INTERNATIONAL GAS UNION
UNION INTERNATIONALE DU GAZ

BEYOND ENERGY TRILEMMA:

Natural Gas, as the Vital Component of a Sustainable Energy Future

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President

International Gas Union

WGC 2021
28th WORLD GAS CONFERENCE
KOREA

20th ASIA OIL & GAS CONFERENCE
AOGC 2019
Forging A New Energy Future

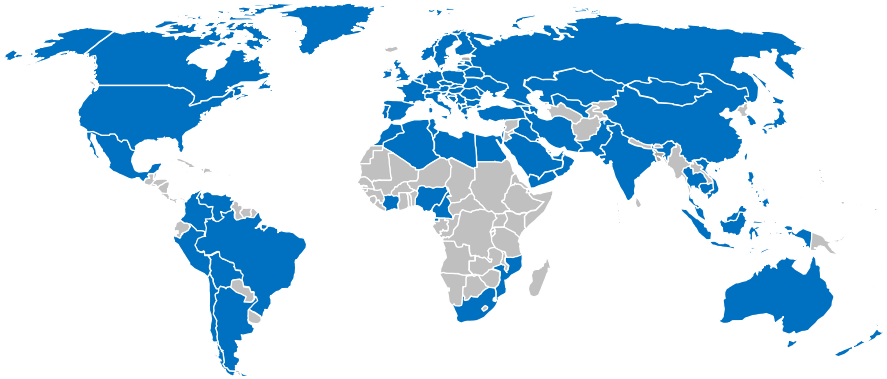
23-25 June 2019
Kuala Lumpur
Convention Centre
Malaysia

The **Global Voice of Gas**

Natural Gas is the Right Tool
for Addressing the Global Energy Trilemma

&

It will have
a Vital Role in the Sustainable Energy Future

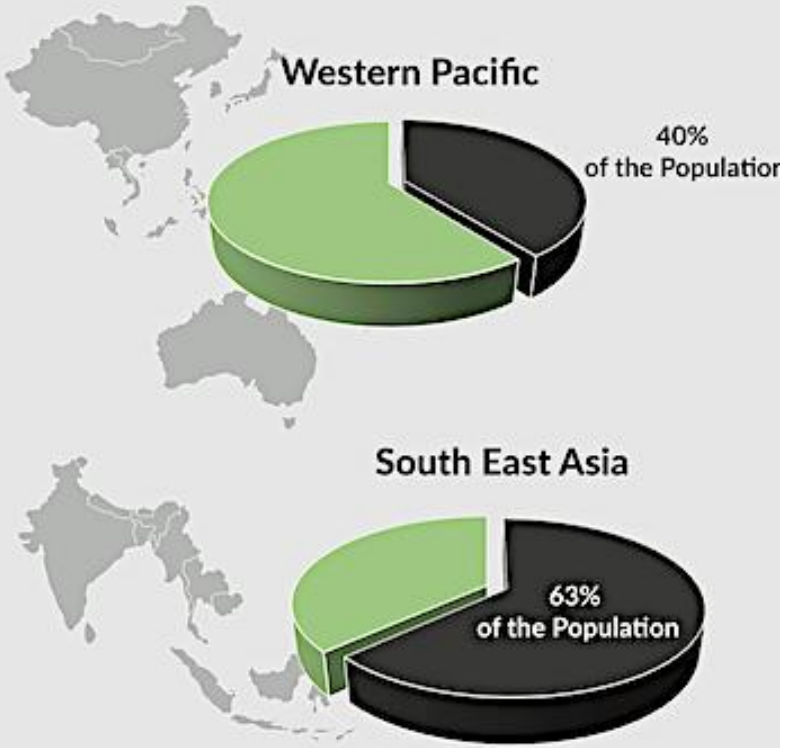


IGU Membership represents more than 95% of the global gas industry and covers the full value Chain.

Over 160 Members Delivering a Sustainable Future Powered by Gas.

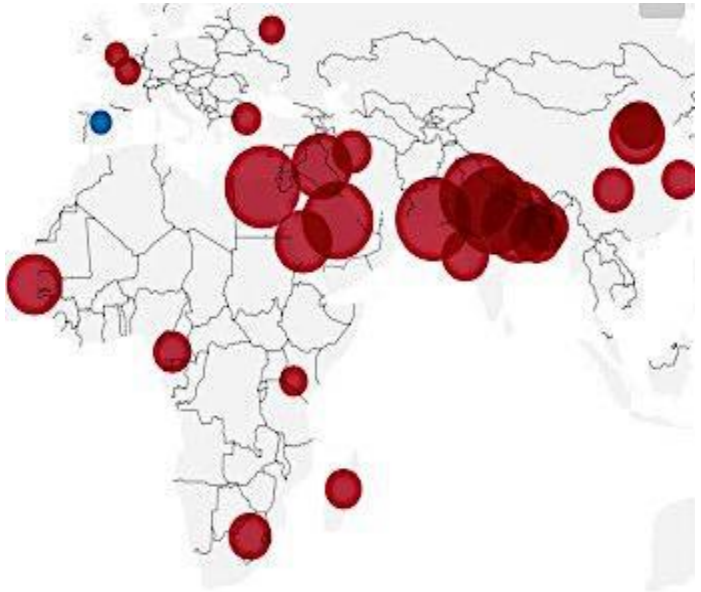
The Size of the **Challenge.**

Population Using Solid Fuel



PM10

Annual mean concentration 2014-17 Exceeding WHO Safe Standard



World:

~1 billion without Electricity

- Pollution kills 7 million people a year, most are in Asia

ASEAN:

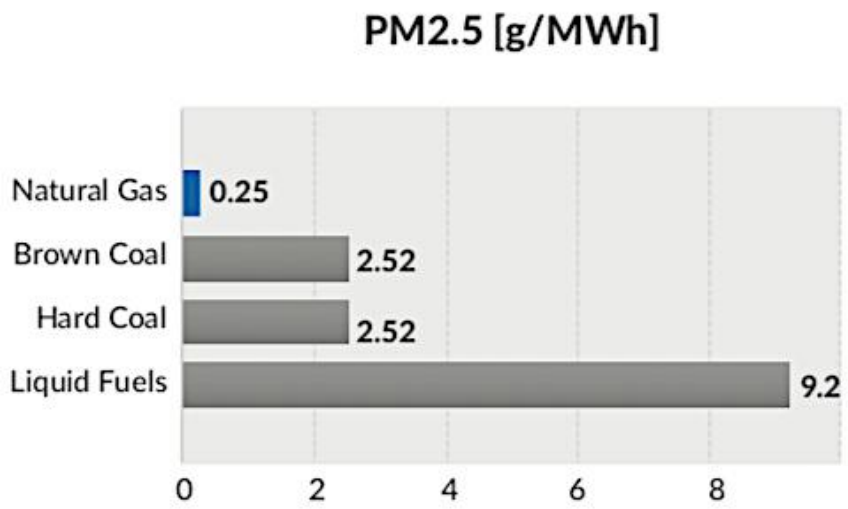
- Economy to triple by 2040
- Population growth +20%
- 65 million people without Electricity
- 250 million depend on solid biomass for a cooking

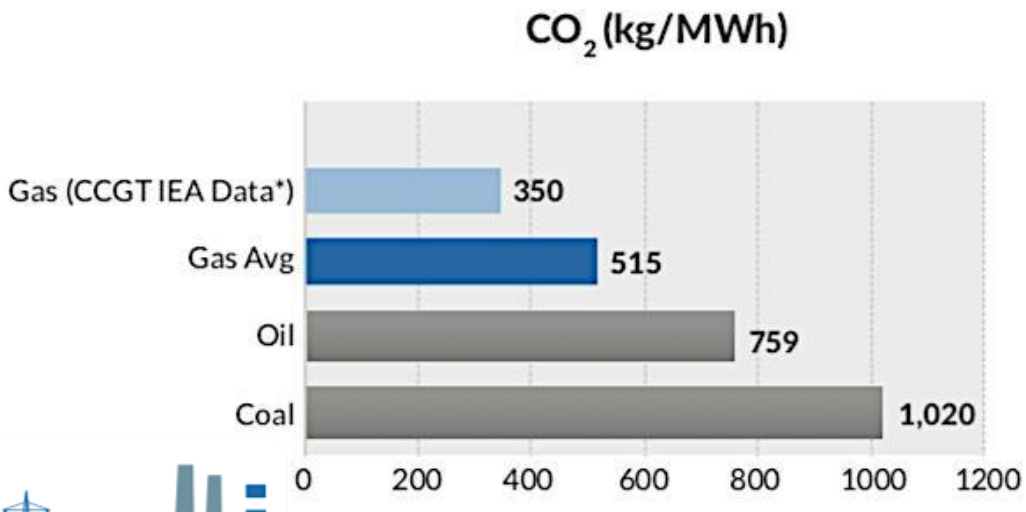
Gas has a Vital **Environmental** Role in the Sustainable Energy Future

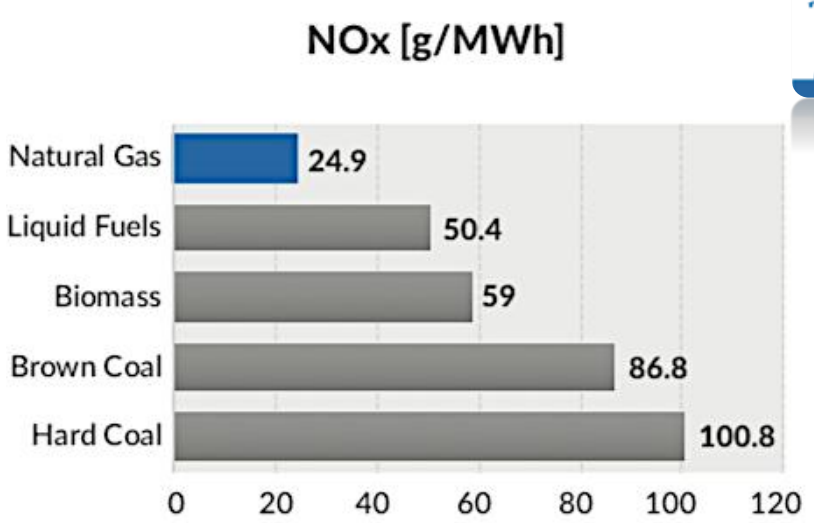
Sustainability

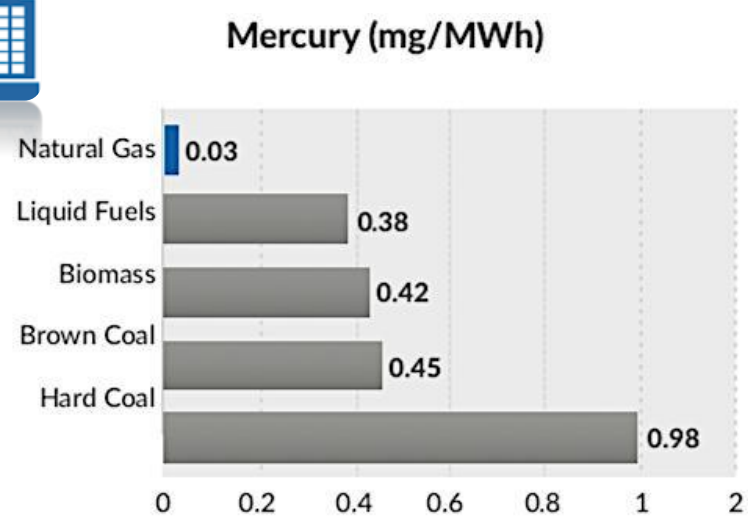
Switching from Coal to Gas enables immediate reduction in carbon emissions and near-elimination of harmful air pollution.

Gas in Power Generation produces about in 45%-55% less CO2 Emissions than Coal.









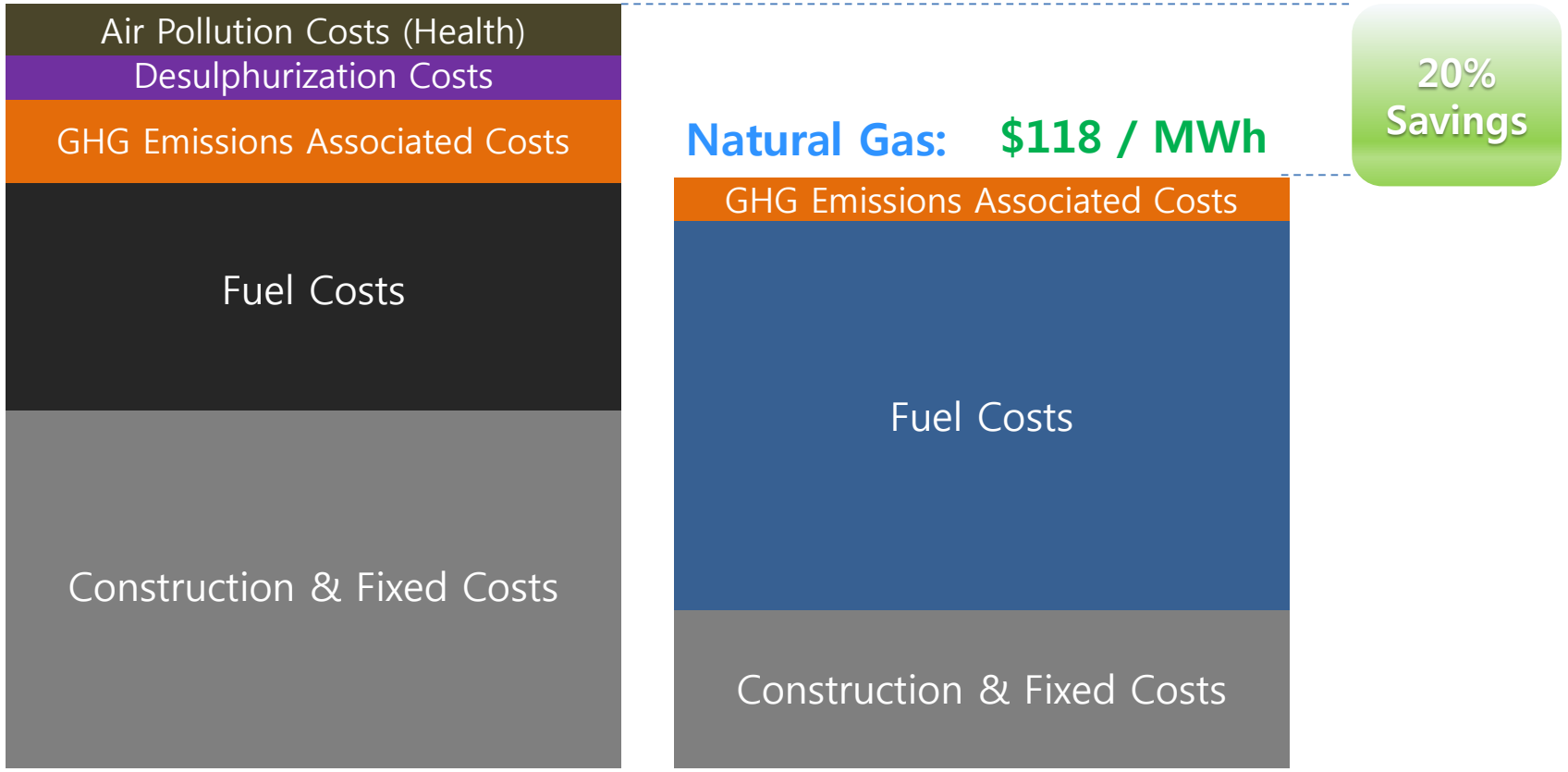
Gas has a Vital **Economic** Role in the Sustainable Energy Future

Affordability

Gas is more affordable than coal, when the full costs associated with anticipated impacts of climate change and pollution are taken into account

Source: Shell, HIS Markit

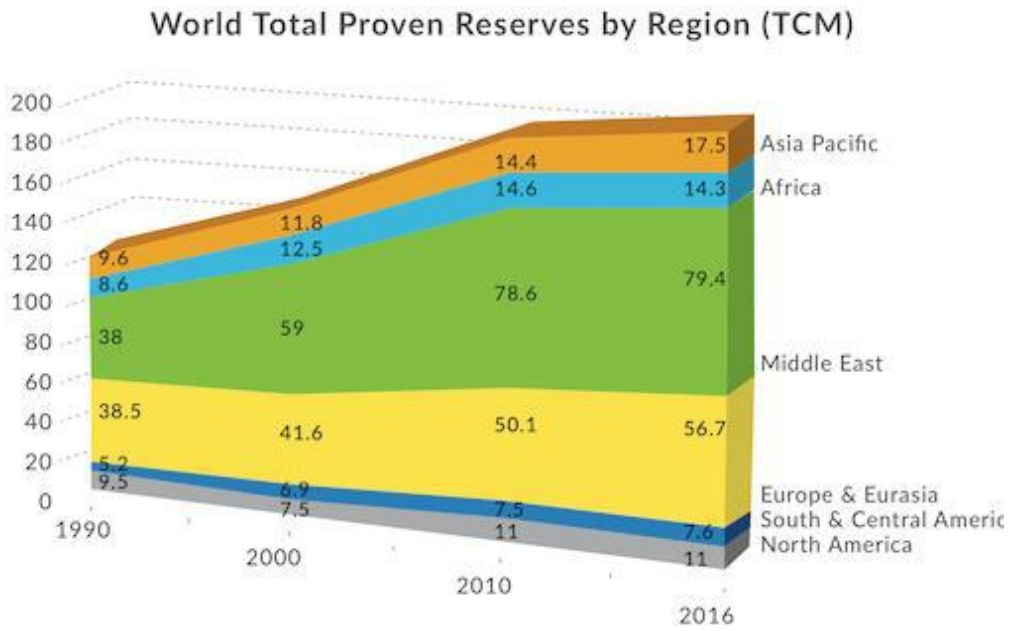
Philippines Power Generation Example (2015, @40% Capacity)

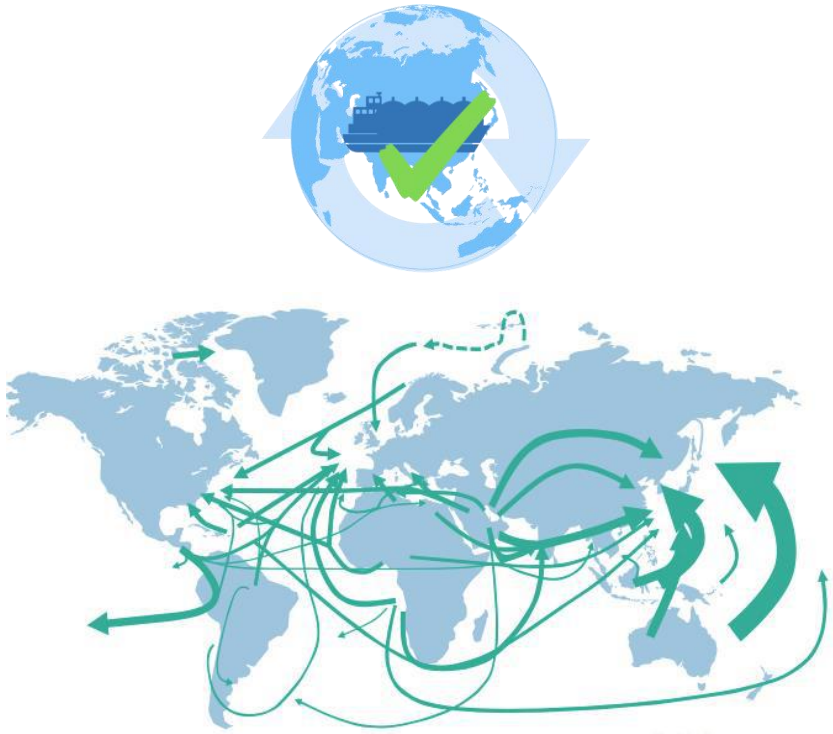


Gas will help Ensure a **Secure** Sustainable Energy Future

Energy Security

Abundant global resources, secure and flexible supply options, reliable operation profile make natural gas a vital component for energy security.





Vital Energy **Reliability Roles** in the Sustainable Energy Future

Gas Provides Specific Advantages for Cities

Air pollution: nearly zero sulphur dioxide, nitrogen oxide, and no particulate matter emissions

GHG emissions: 40% less than coal and 20% less than oil

Heat intensity: Most heat intensive (and thus highest efficiency) fuel source

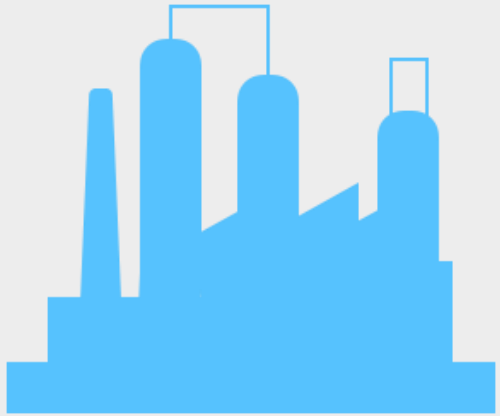
Scalability: Ease of adding customers to existing networks once infrastructure is developed

Efficient, non-polluting, lower GHG emissions

Power Security & Renewables Integration

Heating & Cooling Security

Industry



Transport

Priority Actions to Ensure Sustainable Gas Future

Mobilising Investment

IEA estimated the cumulative energy investment need for SE Asia to 2040 to be **$2.7 trillion** in the main scenario, and **$2.9 trillion** in the sustainable development scenario (energy supply and efficiency).

Expanding Infrastructure & Connecting Markets

Gas market development has been held back by lack of infrastructure

Enhancing interconnectedness of natural gas supply networks and striving to harmonizing policies and regulation towards a flexible and transparent markets will help to enhance energy security and reduce costs in the long run.

Coordinating Policy to Address Pollution & Efficiency

Air pollution has high economic and societal costs, which need to be priced explicitly or through regulation

Efficiency will be an invaluable resource in meeting enormous energy needs, and regional coordination can ensure economically efficient outcomes.

Thank you