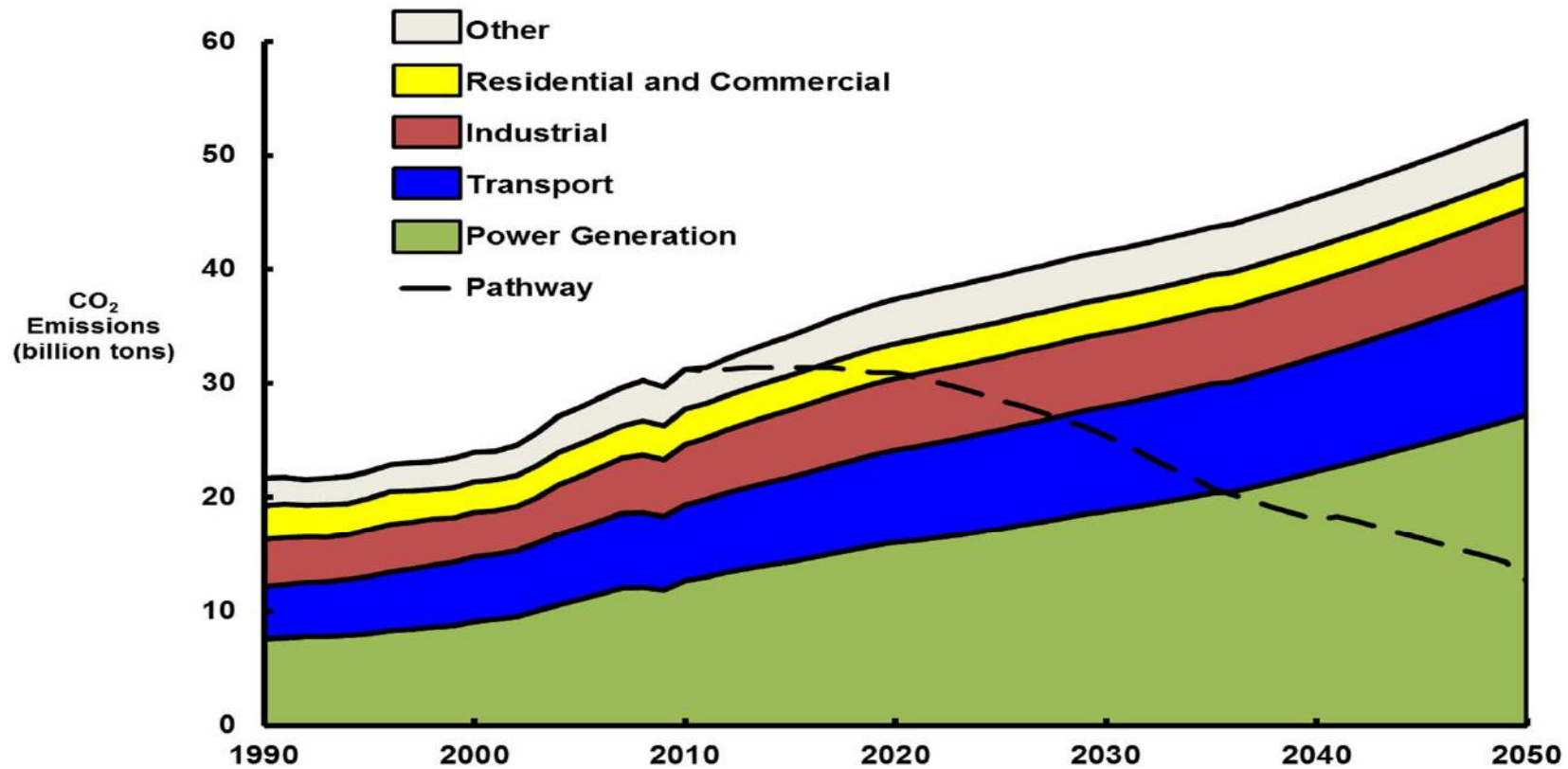




# The Pathway towards a sustainable future

## Meeting future global energy needs – whilst addressing air quality and climate change concerns

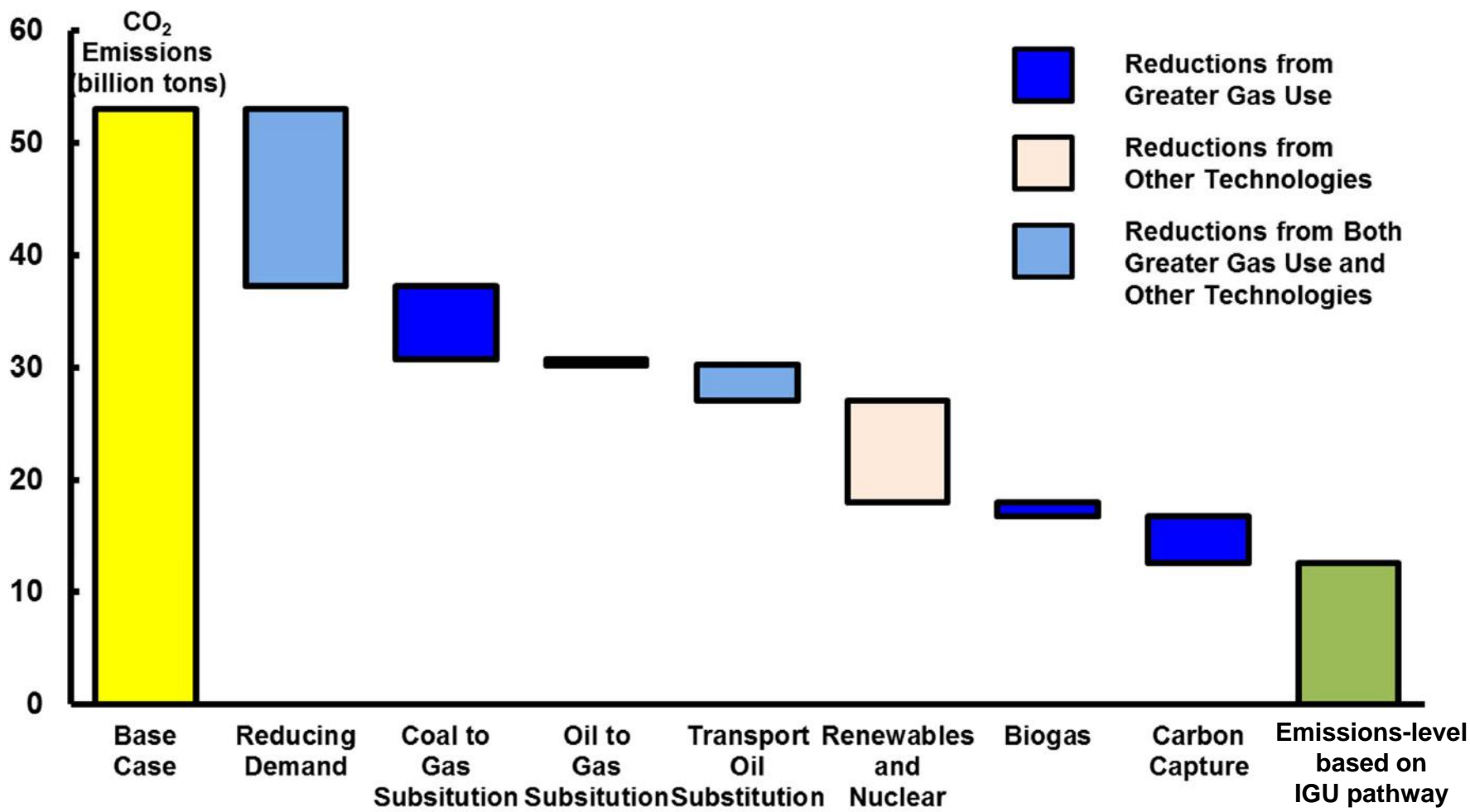
### Global Emissions Trajectory Base Case



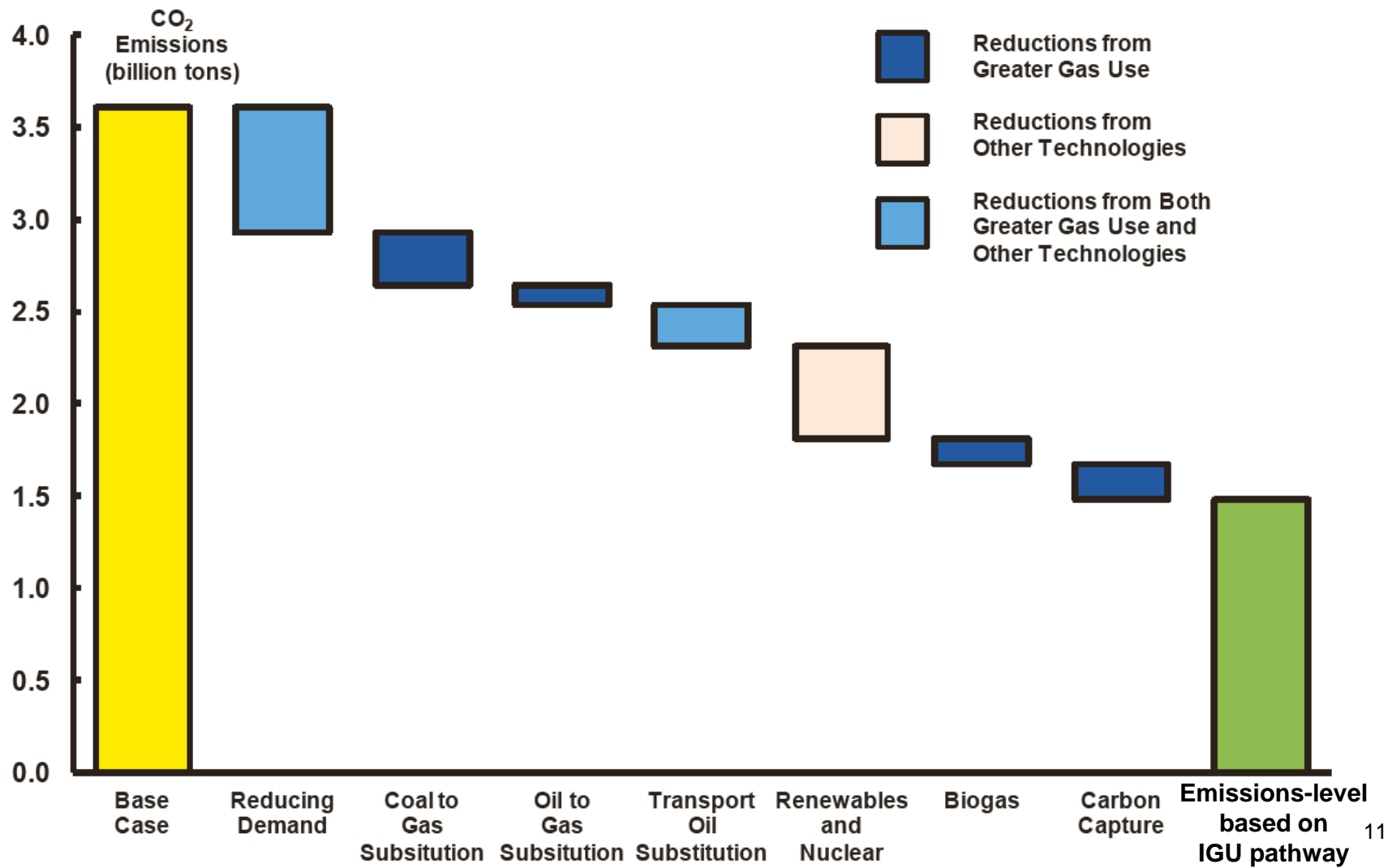
# Vision Pathway highlights various CO<sub>2</sub> abatement options and technology choices



## Global calculation for 2050



# Also in Europe, the most energy-efficient of regions, there is still potential for CO<sub>2</sub>-reductions



# Requirements to realise a sustainable energy future

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## Politics

- Ensure a stable policy and regulatory framework
- Support low-carbon energy & act quickly

## Industry

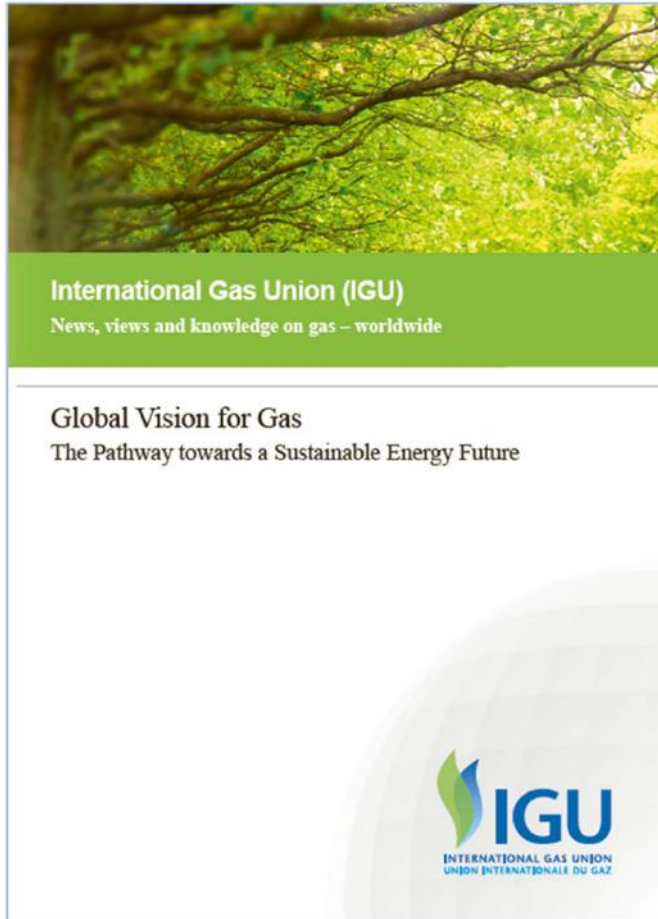
- Continuously improve technology and productivity
- Establish trust with all stakeholders

## All

- Realise the synergies of integrated energy concepts
- Increase energy efficiency
- Reduce demand

# Global Vision for Gas: The Pathway towards a Sustainable Energy Future

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**Download from:**

**<http://www.igu.org>**

# Thank you

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## For your attention

Carolin Oebel  
Senior Advisor to the Secretary General

Budapest, 5 October 2012

