
Gas & Climate Change

September 2021

CAETS 2021

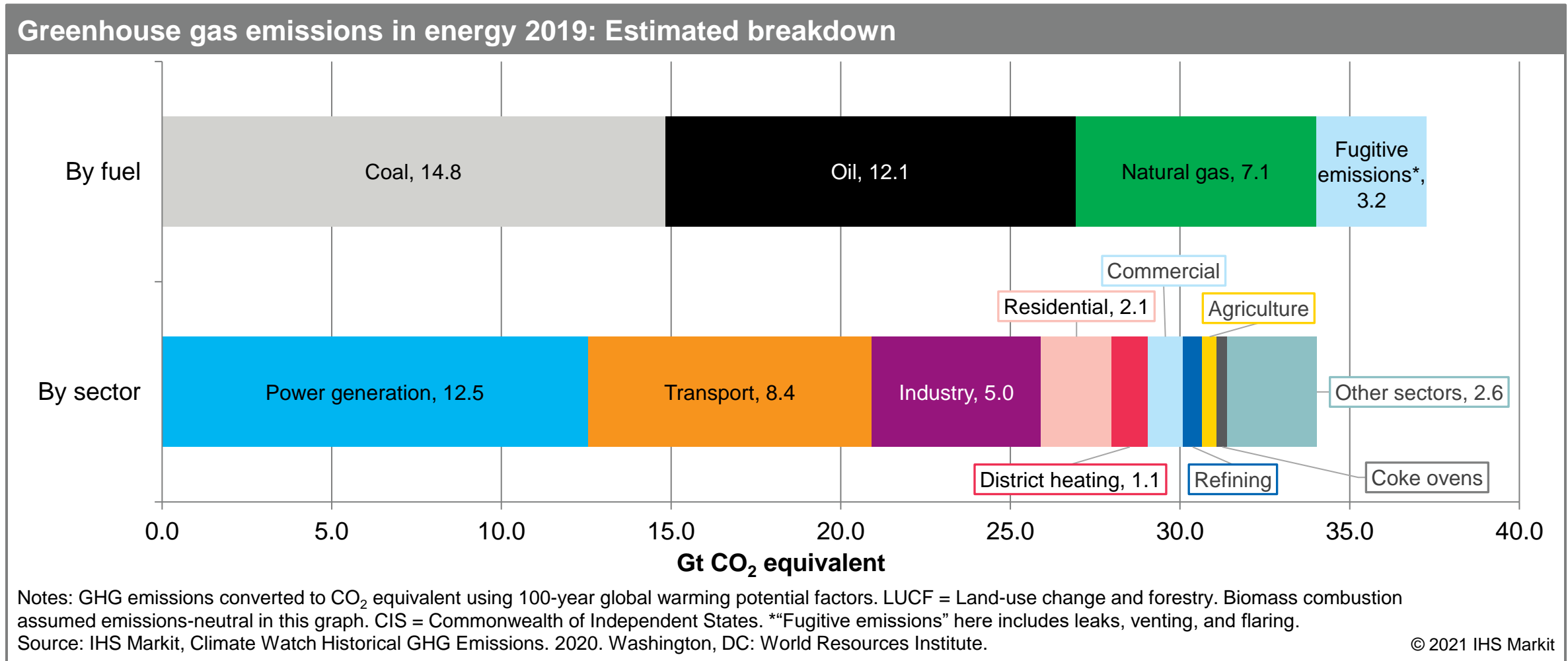
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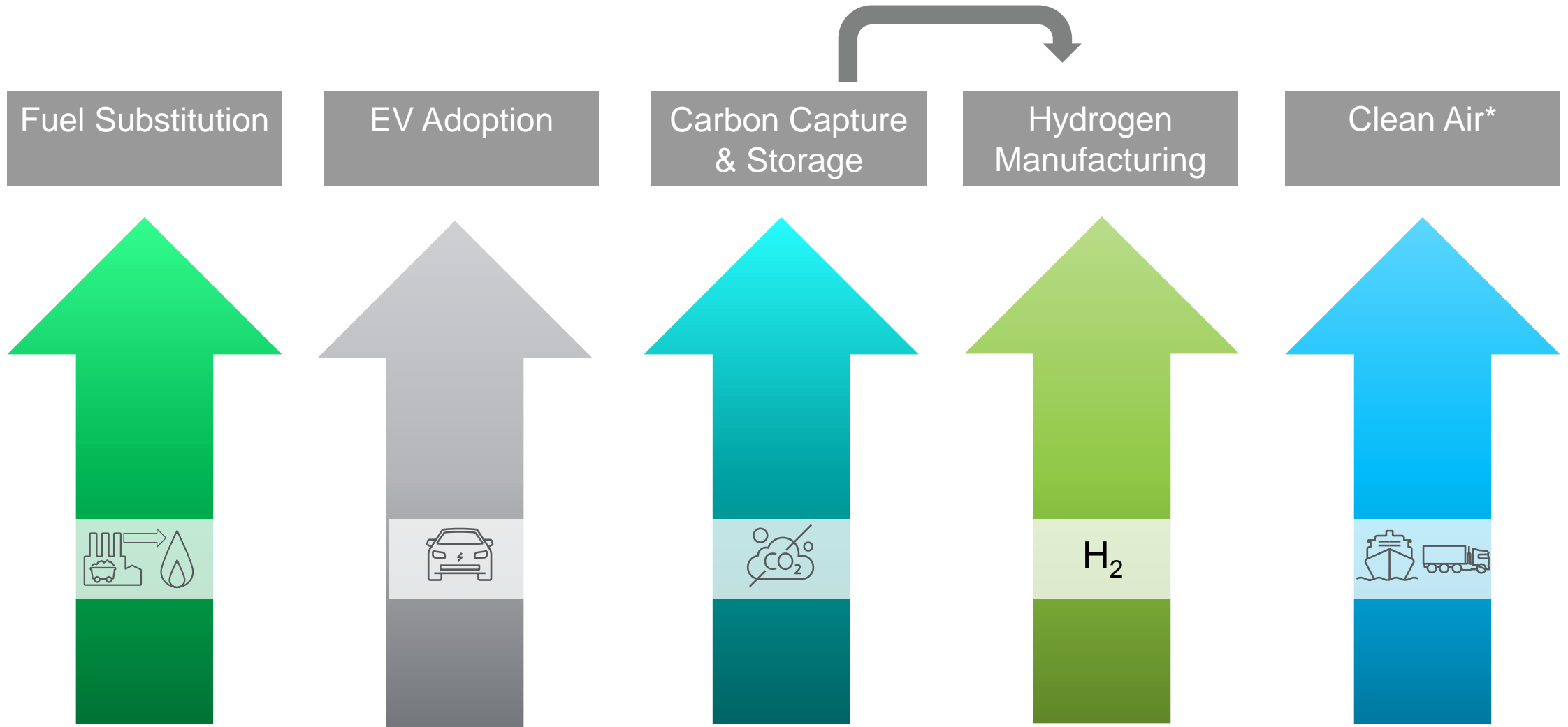
IHS Markit



Natural gas accounts for about 8 Gt out of 37 Gt CO₂ equivalent of global energy-related emissions



Five ways natural gas can support decarbonisation



* The advantage is reduction of pollutants and noise. The advantage in terms of GHG emission reduction is minimal..

Five ways natural gas can support decarbonisation



Fuel Substitution

310 Bcm

If 20% of Asian coal-fired power

680 MMt



EV Adoption

45 Bcm

If 5% of global car fleet

35 MMt



Carbon Capture & Storage

750 Bcm

If 3Gt of CCS & 50% used for NG

1500 MMt

H₂

Hydrogen Manufacturing

500 Bcm

If H₂ 10% of global energy & blue hydrogen 30% of H₂

950 MMt



Clean Air*

120 Bcm

If 10% of HGVs & 10% of shipping

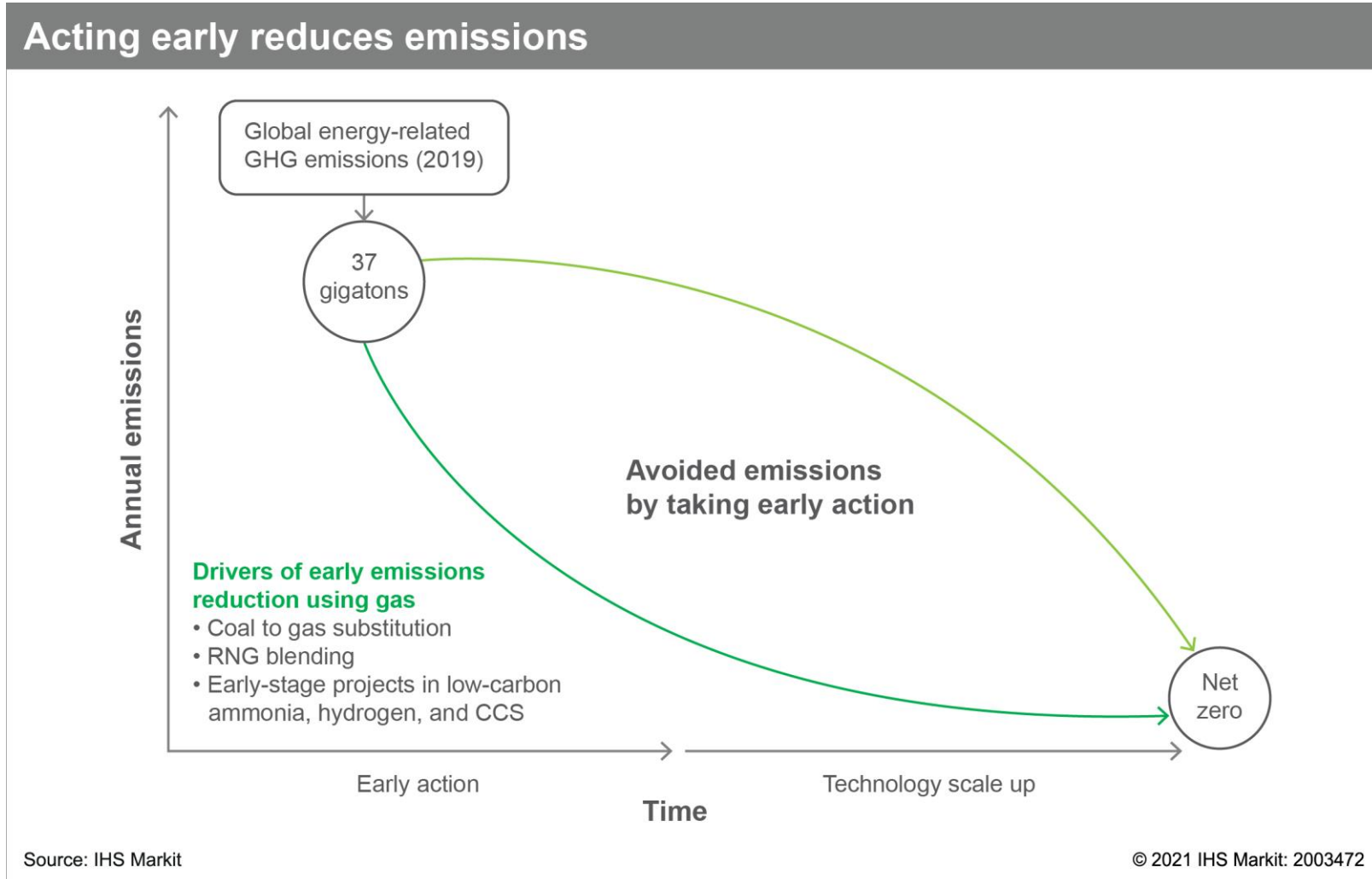
75 MMt

Indicative annual gas demand required

Indicative annual CO₂ saving

* The advantage is reduction of pollutants and noise. The advantage in terms of GHG emission reduction is minimal..

Natural gas is essential to achieve early emission reductions



The gas blend will transition from unabated natural gas to a range of low carbon gases

Redefining gas

Unabated natural gas

- Meeting energy demand growth
- Substituting for higher-carbon fuels
- Supplying hydrogen feedstock



Conversion of gas infrastructure

Abated natural gas and beyond

- Natural gas with carbon capture and storage
- Hydrogen and ammonia
- Renewable natural gas (Biomethane)
- Synthetic natural gas

Source: IHS Markit

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Conclusion—Gas will become the second pillar of decarbonization alongside renewable power

- Gas can extend decarbonization beyond the reach of direct electrification
- **Early Action**—*natural gas* reduces overall emission intensity
 - Methane emissions can and must be minimised
- **Deep Decarbonization**—Gas can greenify its blend
 - Inclusion of hydrogen, CCUS, and renewable natural gas
 - Repurposing of gas infrastructure avoids emissions ‘lock-in’
- The timing and speed of this transition will play out differently across countries

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