

The logo for Hawilti, consisting of the word "Hawilti" in white text on an orange rectangular background. The background of the entire slide features a stylized map of Africa and Europe with a network of glowing blue lines and nodes.

GAS FOR AFRICA

Assessing the Potential for Energising Africa

Maximising Gas Benefits

The Global Voice of Gas since 1931

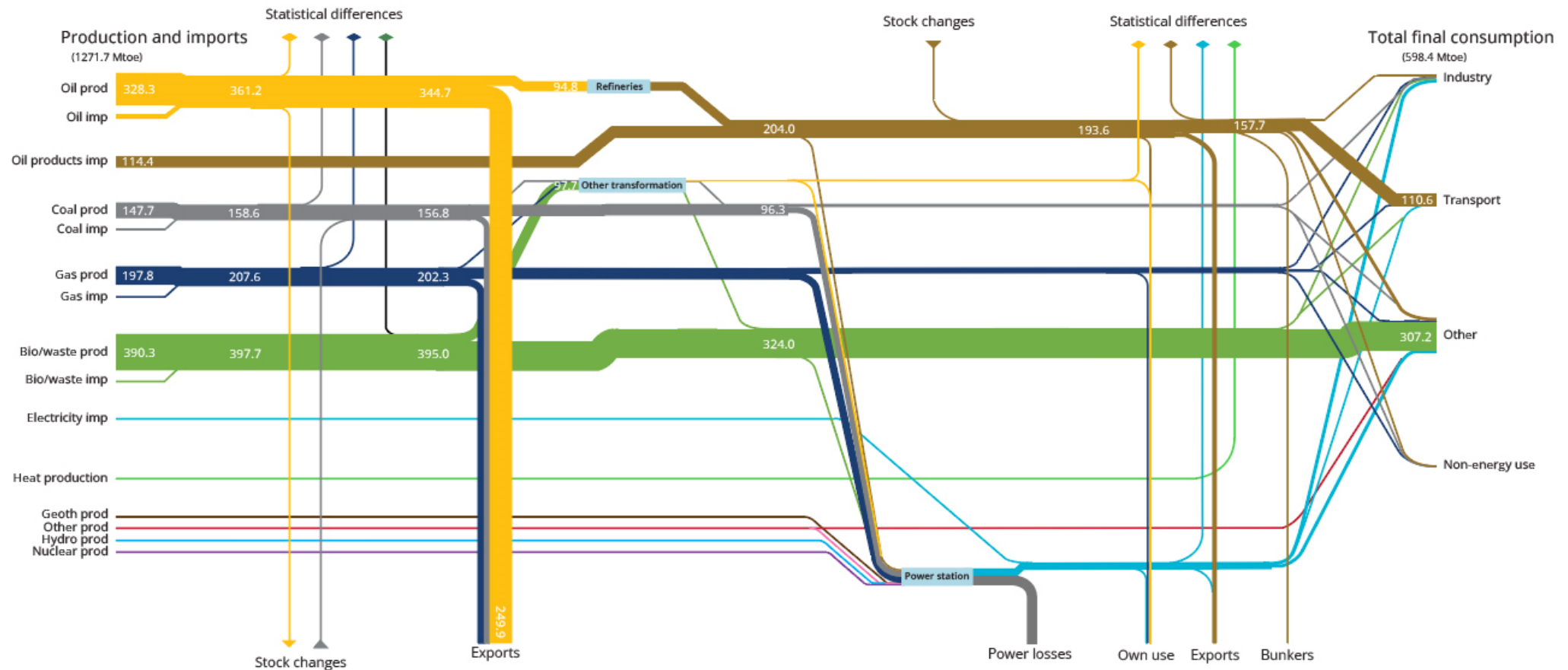
The IGU is the only industry association that represents **the entire gas value chain**, with more than **150 members** in more than **80 countries** around the world.

Covering **over 90% of the global gas market**, our members are engaged in every stage of gas, production transport, storage, and delivery, including natural gas, hydrogen, renewable gas, and carbon capture technologies.



Africa's Energy Balance

Most of Africa's final consumption in Energy comes from biomass and imports, while two-thirds of its oil and much of its gas are exported. There is also a striking scale of power losses.



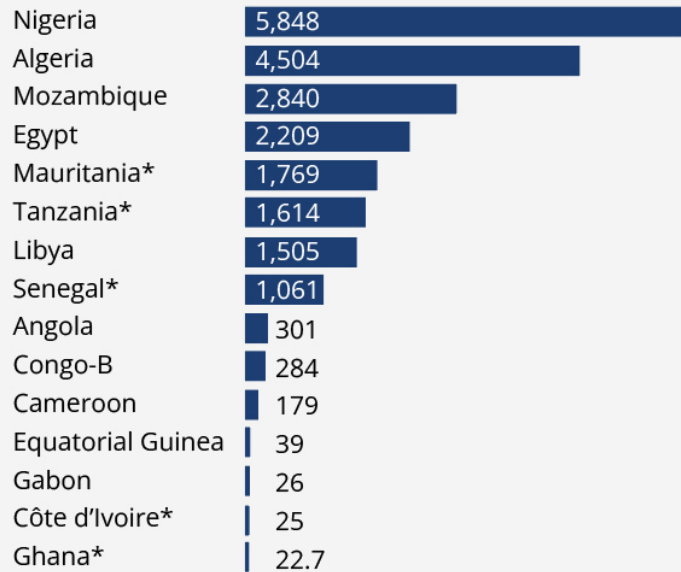
Source: IEA



Africa's Resource Wealth vs Energy Poverty

Africa has 8.8 Trillion Cubic Metres of gas reserves. It produces close to 280 bcm, exporting a significant share, while an average sub-Saharan African has less electricity in one year, than it takes to run an average American fridge.

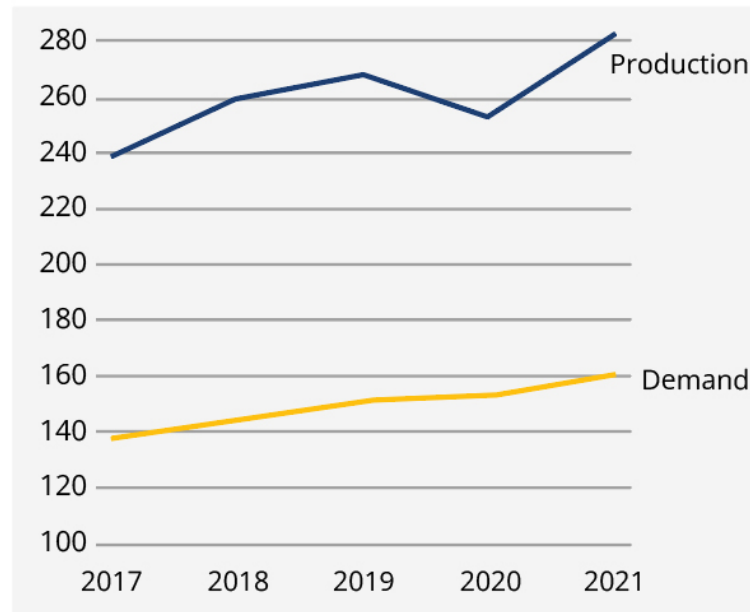
African gas reserves, Bcm (2021)



*Not officially classified as proven reserves

Source: Hawilti research from various sources, including OPEC, PIAC (Ghana), DGH-C1 (Cote d'Ivoire), and Bank of Tanzania

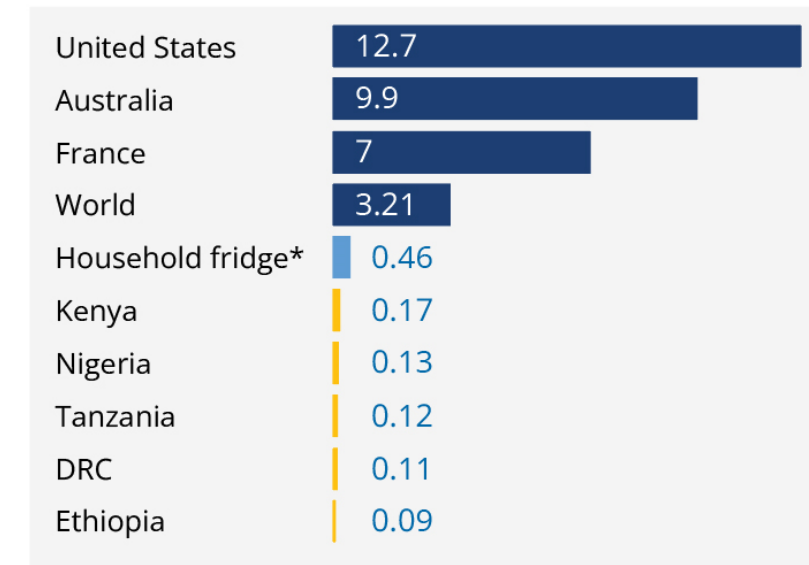
Africa's gas supply and demand (MMscm)



Source: OPEC, Hawilti Research

LOW ENERGY

Electricity consumption, MWh/capita (2020)



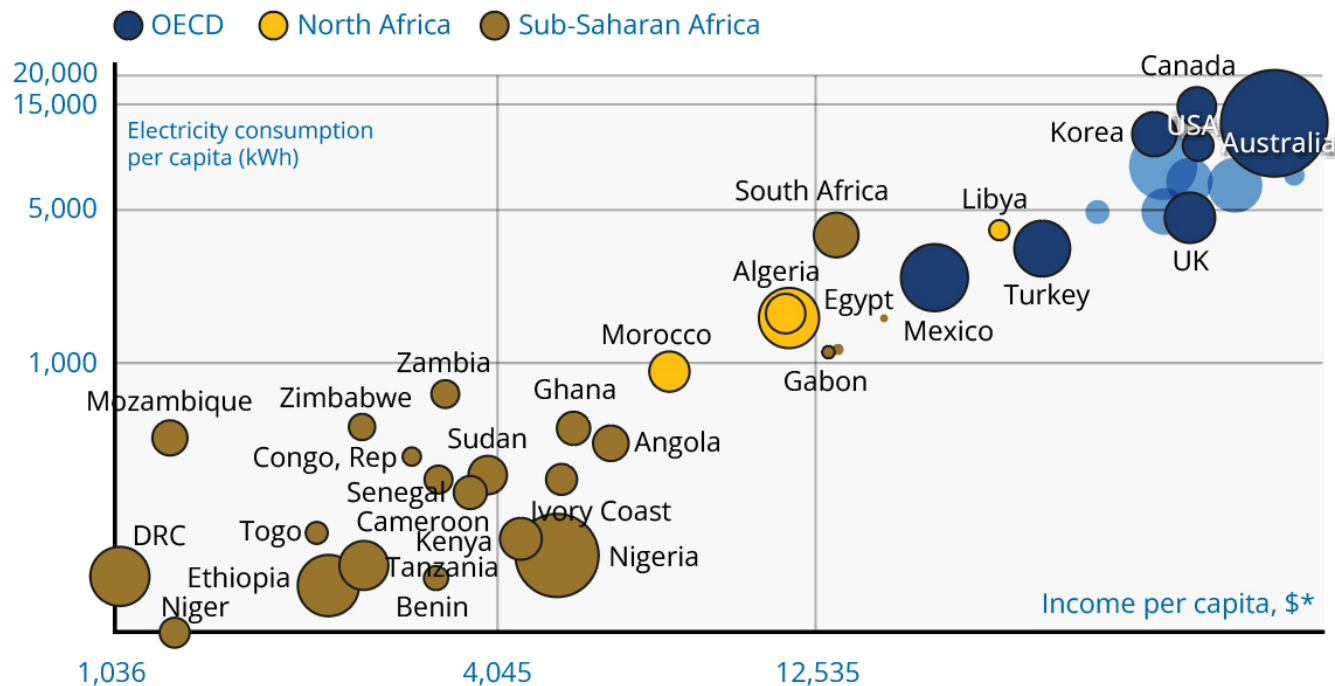
*US average

Source: IEA, Energy For Growth Hub



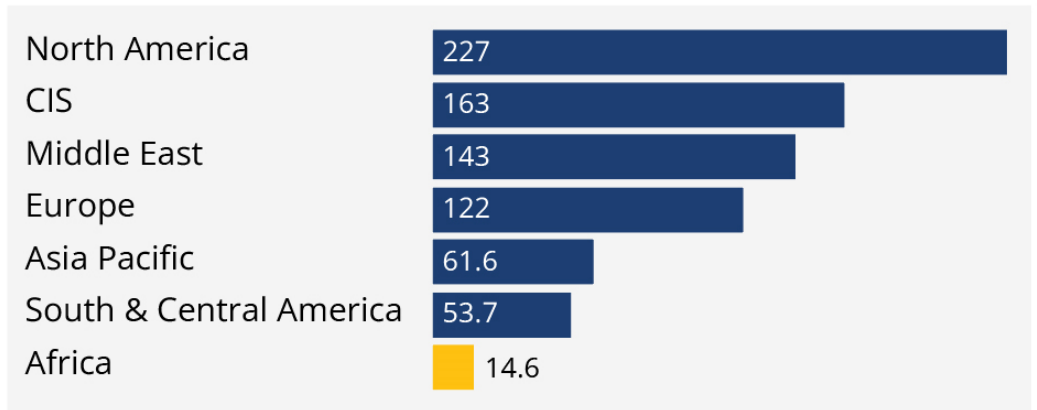
Africa's Energy Use Per Capita is 1/5 of the World Average

Energy poverty is preventing the industrial and commercial development of Africa and making the development of competitive and modern economies, as well as implementing climate change mitigation measures, impossible.



Source: IMF, World Bank

World's primary energy consumption per region, gigajoules per capita (2021)



Source: bp Statistical Review of World Energy, 2022



Natural gas has become a critical component of Africa's quest for modern, affordable, and reliable energy.

Africa wants to leverage its proven reserves of natural gas to meet its vast and growing energy needs. By adopting gas locally, Africa can:

- a) Promote **industrialisation** to create **jobs**, expand supply-chains with the production of **fertilizer** and **petrochemicals**, and diversify economies with the growth of energy-intensive industries such as **cement, steel, and desalination**.
- b) Generate **baseload electricity in countries with no alternatives** like hydropower or geothermal, and ultimately strengthen national and regional power systems to enable the **integration of increasingly affordable renewable energies** (wind, solar).
- c) Provide **cleaner and more affordable energy to households** and industries by displacing wood, biomass, charcoal, and diesel.
- d) **Switch coal and diesel-fired power plants** to gas to begin decarbonising the electricity mix.
- e) Develop receiving and processing infrastructure that can **monetise associated gas, thereby eliminating routine flaring** while making additional energy available for homes and industries.
- f) **Build gas systems that are decarbonisable with the use of renewable gas, hydrogen, and carbon capture technologies**, and can therefore provide energy today while anchoring the continent's future low-carbon power systems.

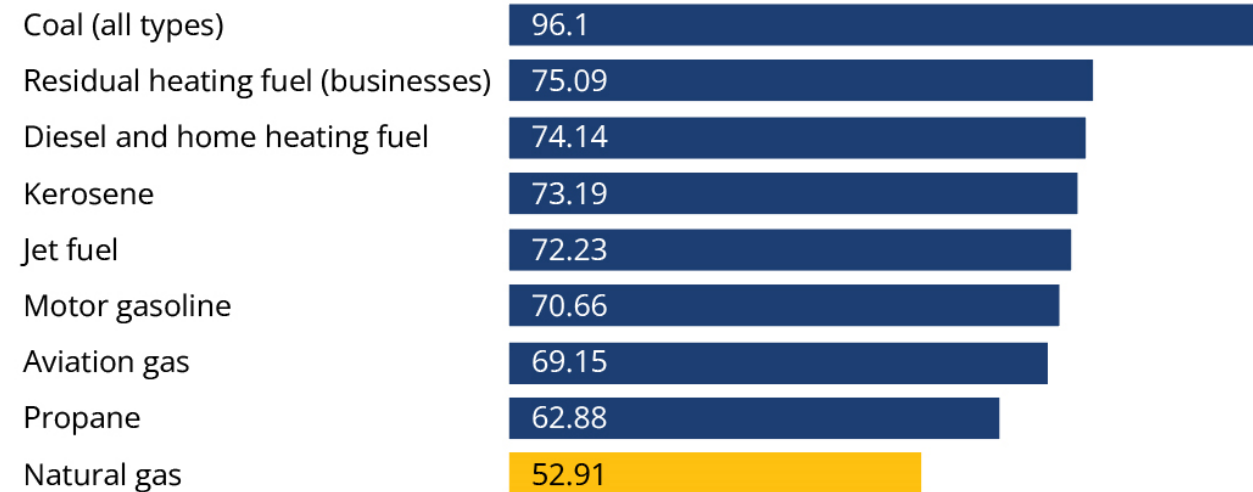


Gasification in Africa will have minimal impact on global emissions

Africa has 1/5 of the world's population and is responsible for 3% of emissions since the industrial revolution. Sub-Saharan Africa is responsible for 0.5%.

- If Africa consumes 50% (90 bcm/y) more natural gas by 2030 than it does today, it would generate cumulative CO2 emissions of 10 gigatons (Gt), taking its share of global emissions to 3.5% by 2050, according to the IEA.
- In the short-term, natural gas can also provide an immediate emissions reductions benefit when it replaces higher emitting energy sources, such as biomass, wood, charcoal, coal, and heavy fuel oil.
- To stay on a long-term decarbonisation trajectory, developing gas infrastructure and markets in Africa should also go hand in hand with integration of variable renewable generation, carbon capture, renewable gases, and hydrogen.

Carbon dioxide emissions coefficients for homes and businesses



Source: U.S. EIA



Successful African Case Studies Demonstrate That Despite Many Challenges, the Benefits of Gasification Are Great

The report examines how local players can leverage lucrative export opportunities to develop and gradually grow local markets

Tanzania: The development of the Songo Songo gas field and its associated infrastructure is the backbone of Tanzania's thermal power generation and has resulted in one of the most successful domestic gas monetisation ventures in Africa, with a significant development impact for the Tanzanian economy.



In one of its monitoring reports on the project, the World Bank demonstrated that between 2004 and December 2010 alone, CO2 emissions from power generation and local industrial fuel consumption fell by 1.8 million tons and 730,000 tons respectively – thanks to switching to gas.

Because droughts have affected the country's hydroelectric dams, gas-fired generation has also provided a reliable baseload when dam reservoirs are low. Natural gas has also displaced diesel and HFO at several power plants in Dares Salaam and limited the imports and consumption of oil.

The report also looks at the cases of:

Nigeria's development of a successful LNG export industry by utilising associated gas & working flaring reduction

Angola's monetisation of associated gas and flaring reduction

Cameroon's flaring reduction

Mozambique's future-proofing ambitions for its new LNG project development



3 Interconnected Barriers to Domestic Gas Market Development

To leverage its gas resources and enable energy access for economic development at home Africa needs to overcome its difficulties to: Access Finance, Build Delivery Infrastructure, Provide a Positive Business Environment

Key principles to supercharge the development of Africa's gas markets

1. Futureproofing by Design Future gas development plans must be aligned with the just energy transition with guarantees of environmental sustainability and compatibility with Paris goals.	3. Good Business Climate Safe and stable investment climate will be pivotal to ensuring that the continent is globally competitive.	5. Cluster & Ecosystem Investing Industrialisation plans can focus on creating Investing manufacturing clusters located next to gas fields to benefit from a cheap source of electricity and energy.	7. Build Electricity Markets Reforms are needed to restructure electricity markets and increase liquidity, while improving operational efficiencies.
2. Financial Innovation Look inward & promote domestic financing mechanisms that can tap into vast pools of institutional money, especially for domestic projects.	4. Regionalisation Sub-regional and regional gas and energy networks can support economies of scale and infrastructure investments.	6. Gradual Scaling Small-scale projects have proven as a winning strategy to pre-develop gas markets and unlock suppressed demand.	8. Price Emissions Externalising the cost of emissions is an effective way to invest in emission reductions projects & incentivise switching from coal and oil to natural gas.



Thank You

DOWNLOAD THE REPORT



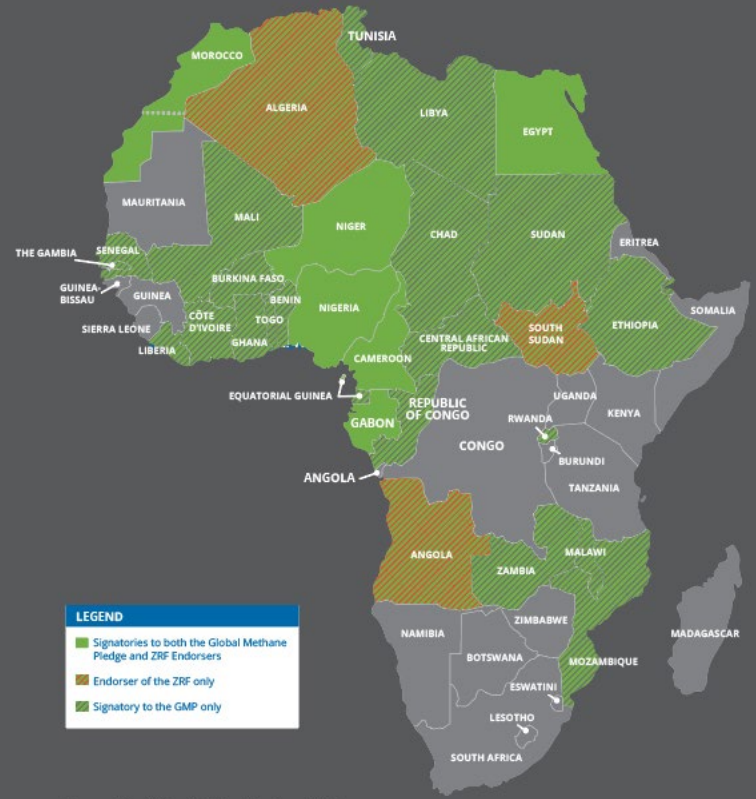
WWW.IGU.ORG



BACK UP



AFRICAN SIGNATORIES TO THE GLOBAL METHANE PLEDGE (GMP)
AND ENDORSERS OF ZERO ROUTINE FLARING (ZRF) BY 2030



Source: World Bank, Global Methane Pledge

Disclaimer: The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of Hawilti Ltd nor the International Gas Union concerning the legal status of any territory or the endorsement or acceptance of such boundaries.



Governance Structure:

The IGU has a Permanent Secretariat in London and a Member-Elected Presidency Office

- The **IGU Presidency** is a Charter Member, elected by the IGU Council for a three-year term.
- **China** holds the IGU Presidency from 2022 to 2025, and it will host the 29th World Gas Conference in Beijing on May 19-23, 2025.
- Madam Li Yalan, representing CHINA IGU Charter Member is the current President of the IGU with an office in Beijing, the host city of the 29th World Gas Conference in 2025.
- **Milton Catelin** is the IGU Secretary General, leading the permanent IGU Secretariat operation in London, UK.

Maximising Gas Benefits



Credible Source for Global Industry Insights: The IGU produces flagship publications that have become the go-to source for key global media and stakeholders



Renewable & Low-Carbon Gas Report

Global Gas Report

World LNG Report

Wholesale Price Report

Gas for Africa

Quarterly Publication featuring the latest topical insights from and for Global Gas and Energy

Nearly 30K Subscribers

Global Voice of Gas
BY THE INTERNATIONAL GAS UNION
ISSUE 4 | VOL. 02

TAKING STOCK OF 2022:
WHERE DOES THE MOST TURBULENT YEAR IN GLOBAL GAS MARKETS LEAD?

2022: the most turbulent year in history for gas markets | EU gas price cap: either symbolic or dangerous | Supply crunch prompts fall in gas demand



The IGU advocates for gas as a catalyst for and foundation of a sustainable energy future via engagement with key international fora



We are the only truly global voice of gas.

IGU members work in every segment of the gas value chain, from the supply of natural and decarbonised gas, renewable gas and hydrogen, through their transmission and distribution, and all the way down to the point of use.



IGU engages with stakeholders in the international decision-making arena.

We bring the voice of the global gas sector to key discussions with global policy makers, like MDBs, UNE, IEA, and other international and multilateral bodies.



We also connect with regional players.

Through our experienced Regional Coordinators and regional industry organisations, such as GasNaturally, and collaborating in regional initiatives.



The IGU hosts the largest global network of gas industry professionals



IGU has the honour of hosting the most extensive network of gas professionals with more than 1,000 technical and commercial professionals from our member groups and companies and sharing their international expertise.



IGU offers invaluable professional development and networking opportunities to our members and their staff.

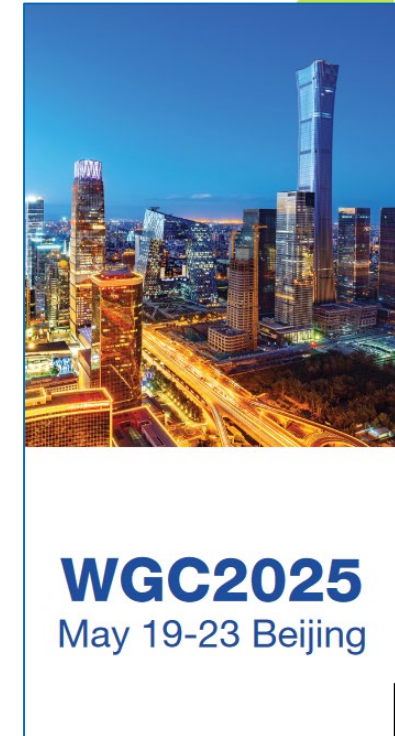


IGU has 11 thematic Committees and 3 Task Forces working on topics across the full gas value chain to produce insightful materials and help shape our flagship events programs.



The IGU organises the gas industry's premiere international events

The IGU hosts three of the world's most prestigious international gas industry events, with the next triennial World LNG Conference taking place in Vancouver, Canada on July 10-14th 2023, with some of the world's most senior names in the industry to speak in a comprehensive 4 day program.



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