



The geopolitics of oil and gas



For the past century, access to oil and gas has been a major source of national wealth and power. It has also been a key driver of international cooperation and conflict. Now the climate crisis and geopolitical volatility are driving a new energy transition away from hydrocarbons.

This energy transition, like the ones before it, will reshape the world. Australian businesses will be impacted, and will need to prepare for the changes that are coming.

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Executive summary

Energy security has underpinned national wealth and geopolitical power since at least the Industrial Revolution, but the principal means of producing energy have shifted over time.

Throughout history, the nations with access to the predominant energy source of the moment have been able to increase their absolute and relative wealth and influence, shaping the geopolitical map. Wood, charcoal and animal power were supplanted by coal in the 19th century. At the beginning of the 20th century, oil (and a little later, gas) became increasingly important, first for military applications, and eventually for the broader global economy.

During the energy era starting from the period just before World War I, reserves of oil and gas gave certain countries the potential to build significant wealth and geopolitical power. However, other factors like politics and policy settings have influenced their ability to capture the economic and geopolitical benefits from these natural assets. For example, decisions about who owns and extracts the resources (state-controlled or private sector) and how exporters connect with buyers in other countries (fixed pipelines or seaborne transport) have impacted the economic returns and geopolitical influence that oil and gas provide.

Today and into the future, climate change and geopolitical volatility are driving a new energy transition. Like in previous transitions, the shift is being catalysed by certain events. In this case, action on climate change to meet the goals of the Paris Agreement is projected to result in renewable energy contributing a growing share of the global energy mix.

At the same time, the increasingly fragmented and volatile geopolitical environment is prompting countries to seek energy security at home if possible, and otherwise, to look to their allies for supply. No nation wants to put their energy security in the hands of a potentially unfriendly foreign government.

As these two events unfold and drive the global energy system to a much greater reliance on renewables, analysts, including oil and gas majors, project that hydrocarbon¹ demand will peak sometime between 2024 and 2035 and then decline. Demand for renewable energy like solar, wind and hydrogen will increase over the same period. Oil and gas will not disappear entirely, but hydrocarbons will increasingly make way for renewables at the centre of the global energy system.

This shift in energy will affect both today's oil and gas exporters, and tomorrow's renewable energy producers and suppliers. How major oil and gas exporters manage this shift in global energy will impact their longer-term economic and geopolitical status. Those that diversify their economies away from over-reliance on oil and gas will be best placed to adapt to the transition. Nations with abundant sources of the inputs required for renewable energy, and the political will and policy settings to maximise the opportunities, will be well-positioned to gain wealth and geopolitical influence in the next energy era. Those countries which do not have renewable resources and attributes themselves will need to ensure they build robust relationships with those that do – relationships that can weather growing geopolitical volatility.



¹ In this report, the term 'hydrocarbon' will be used to refer collectively to oil and gas fuels. We recognise that the definition of 'hydrocarbons' can also include coal, but we identify coal separately throughout the report.



As well as impacting the wealth and power of nations, the transition from oil and gas to renewables will have other geopolitical implications. Global economic and security alliances will be impacted, with some becoming more important, and others less so. Networks of energy interdependence will change, as relationships of supply and demand evolve. The nature of conflict also looks set to change. The number of interstate wars over supplies of oil and gas is likely to decrease. However, new conflicts could arise, for example, over access to critical minerals, or competition around key waterways including the Arctic Ocean and South China Sea.

These geopolitical implications will impact Australia's national interests in many different ways. For example, the energy transition could change Australia's influence over regional and global affairs. According to the Lowy Institute, Australia currently [ranks](#) as the sixth most powerful country in Asia, and natural resources are a key part of that status.

Australia has been a reliable and secure energy producer and supplier throughout the oil and gas energy era. It also has abundant renewable energy resources that it can use to position itself strongly in the energy transition now underway and into the future. Whether the transition adds to or detracts from Australia's geopolitical importance will depend on factors including government policy and developments abroad. For its part, [the Australian Government notes](#) that it is committed to 'make Australia a renewable energy superpower' and has set out a range of policies and initiatives to establish Australia as a trusted and [reliable partner](#) for clean energy supply into the future.

The transition from oil and gas to renewables creates challenges for Australian companies, as do the geopolitical impacts that will flow from the transition. Many firms are already thinking about how the energy transition may affect export demand. Leading companies also recognise the critical importance of analysing impacts on other nations and the broader global system.

It is important for companies to consider how the energy transition will affect the relative wealth and power of countries around the world, how global alliances will shift, and how conflict will change. This is true not only for the energy sector, but for other industries as well.

Successfully navigating the transition from oil and gas to renewable energy will depend on whether businesses can manage and respond to these practical and geopolitical changes – changes that are already happening. Strategic planning is critical.

Now is the time for companies to invest in understanding the energy transition, evaluating how it could impact them, managing risks and seizing opportunities.

SECTION ONE

Oil and gas as a source of geopolitical power

Power through the ages: the geopolitics of energy transitions throughout history

Throughout human history, access to energy has been a key source of national [wealth and power](#). Nations that have effectively harnessed their energy resources have been able to expand domestic industries and grow economically.

Those that have been able to export energy to others have generated economic returns and built geopolitical influence. As the sources of energy have changed, so too have the beneficiaries of this wealth and power.

The current shift from oil and gas to renewables is not the first time a major energy transition has created winners and losers. Before the 19th century, humans relied largely on [wood, charcoal and animal power](#) for energy. The age of coal followed, lasting until around the First World War, after which oil and, a little later, gas became the most important energy sources. Each of these transitions was [triggered by major events](#) like wars and market upheavals and then reinforced by incremental technical improvements.

Each time the source of energy security shifted, so did patterns of wealth and power. There are multiple instances of nations gaining geopolitical power from the exploitation of a rising energy source. For example, Britain's dominance of both coal supply and coal-powered technology was a key factor in the British Empire's wealth and naval power throughout the 19th century. Watt's steam engine, powered by British coal, literally [turned the wheels](#) of the Industrial Revolution.



The geopolitical implications of the coal-powered economy were many. British exporters sold coal technology and coal itself throughout its own empire and elsewhere, creating energy dependency on Britain. The resulting foreign currency earnings [built national wealth](#) which enabled the British to import goods and increase their military strength. The Suez Canal was dug using [coal power](#) and made it possible for coal-powered vessels to [more quickly reach Britain's colonies](#), increasing their contribution to Britain's economic and military power, as well as increasing British ability to respond swiftly to colonial unrest.

It was British [demand for oil](#) which ultimately triggered the energy transition from coal to hydrocarbons. At the beginning of the 20th century, Britain was the [first nation](#) to rely on oil to power the majority of its naval vessels.

British research had [demonstrated](#) that oil vessels could carry more weapons, provide greater range, and were easier to refuel than their coal-powered predecessors, all of which granted a significant strategic advantage. The US, German and Russian navies [followed suit](#), and the resulting growth in demand for oil triggered rapidly increased exploration and global supply. This in turn [drove down oil prices](#), which spurred greater use of the fuel for domestic, industrial and civilian transport applications. Around the time of the First World War, oil [replaced](#) coal as the [central component](#) of the world's energy mix.

Ironically, Britain's move away from coal in its quest for [greater naval power](#) undermined its global status. While Britain had been a world-leading source of coal, it needed to import its oil from elsewhere.

The world followed Britain's lead and moved away from coal for energy. The increased demand for oil sourced from other parts of the globe saw Britain become a net energy importer and begin to lose its place as a global industrial leader. Between 1900 and 1913, the country's share of total global industrial production [fell from 20 percent to 14 percent](#). At the same time, the [United States](#), [Russia](#) (both before and after the creation of the Union of Soviet Socialist Republics (USSR) in 1922) and the [Middle East](#) used their abundant hydrocarbon resources to build wealth and geopolitical power. Indeed, Britain's relative decline spurred the rise of the US. During the First World War, Britain's purchases of oil from the United States were a key factor in [America's rise](#) to the position of economic superpower.

The current energy era is not just about oil – gas has also been a critical part of the world's energy mix over the past seven decades. In the [1950s](#), natural gas became a major global energy source as it provides a cleaner and often cheaper [source of heat and electricity](#) than coal for both residential and industrial uses. Because gas is usually found near oil deposits, it is no surprise that many of the countries that produce oil are also those that supply gas. As such, much like with oil, Russia and the United States have been the [leading sources of natural gas](#) since the mid-20th century. Russia's vast gas reserves have arguably allowed the nation to remain an [energy superpower](#) with significant geopolitical influence even after the fall of the Soviet Union. The Wilson Center notes that Russia's natural gas industry has [significantly insulated](#) the government from negative economic effects of the conflict in Ukraine.

The US is now the number one global gas producer, and as some analysts note, its natural gas exports provide significant [geopolitical influence](#) – in some ways, even more so than its oil exports.

The next energy transition is the shift from oil and gas to renewables.

Just as in past transitions, this change has been triggered by major global events, namely the damage and risks of climate change, and an increasingly contested geopolitical environment. These events have been reinforced by other developments, including technological advances and cost reductions in the renewables sector. In the hydrocarbons era, wealth and power have depended not only on access to resources, but also on policy settings and geopolitical relationships. The same will be true for renewables in the decades ahead.



Oil and gas as a means of wealth and power – for some

Not every nation with hydrocarbons builds geopolitical leverage or economic strength, let alone both. The ability to translate resource abundance into economic and geopolitical strength depends on a number of factors, not least of which is domestic politics and policies.

Over-reliance on oil and gas revenues can contribute to the [‘resource curse’](#). When a country is too dependent on any one sector, it can become [vulnerable](#) to changes in global prices. This phenomenon is known as [‘Dutch disease’](#), referring to the Netherlands’ dramatic increase in wealth in the 1960s after the discovery of gas. This apparently positive development had negative repercussions because the sudden inflow of foreign currency was not managed well, and other industries became uncompetitive as a result – what the IMF [describes](#) as ‘wealth managed unwisely’. This in turn caused the Dutch economy to be even more dependent on the gas industry, making it yet more vulnerable to global market volatility.

Ownership matters too. When state-owned entities operate the oil and gas sector, governments can use these industries for [geopolitical leverage](#) over other nations. For example, major state-controlled oil and gas exporters Russia, Venezuela and Saudi Arabia all make strategic use of their abundant energy resources to gain strategic influence.² OPEC oil-producing countries can [work together](#) to shift oil prices, which would be illegal under US anti-trust laws.

On the other hand, private-sector firms can generate higher economic returns, but provide less direct geopolitical power. When the oil industry is made up of multiple private companies which make decisions about investment and production based on their own individual costs, financial positions, and attitudes towards risk, they are not geared to prioritise [geopolitical](#) ends. For example, US and Canadian oil and gas companies make their strategic decisions for [commercial, rather than geopolitical](#), reasons. However, the sector can contribute to geopolitical power in other ways. [Research shows](#) that private-sector oil companies can deliver higher economic returns than their state-owned counterparts, which contribute indirectly to a nation’s geopolitical strength.

Even the way that oil and gas are transported has an impact on the value these resources can generate for a country. Oil and gas are traded globally via [two main channels](#): pipelines and ships. Fixed pipelines between exporters and importers can bring wealth to exporters, as once the initial investment is made, [operating costs are often low](#). They can also result in interdependence between sellers and buyers. This could support geopolitical alignment between allies, as is the case with the pipelines that link Canada and the US. It could also result in vulnerability to coercion, [as European buyers of Russian pipeline gas have found](#) since the invasion of Ukraine.

Sea transport does not offer the same cost advantages (especially in the case of gas, which requires

[specialised vessels and ports](#), as gas is transported in compressed liquid form), but being able to access any customer means exporters can sell to the highest bidder. Sea transport does not create the same interdependencies as pipelines, but does require a functional global trading system including secure sea lanes [safeguarded by naval alliances](#).

Depending on relationships with customers, global market dynamics and geographic circumstances, both methods of transportation can provide wealth and power, wealth without power, or power without wealth.

Whether governments of hydrocarbon-rich nations manage their earnings wisely or not, opt for state or private-sector control, build pipelines or rely on global sea trade, the age of oil and gas has provided them with a potential for wealth and power that other countries have lacked.

As the world transitions to renewables, oil and gas will deliver declining returns and another set of resources and attributes – including sun and wind, critical minerals and advanced technology – will provide the potential for energy security and geopolitical power.

How well these assets are used to build those strengths will depend on a country’s ability to ‘manage the wealth wisely’, through political will and policy settings.

² For example, Russia has limited its gas exports to EU nations during both Ukraine conflicts, and has rewarded compliant nations with cheaper gas prices. Venezuela increased its [regional influence](#) in the early 2000s by offering petroleum to its neighbours on credit via the PetroCaribe scheme. Another example of how state ownership can lead to international influence is in Saudi Arabia’s leadership of the Organization of Petroleum Exporting Countries (OPEC). The country’s abundant hydrocarbon resources give it the power to effectively control how much every nation pays for oil, and with it, a significant role in global affairs.

SECTION TWO

The transition to renewable energy and its geopolitical implications

The transition to renewable energy and its geopolitical implications

The necessity of rapidly decarbonising the global economy is driving a move away from hydrocarbons towards renewables (see 'Climate change policies drive transition to renewables' on page 12). Rising geopolitical volatility is also raising the profile of renewable energy, as countries look for new ways to ensure energy security.

This shift will have major implications for how energy security is understood and achieved, which will reshape the global geopolitical map. Some nations will benefit from the transition, increasing their economic returns and geopolitical influence. Others may lose wealth and power. How nation-states fare will depend on a range of factors, including of course what natural resources they are or are not endowed with.

Factors such as countries' policy and political settings, their technological capabilities, and their international reputation and ability to build partnerships will also be critical to how successfully they are able to navigate this energy transition. Other geopolitical implications of the shift will be in the way that networks and alliances will change, and the way that conflict will look in the future.



Drivers: rapid global decarbonisation and geopolitical volatility

As happened during energy transitions in the past, the move away from oil and gas to renewable energy is being driven by major events. In this case, it is climate change and growing geopolitical competition that are pushing countries to look for alternative, renewable, and localisable sources of energy.

Governments around the world are responding to demands to limit global warming and minimise the impacts of climate change. To do so, they are reducing use of the fossil fuels that contribute to carbon dioxide emissions and moving to replace oil and gas with renewables for their energy supply (see 'Climate change policies drive transition to renewables' to the right).

Climate change policies drive transition to renewables

In support of their [international commitments to cut emissions](#), many countries now have taxes and subsidy policies that encourage industries and consumers to reduce their emissions and invest in renewables. Examples include carbon taxation and emissions trading, subsidies to help buyers purchase electric vehicles (EVs), stricter emissions standards that penalise conventional vehicles, publicly funded recharging networks, and differential taxation based on fuel type.³

At the same time, renewable energy costs have fallen rapidly, with costs for utility scale solar [declining by 85 percent](#) between 2010 and 2020. These cost decreases are the result of [technical advances](#), as well as government subsidies. This is especially the case in [China](#), where [most](#) of the world's renewable energy goods have been produced to date. The US [Inflation Reduction Act](#), the European Union's [renewable energy financing mechanism](#) and the [Powering Australia](#) commitment are some more recent examples of policy support and government funding that promise to help reduce the cost and increase the uptake of clean energy.

Other government decarbonisation policies include trade policy measures that add costs to emissions-intensive products by applying a carbon tax at the border. The European Union's Carbon Border Adjustment Mechanism ([CBAM](#)) is the most advanced of these measures. It effectively applies the EU's [carbon tax](#) to imports of aluminium, ammonia, cement, electricity, fertilisers, hydrogen, iron and steel, organic chemicals, and plastics from countries that do not have carbon taxes of their own. As more and more countries implement and strengthen carbon taxation measures, such border adjustment taxes are likely to become more common, leading to increased costs for emissions-intensive industries that rely on oil and gas, and cost advantages for industries based on renewable energy sources.

³ For a more complete list of policy measures, see [Policies to promote electric vehicle deployment – Global EV Outlook 2021 – Analysis – IEA](#)

At the same time, geopolitical volatility is driving countries to seek new forms of energy security. In a world of rising mistrust and competition, nation-states are increasingly coming to the conclusion that security of energy supply means keeping things local. That means onshore if possible, and if not, based on trade with other actors who share similar values and who would be less inclined to 'weaponise' energy flows for political purposes. Rather than being beholden to the preferences and politics of a small number of exporters who can and do set prices and supplies according to their own interests, national governments around the world will seek the certainty and flexibility of energy options that can be insulated from geopolitics.

With the two factors of climate change and geopolitical volatility driving a change in energy demand and supply, it is clear that in the years and decades ahead a growing share of the world's energy needs will be met from renewable sources.

The International Energy Agency's (IEA) Net Zero scenario projects that between 2030 and 2040, renewable energy sources will overtake fossil fuels in the energy mix.

Many energy companies recognise this. BP [refers to](#) "the importance of a decisive shift" away from hydrocarbons and towards renewables for a net-zero future, and the IEA's Net Zero projections are echoed in Shell's [Sky Scenario](#).

BP's 2023 [Energy Outlook](#) notes that geopolitical volatility, for example the war in Ukraine, is further accelerating the transition away from fossil fuels towards renewables. Some projections, including the [IEA's Announced Pledges](#) scenario, foresee the transition away from gas as less rapid than the transition from oil. This is because gas is seen by some as a [transition fuel](#) providing a path to emissions reductions, although [others](#) argue that this will delay achieving net-zero emissions in time to meet the goals of the Paris Agreement. This [debate](#) over the role of gas notwithstanding, the overall direction of travel is clear – renewables will become a more and more important part of the global energy system over the coming decades.



The energy transition – rearranging the geopolitical chessboard

As global power demand moves from hydrocarbons to electrons, the countries that have the potential to benefit will logically be those with the resources and capabilities necessary for renewable energy generation.

Of course, they are not necessarily the same as those who have benefitted from abundant oil or gas resources throughout the hydrocarbon era. Last century, Britain's wealth and power were superseded by the US when the dominant component of the world's energy mix shifted from coal to oil and gas. In the years ahead, those with access to the natural resources necessary for renewable energy generation may experience comparable economic growth.

However, just as in the past, to optimise the potential benefits from these natural resources in the renewable energy era, policy settings, political will, and technical capability will all play a determining role. Nation-states will need assets like advanced technology and patents for the latest solar, battery and other renewable technologies. Countries will also need to build new networks of relationships to take advantage of trade complementarities, relationships that will be robust enough to weather geopolitical volatility.



In the age of renewables, as has been the case in the oil and gas era, access to certain natural attributes and resources is the starting point for nations to achieve energy security, wealth and geopolitical power. Unlike fossil fuels, renewable energy resources are available everywhere, in varying amounts. Those countries with abundant [sunshine](#), [wind](#), [rain](#), [geothermal energy](#), sustainable [biomass](#) and/or available [land](#) will be well-placed to host large-scale renewable energy generation.

Research shows that some countries that are major actors in oil and gas production and also have abundant resources for renewable energy are already actively pursuing the transition to renewable sources. Examples include the [United Arab Emirates](#), focusing on nuclear power and solar energy, and [Norway](#), which already uses hydropower for almost all its electricity.

At the same time, there are many new actors who will be entering the global energy production arena, upsetting the tight hold that oil and gas exporters have had on energy supplies.

Indeed, many developing countries have abundant renewable energy [resources](#), including solar, wind, and geothermal energy. The growth of renewable energy technology could fundamentally change their growth trajectory as they may no longer need to [rely](#) primarily on imported energy, with all the economic, social and political risks that can bring.

While incumbent producers have advantages, Australia could benefit from increasing global demand in critical minerals by becoming a geopolitically 'reliable' partner with abundant supplies and ethical extraction and processing.

Along with suitable land and climate, nation-states will also need access to a range of [metals](#) and [critical minerals](#) to build renewable energy capacity. Despite including a category of commodities referred to as 'rare earths', the minerals essential for renewable energy are not rare. Indeed, many of them are [geologically abundant](#) in Australia.

However, building up new processing capacity can be challenging. Growing global [environmental, social and governance \(ESG\) expectations](#) for processing critical inputs, which can cause significant [environmental damage](#), can increase investment costs for new processors. Because extracting and processing these minerals can be so difficult, the ability to access them is currently [concentrated](#) in just a few countries. This concentration makes these minerals highly [vulnerable](#) to supply disruption. It is the combination of necessity and vulnerability that gives them the name '[critical](#)' minerals.

Given how essential these minerals are for renewable energy generation and therefore energy security, concern about vulnerability to disruption is prompting countries to [diversify](#) sources of supply. In order to minimise over-reliance, some countries are looking to develop onshore capacity. Others who do not have ample supplies are actively pursuing new networks of cooperation to ensure their energy security is not dependent on partners they consider to be strategic competitors.

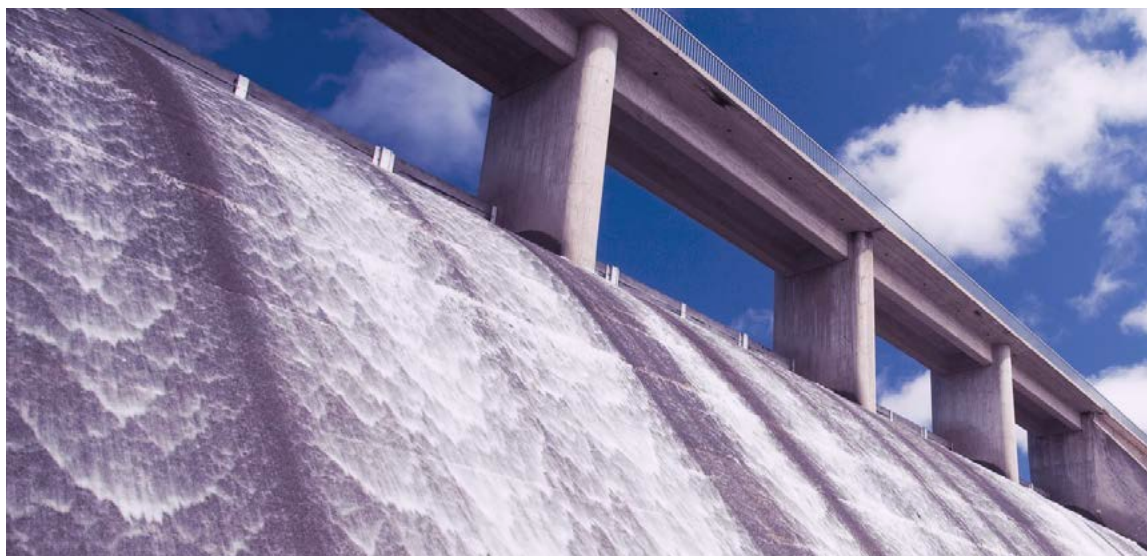
For a country to be able to gain benefits from any of these natural resource attributes, policy and political settings are critical. One important aspect, especially for current oil and gas producing nations, is ensuring national economies have a diverse base and are not over-reliant on any one sector. Norway provides some examples of how hydrocarbon nations can navigate the road ahead. While Norway became very wealthy from its oil and gas exports, the government put policies in place decades ago to ensure the country could shift away from relying on hydrocarbons and maintain its energy security in the renewable energy era. A sovereign wealth fund and public investment in other industries ([including renewables](#), particularly hydropower) mean that the country is now well-positioned to phase down economic reliance on oil and gas, maintain its own energy security, and benefit from global demand for renewable energy.⁴

Other hydrocarbon-rich countries that are taking steps to [diversify](#) include Gulf Cooperation Council (GCC) members Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain,

and Oman. These nation-states are investing oil and gas revenues to develop other industries including [manufacturing, health and renewables](#).

Technological capability will also determine which countries are able to maximise their advantages in the renewable energy era. Like so many things in this increasingly geopolitically volatile world, renewable energy technology is a competition. The governments that recognise that future energy security and therefore global geopolitical status will rely on this technology and intellectual property (IP) are racing to outcompete each other (see 'China and the United States: seeking technological self-sufficiency' on page 16), in a contest that has been described as 'the new [space race](#)'. Some countries are trying to ensure they get ahead or stay ahead by excluding their geopolitical rivals from strategic sectors including renewable energy.⁵

A [World Bank report](#) has pointed out that this competition creates the risk that rich countries will benefit from the era of renewables, while the developing world could be even worse off.



⁴ Norway is a good example of how to avoid the 'resource curse' and manage abundant resource wealth well. Its approach demonstrates that other factors are critically important to translating resources into national advantage (2019-08-14-FutureOilDemand.pdf (chathamhouse.org)).

⁵ See, for example: Canada orders China to divest from country's mining companies | Canada | The Guardian; China ready to hit back at U.S. with rare earths: newspapers | Reuters; and China's Critical Minerals, National Security, and the Meaning of Supply Chain Interdependence | Cato at Liberty Blog

China and the United States: seeking technological self-sufficiency

Growing [geostrategic competition](#) between major global powers is driving key government initiatives, like the US CHIPS Act and America COMPETES Act, and China's Made in China 2025 policy.

America COMPETES Act: This [legislation](#) was signed into law in August 2022 and is aimed at bringing advanced manufacturing back to the United States. Supporters believe the new law will [increase US competitiveness and enhance national security](#). The Act includes funding for research on energy and creates a network of regional tech hubs.

The CHIPS and Science Act (like the COMPETES Act) also aims to build up US sovereign research and manufacturing capacity, but maintains a focus on semiconductors and advanced technologies.

Alongside these two initiatives, the US government has also committed to a [range of measures](#) aimed at diversifying and safeguarding US supply of critical minerals, and increasing domestic manufacturing of renewables (that themselves rely on supply of critical minerals). These measures include a recent [commitment](#) to treat Australia as a domestic source of critical minerals, meaning that Australian exporters can benefit from US government-supported renewable energy investment.

Made in China 2025: While China is not driving for technological self-sufficiency in the same way that the US is, recognising that there are technologies it still needs to import, it does want to substantially reduce its reliance on others. It also wants to establish itself as a [leader](#) in the renewable energy technology field.

The Made in China 2025 [policy initiative](#) was announced in 2015 with those goals in mind. The policy seeks to cement China as a leader in high-tech research and manufacturing, including renewable energy, electric vehicles, artificial intelligence, aerospace engineering, synthetic materials, biomedicine and rail and maritime transport.

While renewable energy sources offer the potential advantage of increasing energy security by reducing reliance on imported energy, very few nations have everything they need to be truly self-sufficient. As such, thriving in the age of renewables will require building international partnerships that can weather growing geopolitical volatility. Even China, which [leads many renewable energy industries](#), still relies on certain imported [minerals](#). In a global atmosphere of growing mistrust and strategic competition, building connections with trusted partners will provide nations with the best chance to access the necessary elements for renewable energy security, and for reliable trade in energy.

More and more, energy trade relationships will develop on the basis of trust and shared values, rather than primarily on competitive pricing and ease of supply.

We are [already seeing](#) countries strengthen energy trade links with their geopolitical allies, and decouple from those they consider less reliable – even if doing so means paying more.

How could Australia's wealth and power be impacted by the energy transition?

Australia is in a good position to benefit from the global transition to renewable energy. Australia has [land and climate](#) that are well-suited to large-scale renewables projects.

It has [abundant sources](#) of many critical minerals and metals that renewable energy requires. The nation is a major exporter of liquefied natural gas (LNG), but the economy is not overly dependent on this sector. Total earnings from oil, gas and coal account for just [3.1 percent](#) of total Commonwealth revenue, as compared to almost half of state revenue in [Russia](#), and around two-thirds in [Venezuela](#).

Australia's renewable energy [research and development capabilities](#) are supplemented by comprehensive [international research partnerships](#), helping make Australia an [attractive destination](#) for renewables investment. The country is widely considered a reliable and trustworthy trade partner which honours its export commitments regardless of political challenges or disagreements.

Australia needs to draw on these advantages to effectively navigate the disruption the energy transition will bring.

If it plays to its strengths as the world shifts towards the renewables era, it could create real benefits for Australian prosperity and geopolitical power.

As demand for the country's oil and gas exports begin to wane, the economic returns and positive reputation Australia enjoys from that trade will be affected.

Currently, Australian gas is mainly exported to [North Asia](#) (Japan, China, South Korea and Taiwan), where it makes up an important part of those countries' energy mix. Australia's position as a central contributor to energy security in these countries creates diplomatic [goodwill](#) and gives Canberra some leverage to pursue other diplomatic aims.

Australia's position in the region according to The Lowy Institute's [Asia Power Index](#) reflects this leverage. [Australia ranks 6th out of 26](#) countries in the Asia-Pacific for

comprehensive geopolitical power. Australia's strength as an energy exporter to Asia is an important component of this power – a key indicator in the Lowy Index ranks Australia 2nd out of 26 for energy trade balance.⁶ As such, Australia needs to ensure that it is proactively positioning itself as an important and reliable player in the renewable energy era of the future.

Becoming a key renewable energy and critical minerals supplier to countries in the Asia-Pacific and around the world could allow Australia to swap hydrocarbon-based influence for geopolitical status based on being an essential renewable energy partner to these and other nations.



⁶ Defined as 'Net energy exports in million tonnes of oil equivalent, Mtoe (2020)'

Complex geopolitical implications of the transition

As well as impacting the fortunes of hydrocarbon producers and of nation-states with strong potential for renewable energy generation, the renewable energy transition will also have other impacts on the global power map. Geopolitical alliances will shift, and new networks will form as reshaped energy supply connections create new international links – as well as new vulnerabilities. The nature of conflict, and what causes conflict, will change. Oil and gas conflicts may well become a thing of the past, but [new sources](#) of hostility could emerge.

“Just as fossil fuels have shaped the geopolitical map over the last two centuries, the energy transformation will alter the global distribution of power, relations between states, the risk of conflict, and the social, economic and environmental drivers of geopolitical instability.”

INTERNATIONAL RENEWABLE ENERGY AGENCY (IRENA)

The transition from oil and gas to renewables will strengthen some existing geopolitical alliances, but may reduce the importance of others. There are many ways that this could happen. One example is the potential reordering of geopolitical connections that could result if and when the global seaborne oil market begins to diminish in importance.

Currently, the US and its allies spend considerable resources to secure the supply of seaborne oil from the Middle East. They [patrol major sea lanes](#) at least partly because ensuring oil supply from the Middle East and the US itself means countries in

Europe and North Asia will be [less likely](#) to seek to develop supply relationships with nations including Russia and Iran. Seaborne trade will remain a critical driver of the global economy. However, if protecting supplies of oil and gas no longer has the same strategic value, domestic voices in the US and allied countries may begin to question naval security priorities, and new and upgraded energy alliances may emerge

For example, as some nations reduce consumption of oil and gas and become more dependent on international renewable energy networks, the interdependence that comes with these links may give rise to new energy alliances, and/or closer integration between current geopolitical allies. The planned [Sun Cable project](#), which aims to supply Australian solar power to Singapore via subsea cable, is an example of a renewable energy link that could contribute to even closer geopolitical alignment between partners. The changes in the relative power and appeal of key geopolitical alliances brought about by clean energy cooperation could have far-reaching economic and security implications for nations all over the world.

As well as affecting networks and alliances, the transition to renewables may cool down some existing conflicts, but spark others. Disputes over ownership of oil and gas, and the infrastructure and shipping lanes these commodities rely on, have been a significant source of civil and interstate conflicts and rivalries for decades. Between one-quarter and one-half of all interstate conflicts since 1973 were [related](#) at least in part to disputes over oil. The age of renewables may mean that countries can avoid or de-escalate some of these conflicts.

However, renewable energy could also provoke [different](#) kinds of [conflict](#): outbreaks of violence in states with weak institutions; competition over global resource commons like in the Arctic Ocean and the South China Sea; and the weaponisation of trade in the [minerals](#) needed for renewable energy technologies. Analysts have [predicted](#) that while the renewable energy era is likely to mean less chance of energy insecurity causing major interstate wars, it carries a greater risk of sparking small-scale conflicts, including intrastate violence.

CLEAN ENERGY CREATES RISKS OF NEW FORMS OF CONFLICT

“The Democratic Republic of the Congo (DRC) produces more than 60 percent of the world’s cobalt. The country already suffers from widespread violent conflict, perpetuated by mining wealth, that has driven the creation of at least 70 armed groups, resulted in massive human rights violations, and displaced millions. An increase in demand for cobalt for electric vehicles and grid-scale battery storage could further intensify conflict in the country.”

[Georgetown University Journal of International Affairs](#)

SECTION THREE

What could the geopolitical implications of the energy transition mean for Australia?

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The geopolitical implications of the renewable energy transition – including impacts on the wealth and power of other nations around the world, changes in global geopolitical alliances and shifting networks of interdependencies, and the changing nature of energy conflicts – could affect Australia in a variety of ways.

As countries around the world see their energy security, economic wellbeing and geopolitical status impacted by the energy transition, Australia's economic opportunities will change. For example, countries with renewable energy advantages will have more money to invest abroad, and to buy the [resources](#), [premium agricultural exports](#) and [international education](#) that are a mainstay of Australia's export economy. Those that are negatively impacted by the transition, for example major hydrocarbon exporters that do not diversify their economies, may in time become less economically important to Australia.

Australia's agriculture sector is particularly exposed to these changes. Major current hydrocarbon producers in the Middle East are an [important export destination](#) for Australian meat

and grain. The nations in that region that successfully navigate the energy transition may remain key trading partners, while those that do not may become less so.

Along with these changes in the economic fortunes of Australia's trading partners, decarbonisation commitments will also impact their demand for Australia's exports.

As Australia's major trading partners in Asia [transition to renewables](#), Australia's oil and (over a longer timeframe) gas sales to the region are expected to [decline](#). Demand for critical minerals and metals, including lithium, iron ore and copper, are projected to [increase](#), driven by the need to build energy security via the use of batteries, new electricity networks and renewable energy facilities.



To sell to these countries, Australia will have to compete with other key sources of these commodities, some of which will have geopolitical and cost advantages in certain markets. For example, Latin America and China compete with Australia in the supply of critical minerals and metals. As all countries increasingly look to their geopolitical partners for secure supply of renewable energy inputs, even where doing so does not provide the lowest prices, Australia's market opportunities may be increasingly limited to geopolitical 'like minded'.

Broader network changes that the energy transition is expected to cause could also impact Australia. For example, any change to the strategic priorities of the US and its allies due to no longer needing to safeguard oil and gas transport links could impact Australia's national interests.

As a major global exporter of bulk commodities, Australia relies on safe sea lanes. And as an Indo-Pacific nation, Australia has a major stake in the security of the region. More positive impacts could flow from other network changes. Alliances that are reinforced by renewable energy trade and interconnected networks between regional neighbours may represent opportunities for Australia.

As the Sun Cable example demonstrates, Australia is well-positioned to supply these potential regional grids of the future.

The [expected decrease](#) in the global threat of conflict over hydrocarbons driven by the move towards renewables has security implications for Australia and the wider region.

Conflict driven by contested access to oil and gas – and to the economic gains that flow from these hydrocarbons – has been [common](#) throughout the Indo-Pacific. If groups and nations are less likely to fight over access to oil and gas in the future, it would lower the risk to Australia of regional conflict and associated refugee flows.

However, new kinds of conflict could be sparked by contested ownership of the minerals that renewable energy technology relies on, weak states being vulnerable to intrastate violence, and the opening up of new areas of contestation such as in the South China Sea.

These conflicts could directly impact Australian firms, as well as create further geopolitical fragmentation and disruption in the global business environment.

Whether Australia wins or loses from the global implications of the energy transition will depend partly on luck, partly on government policy decisions, and partly on the actions of Australian companies.

The final section of this report lays out some of the ways that companies can position themselves to manage the risks and opportunities ahead.



SECTION FOUR

Navigating – what can Australian companies do?

Navigating – what can Australian companies do?

The transition from oil and gas to renewables creates a range of challenges for Australian companies to navigate. They need to be able to manage the transition itself, and the geopolitical impacts of the transition. These are two separate but interrelated sets of challenges which Australian companies will need to understand and be prepared for.

Navigating the energy transition

To prepare for the challenges that the coming energy transition will deliver, Australian companies can and should take a range of actions. They need to understand how the shift from hydrocarbons to renewables will affect the overall economy, their sector, and analyse how these impacts could play out for their specific businesses. Then they can put plans in place to manage the risks and seize the opportunities.

As this report demonstrates, the implications of the energy transition are complex. Companies should assess the energy requirements of their industry and map the companies and countries that make up their own energy supply chains.

Renewable energy costs will represent a key risk area for Australian businesses throughout the energy transition.

The trend of [decreasing cost](#) and [increasing supply](#) of renewable energy witnessed in recent decades is not guaranteed to continue. In fact, the IEA recently [projected](#) that between 2020 and 2024, solar costs will increase by 10–15 percent, driven by commodity, freight and financing costs. On the demand side, as climate

regulations ratchet up, company decarbonisation commitments hit their due date, and consumers demand better environmental performance, demand for renewable energy will [increase](#).

This may put further upward pressure on costs for clean energy – at least until supply is able to catch up – creating risks for industries that rely on affordable electricity.

Tracking commercial developments and government policy initiatives in Australia and abroad that impact renewable energy supply and demand will help companies anticipate these risks.

Companies also need to pay close attention to the complex web of geopolitical tensions and alliances between nations, and how these are projected to evolve in the years ahead.

Navigating the geopolitics of the energy transition

Understanding the geopolitical implications of the energy transition may not be something that all companies currently have at the front of their minds. Doing so will give them a clearer picture of the upstream forces that could both provide commercial opportunities and impact their ability to affordably access the energy they need. Leading companies are recognising the critical importance of geopolitical risk management as a strategic tool for success.

However, many will not yet have had the opportunity to investigate how the energy transition will change the world, and what those changes will mean for how and where and with whom they do business.

Businesses will need to consider how the geopolitical implications of the energy transition matter to Australia, and to the geographies they do business with and within. They will also need to consider how the dynamics of global business will be affected. In particular, businesses should be looking along the three dimensions this report outlines:

- **Wealth and power:** What does it mean for Australian businesses if the fortunes and status of various countries around the world change? What will it mean if Australia's wealth and degree of geopolitical influence changes?
- **Alliances and networks:** How will Australian businesses need to adapt if diplomatic or security alliances change? What will it mean if and when networks of trade interdependencies are built more on shared values and a desire to remain as (ideologically) close to home as possible, even if that means costs increase?
- **Conflict:** In what ways will a changing landscape of conflict change how Australian business operates?



Analysing the impact

While the energy transition and the geopolitical shifts it will create are two separate matters, and need to be understood as such, analysing their impact – negative and positive – on an individual business can be part of the same process. There are a range of tools companies can use to support this process, including dynamic risk assessments, horizon-scanning tools and scenario modelling. Looking ahead to consider the implications of different geopolitical developments, supply/demand changes, and security of supply, will help companies identify material risks and develop comprehensive action plans.

Managing the risks and seizing the opportunities

After understanding the geopolitics and analysing the impacts, companies should set strategies to best manage the issues that have been identified. Boards and senior executives of companies large and small should actively engage with the risk management process, taking steps to mitigate the material risks, and capitalise on opportunities.

KPMG offers a range of services – from targeted geopolitical briefings to automated data solutions, to broader internal audit and risk support – to help firms survive and thrive through the geopolitical upheaval of the energy transition.

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