



REGION - ASIA

# Clean Energy Transition: Oil & Gas

**A significant producer of CO<sub>2</sub>, but also a clean energy powerhouse**

**Burning fossil fuels to feed our energy systems accounts for 75% of the world's total greenhouse gas emissions. The transport and processing of oil and gas alone resulted in 5.1 billion tonnes of emissions in 2022, accounting for just under 15% of the total produced by global energy sector.**

Asia accounts for a large part of this, with China alone acting as the largest producer and consumer of energy in the world. Although coal accounts for the greatest share of the total energy supply in Asia (48%), oil is second with 23% and natural gas 11.6%. In terms of oil refining, Asia accounts for 38% of the global share.

However, in addition to being a big producer and consumer of fossil fuels, Asia also generates a significant amount of electricity from renewable resources. In 2021, the International Energy Agency (IEA) calculated that 23.5% of the region's electricity was generated by hydro (13.7%), wind (5.6%) and solar (4.2%). This compares to just 11.8% of electricity generation by oil and gas combined.

China is a key player in many clean energy supply chains and both Japan and South Korea have devised plans for decarbonisation.

Of course, Asia is a large continent with different needs, strengths and drivers across markets, and different perceptions of challenges and opportunities. For example, when we asked our underwriters whether geopolitical issues might impact the transition to clean energy in the local oil and gas industries, our specialists in China said "probably, yes", whereas in Thailand, Hong Kong, Taiwan, Japan and South Korea the response was, "not so much".



## Highlights in Asia

### World's largest power plant

Adani Green Energy Limited (AGEL) is building a solar and wind power plant in Gujarat, India that will be the largest in the world. It will be five times bigger than Paris and will generate enough electricity to power Switzerland.



### World's largest producer of renewable energy

China has been the world's largest and fastest-growing producer of renewable power for more than a decade. This is a position it is likely to hold in the near future at least, as it is continuing to invest in new solar and wind capacity.

Geography also plays an important role in the region. As our underwriter in Hong Kong noted: "Although there has been a local expansion of wind and solar projects, this is limited due to the environment. It is possible that Hong Kong could create more opportunities for clean energy transition through buying energy from clean sources and supporting renewable energy businesses."

### What do Atradius underwriters see as the primary issues for the sector in the region?

Capital costs is an issue that several of our underwriters in Asia noted as a potential challenge to growth in the oil and gas industry's transition to clean energy. Even in the renewables powerhouse that is China, our industry specialist stated the high cost of capital and the lack of subsidies to support transition. In South Korea, our underwriters said: "The oil and gas industry could not shift to clean energy in the short-term due to high costs and supply issues." The fact is, it is hard to build a business case for consuming more expensive electric energy from renewables if cheaper oil and gas are on tap.

Our underwriters in Taiwan said: "More than 80% of Taiwan's electricity came from fossil fuels in 2022, making the country's official pledge to achieve Net Zero by 2050 a big challenge. While there is still significant demand for oil, natural gas, and coal, the industry is increasingly facing pressure from the growth of renewable energy sources, as well as concerns over climate change and environmental impacts, with many companies and governments investing in carbon capture and storage technologies, as well as exploring alternative sources of energy."

Geographical issues do influence which energy sources are most commonly used by different countries in the region. For example, Japan's primary energy source is oil, amounting to about 36% of the country's overall energy fuel mix, followed by coal (25%) and natural gas (21%). Our underwriters in Japan explained: "There is a local high dependency on fossil fuels, but this is partly due to the suspension of nuclear power plants since the earthquake in 2011." However, they added: "Domestic demand for oil is getting weaker due to a decreasing population and the growth in alternative energy sources. Meantime, the greenhouse gas emission target is 46% compared to 2013 level, revised from 26% in April 2021."

Interestingly, in the year that the US goes to the polls to elect a new president, our underwriters in China acknowledged that geopolitics could be a factor that potentially slows clean energy transition in the next few years. Underwriters based in other markets in the region, including Thailand, Hong Kong, Taiwan, Japan and South Korea, however, did not see geopolitics exerting too much pressure on transition.

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*Technological innovations present growth opportunities for the oil and gas industry in China.*

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*Atradius Underwriter, China*



**Challenges:** What are the most urgent challenges for the sector over the next three years?

**1. Cost of transition**

High capital costs associated with clean energy transition are a challenge to the oil and gas industry in Asia, particularly among smaller and emerging markets. Even in developed economies such as South Korea, cost can be a challenge slowing the pace of change.

**2. Ongoing demand for fossil fuels**

There is an ongoing and – especially in the case of China for example – a growing demand for fossil fuels in Asia. Our underwriters in China, Hong Kong, Taiwan and South Korea all felt it was unlikely that the majority of local businesses would be able to accommodate a fall in the use of oil and gas in the next few years.

**3. Lack of renewables infrastructure**

Infrastructure transformation poses challenges in dealing with legacy liabilities as well as significant investment in ensuring electricity grids have the capacity to store and transmit electricity generated from renewable resources. of electricity storage (batteries) and transmission (national and international grids).

**Opportunities:** What are the greatest opportunities for the sector over the next three years?

**1. Growing demand for sustainability**

Consumer demand for environmental sustainability presents a good opportunity for long term growth for industry players who invest in diversification. What's more fossil fuels are a finite resource, which means diversification into renewables and other income streams is vital for business sustainability.

**2. Repositioning role as energy companies**

Some large oil and gas companies are set to make a switch to energy companies that supply a diverse range of energy services, particularly electricity.

**3. Improved brand image**

Oil and gas companies that pivot towards clean energy transition may benefit from an improved brand image and may be more likely to attract public and private capital from investors, especially those seeking to promote and support grater environmental and social responsibility.



**Where next?**

Asia is a global leader in the production of electricity from wind and solar, led in particular by China, which is forecast to double its wind power capacity every 1.5 years and its solar capacity every 2 years. India and Vietnam have also seen impressive growth in renewables capacity over the past few years. Despite this, the region is still behind the United Nations targets for Net Zero by 2050 and will need to see ongoing investments in clean energy to support a lessening of reliance from coal, especially, but also oil and gas as energy sources.

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