



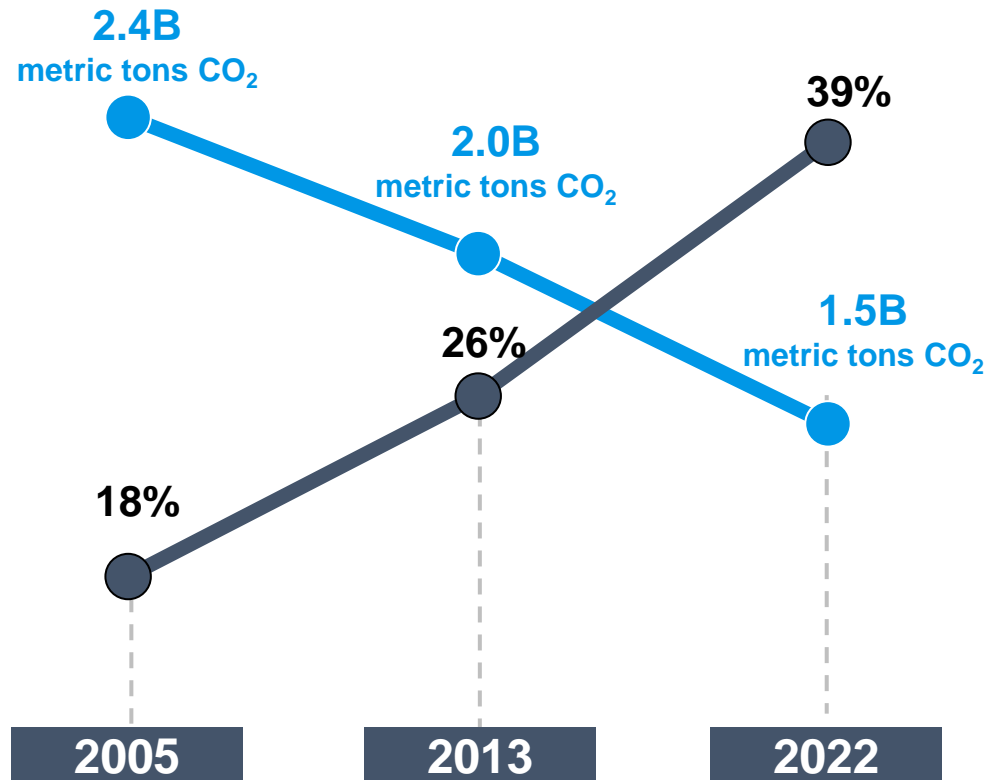
WE MAKE CLEAN ENERGY HAPPEN®

Benefits of U.S. LNG

January 2024

U.S. CO₂ emissions declined with increased natural gas generation

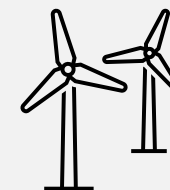
U.S. Electric Power Sector: CO₂ Emissions vs. Natural Gas Market Share



Natural gas increased to **39% from 18%** market share



Shift to natural gas directly responsible for reducing ~500 MM metric tons of CO₂ or ~**60%** of the total reduction



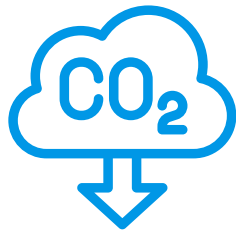
Equivalent to the CO₂ emissions saved by running **2X as many wind turbines** as US has today

Continued opportunity to reduce CO₂ emissions by replacing coal with gas

There are **217** operating coal plants in the U.S. today



Replacing existing U.S. coal plants with natural gas-fired generation could:

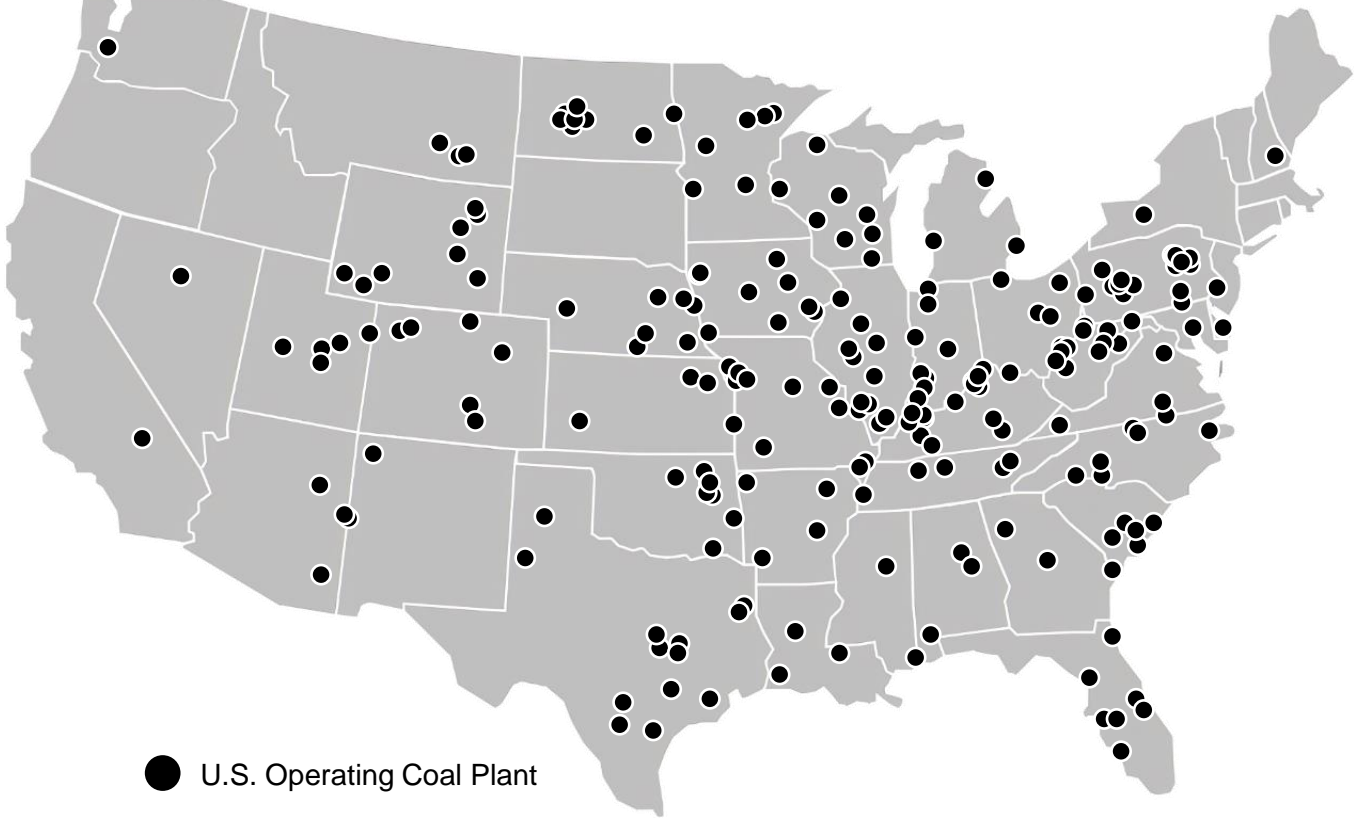


Cut CO₂ power emissions by **27%**

Equivalent to



Removing **~80%** of the cars off the road today



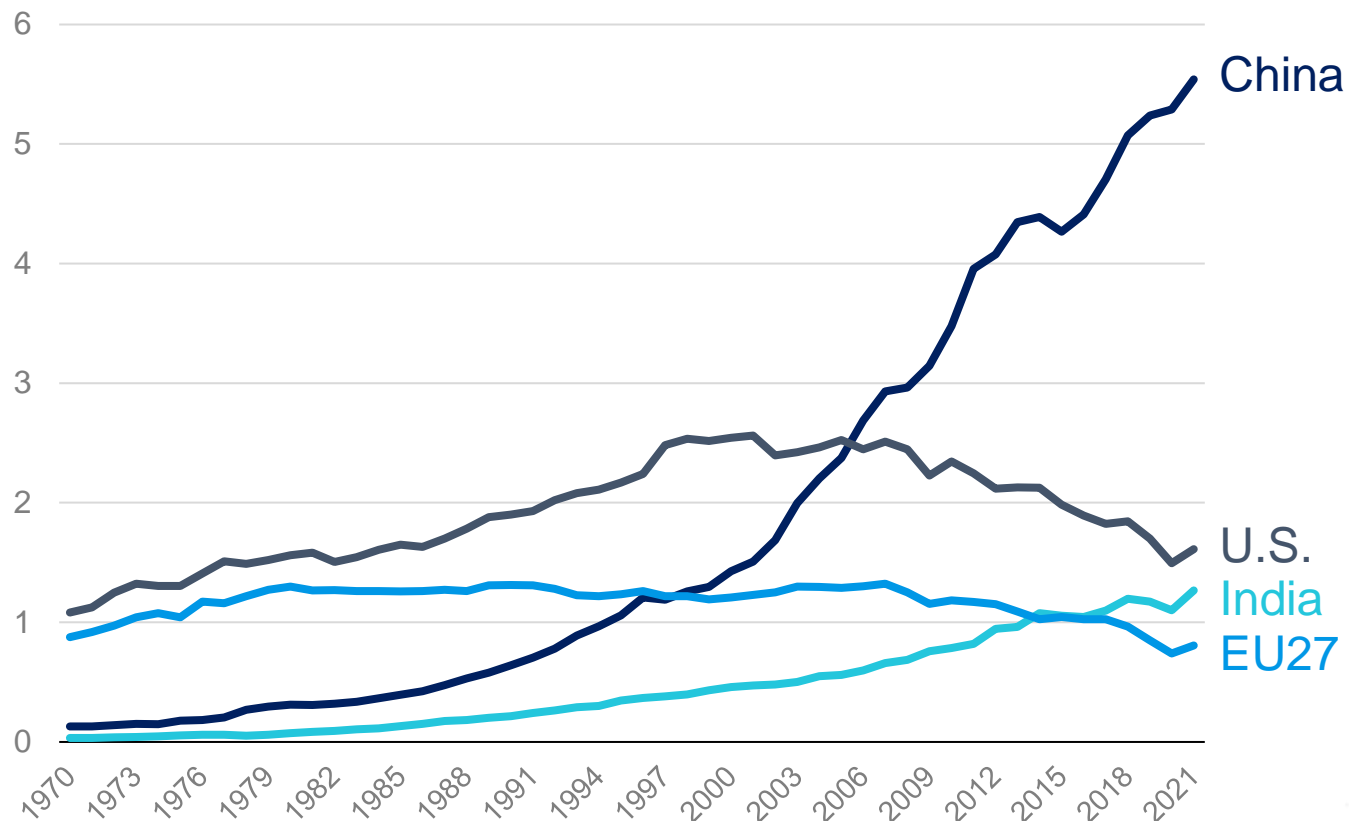
● U.S. Operating Coal Plant

Sources: Operating coal plant data sourced from Wood Mackenzie North America Power Service Tool. The data and information provided by Wood Mackenzie should not be interpreted as advice and you should not rely on it for any purpose. You may not copy or use this data and information except as expressly permitted by Wood Mackenzie in writing. To the fullest extent permitted by law, Wood Mackenzie accepts no responsibility for your use of this data and information." Coal and natural gas plants emissions rates and heat rate assumptions per U.S. Energy Information Administration (EIA); Metric tons of CO₂ emitted by a typical passenger vehicle per year per Environmental Protection Agency (EPA). As of January 2024.

U.S. LNG could be a powerful tool to reduce CO₂ emissions globally

CO₂ Power Sector Emissions From Top Emitters

Bt CO₂/yr



U.S. LNG is the most powerful tool available to reduce global emissions by displacing coal around the globe

CO₂ emissions in the Power sector are on the rise in India and China

U.S. and EU27 CO₂ emissions are on the decline primarily due to displacing coal with natural gas and renewables in the Power sector

Natural gas from LNG used for power generation reduces CO₂ emissions by up to 55% and air pollutants by up to 90% compared to coal



vs.

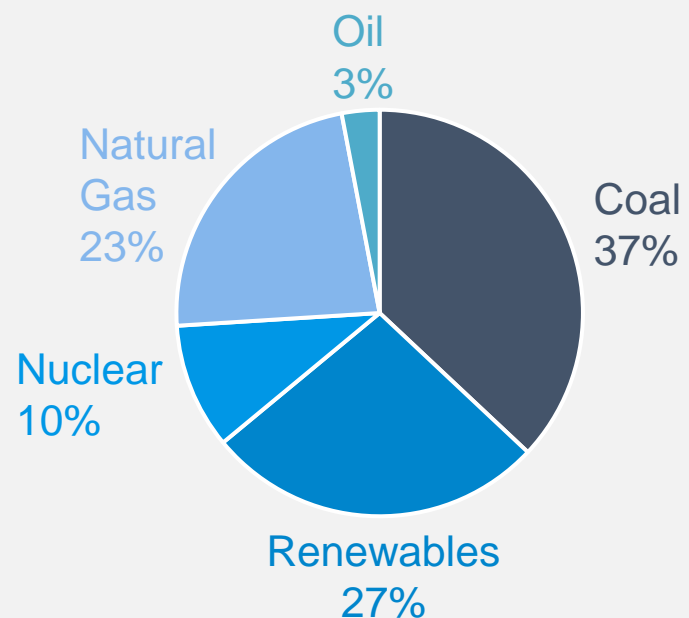


Coal-fired Plant

Gas-fired Plant

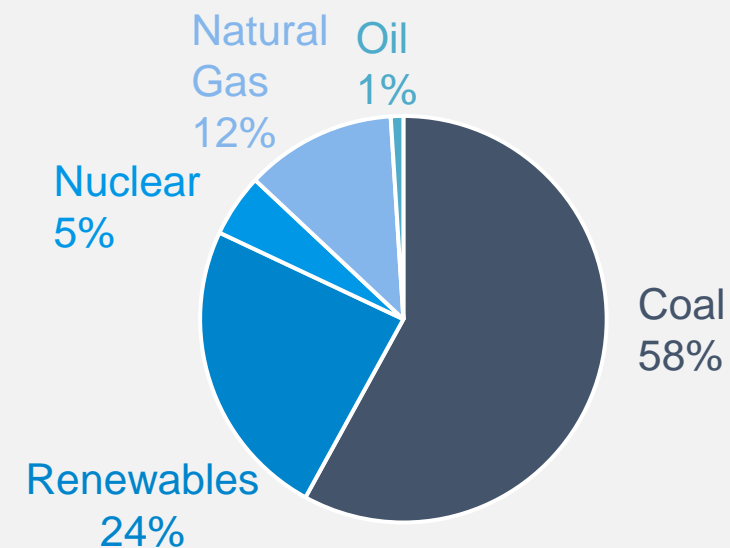
In power generation, switching from coal to natural gas **reduces GHG emissions by up to 55%** and by up to 90% of air pollutant emissions

Estimated that **1.2 Bt CO₂ can be reduced** worldwide from switching coal-fired to gas-fired power plants



World Electricity Generation¹

Regions like **Asia Pacific** are largest potential for conversion with **58%** electricity generation from coal



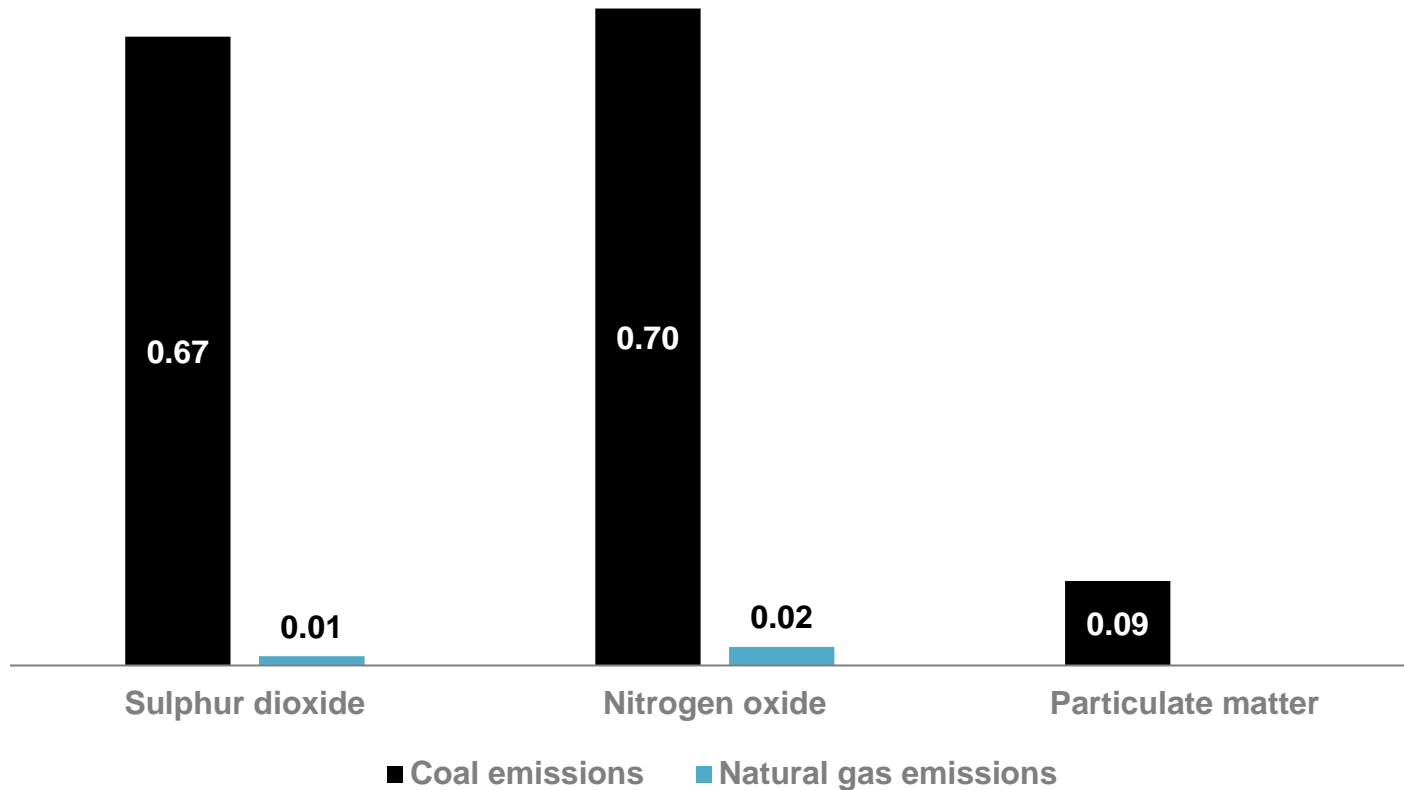
Electricity Generation in Asia Pacific¹

Source: International Group of Liquefied Natural Gas Importers. ¹2019 data

Natural gas and LNG are up to 90% cleaner than coal

Air Pollution from Gas-fired and Coal-fired Power Plants

Lbs per MWh



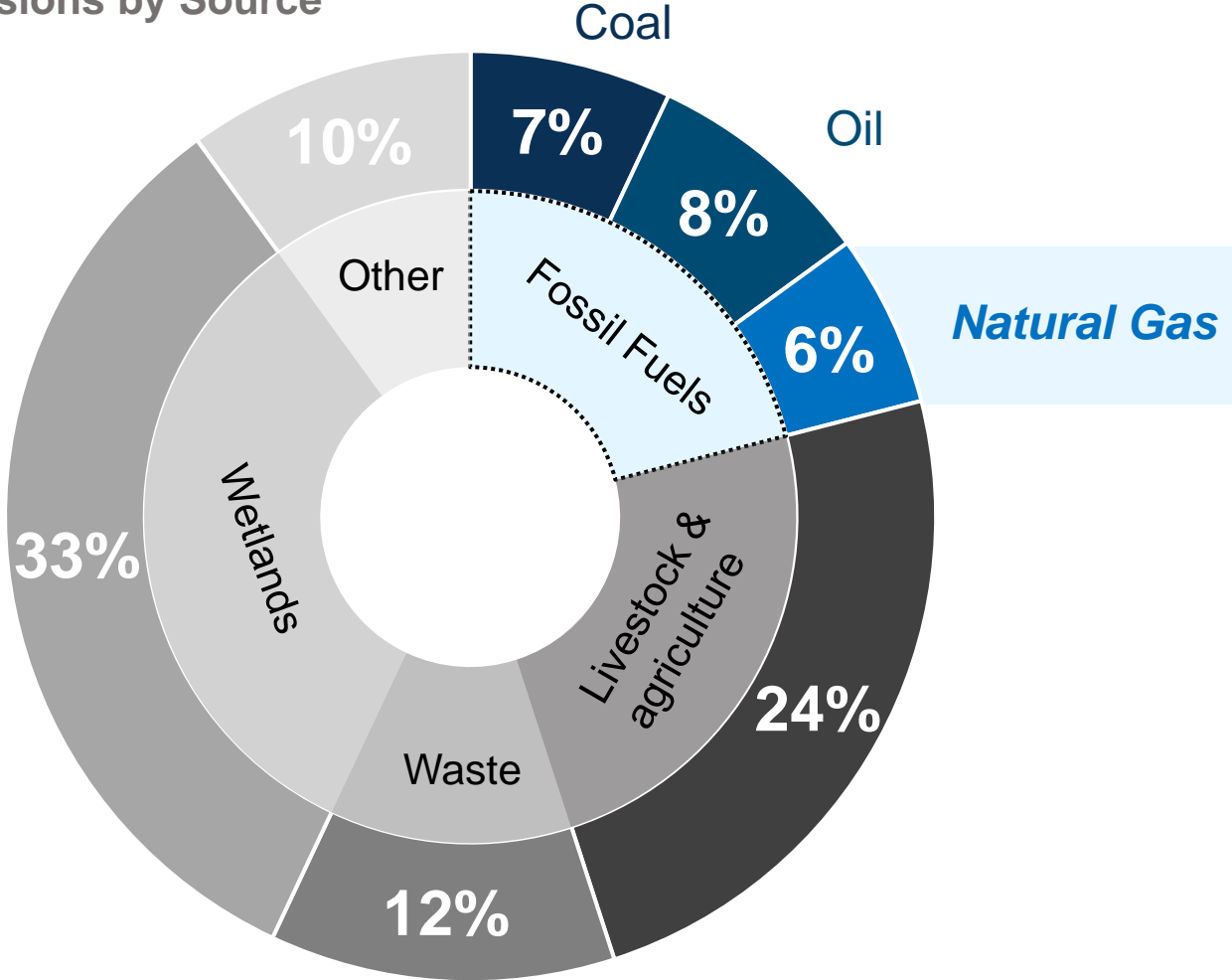
An estimated **one billion people** are without access to electricity globally

LNG fueled power generation has the lowest SO_x, NO_x, and particulate matter emissions of reliable power sources

45% to 55% lower CO₂ emissions compared to coal and up to **90%** lower air pollutant emissions

Coal and oil produce more methane emissions than natural gas globally

2022 Global Methane Emissions by Source



Global coal methane emissions continue to rise

Natural gas only makes up 6% of total methane emissions across the globe

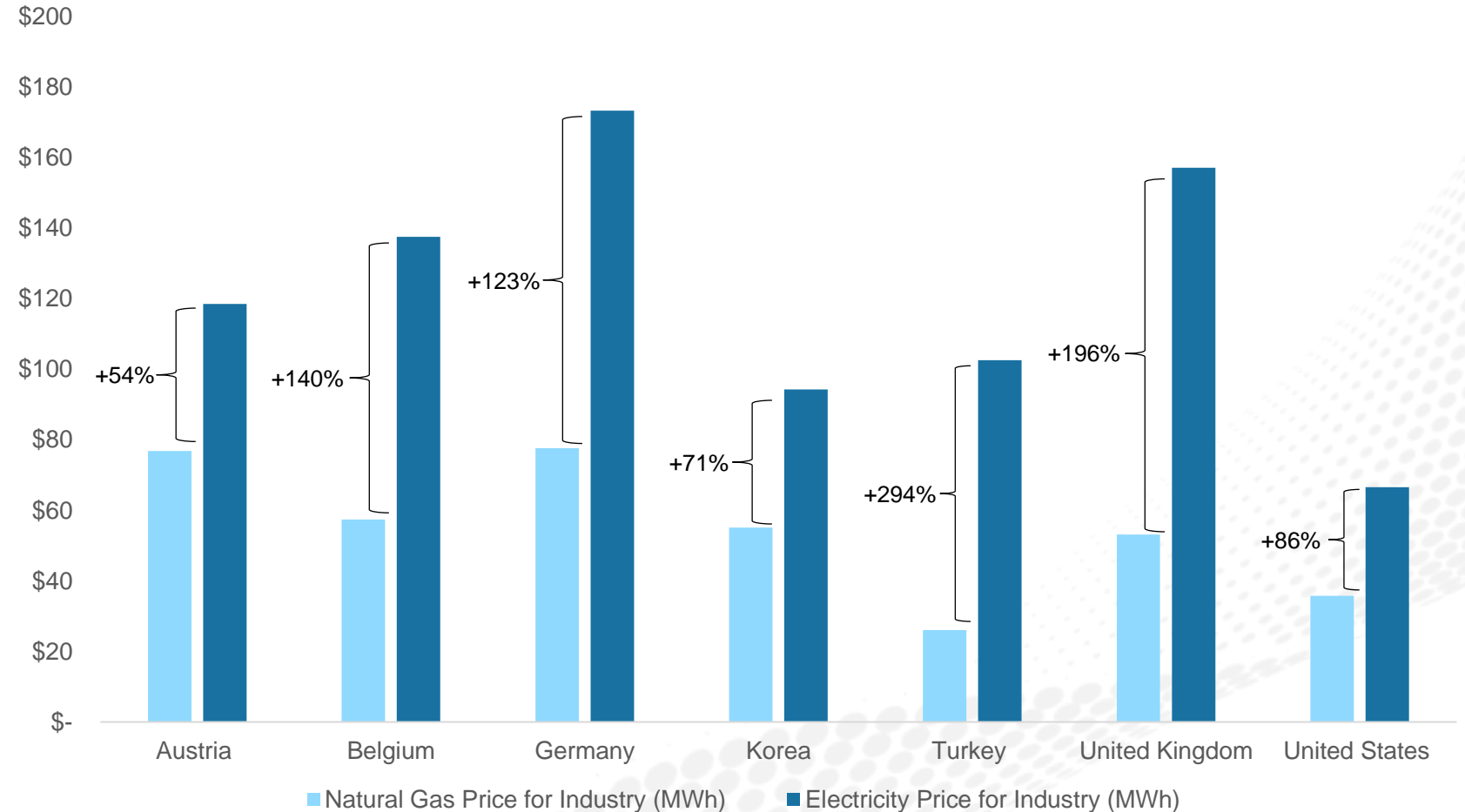
Replacing coal and fuel oil power generation with natural gas could dramatically reduce methane emissions

Source: U.S. Energy Information Administration (EIA)

Natural gas in Industrial sector is less expensive around the world compared to electricity

Natural gas is significantly less expensive than electricity in many countries around the world

Natural gas and electricity prices in Industrial Sector for select countries per mcf of energy, 2021



Source: International Energy Agency (EIA)