Baron Point Financial Group

Indochina Energy Sector

Institutional Markets Report
June 2025 (Revision 1)

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Foreward

*Nothing is new on Wall Street, simply a repackaging of prior works of art laid down by **intelligence** that evolves with the **feelings** and **emotions of people**. It has been this way, since the Buttonwood Agreement was signed in 1792, by 24 stockbrokers under a buttonwood tree in New York City.*

Baron Point is today a leading firm in the institutional investment business in Indochina. Baron Point Research & Analysis Division (BPRAD) provides regular and comprehensive analysis on topics for investment managers, portfolio company management, clients, stakeholders, interested institutional investors, and friends of the firm.

Baron Point Energy Group (BPEG), an expert energy analytics team operating under BPRAD, provides regular and comprehensive analysis of topics. In a series of installments, BPEG is carefully evaluating the energy landscape in Indochina, with an emphasis on the oil & gas sector in the Gulf of Thailand.

As global energy demands evolve and the transition to cleaner energy accelerates, oil refineries and gas-fired plants remain key components of the energy supply chain and the energy transition taking place globally.

BPEG's work supports the **Indochina Industrial Investments SP3 Fund** platform, segregated portfolios of Baron Point Financial Group SPC, to make essential decisions in the evolution of investments already made at the Fund or for others being evaluated for resource commitment.

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01 Executive Summary

Baron Point, with its local strategic partner, has started development for its control investment in CNRS-Cambodia National Refinery System Co. Ltd., a portfolio company located in Koh Kong, Cambodia, situated on a deep-water port at the mouth of the Gulf of Thailand, Indochina.

Indochina—encompassing Thailand, Cambodia, Lao People's Democratic Republic (Lao PDR), Vietnam (and Myanmar, although not considered in this research)—is entering a decisive phase in its energy and industrial development. The region is experiencing robust economic growth, urbanization, and industrialization, which is driving rapidly increasing energy demand. Yet supply remains fragmented, infrastructure is underdeveloped, and energy security challenges persist. This combination of macro tailwinds and structural deficits creates a compelling investment case across the energy value chain.

The energy transition is underway globally—but fossil fuels still dominate, especially in Asia. Oil and gas accounted for over 50% of global energy use in 2023, and despite rising renewables

capacity, absolute fossil fuel consumption continues to grow. **In developing economies like those in Indochina, energy demand is projected to surge for decades, reinforcing a central base case at Baron Point: the share of global oil demand should increase from 55% in 2021 to approximately 70% in 2050 in emerging economies.** Also, Baron Point believes strongly that the relationship Southeast Asians have with oil is far more positive than activists in the West. People are simply more supportive of oil companies in the Far East than in the West. These are some of the largest companies in the region, and National Oil Company success is a source of national pride and a better standard of living, aspirations the Baron Point team whole hardily supports.

Therefore, we believe continued high demand for oil, gas, chemicals, and plastics shall persist well past 2050, as these commodities play an enormous role in supporting the region's economic expansion and the rise of Southeast Asians' standard of living.

Indochina is a net energy importer with limited upstream resources. Cambodia, Lao PDR, and Vietnam rely heavily on refined fuel imports, while Thailand—despite its refining capacity—must increasingly import crude oil and natural gas. Liquified natural gas (LNG) demand is rising across the region, especially in Thailand and Vietnam, as domestic gas fields mature and power needs escalate. Infrastructure gaps in refining, storage, and LNG import terminals constrain growth and create actionable entry points for institutional capital.

At the national level, each country offers a unique opportunity:

Cambodia is seeing strong energy demand growth driven by industrialization and a rising middle class. Until Baron Point's CNRS, there was no current domestic oil and gas refining capability, and Cambodia has only recently started investing in LNG power. Its fuel import infrastructure is antiquated, and its downstream capacity to boost energy security and develop as a clean fuel hub is critical to the country's development.

Vietnam, a regional industrial engine, has a strong petroleum industry with multiple major refineries. It is expanding LNG infrastructure to reduce coal reliance and diversify its energy mix. While solar and wind adoption is gaining momentum, regulatory and grid constraints persist. Vietnam is expanding its petrochemical sector, to reduce reliance on imports and strengthen self-sufficiency.

Lao PDR exports hydropower regionally but depends heavily on imported fuels. Limited refining and storage capacity leaves it exposed to volatility despite electricity surpluses. Therefore, a linkage to more regional security of supply of oil and gas supplied by the likes of CNRS, could be a major benefit to the country.

Thailand, Indochina's most advanced energy market, has major refining capacity and regional power trade links. It is becoming Southeast Asia's electric vehicle (EV) hub, though declining upstream output is driving sharp increases in LNG imports as the country balance's reliability, cost, and emissions. Additionally, due to climate change activism and globalization, many oil and gas related projects are now considered red lighted, so additional oil and gas infrastructure capacity, such as CNRS being located next-door to Thailand, is strategic.

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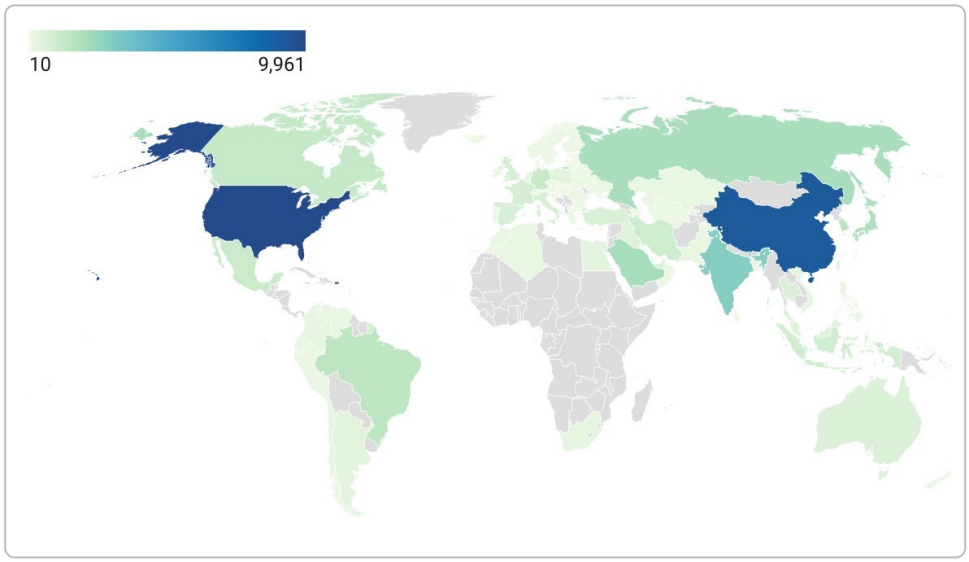
02 Global Energy Landscape

Despite global decarbonization efforts, hydrocarbons will continue to play a significant role in meeting global energy needs over the coming decades. Key megatrends—including decarbonization policies, technological advancements, and energy security concerns—will drive long-term shifts in supply chains, pricing structures, and capital flows. Understanding these global realities provides a crucial foundation for assessing Southeast Asia's position within this transformation.

Figure 1: Oil consumption by country, TWh, 2023



Source: Energy Institute - Statistical Review of World Energy (2024), Our World In Data

Current Global Energy Status

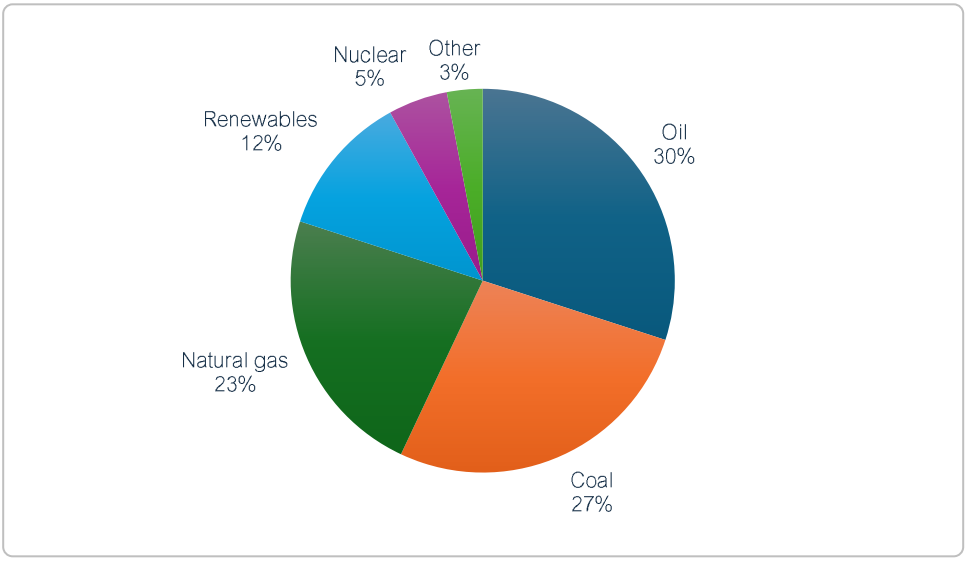
Oil and natural gas continue to dominate the various components of the global energy sector—including transport, power, heating, and industry. These fossil fuels accounted for approximately 53% of the total energy mix in 2023.[1] Coal remains a significant source, primarily driven by the massive coal sectors in China, India, and

[1] World Energy Outlook 2024, IEA, October 2024

other parts of developing Asia. In contrast, renewable energy sources (including hydropower) comprised only about 12% of the total energy mix in 2023.

Although fossil fuels' percentage share of the global energy mix has declined over recent years, their absolute consumption level is not falling. **In markets with surging energy demand, including Southeast Asia, reliance on fossil fuels remains deeply entrenched**.

Figure 2: Global energy supply by source, % of total, 2023



Source: World Energy Outlook 2024, IEA

Energy Sector Snapshots

The generation of **electricity** is undergoing a rapid shift toward low-carbon sources. Renewables such as wind, solar, and hydropower are steadily increasing their share in the electricity mix. Despite these gains, fossil fuels, especially natural gas and coal, continue to play a critical role in many regions in the Far East. Most significantly, coal will produce most of the electricity in China and India over the next two decades. Nuclear power remains a stable, low-carbon option in various countries.

The **transportation** sector remains heavily dependent on petroleum-based fuels such as gasoline and diesel. However, the

market is witnessing gradual diversification: electric vehicles (EVs) are gaining ground in both personal and commercial segments, while alternative fuels (including biofuels and emerging hydrogen technologies) are slowly beginning to expand their presence. EV's accounted for 18% of global new car sales in 2023, but only 3.2% of the total car fleet.[2]

Residential and commercial heating mainly relies on natural gas, oil, and electricity, especially in developed countries. In rural areas of developing nations, biofuels and waste (e.g., firewood, charcoal, and crop residues) remain primary heating and cooking fuels due to limited access to modern energy.

Industrial processes remain energy-intensive. The sector relies significantly on fossil fuels to provide both the process of heat and power, especially oil, natural gas and coal. While investments in energy efficiency and cleaner fuels are increasing, the absolute consumption of fossil fuels in industry continues to grow, especially in rapidly expanding markets like India, China, and Indonesia. For instance, almost all of the new steel blast furnaces built in China and India in 2024 were coal-based blast furnaces rather than the coal-free electric arc furnaces widely used in Europe.

Global Energy Megatrends

Various megatrends will shape the global energy landscape over the coming decades:

The Decarbonization Imperative: Decarbonization will remain a central global policy objective through 2050. Governments are expanding renewable energy adoption, electrifying transport, and transitioning industrial fuels to lower-carbon alternatives.

However, a persistent gap remains between ambitious targets and the concrete policies and investments needed for substantial renewable capacity growth. While electricity generation will take steps to transition to low-carbon sources in most countries, those with limited electric distribution infrastructure will struggle to

[2] Global EV Outlook, IEA, April 2024

reduce reliance on fossil fuels in the harder-to-abate transport, industry, and residential sectors.

The Energy Security & Affordability Dilemma: Geopolitical tensions—such as the Russia-Ukraine conflict and instability in the Middle East—have highlighted vulnerabilities in global energy supplies. In response, countries are prioritizing energy independence and boosting domestic production. At the same time, rising consumer concerns over inflation and energy costs are driving policy reforms to balance security with affordability.

The Energy Demand Surge: Population growth and rising incomes will drive a massive increase in energy demand over the coming years. This will mainly be **driven by urbanization, industrialization, the rise of artificial intelligence as a consumer of energy and expanding vehicle fleets in developing economies.** ExxonMobil projects a 15% increase in total energy use worldwide by 2050, primarily driven by economic expansion in developing nations. In contrast, energy use in developed economies is expected to decline by over 10% due to efficiency gains.[3]

Technological Breakthroughs Reshaping Energy: Rapid advancements in low-carbon technologies are reshaping the energy sector. The growing adoption of carbon capture and storage (CCS), hydrogen, biofuels, renewables, small modular reactors (SMRs), and advanced energy storage is improving efficiency and supporting decarbonization. While solar, wind, and battery costs have fallen, technologies like CCS, hydrogen, and SMRs remain expensive and require further scaling. These innovations are crucial for reducing emissions and enhancing energy system resilience.

[3] ExxonMobil Global Outlook: Our View To 2050, August 2024

Principles Of The Energy Sector In 2050

The impact of these global energy megatrends gives rise to five key principles that will define the future energy landscape.

1. Oil & Gas Will Remain Essential

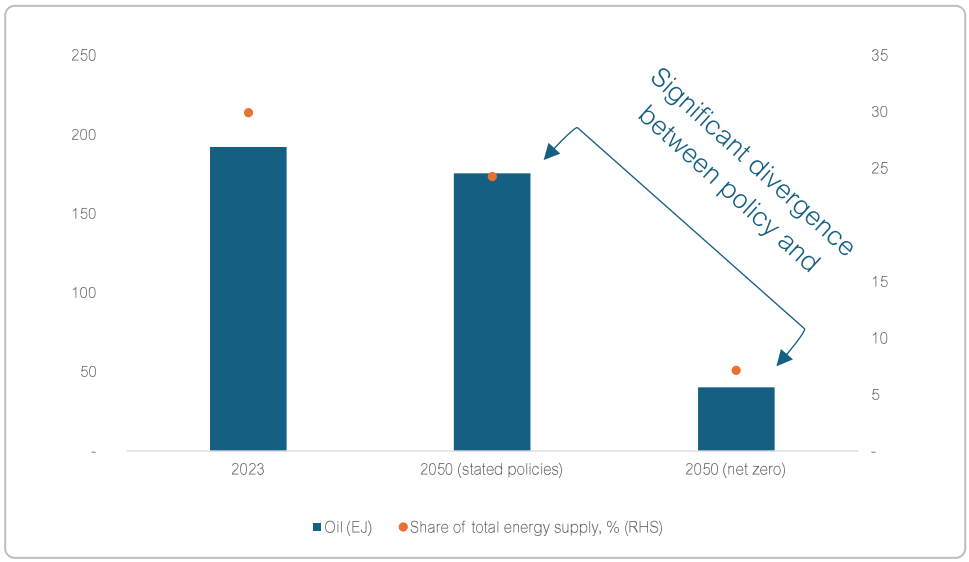
Despite the expansion of low-carbon alternatives, oil and gas will remain fundamental to the global energy mix for decades. Natural gas will be a bridge fuel in electricity generation until large-scale energy storage is viable, while oil will remain indispensable for industry, petrochemicals, shipping, trucking, and aviation. Even though EV fleets' steady expansion will slow fuel demand growth, oil consumption will be boosted by sustained growth in plastics production, residential energy use, and air travel. Demand for jet fuel and liquefied petroleum gas (LPG) are expected to rise, offsetting declines in gasoline and diesel.

The persistence of oil demand is partly explained by the gap between net zero ambitions and the policies that governments actually implement in major oil-consuming regions. To reflect this, disconnect, the International Energy Agency (IEA) publishes a "Stated Policies Scenario" (STEPS), which accounts for officially announced national decarbonization measures. This can be contrasted with IEA's "Net Zero by 2050" scenario. **The chart on the next page highlights the significant divergence between the two, highlighting oil's enduring role in the global economy**.

IEA forecasts that under the country-level energy policies announced to date (STEPS), global oil demand will only start to fall below 2023 levels after 2035. The decline will be slow – IEA expects oil demand to be only 6.1% below 2023 levels by 2050. These forecasts are echoed by ExxonMobil, which projects oil demand will plateau beyond 2030 but remain close to 2023 levels out to 2050, reinforcing oil's long-term role in the energy system.[4] Without disruptive technological breakthroughs, oil will continue to shape global energy markets well into the future.

[4] ExxonMobil Global Outlook: Our View To 2050, ExxonMobil, August 2024

Figure 3: Energy supply from oil under different scenarios



Source: World Energy Outlook 2024, IEA

2. The Easy Wins for Decarbonization Are Behind Us

While early decarbonization in the power sector has delivered strong results, sectors like commercial transport, aviation, cement, and steel are inherently more challenging to decarbonize and will remain net emitters even in a Net Zero 2050 scenario.[5] ExxonMobil projects that commercial transport and industry alone will account for nearly half of global emissions by 2050, highlighting the need for breakthrough technologies such as hydrogen, clean fuels, and CCS.

Take the aviation sector, for example. It currently has a low technology readiness level for zero or near-zero emissions solutions, with over 90% of future emissions reductions dependent on technologies still in the prototype or demonstration phase.[6]

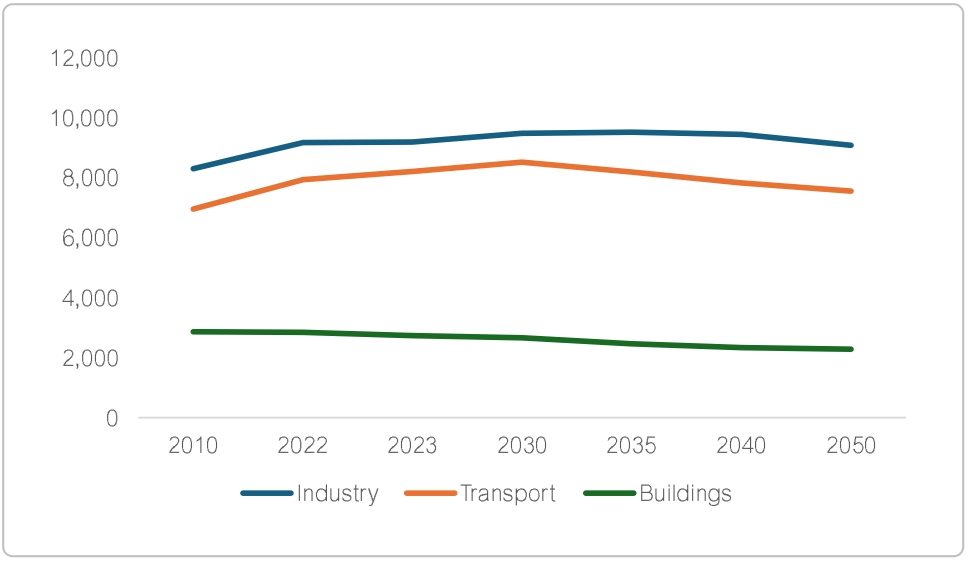
Given these trends, IEA expects greenhouse gas (GHG) emissions from transport and industry to remain relatively stable under the STEPS scenario. As illustrated in the chart on the next page,

[5] Decarbonizing Aviation in the IEA's Net Zero Emissions by 2050 Scenario, IEA, August 2022

[6] ETP Clean Energy Technology Guide, IEA, April 2025

emissions from industry would remain steady until 2050, while emissions from transport would only fall at an annual rate of 0.3%.[7]

Figure 4: CO_2 emissions by sector, Mt CO_2



Source: World Energy Outlook 2024, IEA

3. Renewable Energy Will Outperform But Fall Short of Targets

Renewable energy will continue to expand rapidly over the next several decades, underpinned by supportive policies and favorable economics. IEA's Renewables 2024 report finds that the world is set to add more than 5,500 GW of new renewable energy capacity between 2024 and 2030, almost three times the increase between 2017 and 2023. Solar photovoltaics (PV) alone will account for 80% of this growth, cementing its position as the dominant renewable technology.[8] While the electricity sector will lead to a general shift to renewables, adoption of transport and heating will remain limited.

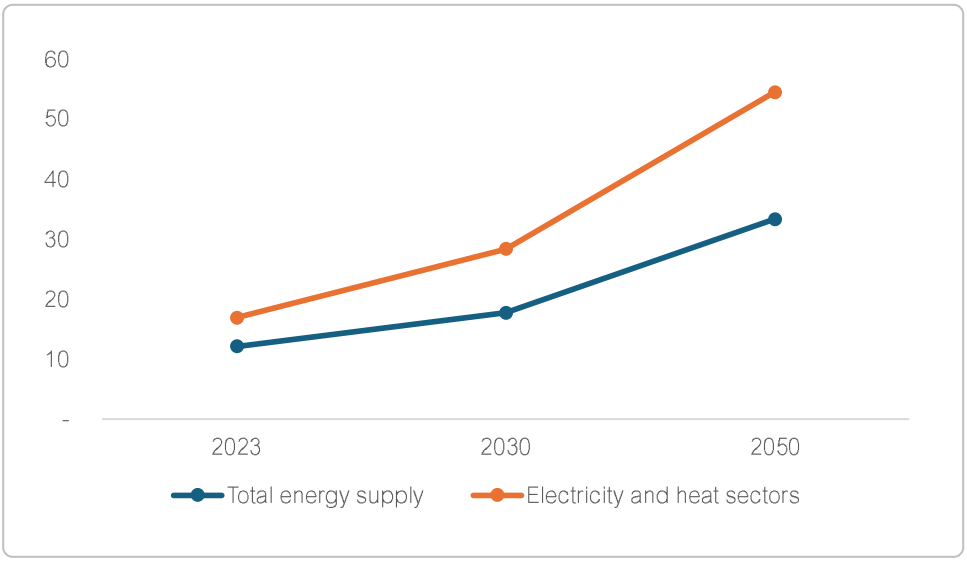
Despite this strong growth trajectory and outperformance against conventional energy sources, the projected expansion will fall short of the UN COP28 climate summit's goal of tripling global renewable

[7] World Energy Outlook 2024, IEA, October 2024

[8] Renewables 2024, IEA, October 2024

energy capacity by 2030.[9] Several structural bottlenecks will constrain the industry's growth, including grid congestion, supply chain bottlenecks, inconsistent policy environments, and insufficient energy storage capacity.

Figure 5: Renewables as % of total energy supply, % of electricity & heat



Note: Forecasts are for the 'Stated Policies' scenario (STEPS). Source: World Energy Outlook 2024, IEA

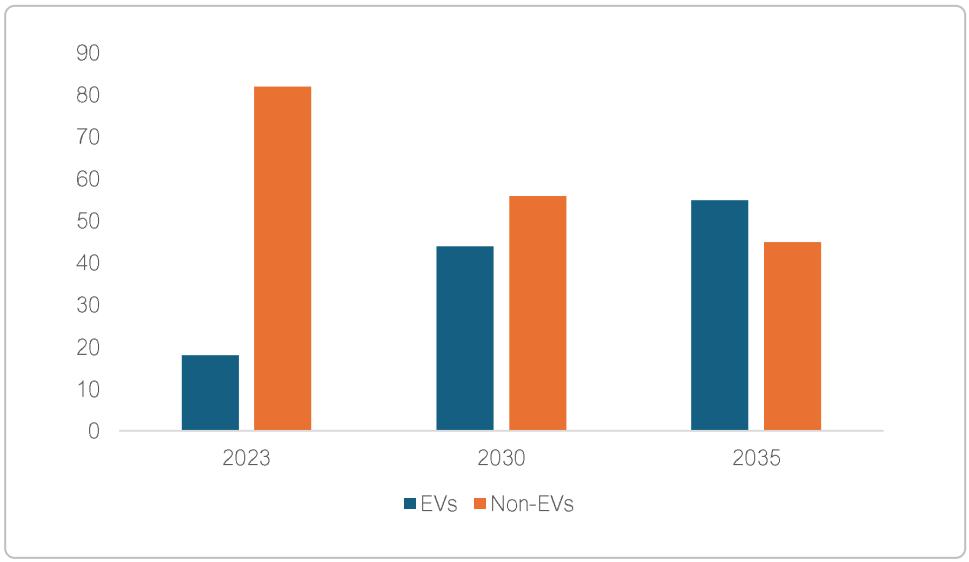
4. Electrifying Transport Will Be Key

Electrification will play a central role in the future energy landscape. ExxonMobil forecasts that electricity use will increase by 80% by 2050, primarily driven by the electrification of transport.[10] Electrification in other sectors, such as heating and industry, remains relatively limited, with progress constrained by infrastructure challenges, high costs, and technical feasibility.

[9] Renewable energy to fall short of UN goal to triple by 2030, IEA says, Reuters, October 2024

[10] ExxonMobil Global Outlook: Our View To 2050, ExxonMobil, August 2024

Figure 6: New car sales - under the stated policies (STEPS) scenarios



Source: Global EV Outlook, 2024, IEA

Road transport fuels account for 45% of global oil demand, but their share is projected to decline to just under 40% by 2040.[11] Unlike in the past, where rising mobility meant increased petroleum consumption, the growing availability and adoption of EVs and improving fuel efficiency could decouple road transport expansion from oil demand growth for the first time.

China is leading this transition, as gasoline demand peaked at around 3.8 million barrels per day in 2021, fell to 3.7 million in 2023, and is expected to decline to 2.3 million by 2040. Similar trends are expected in the EU and US. However, transitioning away from internal combustion engine (ICE) vehicles will be slower in these regions. The global car fleet is expected to grow by 550 million vehicles, reaching around 2 billion by 2040. Even with rising EV sales, electric and plug-in hybrid vehicles (PHEVs) are forecast to make up just 38% of the total fleet by 2040.[12] **This underscores**

[11] Long-term oil demand outlook, Vitol, February 2025

[12] Long-term oil demand outlook, Vitol, February 2025

the slow pace of fleet turnover and the enduring presence of petroleum-fueled vehicles in the global transport mix.

5. Coal's Decline Continues

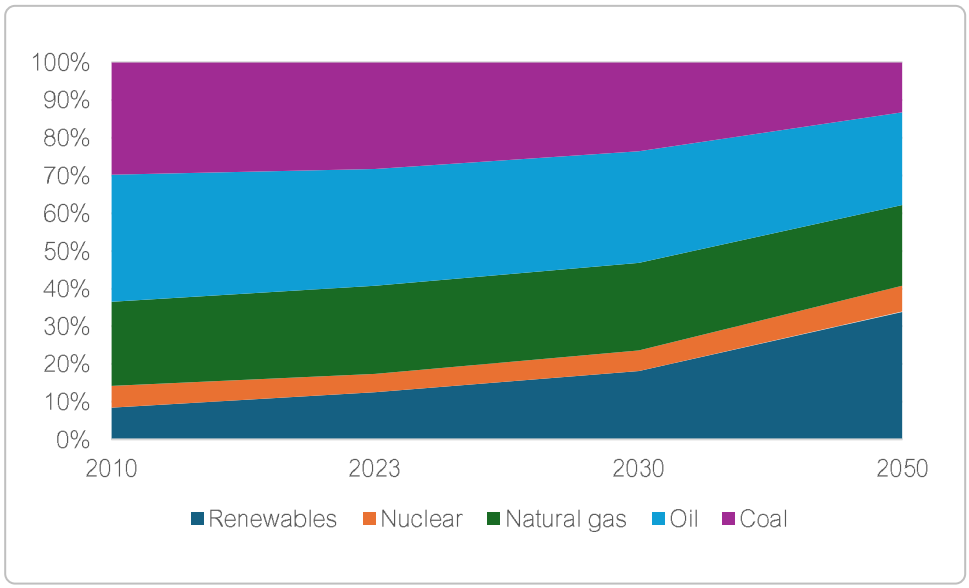
Coal consumption will decline as structural shifts in the energy sector drive a transition toward lower-carbon alternatives. The most significant reductions are occurring in the electricity sector, where coal is increasingly being displaced by renewables and natural gas, with the latter emitting up to 60% less carbon in electricity generation. Policy measures aimed at reducing emissions, coupled with the increasing competitiveness of alternative energy sources, are making coal less economically viable in many markets.

China remains by far the world's largest coal consumer, but its long-term climate commitments and investment in alternative energy sources signal a gradual shift away from coal reliance. Across Asia, coal remains a key part of the energy mix, but the growing adoption of natural gas, nuclear, and renewables is beginning to erode its dominance.

Investment in new coal infrastructure is also dwindling, with governments, banks, and mining companies showing little interest in financing new projects. Policies encouraging the retirement of aging and inefficient coal plants are accelerating the shift, while regulatory barriers limit new coal developments.

Beyond the power sector, coal faces additional pressures in industrial applications. The rise of 'green steel' technologies, such as hydrogen-based direct reduced iron (DRI) production, threatens coking coal demand, presenting a long-term challenge to its use in steelmaking.

Figure 7: Energy sources as % of total energy supply



Note: Forecasts are for the 'Stated Policies' scenario (STEPS).
Source: Global EV Outlook, 2024, IEA

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03 Indochina's Energy Sector

Turning to the regional level, we now focus on Indochina, which comprises Thailand, Cambodia, Lao PDR, Vietnam (and Myanmar, although not considered by this research). As part of the dynamic Association of Southeast Asian Nations (ASEAN) economic bloc, the four countries considered in this report will be at the forefront of many global trends discussed above. **Energy production, consumption, and trade will expand robustly, with oil and gas at the forefront of this growth.**

Regional Summary

Energy demand in Indochina will grow robustly over the coming decade, aligning with trends in the wider ASEAN region. Although renewable energy production is increasing from low levels, oil products and coal will remain critical to the region's energy mix. While currently a small part of the energy mix, natural gas will become more crucial.

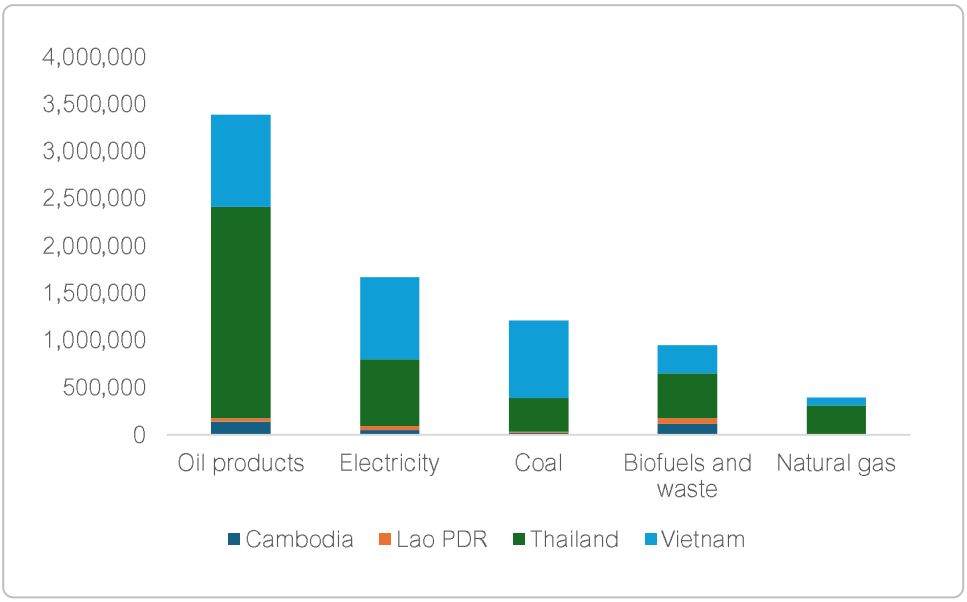
Energy demand exceeds production in Indochina, and the resulting deficit will widen in the coming years, **underpinned by strong economic, population, and industrial growth**. **Cambodia, Lao PDR, and Vietnam will all import significantly more refined oil fuel over the coming decade, while Cambodia, Thailand, and Vietnam will import more natural gas, including LNG.** This will create opportunities for regional energy exporters. Oil refineries will be well placed to capitalize on increasingly stringent vehicle fuel emissions standards, shifting demand towards cleaner fuels.

Energy Mix

Oil is the primary energy source in the Indochina region, followed by coal. Oil products account for 30-50% of final energy consumption in each country due to its almost total dominance in transport energy across the region. The transport sector accounts for around 90% of oil consumption in Lao PDR, 70% in Cambodia, 63% in Vietnam, and 47% in Thailand, highlighting the importance of gasoline and diesel.

Oil also plays a significant role in industry, particularly in the more industrialized economies of Thailand and Vietnam. For instance, industrial and non-energy uses, notably asphalt, engine lubricants, and raw materials for making plastics, account for 44.6% of oil demand in Thailand and 16.4% in Vietnam.[13]

Figure 8: Indochina - Total final energy consumption by source, TJ, 2022



Source: World Energy Outlook 2024, IEA

Coal is heavily used for power generation in Vietnam and, to a lesser extent, in Cambodia, Lao PDR, and Thailand. It has significant industrial applications, such as manufacturing metals and chemicals, in Thailand and Vietnam, but industries in Cambodia and Lao PDR, because of the lack of heavy industry there, barely use it.

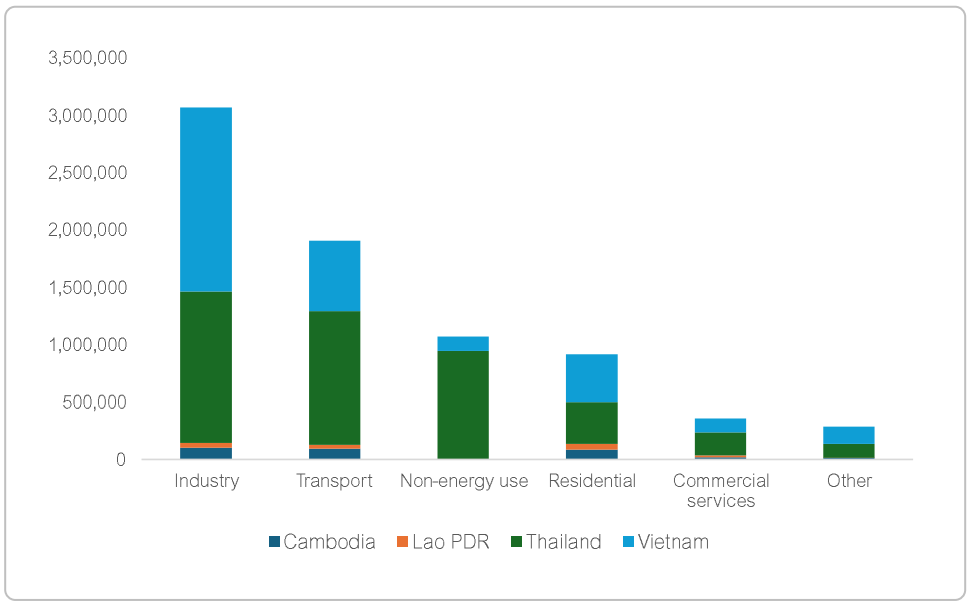
Traditional biofuels and waste (biomass) are still primary energy sources for heating and cooking in Indochina, mainly due to households' limited access to modern fuels in Cambodia and Lao PDR. Wood, charcoal, and agricultural waste account for over a third of these countries' total final energy consumption (See

[13] Energy system of Asia Pacific, IEA, April 2025

Baron Point Energy Group, Unlocking Southeast Asia's Biomass Potential: Cambodia's Role in a Growing Regional Opportunity, Institutional Markets Report for a deeper dive into BioMass). However, this share is declining as access to electricity and cleaner fuels such as LPG rises.

Natural gas is a small but fast-growing energy source in Indochina. Most of the natural gas used in the region is consumed by power generators and industrial firms in Thailand, with more modest amounts used in Vietnam for the same purposes. Both countries seek to use more natural gas in the future to meet growing energy demand. Natural gas demand in Cambodia and Lao PDR is minimal, but Cambodia, in a neighboring LNG power station to Baron Point portfolio companies, is beginning to integrate LNG into baseload power generation.

Figure 9: Indochina - Total final energy consumption by sector, TJ, 2022



Source: World Energy Outlook 2024, IEA

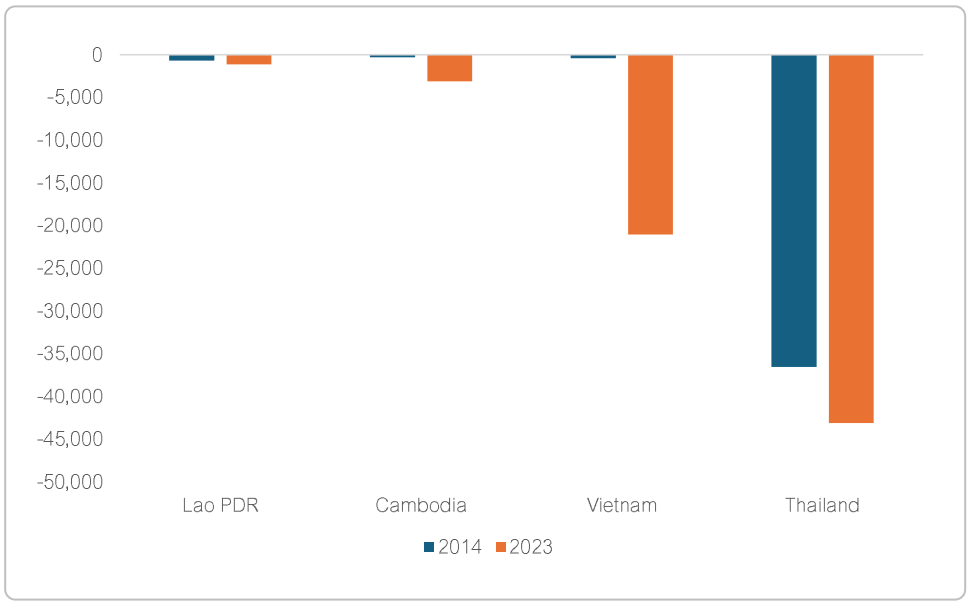
In terms of low-carbon energy, non-hydropower renewable energy production is still modest in all four countries. However, hydropower is a critical source of electricity in Cambodia, Lao PDR, and Vietnam. Still, its contribution to final energy consumption is chiefly via electricity, access to which is far from universal. The majority of

Lao PDR's electricity is generated from hydropower, but electricity only accounts for a quarter of Lao PDR's final energy consumption. Many consumers, especially in rural areas, still depend on firewood and oil fuels for their energy needs. Lao PDR produces surplus hydropower electricity and exports it to the region, including to Cambodia and Vietnam.

Self-Sufficiency

All four of the countries in Indochina studied in this report are net energy importers of oil and gas, with varying degrees of self-sufficiency. Historically, some (like Vietnam) were net energy exporters (coal and crude oil), but rapid demand growth has reversed that. All four countries have experienced widening energy import needs over the past decade, mainly driven by rising imports of refined fuels and, to a lesser extent, natural gas.

Figure 10: Indochina – Net energy exports, US$ million

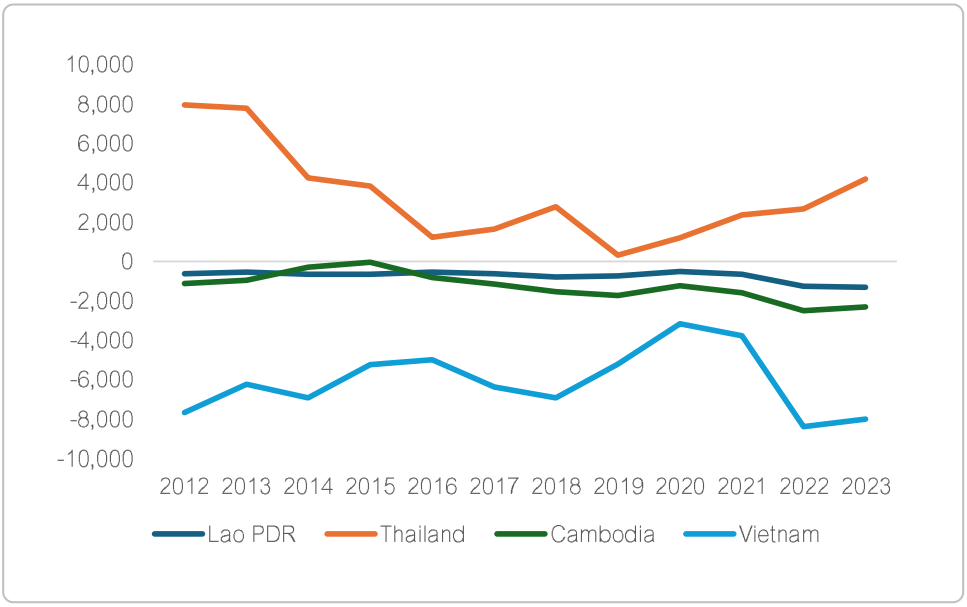


Note: Energy includes crude oil, refined fuels, natural gas, and coal.
Source: International Trade Centre

Surging Refined Fuel Imports: In Vietnam, refined fuel demand has exceeded domestic supply over the past decade, driving a steady increase in import requirements. In contrast, Cambodia and Lao PDR have lacked meaningful local refinery capacity. That is

now changing in Cambodia, where **Baron Point's investment in CNSR-Cambodian National Refinery Systems Co., Ltd. backs the country's first modern refinery.** Thailand is the exception in the region, with a well-developed refining sector that more than meets domestic fuel demand. However, limited domestic crude oil production means Thailand must increasingly rely on imports to supply its refineries, driving up overall oil import volumes.

Figure 11: Indochina - Refined oil fuels, net exports, US$ million



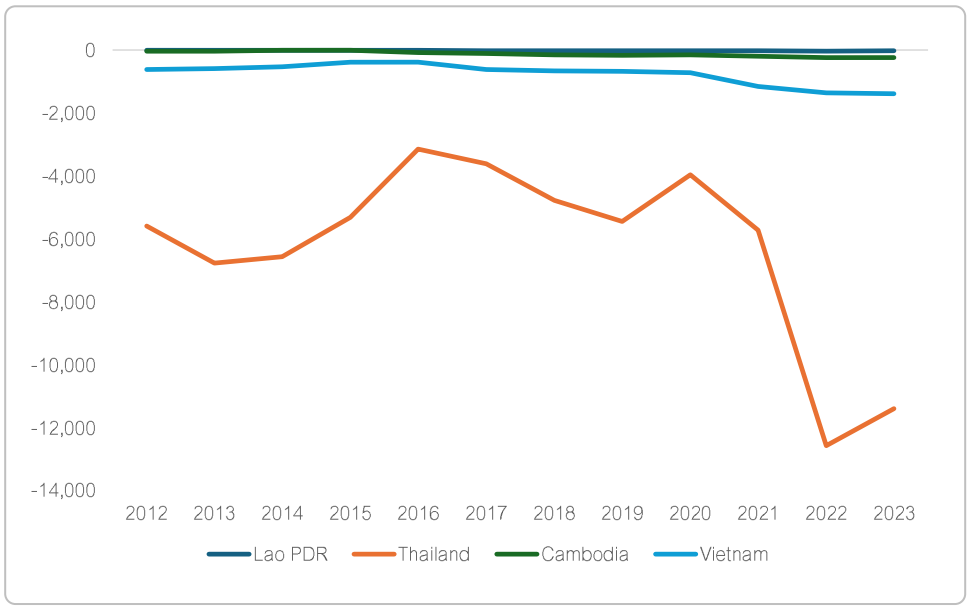
Source: International Trade Centre

Natural Gas Imports Rising from Low Levels: As natural gas demand has risen in the more industrialized countries in Indochina (Thailand and Vietnam), imports have increased significantly. This is due mainly to Thailand, where net natural gas imports more than doubled between 2019 and 2023. Historically, domestic gas (from the Gulf of Thailand and onshore fields) met demand, with only minor imports via pipeline from Myanmar and LNG. As indigenous gas fields mature and decline, Thailand's reliance on imported LNG is expected to rise.[14] Natural gas in Vietnam is produced offshore

[14] Thailand's gas production key to future LNG imports, Argus Media, October 2024

for power plants and industry. Thus far, Vietnam has met its domestic gas needs, but declining output will necessitate LNG imports. Vietnam's Eighth National Power Development Plan envisions up to 14–15 GW of LNG power capacity by 2030, necessitating 5–8 million tons of LNG imports annually, making it a significant regional buyer.[15] Cambodia is exploring importing LNG in the coming years **as demand grows and domestic gas production remains negligible. The most notable project is the 900 MW LNG-fired power plant by Cambodia's Royal Group, a strategic partner of Baron Point in Koh Kong province, aimed to come online around 2027–2028.**[16]

Figure 12: Indochina – Natural gas, net exports, US$ million



Source: International Trade Centre

[15] Vietnam's Eighth National Power Development Plan (PDP VIII): Insights and key considerations for investors, PwC, August 2023

[16] Cambodia's Royal Group seeks LNG suppliers for new 900 MW gas-fired power plant, S&P Global, October 2024

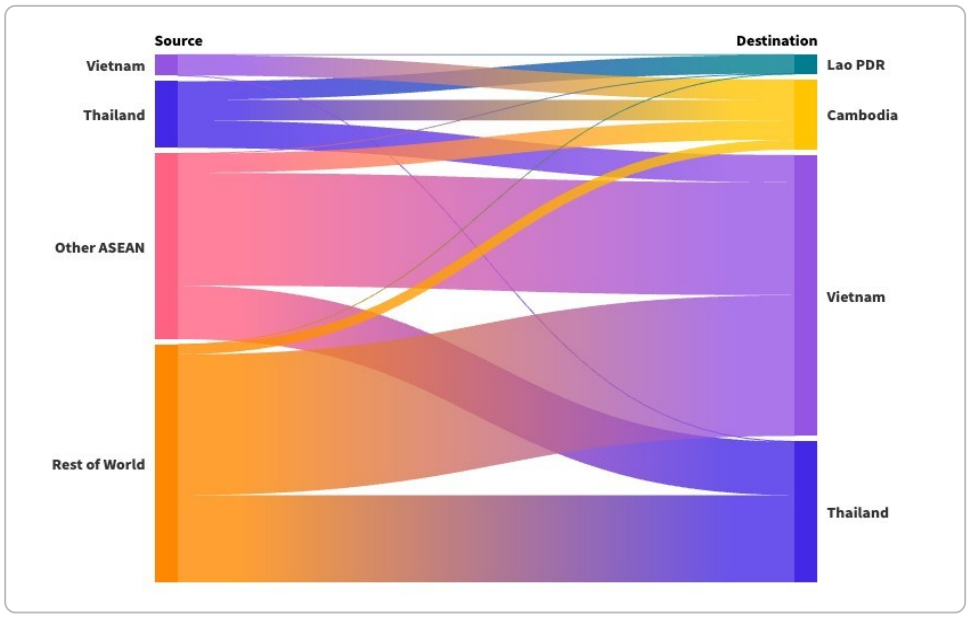
Indochina Energy Trade Linkages

Significant cross-border energy flows exist because the Indochina region is a net energy importer. From a commodity perspective, this is mainly due to large oil refining sectors in Thailand and Vietnam selling across Indochina. From an electricity perspective, Lao PDR is working to position itself as the "battery of Southeast Asia" and is currently a net electricity exporter due to surplus hydropower generation.

Thailand is home to the region's largest refining capacity, producing more fuel than it consumes and acting as a hub for petroleum product distribution. Although Vietnam runs a net fuel production deficit, it exports significant fuel volumes to the Indochina region and further afield. Cambodia and Lao PDR are entirely dependent on imported refined fuels.

As the diagram below illustrates, almost all Lao PDR's and most of Cambodia's refined fuel imports come from Thailand or Vietnam. The rest of Cambodia's refined fuel imports come from other ASEAN suppliers, such as Singapore and Malaysia. While Thailand and Vietnam import some fuel from each other, ASEAN suppliers Singapore and Malaysia account for a larger share. Around half of refined fuel imports into Thailand and Vietnam come from Asia. This strong preference for refined fuels produced in Asia, especially in ASEAN, illustrates a comparative advantage for regional refineries, including Baron Point's CNRS-Cambodian National Refinery Systems Co., Ltd.

Figure 13: Indochina – Sources of refined fuel imports, 2023



Source: International Trade Centre

Energy Demand Outlook

Energy demand in Indochina is projected to grow robustly in the coming decade, driven by economic growth, urbanization, and rising consumption in transport and industry. Southeast Asia is a global hotspot for energy demand growth – IEA projects regional energy demand to rise by around 3% annually to 2035, second only to India in growth rate. Indochinese countries are a significant part of this trend, with Vietnam and Cambodia having some of the fastest growth rates historically. For instance, the government of Vietnam expects power consumption to grow 10-12% annually through 2030, one of the fastest power consumption growth rates in Asia.[17] Key aspects of the outlook include:

Strong Economic & Population Growth: **The region's economies are expanding rapidly with growing populations and a burgeoning middle class. Since 2010, Southeast Asia has accounted for 11% of global energy demand growth, and this share will exceed 25%**

[17] Vietnam Country Commercial Guide, US Department of Commerce, January 2024

by 2035. In Indochina, GDP growth rates are high, and urban populations are swelling. The table below shows that the IMF expects real GDP growth in the region to outpace the global average in the coming years — particularly in Cambodia and Vietnam.

Figure 14: Drivers of primary energy demand, 2025-2029

Driver	Metric	Cambodia	Lao PDR	Thailand	Vietnam	World
Real GDP Growth	Average annual % change	6.0	2.9	2.7	5.8	2.6
Population	% change	4.5	5.1	-0.4	2.2	3.3
Urban Population	% change	15.6	14.4	6.1	12.4	8.2
Electric Vehicle Sales	% of total vehicle sales (2029)	1.0	1.0	25.0	15.0	60.0

Source: IEA, IMF, UN, North Shore Analysis, National governments

Transportation Boom: The transport sector is the fastest-growing energy consumer in Indochina, and it will drive up oil demand over the coming decade. **IEA's Southeast Asia outlook forecasts regional oil demand will increase by a fifth by 2030, maintaining a pace of growth similar to the previous decade. By 2050, IEA forecasts regional oil demand will be 40% higher than 2023 levels despite the implementation of stated decarbonization policies of national governments. Expanding vehicle fleets will be a powerful driver of oil demand growth in Indochina, as transport accounts for around 90% of oil consumption in Lao PDR, 70% in Cambodia, and 63% in Vietnam.**[18]

Industrialization & Commercial Growth: **Rapid industrial development will be another key driver of energy demand. IEA forecasts industrial energy use in Southeast Asia to increase by a quarter between 2023 and two-thirds by 2050. As factories expand and new industrial projects (steel mills, fertilizers, cement, etc.) come online, their energy consumption will grow.** Much of this demand will be for electricity, coal/gas (for heavy industry), and

[18] World Energy Outlook 2024, IEA, October 2024

oil fuels (diesel for machinery, etc.). Vietnam and Thailand are industrial hubs (electronics, textiles, petrochemicals, etc.), and Cambodia and Lao PDR are also industrializing (e.g. garment manufacturing in Cambodia and mining in Lao PDR). As the industrial sector accounts for more than half of the final energy consumption in Vietnam, further industrial expansion will be particularly favorable for energy demand in the country. Industry accounts for about one-third of final energy use in Thailand, and the government plans to use more gas-fired industrial power and petrochemicals.[19]

Stricter Emissions Standards: At the same time that energy use is expanding in Indochina, regional governments will tighten restrictions on fuel emissions to improve air quality. According to the World Health Organization, 85% of Southeast Asia's population was exposed to air pollution levels exceeding WHO guidelines in 2023, leading to an estimated 300,000 premature deaths annually from outdoor air pollution.[20] Indochina is very much part of this statistic, especially big cities like Bangkok, Hanoi, and Ho Chi Minh City. Thus, clean air policies have strong public health drivers and government buy-ins. **As of January 1, 2024, Thailand and Cambodia implemented the Euro 5 standard for diesel fuel, reducing the maximum sulfur content to one-fifth of the previous standard. Thailand plans to go further to Euro 6 standards in the coming years.** Similarly, Vietnam adopted Euro 5 emission standards for new gasoline cars in 2022.[21] Cambodia and Lao PDR typically adopt Thailand/Vietnam fuel standards with a lag since they import fuels from those neighbors. **This means regional demand for cleaner fuels abiding by Euro 5 standards will increase strongly over the coming years**.

Decarbonization Policies: Decarbonization efforts are accelerating in Indochina, but the near-term effect will be to slow the growth of fossil fuel demand rather than cause an absolute

[19] World Energy Outlook 2024, IEA, October 2024

[20] Energy Security and Environmental Challenges Facing Southeast Asia, Environmental Energy Leader, November 2024

[21] Vietnam Light – Duty: Emissions, TransportPolicy.net, April 2025

decline. All four of the countries in Indochina we studied in this report have established net-zero emissions targets. Cambodia, Lao PDR, and Vietnam aim to achieve this by 2050, while Thailand targets 2065. At face value, net-zero targets could bring a plateau or decline in oil product demand if EV adoption and policies continue to strengthen. However, the infrastructure, funding, and political challenges of following such aggressive decarbonization mean fossil fuel demand growth will remain robust well into the 2030s. In its stated policies scenario, IEA forecasts fossil fuel energy consumption in Southeast Asia to be 7.9% lower than in 2023 by 2035 and 18.0% lower by 2045. However, 90% of this decline will be due to reduced coal use. Oil consumption is forecast to fall by only 8.7% by 2050, while natural gas demand will increase by 4.5%.[22]

[22] World Energy Outlook 2024, IEA, October 2024

Focus Box: Cambodia Energy Demand Outlook

With rapid economic expansion, industrial growth, and population increases, Cambodia's energy demand is set to rise significantly across all sectors. Both electricity and fuel consumption are expected to surge, including demand for LNG, gasoline, diesel, and LPG.

According to the Power Development Plan (PDP) 2021–2040, Cambodia's electricity demand is projected to almost triple from 24 TWh in 2025 to 66 TWh by 2040, reflecting an average annual growth rate of 9%.23 Meanwhile, LPG demand is expected to rise from 402,000 tons of oil equivalent (toe) in 2019 to 1.4 million toe by 2050, driven by increased household, commercial, and transport consumption.24 LPG will be critical to improving access to clean cooking fuels in Cambodia. Traditional biomass (wood, charcoal and agricultural waste) still accounted for 36% of final energy demand in 2022, mainly due to households' limited access to electricity and modern fuels.25

Cambodia's rapidly expanding vehicle fleet will underpin a robust uptrend in oil demand. Annual refined petroleum fuel demand increased at an annual rate of 8.2% between 2019 and 2023, despite a temporary slowdown caused by the Covid-19 pandemic.[26] Cambodia's real GDP growth is projected to average 6.0% annually between 2025 and 2029. If refined fuel demand grew at a similar pace, it would increase by more than a third by 2029.[27] This is probably a **conservative forecast, given that annual growth in fuel demand (8.1%) has outpaced real GDP growth** (5.3%) over the past decade.

[23] Cambodia Country Report, Department of Energy Development, July 2022

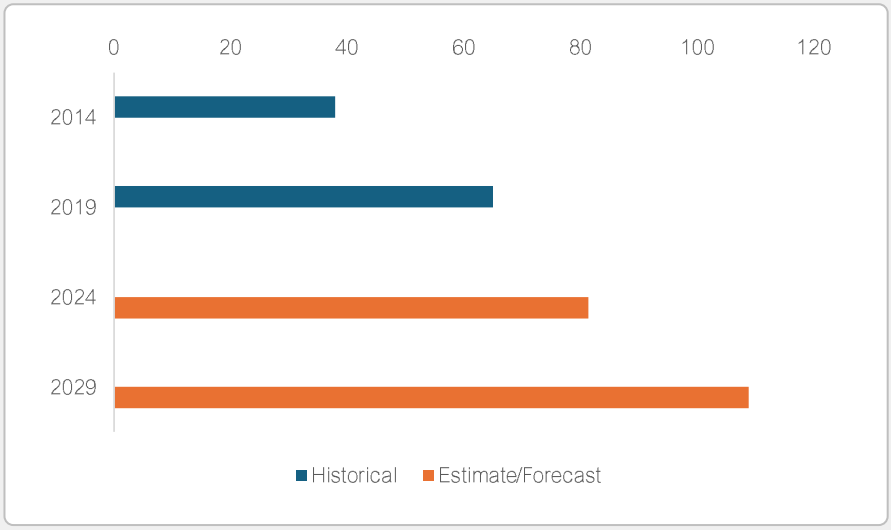
[24] LPG Supply Master Plan for Cambodia, ERIA Research Project Report, Cambodia Ministry of Mines and Energy, June 2024

[25] World Energy Outlook 2024, IEA, October 2024

[26] International Data Portal, US Energy Information Administration, April 2025

[27] World Economic Outlook October 2024, IMF, October 2024

Figure 15: Cambodia - Refined fuel consumption, million b/d



Note: *Figures after 2023 are modelled using IMF real GDP growth forecasts.*
Source: US Energy Information Administration, IMF, North Shore Analysis

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04 Cambodia's Energy Market

Overview & Outlook

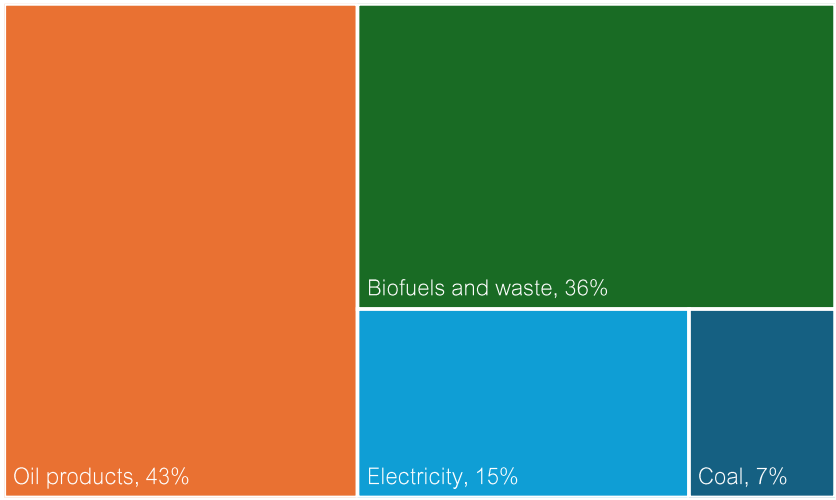
Cambodia's energy market will be shaped by its efforts to balance growing demand, decarbonization, and energy security over the next decade. While coal and hydropower dominate electricity generation, marking a shift from the once heavily used oil-fired generation, **most energy still comes from oil, and the country depends 100% on imported fuels for transport and industry.** The commissioning of Baron Point's CNRS-Cambodian National Refinery Systems Co., Ltd., its first clean fuel manufacturing infrastructure, will improve the security of supply for domestic energy and position the country as a potential new regional fuel exporter.

Current State of Play

Energy Mix

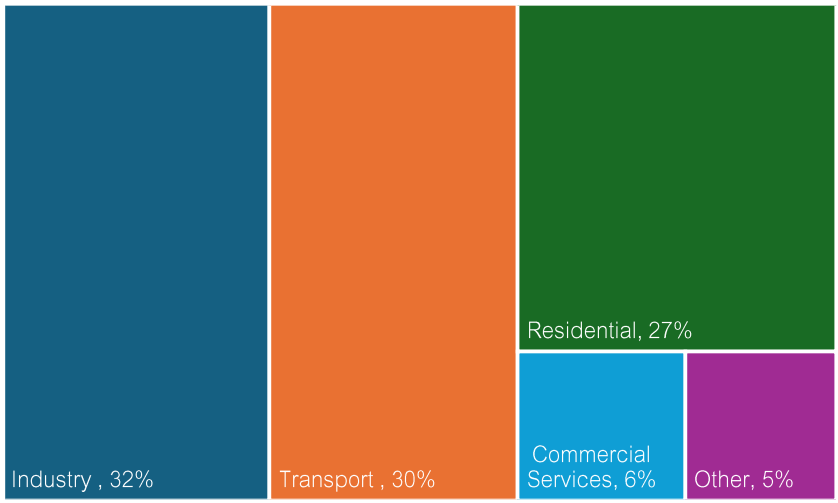
- The industrial sector leads final energy consumption in Cambodia (32% in 2022), followed by transport (30%) and residential use (27%).
- Cambodia's energy consumption is split primarily between oil (43%) and biomass (36%). The transport sector accounts for roughly 70% of Cambodia's oil consumption, highlighting the importance of gasoline and diesel. Traditional biomass (wood, charcoal) remains vital for cooking and rural energy, though its share is gradually declining.
- The electricity sector has transitioned away from oil-fired generation, with coal and hydropower now forming the backbone of the grid. However, due to limited access in rural areas, electricity's overall share of final consumption is still relatively small (15%).

Figure 16: Cambodia - Total final energy consumption by source, 2022



Source: International Energy Agency

Figure 17: Cambodia - Total final energy consumption by sector, 2022



Source: International Energy Agency

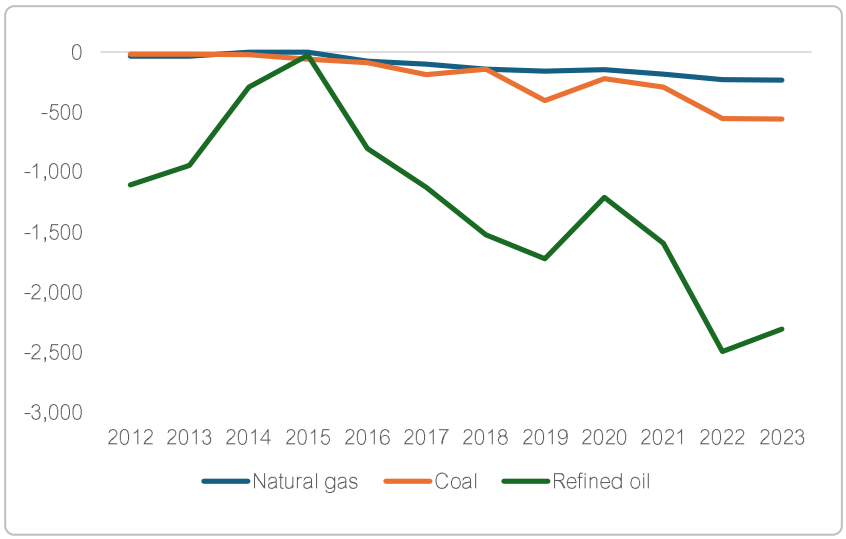
Energy Independence

Cambodia is almost entirely reliant on imports to satisfy domestic energy consumption requirements. Cambodia's small amount of energy production, mainly small-scale hydropower and extensive use of biomass is insufficient to meet rapidly growing energy demands from the residential, industrial, and transport sectors.

Cambodia lacks any domestic fossil fuel production, remaining 100% reliant on imports, until Baron Point's CNRS. Refined petroleum products are sourced mainly from Thailand, Vietnam, Singapore, and Malaysia, while Indonesian coal supplies the country's power plants. This reliance on imports exposes Cambodia to price volatility and contributes to Cambodia having some of the highest electricity tariffs in ASEAN.[28]

Domestic energy resources are limited. Cambodia holds an estimated 7 million tons of coal reserves, but no commercial-scale mining operations exist. The upstream oil and gas sector remains undeveloped, with no proven commercial gas reserves and only one failed offshore oil project—KrisEnergy's Block A, which collapsed in 2021.[29]

Figure 18: Cambodia – Net energy exports, US$ million



Source: International Trade Centre

Energy Market Trends

LNG In Focus Amid Decarbonisation Shift: Cambodia is pursuing carbon neutrality by 2050 and introduced a moratorium on

[28] Electricity in Cambodia: Quality and Price Issues, Energy Tracker Asia, March 2024

[29] What next for Cambodia's oil dream after KrisEnergy collapse?, NikkeiAsia, June 2021

new coal plants in 2024.[30] As part of this shift, a planned 700 MW coal project in Botum Sakor National Park was canceled. With coal being phased out, hydropower reliant on seasonal rainfall, and renewable energy having intermittent supply, gas is emerging as a critical alternative for stable baseload power. Royal Group, a strategic partner of Baron Point, is developing a 900 MW LNG-fired power plant in Koh Kong, Cambodia, following its groundbreaking ceremony in October 2024. The project comprises two 450 MW units, scheduled to begin operations in April and December 2027.[31]

Expanding Downstream Capabilities to Boost Energy Security: Cambodia is deepening regional energy partnerships to strengthen security of supply and market integration in electricity and fuels. With domestic fuel demand set to increase, the country is working to develop downstream hydrocarbon capacity to reduce its import dependence and costs – with **Baron Point's CNRS-Cambodian National Refinery Systems Co., Ltd. emerging as the flagship development as part of the current Indochina Industrial Investments SP3 Fund Platform initiative.** By leveraging its strategic location and developing infrastructure to support fuel imports, processing, storage, and distribution, Cambodia will be able to meet both domestic demand and serve as a regional fuel hub for the wider region.

All Eyes On Upstream: Progress in negotiations with Thailand over the Un-demarcated Oil & Gas Fields in the Gulf of Thailand (Un-demarcated Fields) could unlock a major opportunity for Cambodia's upstream oil and gas sector, paving the way for domestic fossil fuel production, where CNRS can process. Talks resumed in 2024, focusing on joint exploration and development of the 27,000-square-kilometers of Un-demarcated Fields in the Gulf of Thailand, which holds an estimated 10 trillion cubic feet of natural gas and 300 million barrels of crude oil.[32]

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[30] Cambodia reaffirms commitment to halt new coal-fired power projects, Khmer Times, October 2025

[31] Cambodia launches largest ever power-generation facility, Khmer Times, October 2024

[32] Politics, Energy, and Nationalism: Thailand and Cambodia's Overlapping Maritime Claims, The Diplomat, March 2024

05 Vietnam's Energy Market

Overview & Outlook

Vietnam's energy demand is expanding rapidly, driven by industrialization, urbanization, and strong economic growth. Since the mid-2010s, the country's energy trade balance has turned negative, raising concerns over energy security and growing import dependence. While Vietnam has offshore oil and gas reserves, rising demand has outpaced production, increasing reliance on imported crude oil, LNG, and refined fuel.

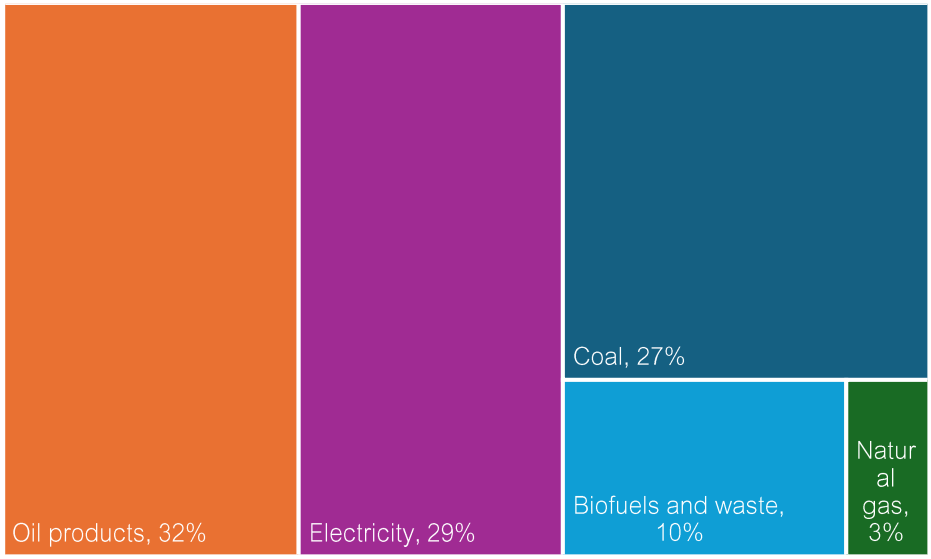
Vietnam is a regional leader in renewables, particularly solar and wind, but faces regulatory uncertainty and grid constraints. Coal will remain a key baseload power source in the near term, while oil will power transport despite the country's long-term decarbonization goals.

Current State Of Play

Energy Mix

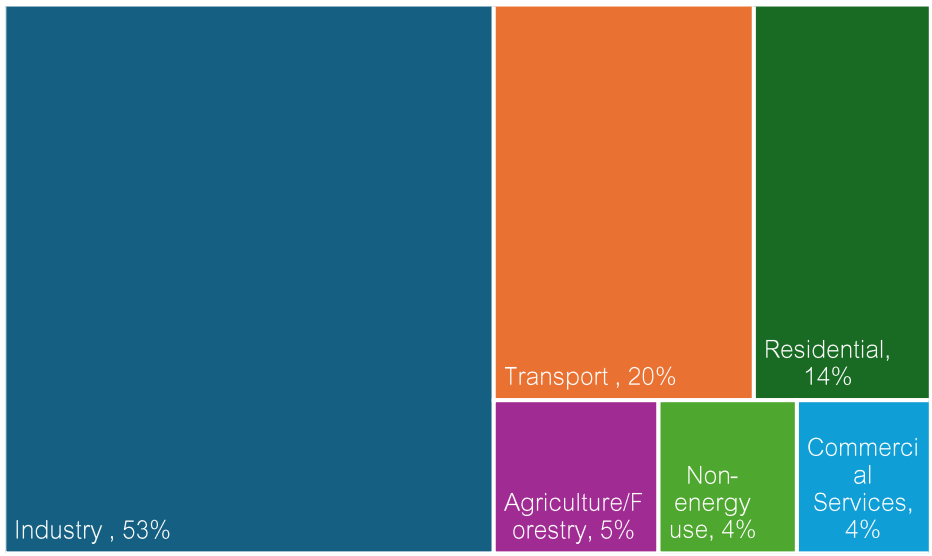
- Vietnam's energy consumption remains heavily dependent on fossil fuels, primarily oil and coal. The industrial sector leads in final energy consumption in Vietnam (53% in 2022), underscoring the country's strong manufacturing base and export-oriented economy.
- The transport sector follows, making up 20%, with petroleum products remaining the dominant fuel source. Residential energy use stood at 14%, and agriculture/forestry contributed 5%.
- Vietnam's electricity generation remains coal and hydro-reliant (around 44% and 34% of the total, respectively, in 2023), however, the country is expanding renewable energy and LNG to diversify its power mix.

Figure 19: Vietnam - Total final energy consumption by source, 2022



Source: International Energy Agency

Figure 20: Vietnam - Total final energy consumption by sector, 2022



Source: International Energy Agency

Energy Independence

Although Vietnam produced an energy surplus in the mid-2010s, surging energy demand underpinned by economic growth and industrialization has created a growing dependence on imported energy. Vietnam relies on refined fuel imports, primarily from South

Korea, Singapore, Malaysia, and China, to meet rising domestic demand, particularly for diesel and gasoline. The country's two major refineries—Dung Quat and Nghi Son—supply around 70% of domestic fuel demand. The Long Son Petrochemicals Complex, which became operational in October 2024, has expanded Vietnam's refining capacity by 200,000 b/d, bringing the total crude processing capacity to 548,000 b/d.[33] As the country's first integrated petrochemical complex, its primary focus is petrochemicals rather than transport fuels.

Vietnam holds significant offshore oil and gas reserves, primarily in the Nam Con Son and Cuu Long basins. However, production is declining due to maturing fields, limited new exploration, and regulatory hurdles that deter foreign investment. The government has introduced reforms to the 2008 Petroleum Law to improve exploration incentives. The Blue Whale Gas Project, Vietnam's most extensive planned offshore gas development led by ExxonMobil and PetroVietnam (PVN), has faced repeated delays in investment approvals.[34]

Vietnam's coal sector is integral to its energy landscape, with domestic production primarily concentrated in the Quảng Ninh province. In 2023, the country produced approximately 48.2 million tons of coal.[35] **Despite substantial production, domestic output has struggled to meet the escalating demand driven by rapid industrialization and power generation needs.** Consequently, thermal coal imports have surged, reaching 48.2 million metric tons in 2024, a 31% increase from the previous year.[36] Most of these imports originate from Indonesia and Australia.

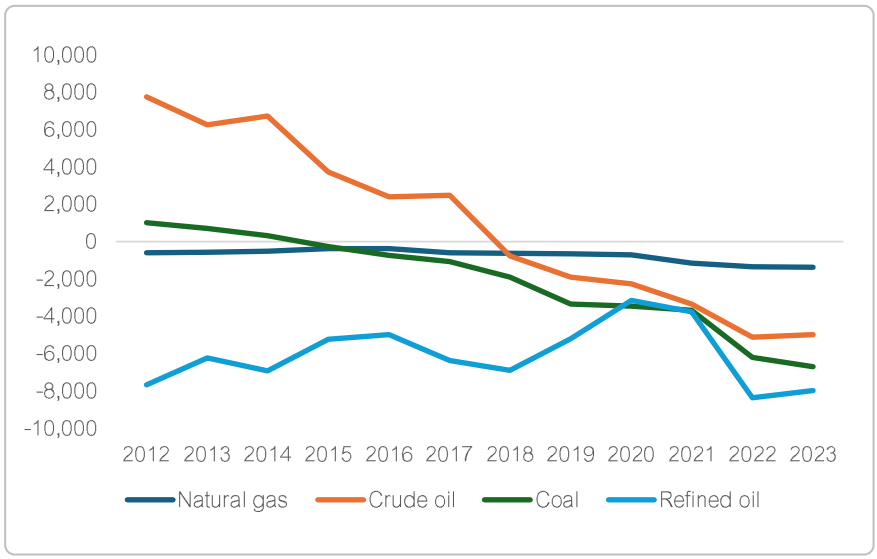
[33] Long Son Petrochemicals complex put into commercial operation, Vietnam Investment Review, October 2024

[34] Vietnam sees no gas from Exxon, Gazprom projects for years, Reuters, October 2023

[35] Vietnam Coal Production, CEIC, April 2025

[36] Vietnam's industrial boom drives global coal imports to new highs, Reuters, February 2025

Figure 21: Vietnam – Net energy exports, US$ million



Source: International Trade Centre

Energy Market Trends

Coal Phase-Out Strategy - Balancing Stability & Transition: Coal remains crucial to Vietnam's electricity mix, providing baseload power amid hydropower variability, grid constraints on renewables, and limited gas-fired capacity. However, the government unveiled a coal phase-out strategy in February 2025 with a target to retire outdated plants by 2050.[37] Key measures include:

- Carbon capture integration in existing coal plants
- Co-firing with biomass and ammonia to lower emissions
- Pilot projects in Hai Duong and Ninh Binh (540 MW capacity)
- Mandatory decommissioning of inefficient plants by 2030.

As part of its net-zero 2050 roadmap, Vietnam is increasing renewable energy's share to 37.7% by 2030 and reviving plans to

[37] Vietnam unveils coal phase-out plan, intends to stop 2 coal-power plants by 2030, Reccessary, February 2025

have the Ninh Thuan nuclear project operational by 2030 to support long-term energy security.[38]

Biofuels Push Faces Structural Hurdles: Vietnam's transport sector relies heavily on gasoline and diesel despite government efforts to expand biofuel adoption. The rollout of E5 RON92 gasoline (a 5% ethanol blend) has been slow since its 2018 introduction, hindered by low price incentives, consumer resistance, and supply chain constraints. While the government previously considered introducing an ethanol mandate for RON95 gasoline, concerns over engine compatibility and ethanol availability—particularly for Vietnam's motorcycle-dominated vehicle fleet—have stalled progress. In December 2024, the Ministry of Industry and Trade (MOIT) issued Directive 16, reinforcing measures to promote biofuel use.39 However, without stronger policy incentives and infrastructure improvements, biofuels will continue struggling against entrenched gasoline and diesel demand, limiting Vietnam's transition from conventional fuels.

LNG Rising in Prominence: The share of natural gas in Vietnam's energy mix is expected to increase, gradually reducing coal's dominance, particularly in power generation. This shift is driven by declining domestic gas reserves, rising electricity demand, and coal phase-out plans, leading to greater reliance on LNG imports. Vietnam's Power Development Plan VIII (PDP8), approved in 2023, prioritizes large-scale LNG-to-power projects to support this transition. In November 2024, Vietnam Electricity (EVN) and Vietnam Oil and Gas Group signed PPAs for the Nhon Trach 3 and 4 power plants, securing their commercial operation.[40] The agreements set a precedent for future LNG-based power generation under PDP8. LNG infrastructure is expanding rapidly to facilitate this shift. The Thị Vải LNG terminal began trial operations in 2023, with multiple additional terminals under development to ensure sufficient supply for the growing gas-fired power sector.

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[38] Vietnam unveils coal phase-out plan, intends to stop 2 coal-power plants by 2030, Reccessary, February 2025

[39] Vietnam announces directive to increase biofuel consumption, Quantum Commodity Intelligence, December 2024

[40] Vietnam's first LNG-fuelled power plant completes test firing, Offshore Energy, January 2025

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06 Lao PDR's Energy Market

Overview & Outlook

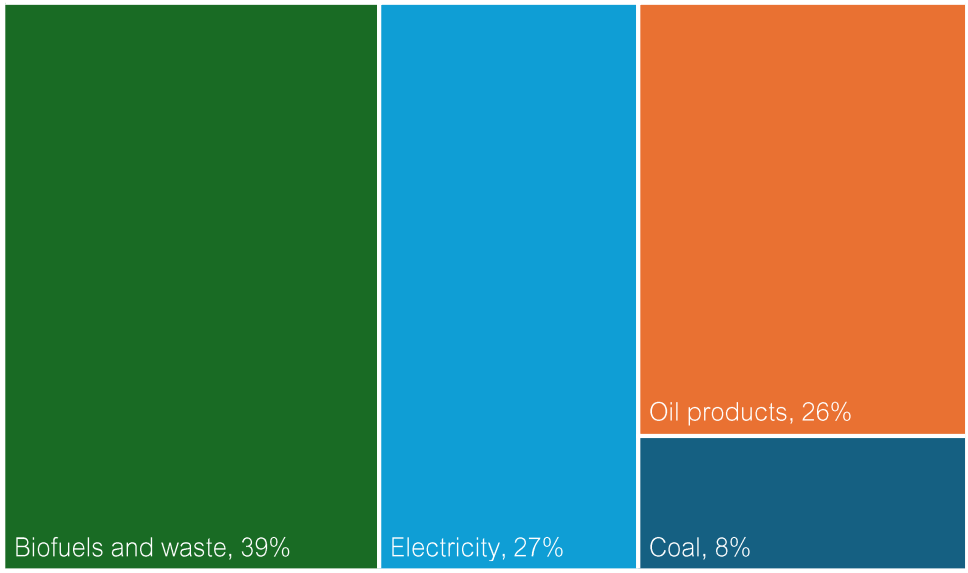
Lao PDR, the Battery of Southeast Asia, relies heavily on hydropower, exporting electricity to Thailand, Vietnam, and Cambodia. The government's energy strategy prioritizes expanding electricity exports and improving domestic access to electricity. **Lao PDR has no meaningful domestic oil or gas production, making it highly dependent on imported fuels, particularly for transport.**

Current State Of Play

Energy Mix

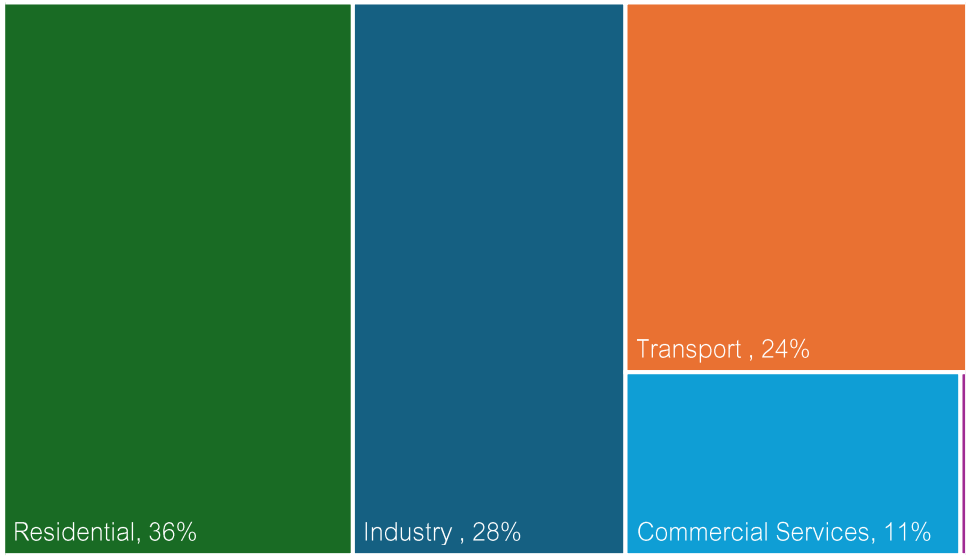
- The residential sector (36% of total energy consumption in 2022) dominates energy use, primarily relying on biofuels and waste for cooking and heating, with electricity also playing a role. The industrial sector (28%) is a significant electricity consumer but uses some coal for specific applications.
- The transport sector (24% of total energy consumption) relies almost entirely on oil products. With minimal domestic refining capacity, this contributes to Lao PDR's dependence on imported fuel for mobility.
- Hydropower remains the dominant source of electricity in Lao PDR, accounting for over three-quarters of total power generation in 2023. The country's abundant hydro resources have positioned it as a major regional electricity exporter. Coal-fired power accounts for most of the remaining electricity generation.

Figure 22: Lao PDR - Total final energy consumption by source, 2022



Source: International Energy Agency

Figure 23: Lao PDR - Total final energy consumption by sector, 2022



Source: International Energy Agency

Energy Independence

Lao PDR has abundant hydropower for electricity generation and exports significant quantities to neighboring countries. However, it

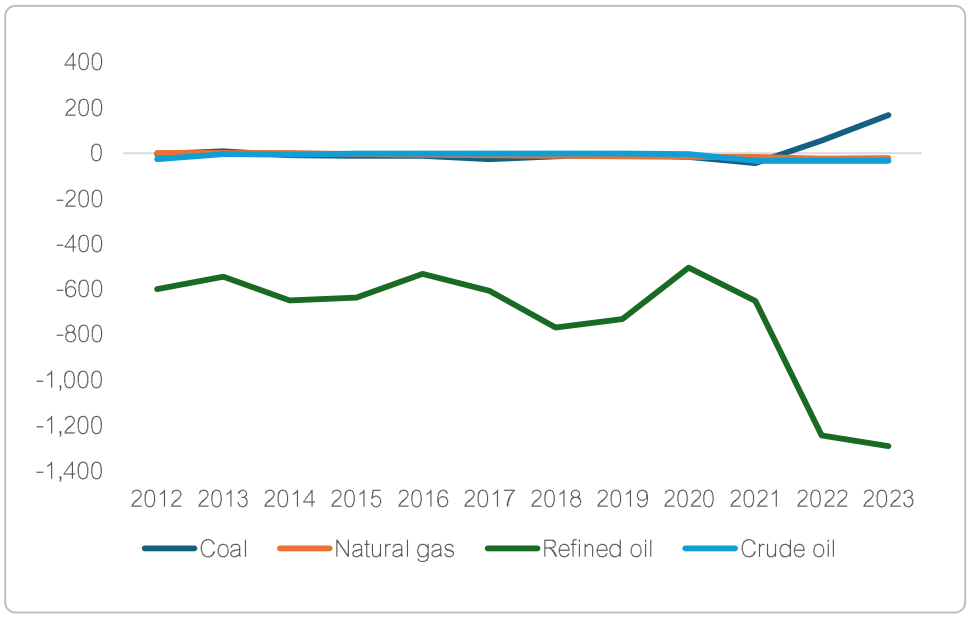
relies on imports to meet its other energy requirements, particularly refined fuels for transport and industry.

Lao PDR has no indigenous oil or gas production and imports most of its petroleum fuels, mainly from Thailand, Vietnam, and Singapore. Lao PDR's first domestic oil refinery, the Laopec facility, began operations in November 2020.41 Despite this development, the refinery is plagued with feedstock and critical supply chain issues, given Lao PDR is a landlocked country with no access to pipelines or a deep seaport. **Lao PDR continues to import a significant portion of its refined fuel needs, as the refinery's current output cannot meet growing domestic demand and is feedstock starved.**

Lao PDR has a small coal sector, primarily focused on domestic production for power generation and industrial use, with some exports. The country produces lignite coal, mainly from mines in Hongsa and Xieng Khouang provinces, supplying coal-fired power plants such as the Hongsa Power Plant. While Lao PDR produces coal, it imports higher-quality coal for industrial processes, particularly cement manufacturing. Coal's role has grown in recent years, as it provides baseload power during dry seasons when hydropower output declines.

[41] Laopec: The first modern petroleum refinery in Lao PDR, Phnom Penh Post, March 2022

Figure 24: Lao PDR – Net energy exports, US$ million



Source: International Trade Centre

Energy Market Trends

The Battery of Southeast Asia: Lao PDR prioritizes electricity exports over domestic fossil fuel development, leveraging its hydropower resources to supply Thailand, Vietnam, and Cambodia. While often seen as a clean energy exporter, coal remains part of the mix, with the Hongsa Power Plant exporting lignite-based electricity under a long-term deal with Thailand. New grid interconnections are expanding Lao PDR's role in ASEAN's regional power market. With a small population and relatively low domestic energy demand, Lao PDR is well-positioned to focus on power exports as a key economic driver.

Limited Refining Capacity and Supply Vulnerabilities: Lao PDR's refining sector remains underdeveloped, leaving the country vulnerable to fuel shortages and price volatility. **Lao Petroleum and Chemical Co Ltd (Laopec), located in the Saysettha Development Zone in Lao PDR's capital of Vientiane, began operations in 2020 and was meant to reduce reliance on imports by producing Euro 5-quality fuels, but output falls short of domestic demand, because it is starved of a reliable**

supply chain for feedstock. As a result, Lao PDR continues to import most of its refined fuel from Thailand, Vietnam, and Singapore, exposing it to regional supply disruptions, such as refinery maintenance shutdowns. Recent diesel shortages and rising fuel prices highlight the ongoing supply risks despite efforts to diversify imports, including new fuel shipments from China.[42]

Small-Scale Renewables In Focus: Lao PDR promotes small-scale renewable energy projects to reduce reliance on traditional biomass and biofuels. In 2011, the government adopted the Renewable Energy Development Strategy, aiming to achieve 30% of total energy consumption from renewable sources by 2025. This strategy emphasizes the development of small-scale hydropower, solar, wind, and biomass energy. Implementing these projects is expected to decrease the use of traditional biomass for cooking and heating, thereby improving energy efficiency and reducing environmental impacts. Beyond 2025, there are no publicly available official government targets for renewable energy.

[42] Fuel pumps again running on empty in Lao PDR, Radio Free Asia, January 2024

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07 Thailand's Energy Market

Overview & Outlook

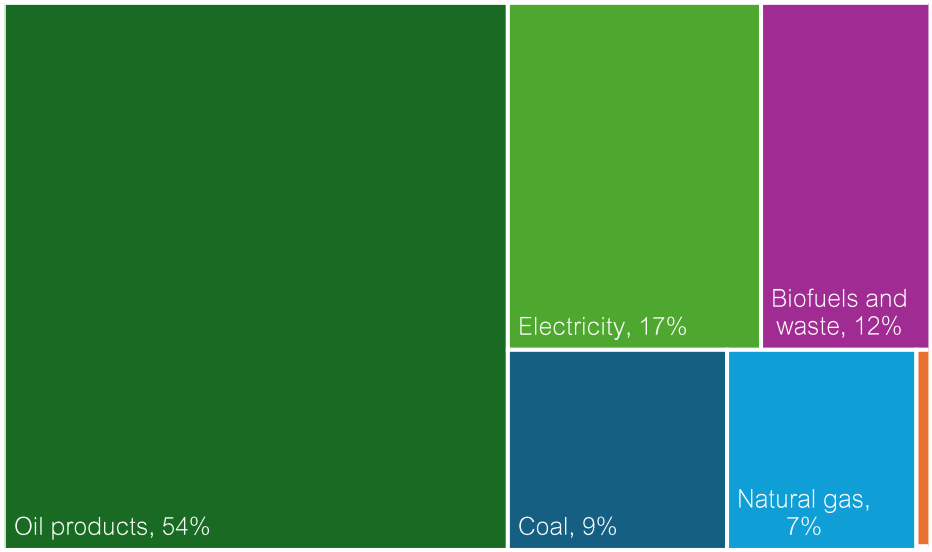
Thailand has the most advanced energy market in Indochina, underpinned by a diverse energy mix, strong infrastructure, and regional trade integration. The country is a major energy consumer and producer, with significant refining capacity, LNG import infrastructure, and regional electricity trade networks. Thailand is emerging as Southeast Asia's EV hub, with soaring EV sales. However, **oil will remain critical for aviation, petrochemicals, and industrial demand**.

Current State Of Play

Energy Mix

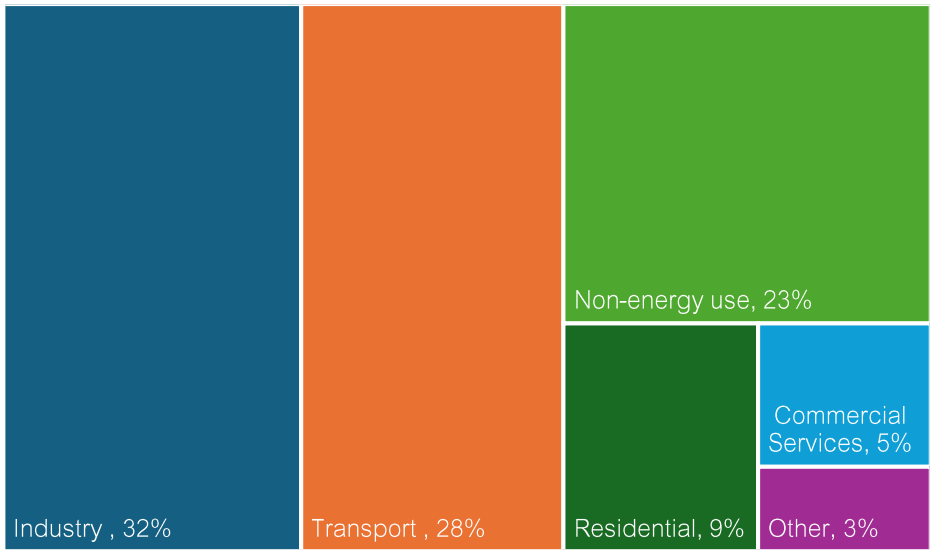
- The industrial sector, including Thailand's large oil refining industry, leads final energy consumption in Thailand (32% in 2022), followed by the transport sector, which accounts for 28% of energy consumption.
- Oil remains the dominant fuel, making up 54% of Thailand's final energy consumption, primarily for transport.
- Natural gas dominates electricity generation (accounting for over 60% of the total in 2023). Declining domestic production is driving more significant LNG imports.

Figure 25: Thailand - Total final energy consumption by source, 2022



Source: International Energy Agency

Figure 26: Thailand - Total final energy consumption by sector, 2022



Source: International Energy Agency

Energy Independence

A sizeable domestic oil refining sector means Thailand has stronger energy security than Cambodia and Lao PDR. However, refineries are reliant on crude oil imports for feedstock. **Thailand's natural gas import requirements will surge in the coming years.**

Thailand is a major refining hub in Southeast Asia, with a total crude oil refining capacity exceeding 1.2 million barrels per day (b/d).[43] The country's six major refineries meet domestic demand and export to Cambodia, Lao PDR, Myanmar, and Vietnam, making Thailand a regional energy hub.

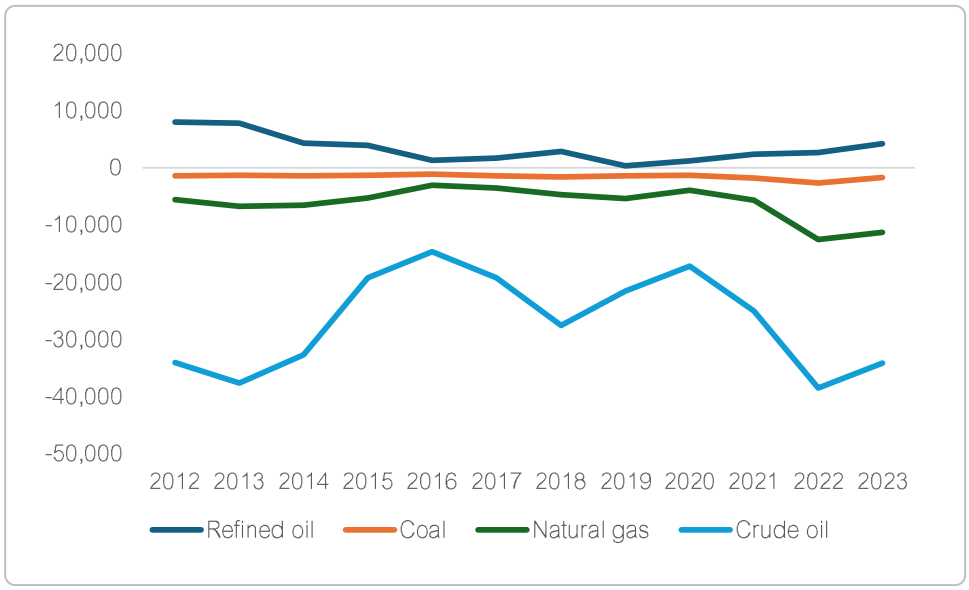
Thailand's upstream oil and gas sector is in structural decline, with limited potential for new discoveries due to insufficient exploration in recent years. The industry is focused on maintaining output in maturing fields. However, proven reserves continue to shrink, exacerbated by the exit of major international oil companies like Shell and TotalEnergies, leaving PTTEP to shoulder investment burdens. This means that Thailand's oil refineries must import significant volumes of crude oil for feedstock. To address energy supply shortfalls, Thailand is securing hydroelectricity import agreements with Lao PDR and exploring joint natural gas development in the Un-demarcated Fields with Cambodia to unlock offshore reserves.[44] [45]

[43] Total crude oil refining capacity in Thailand from 2015 to 2024, Statista, April 2025

[44] Politics, Energy, and Nationalism: Thailand and Cambodia's Overlapping Maritime Claims, The Diplomat, March 2024

[45] Lao PDR ups electricity trade, ASEAN Energy, July 2024

Figure 27: Thailand – Net energy exports, US$ million



Source: International Trade Centre

Energy Market Trends

Significant LNG Market, But Affordability Concerns Persist: Thailand has become one of Asia's fastest-growing LNG importers, bringing in 11.55 million metric tons in 2023—a 40% increase from the previous year—to offset declining domestic gas production.[46] This rapid growth, driven by rising power demand and facilitated by the expansion of LNG infrastructure at Map Ta Phut, placed Thailand among the top 10 global LNG importers for the first time. However, high import costs and supply risks have tempered further LNG expansion. Alongside efforts to boost domestic gas production, the government is accelerating the development of renewable energy production. In the short term, coal use will rise, with Mae Moh Unit 8's decommissioning delayed into 2025 to ensure grid stability.

Key Regional Fuel Supplier But Facing Growing Pressure: Thailand's refining capacity is expanding, with Thai Oil's Sriracha refinery upgrade boosting output from 275,000 b/d to 400,000 b/d,

[46] State policies, domestic gas output may curb Thailand's LNG import growth in 2024, S&P Global, January 2024

far outpacing domestic fuel demand growth.[47] Larger refined fuel production and exports will reinforce Thailand's role as a Vietnam, Cambodia, Lao PDR, and Myanmar supplier. However, rising competition from newer, more efficient refineries in Asia and the Middle East is challenging its position. In response, Thailand's refining sector has restructured through mergers and acquisitions. At the same time, tightening domestic fuel standards adds pressure. Thailand postponed the implementation of the Euro 5 emission standard for new vehicles from 2021 to 2024.

Thailand Races Ahead In EVs, Yet Oil Keeps Its Place: Thailand is emerging as Southeast Asia's EV hub, driven by government policies like the "30@30" plan, which aims for 30% of domestic vehicle production to be EVs by 2030 and targets 22 million EVs on the road by 2035.[48] EV sales experienced a remarkable surge in 2023, with registrations increasing from 9,000 units in 2022 to 43,000 units in 2023, marking a growth of approximately 378%, with Chinese automakers investing heavily.[49] This shift will slow oil demand growth in transport, mainly gasoline. However, **Thailand's refining sector expansion, including higher-grade fuel production for exports, ensures that oil remains crucial in the energy mix**.

[47] Thai Oil will raise its Sriracha refinery capacity to 400 kb/d, Enerdata, March 2023

[48] Thailand has approved the second phase of EV subsidy measures for the 4-year period (2024 - 2027), PR Newswire, January 2024

[49] Thailand emerging as strategic market for Chinese automakers, Nation Thailand, September 2024

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08 Conclusion: A Pivotal Juncture

Indochina stands at a pivotal juncture in its energy and industrial development. Rapid economic expansion, urbanization, and industrialization are driving structural increases in energy demand across Vietnam, Cambodia, Lao PDR, and Thailand. Despite global trends toward decarbonization, fossil fuels—particularly oil and natural gas—will remain central to the region's energy mix for decades, underscoring the urgent need for investment in modern, resilient energy infrastructure.

A central base case at Baron Point is that the share of global oil demand should increase from 55% in 2021 to approximately 70% in 2050 in emerging economies. Also, Baron Point believes strongly that the relationship Southeast Asians have with oil is far more positive than activists in the West. People are simply more supportive of oil companies in the Far East, than in the West. These are some of the largest companies in the region, and National Oil Company success is a source of national pride and a better standard of living, aspirations the Baron Point team whole hardily supports.

As Southeast Asia emerges as a global growth engine, energy infrastructure will be central to its economic transformation. In Indochina, targeted investments and strategic partnerships will drive the region's energy transition while unlocking high-quality, risk-adjusted returns in one of the world's fastest-growing, urbanizing, and demographically dynamic markets.

Baron Point Financial Group invites investors and stakeholders to engage with us as we help shape the next chapter of growth in the region, and please see a supporting white paper, Introduction to Indochina Industrial Investments SP3 Fund Platform, segregated portfolios of Baron Point Financial Group SPC, Institutional Markets Report, for more information.

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09 Disclosure Appendix

Disclosure Appendix

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