



Gas Market Outlook

Presented by:

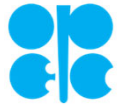
OPEC Secretariat

Key assumptions

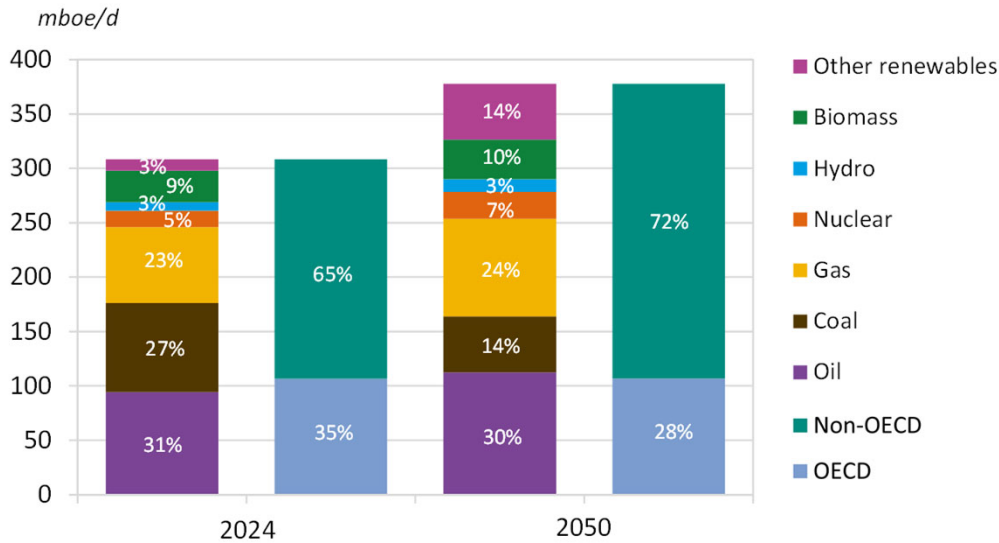


- **Current uncertainties** surrounding the global economic and political landscape are quite significant,
- A noticeable trend of **policy pushback and intensified scrutiny** of major goals is apparent - primarily in the US and in number of other developed countries,
- **Global population** set to rise from 8.2 billion in 2024 to **9.7 billion in 2050**, overwhelmingly driven by non-OECD countries,
- The global **urbanization rate is** expected to increase from 58% to 68% - about **1.9 billion** people moving to cities by 2050,
- The **global economy** is set to more than **double in size**, increasing from \$171 trillion in 2024 to \$358 trillion in 2050; growth averages 2.9% p.a. over the entire forecast period,
- The WOO recognizes **incremental technological progress** that helps to improve efficiency and reduce costs but does not assume sudden technology breakthroughs.

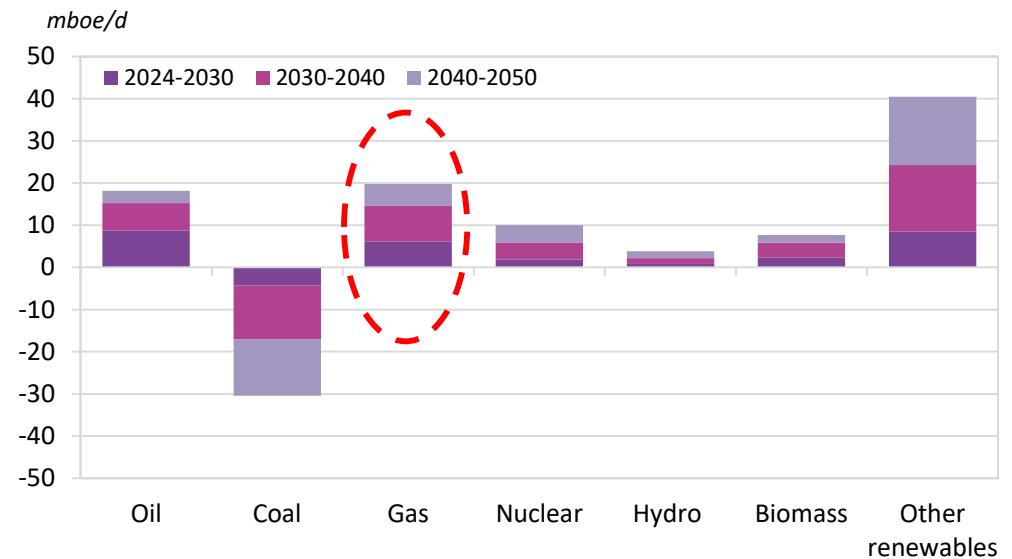
Global primary energy demand to increase by 23%, from 308 mboe/d in 2024 to 378 mboe/d in 2050



Primary energy demand by fuel and region



Primary energy demand growth by fuel, 2024-2050



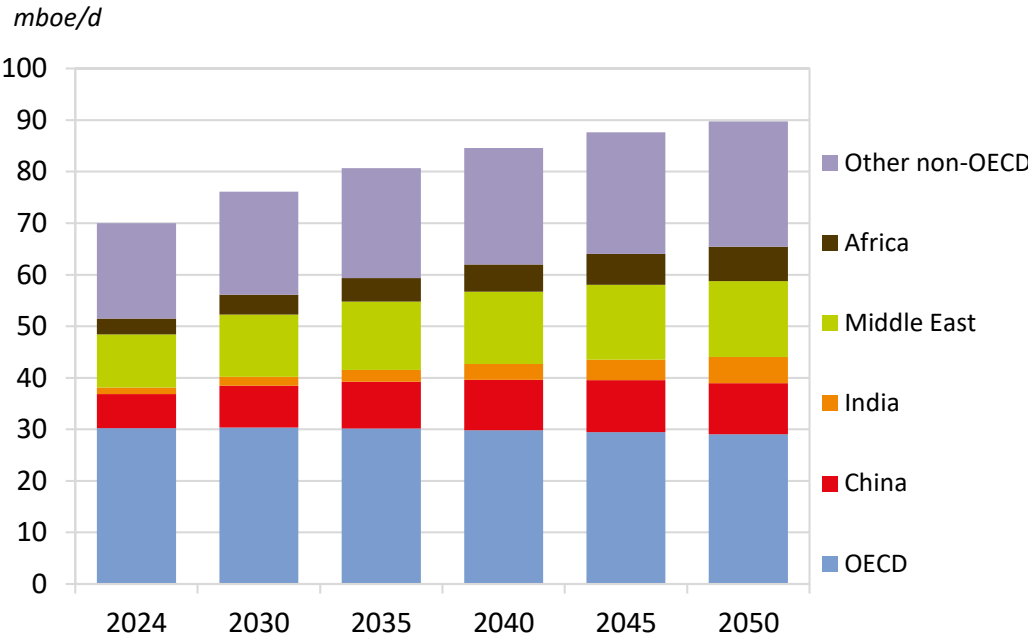
- **Oil will retain the largest share** of the **energy mix** in the outlook period, while **gas will overtake coal** to reach second place,
- **Power generation** and **industry** driving gas demand growth in the long term.

Global natural gas demand increasing by 28% in the period between 2024 and 2050



- Natural gas demand set to increase by almost **20 mboe/d** to **90 mboe/d** in **2050**,
- Growth is driven by **developing countries in Asia, Middle East and Africa**,
- Gas is crucial in combating **energy poverty and increasing energy access**,
- **Power generation** is the major driver of gas demand growth,
- Demand growth is also supported by **high availability of natural gas at competitive costs**.

Natural gas demand by major region, 2024-2050

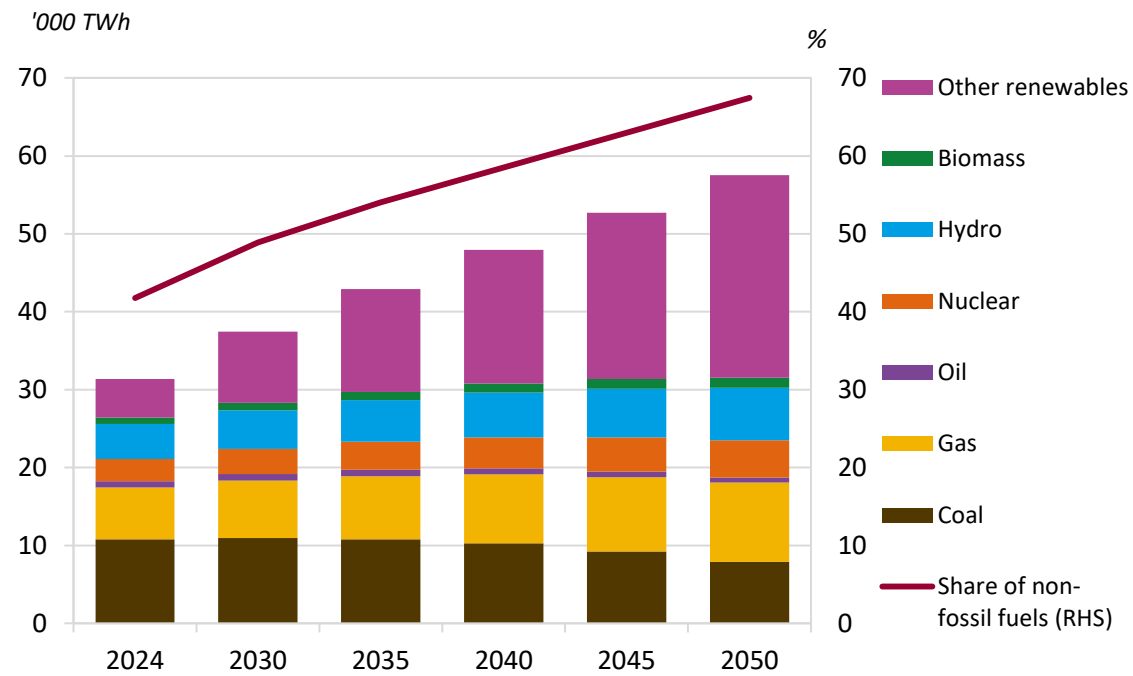


Gas-fired generation rising by 50% by 2050



- Global power generation projected to increase by **more than 80% by 2050** and generation mix to get gradually **transformed**,
- The **largest growth** expected for other renewables (**mostly wind and solar**), rising by **21,000 TWh by 2050**,
- Generation from **natural gas** expected to increase by **3,500 TWh, (+50%** between 2024 and 2050),
- Gas-fired plans will be crucial for **balancing** intermittent generation from wind and solar and **grid stability**.

Global electricity generation by fuel, 2024-2050





Two alternative scenarios were developed

The Technology-Driven Scenario (TDS)

- A more **rapid pace of investments in advanced technologies** than those assumed in the Reference Case;
 - **Significant fuel substitutions** (coal by renewables and gas; oil by electricity and gas; gas by electricity etc.);
 - **Energy efficiency improvements** leading to lower primary energy demand;
 - **Significant change in future energy mix**;
 - **Greater deployment of carbon removal technologies**, such as stationary and mobile CCUS and DAC technologies, especially in the second part of the forecast period.

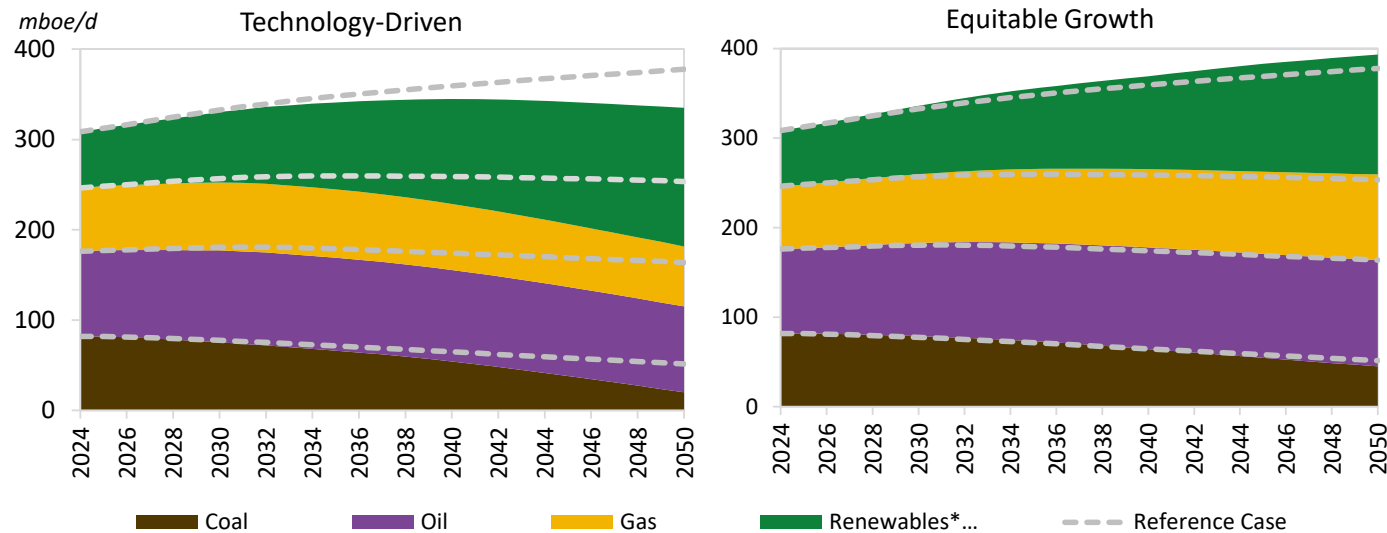
Equitable Growth Scenario (EGS)

- Scenario enabling **improved energy access** and further **alleviating of energy poverty**;
- Scenario key elements:
 - **Higher economic growth**, especially in developing countries;
 - **Policies will continue tightening** but in the **absence of a coordinated move** to reduce emissions;
 - **Local development needs**, especially in respect to energy access and energy poverty, are prioritized over global issues.

Differing narratives change future energy mix and overall demand



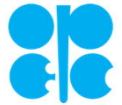
Global primary energy demand in the Reference Case and in alternative scenarios



* Renewables include hydro, biomass, wind, solar and geothermal energy.

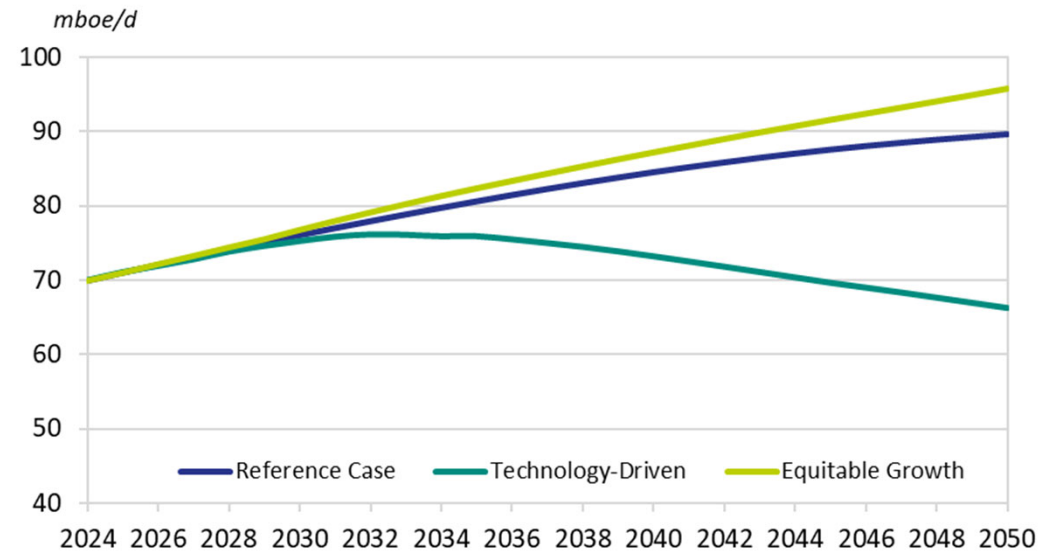
- Assumed **efficiency improvements and higher share of renewables** reduce energy demand in the **TDS**; global primary energy demand in 2050 is **almost 43 mboe/d lower**, compared to the Reference Case;
- **Oil and gas** demand declines in the TDS, especially in the long term; however, **demand for these fuels would stabilize** beyond the forecast period supported by **accelerated use of hydrogen, CCUS, DAC and CCE** platform;
- Faster **economic growth and development needs** in non-OECD drive higher total primary energy demand in the **EGS (+16 mboe/d in 2050)**.

Natural gas demand on similar pathways until 2030, diverging afterwards



- **Critical role for natural gas** in all scenarios, crucial for eradication of energy poverty,
- TDS gas demand **peaks at around 76 mboe/d in early 2030s** and declines after due to higher competition from RES and nuclear in power generation,
- EGS sees **gas demand continuously above the Reference Case** supported by faster economic development in developing countries.

Global natural gas demand by sectors, 2024-2050



Key takeaways



- Primary energy demand will increase by **23%** between 2024-2050. Oil will retain the highest share (30%). Oil and gas together represent a **53% share by 2050**,
- Natural gas demand increasing by almost **20 mboe/d over the outlook period**, becoming the **second largest fuel in the energy mix** already in 2030,
- Demand growth driven mostly **non-OECD countries**, mostly those in **Asia, Middle East and Africa**,
- Gas demand growth is also result of **ample availability of natural gas supplies** at competitive costs,
- **Power generation** is the most significant driver of the natural gas demand growth over the long term,
- Natural gas also helps to **reduce energy poverty** and **increase energy access** in developing countries, especially in Africa.



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