



Global Vision for Gas

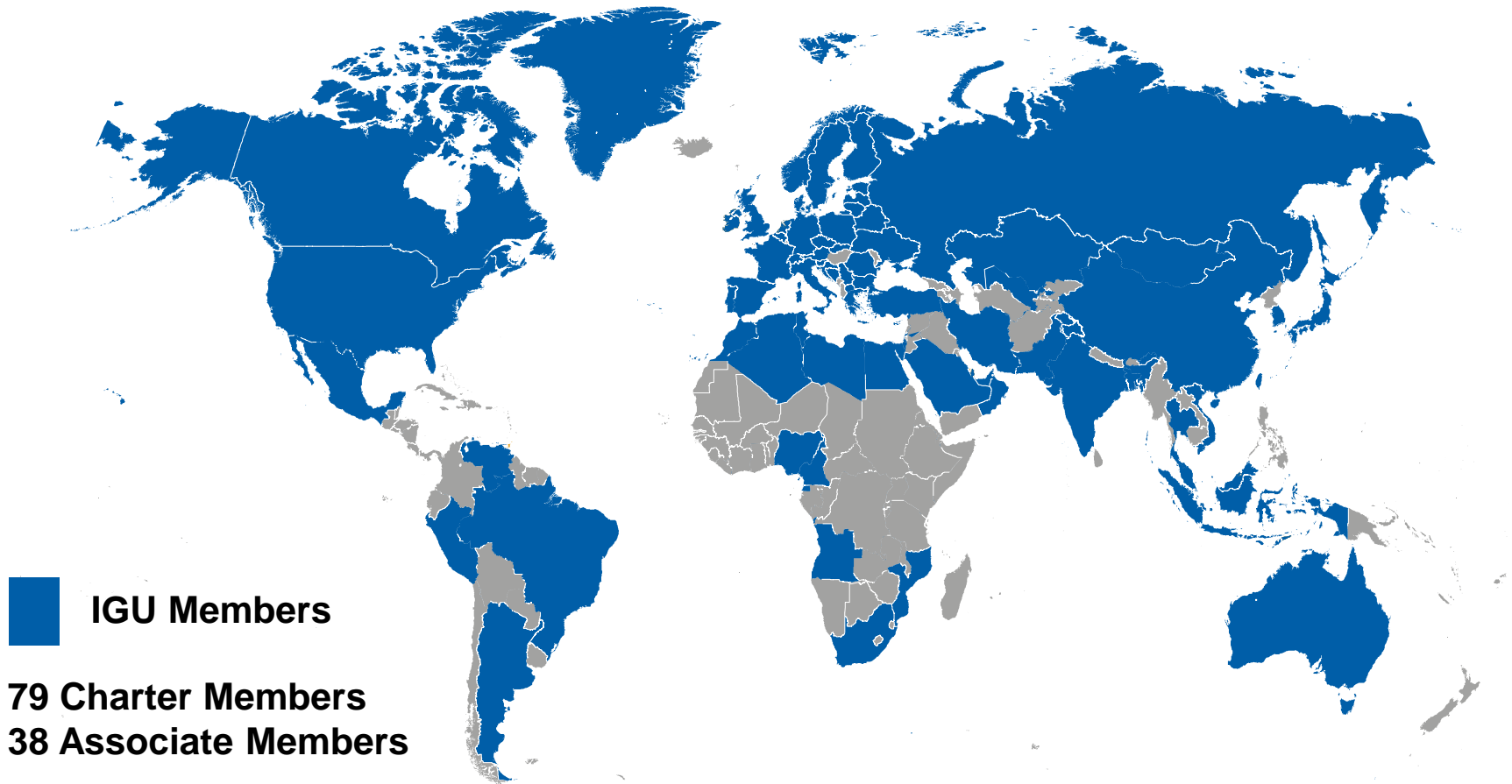
- The Pathway to a Sustainable Energy Future

Torstein Indrebø
Secretary General
The International Gas Union

Baku, Azerbaijan, 29 June 2012



IGU represents more than 95 % of the global gas market



Established in 1931

The global energy challenges

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



Global energy issues

- Cleaner
- Affordable
- Economic development
- Reliable
- Safe



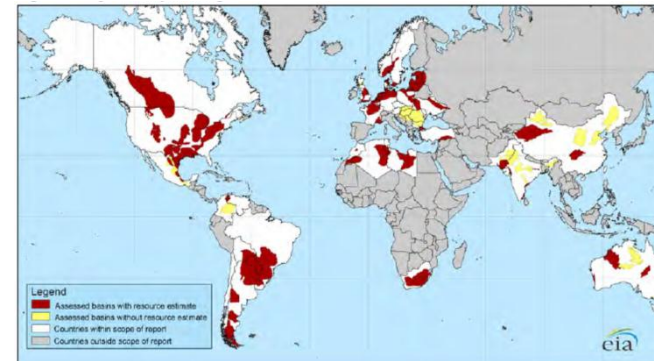
Impact of Fukushima



Need a balanced and realistic approach

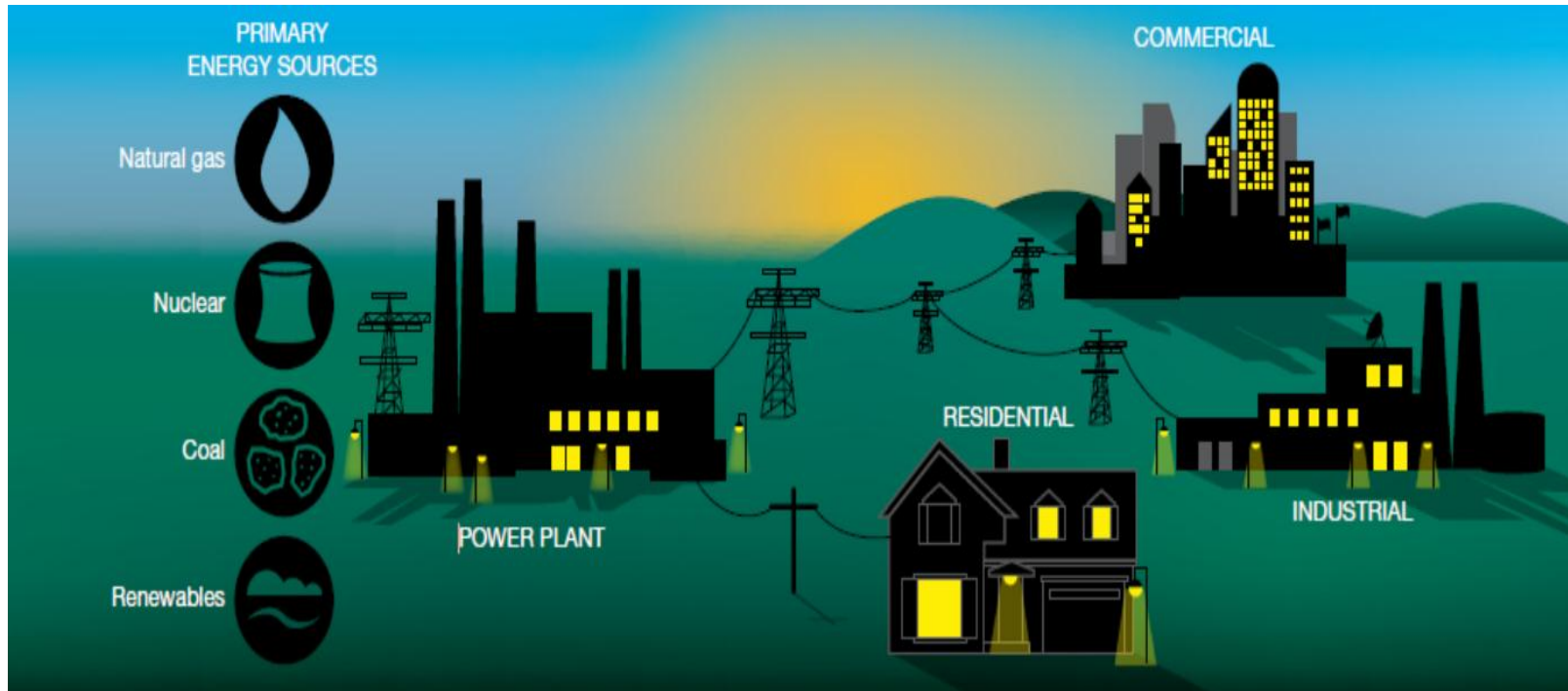
Technology drives gas supply

- **Shale gas**
 - Global potential
- **Liquefied Natural Gas**
 - Supply security and flexibility



 ***Impact on availability and affordability***

World loves electricity!

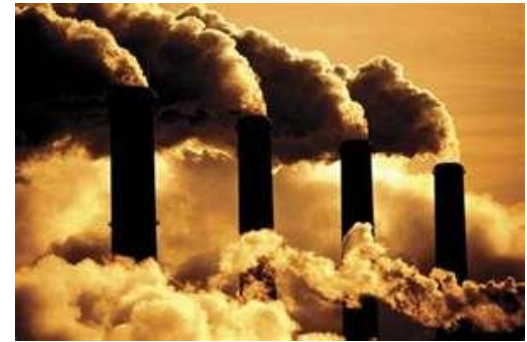


- Convenience
- Multiple uses

Gas in the power sector

Gas burns with emissions lower than coal:

- CO₂: 50 %
- CO: 81 %
- SO_x: 100 % - acid rain
- NO_x: 80 % - air quality
- Particles/soot: 99.99 % - air quality
- Hg (Mercury): 100 %



Natural Gas - Wind - Solar



**Gas power can provide flexible back-up
for variable renewables**

Gas for transportation

Marine



Fleets:

- Trucks
- Buses
- Taxis



Road

Natural gas is applicable for most kinds of transportation

Heavy duty vehicles

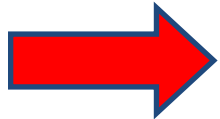


Less

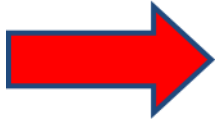
- **Particles/soot**
- **Noise**
- **CO₂**
- **NO_x - smog**

Gas price much lower than oil price

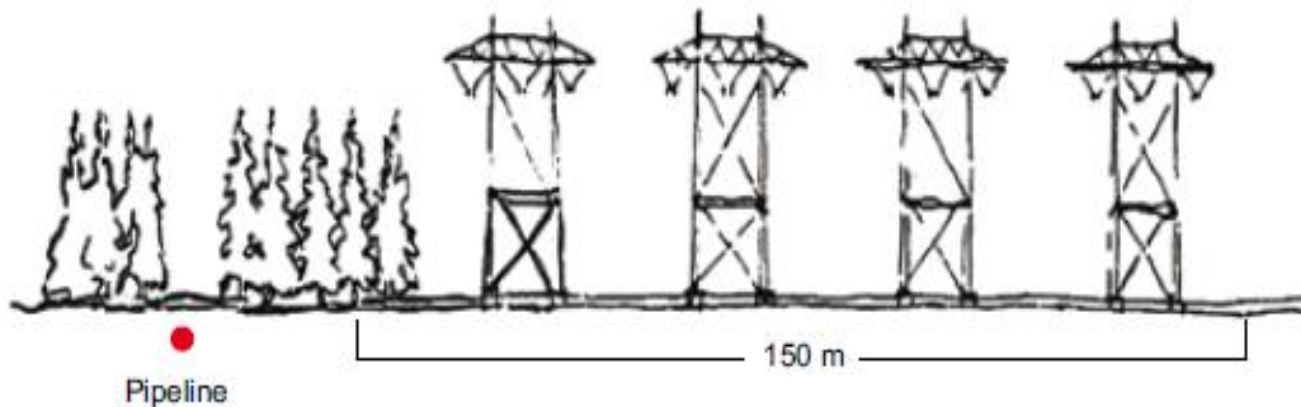
Geographical footprint



Landscape



Visibility



Example of 40 TWh of electricity produced from 6 Bcm/yr of natural gas carried in the pipeline. Statkraft 1988).

Economics and job creation

- **Economic development**
- **Job creation direct and indirect**
- **Build on existing energy system**
- **Gas industry contributes to public finances**



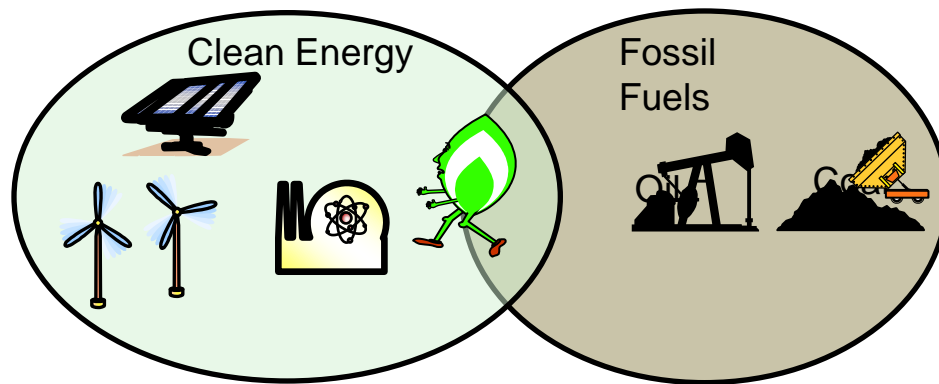
Natural Gas - millions of sustainable jobs

Creating Trust for Gas

- Recognition by policymakers
- Balanced and objective
- Dialogue with stakeholders
- Communication



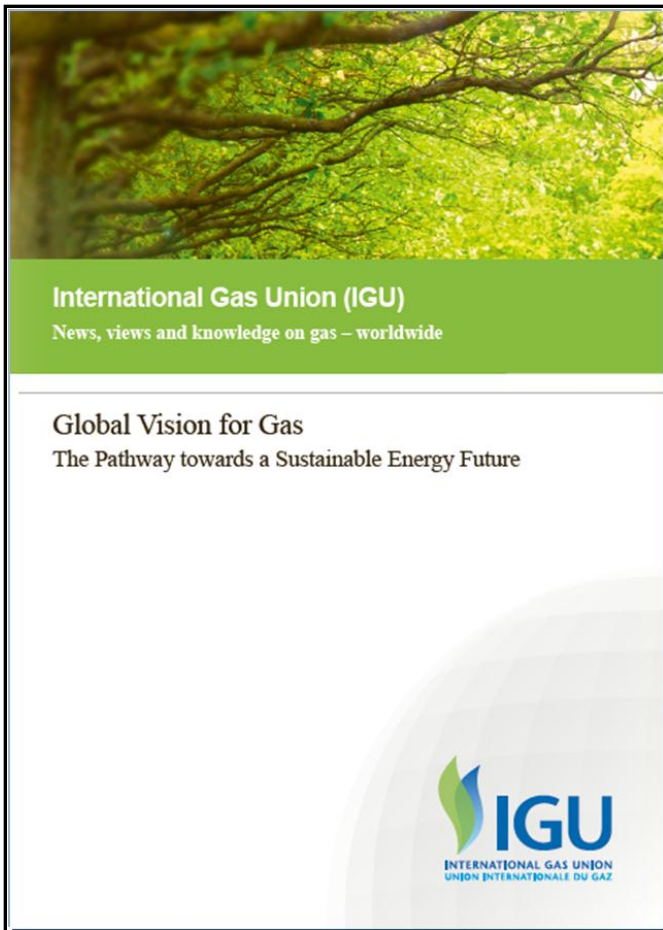
Image of Gas



GHG Emissions Spectrum



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



Among our publications:

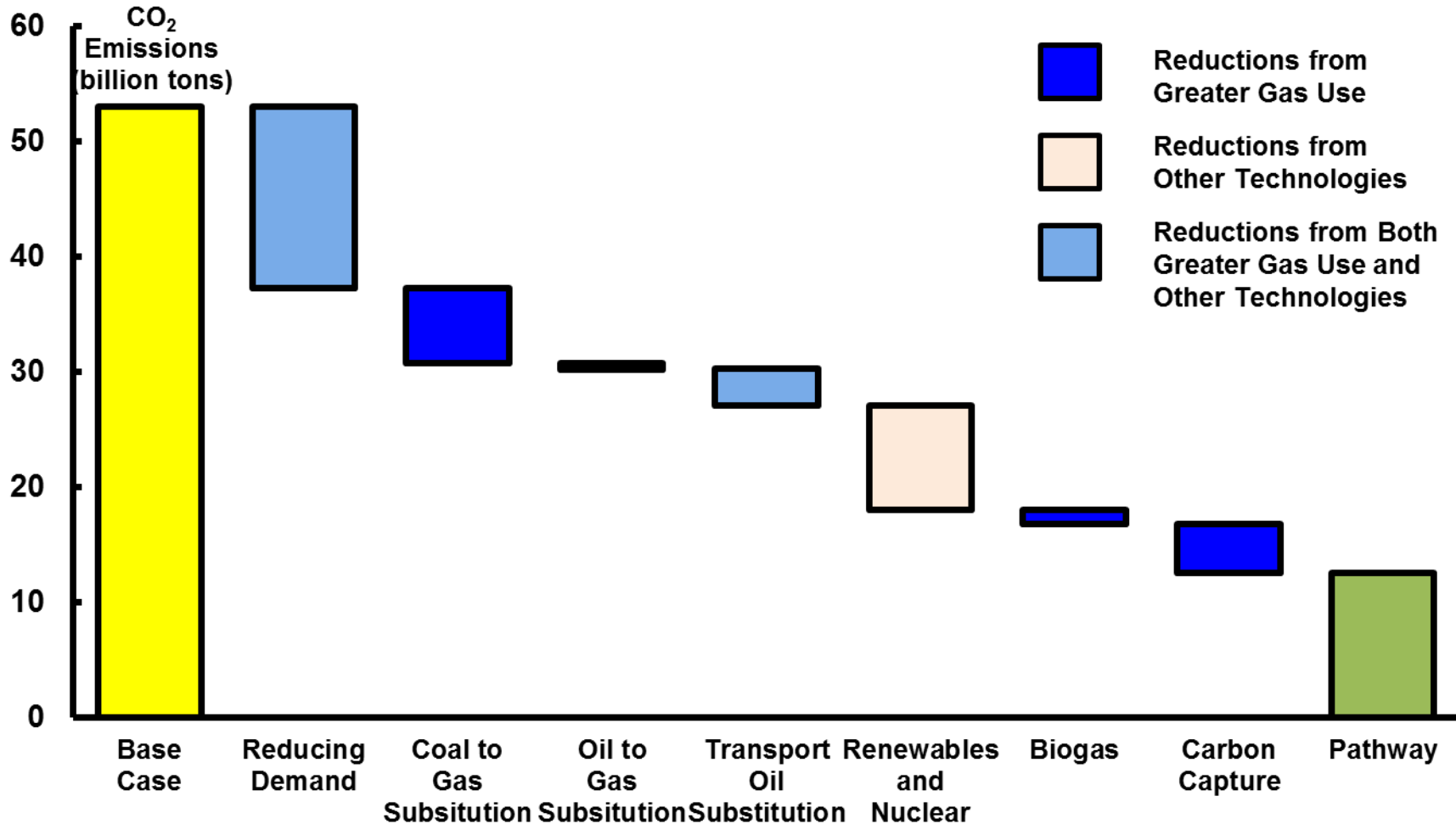
- **Global Vision for Gas**
- **Shale Gas**
- **Geopolitics and gas**
- **LNG Report**

Download possible from:

<http://www.igu.org>

Vision Pathway highlights various CO₂ abatement options and technology choices

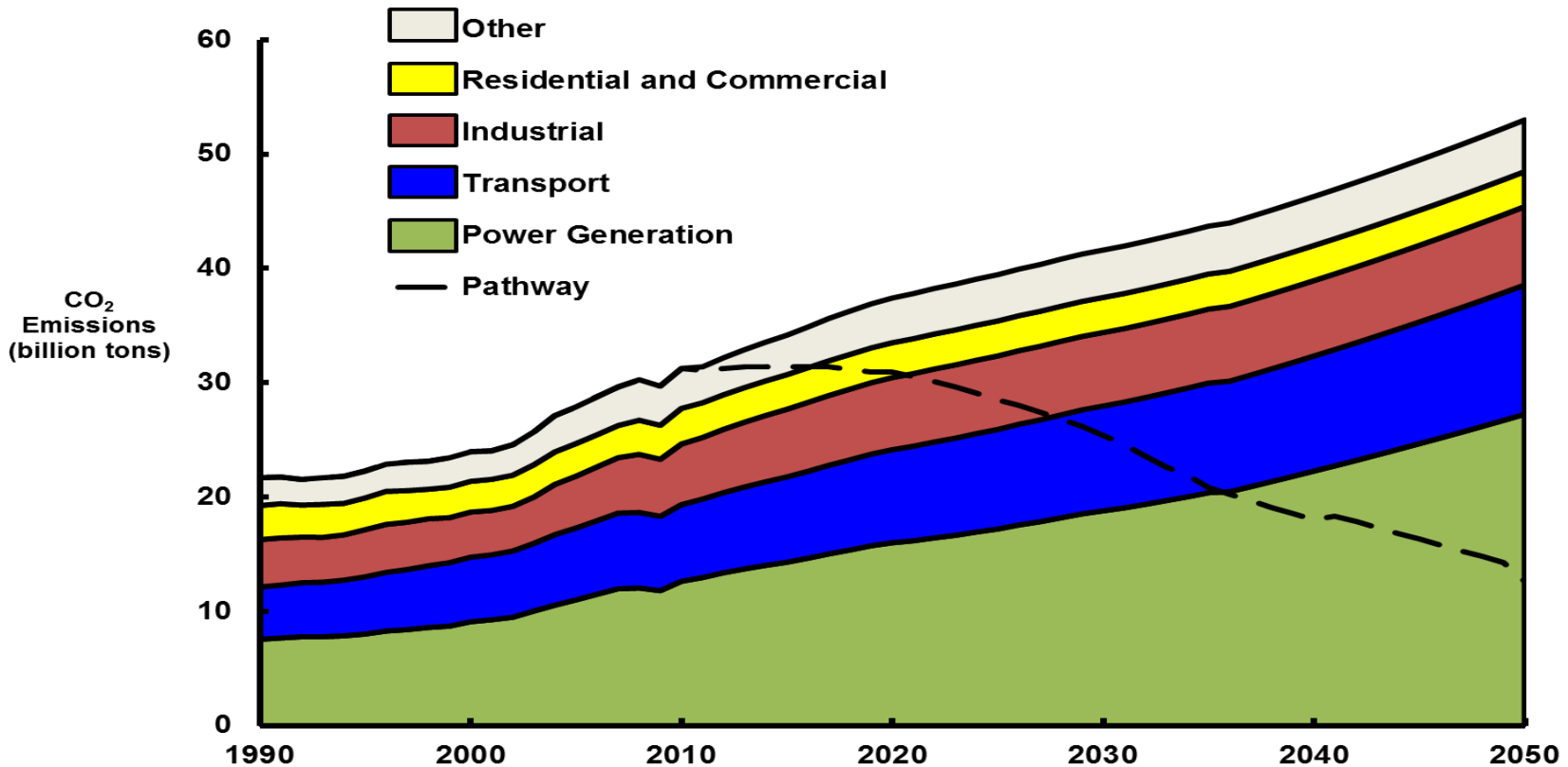
Calculation for 2050



The Pathway towards a Sustainable Future

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

Global Emissions Trajectory Base Case



A no-regret climate-friendly energy policy

- **Energy efficiency & savings**
- **Increase use of gas in power generation and transportation**
- **Phase in renewable energy**
- **Develop Carbon Capture and Storage technology**



 ***Gas: Part of the long term energy solution***

www.igu.org

***Thank you for your
attention!***



Gas – the fuel for today and tomorrow!