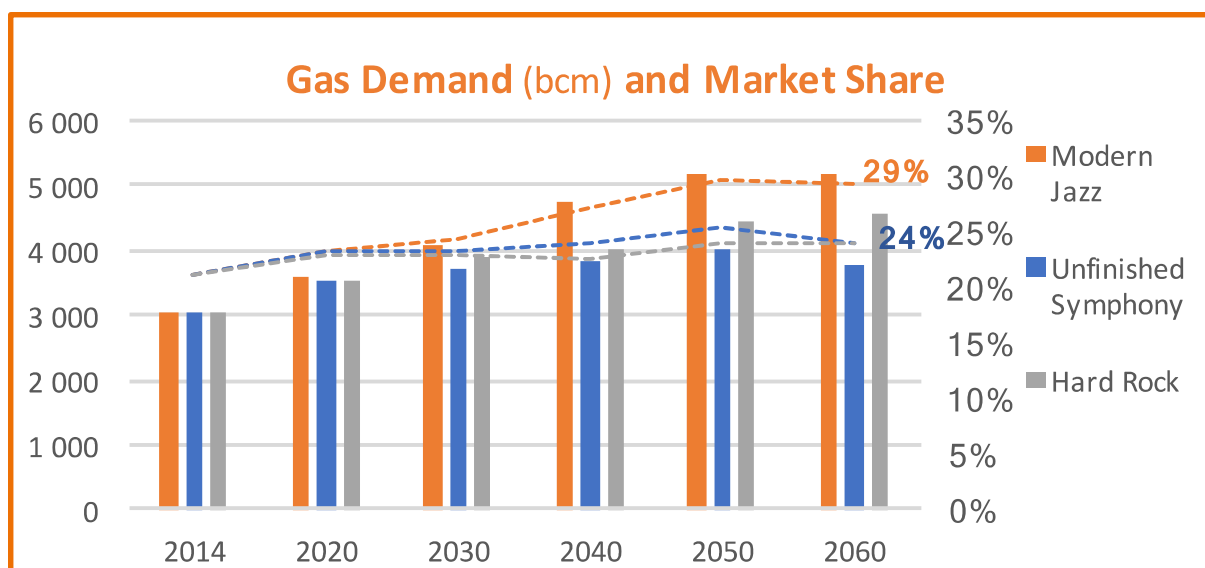


# Gas Perspectives 2060

# 1. A bright future at the global level until the middle of the century

- The only fossil fuel maintaining or increasing its share in the energy mix
- Over the whole period, a market share between 25 and 30%



- **Beyond 2050, the prospects are more uncertain:** a stagnant demand (Modern Jazz), and even significantly decreasing (Unfinished Symphony).

## 2. Very large differences between the scenarios

### Modern Jazz

#### The first primary energy

- Market forces drive high **economic growth** in a competitive **globalised world** shaped by market mechanisms.
- **Awareness of environmental issues** increases
- Gas seen as **low-cost cleaner fuel** for power generation and transport.
- Rapid deployment of RES

- High growth (+70%) to 2050
- **5,000 bcm in 2050**
- **Flat after 2050**

### Unfinished Symphony

#### The bridging fuel

- **Societal consensus on climate change** leads to effective Govt policy on Energy
- **Moderate economic growth, rising energy efficiency, more stringent emissions standards** and rapid **deployment of renewables** dampen growth for gas

- Low growth (+25%) to 2050
- **4,000 bcm in 2050**
- **Peak around 2050**

### Hard Rock

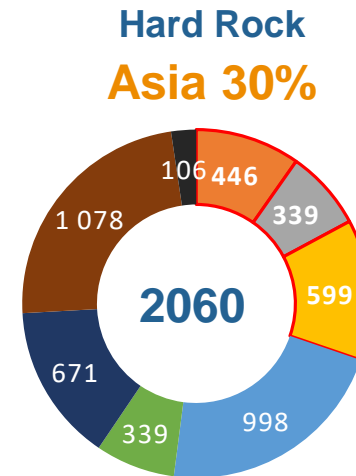
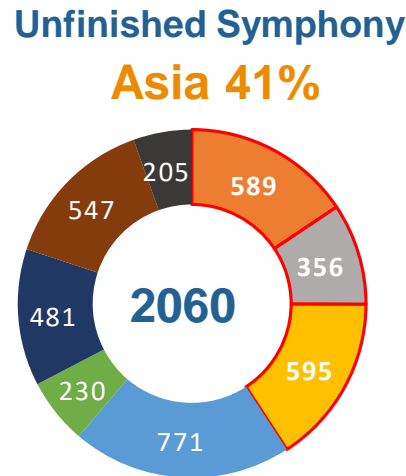
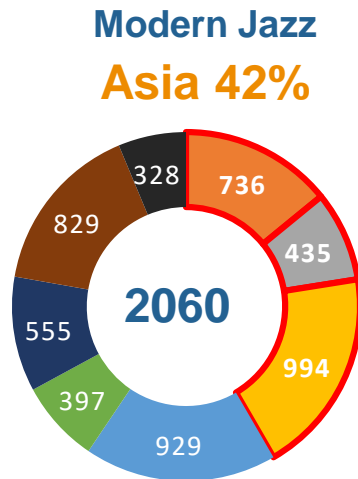
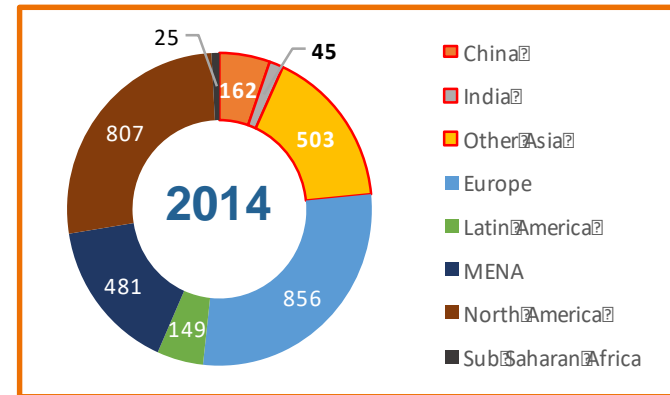
#### A major player

- Promotion of national agendas result in **low focus on climate change** and a **fragmented market**
- Energy shows **high dependence on fossil fuels** but gas growth is dampened by **coal remaining in the mix**

- Moderate growth (+50%) to 2050
- **4,400 bcm in 2050**
- **Continues to grow**

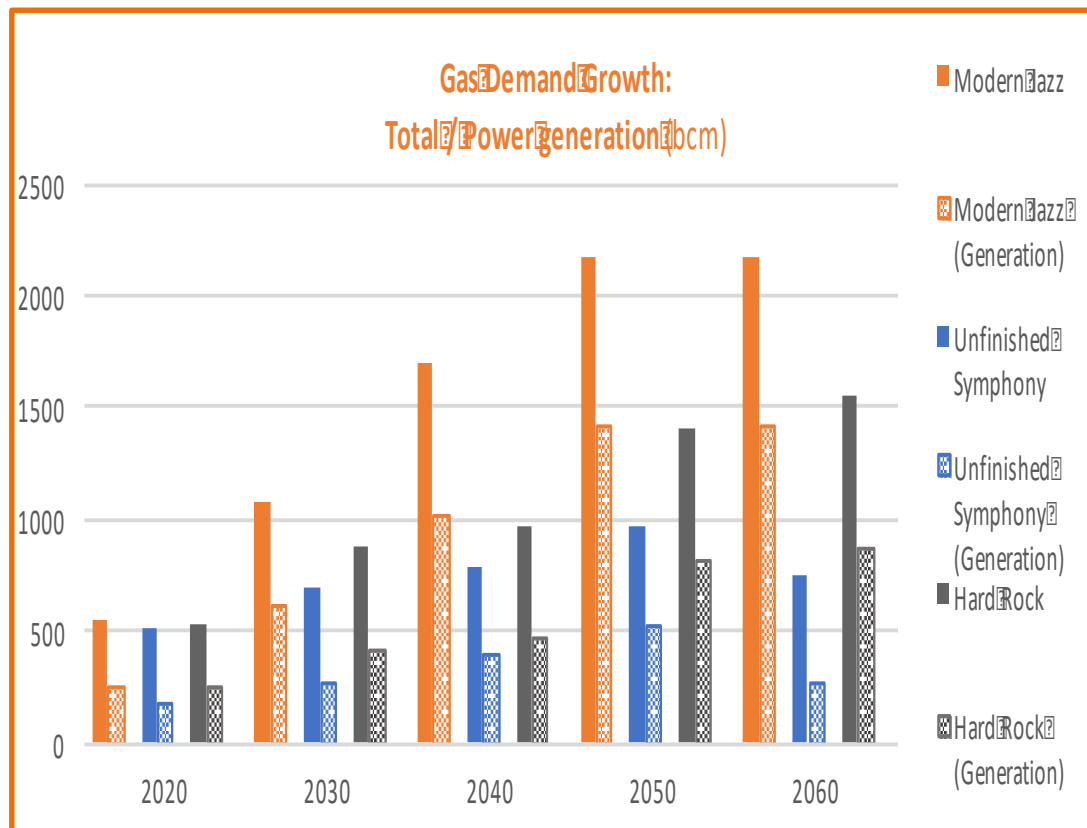
# 3. Massive shift in demand to Asia

- **Growth concentrated in new markets**
- **Asia:**
  - **21% of global gas demand in 2014**
  - **Between 30% and 42% in 2060**



# 4. Power generation: a crucial sector for gas

- Demand for electricity will **double by 2060**
- Huge gaps in additional gas demand: in 2050 **between 300 bcm and 1,500 bcm**
- In MJ and US: from 2040 **development of CCS will prove absolutely necessary** for the gas maintains a major role.



# One central question

**After 2050:**

*Can gas maintain a long-term role  
in the energy mix or will it be a  
"bridging fuel" allowing a gradual but  
continuous evolution towards a  
decarbonised world?*

# Next Steps?



# To remain a major energy gas must become a clean energy

- The gas sector must **innovate** to transform its **product**, its **modes of use** and its **markets**
- The gas must evolve towards "**renewable**" energy: biogas, P2G, etc.
- The **use of CCS technologies** will have to **become widespread**.
- In transport only a significant development in **the light-duty segment** can make transport a **real potential market** for gas

# The topics considered as the most important for complementary work

- **Gas supply side:** Further analysis necessary given the level of uncertainty faced by producers (development of production in the different regions; changes in international trade flows).
- **Price formation mechanisms:** Analysis of the evolution of price-setting mechanisms by region.
- **The energy outlook for Asia:** Level of growth in Indian and Chinese production or the policies of these states in terms of energy mix and acceptable level of external energy dependence should be investigated.
- **Issues and challenges related to energy investments** in an uncertain environment and their possible consequences in terms of security of supply as well as in terms of financial risk.
- **New business models and regulation:** Significant uncertainties about the future of gas, including the possibility of a decline in gas demand could have a significant impact on the business model of operators and raise important regulatory issues.
- **The perspective of gas in transport:** This issue could be addressed in a broader approach to revising the Council's scenarios in the transport sector.
- **The role of innovation and technological prospects:** Various technologies could alter the role of gas in the transition of energy by allowing it to position itself as “clean(er)” energy.
  - **The place of gas with CCS** in electricity generation
  - **The potential of biogas.**
  - **The prospects of P2G.**
  - In general, the **potential contribution of H<sub>2</sub> to the energy transition** and its impact on the gas sector