CHAPTER 12

Myanmar Country Report

Swe Swe Than

This chapter should be cited as:
Than, S.S (2023), 'Myanmar Country Report', in Kimura, S., H. Phoumin, and A.J. Purwanto (eds.), *Energy Outlook and Energy-Saving Potential in East Asia 2023*. Jakarta: ERIA, pp.261-276

1. Background

1.1. Country Profile

Myanmar is the largest country in the mainland of Southeast Asia. Its territorial area covers 676,577 square kilometres and shares a border of 5,858 kilometres (km) with Bangladesh and India to the northwest, China to the northeast, and Thailand to the southeast. Approximately 48% of the total land area is covered with forest, and most of the land area is used for agriculture. Myanmar had a population of 54 million in 2021 with an average annual growth rate of 0.9% from the 1990 to 2019.

Myanmar is geographically located at the tip of the Southeast Asia Peninsula and has three distinct seasons. It enjoys three to four months of heavy monsoon and abundant sunshine all year round, which makes it ideal for accumulating water resource for hydropower and agriculture. Its topographic features include numerous rivers, mountain ranges, and sedimentary basins where mineral deposits and energy resources have abundantly accumulated. The delta regions where the two major rivers enter the Bay of Bengal and the 2,832 km coastal strip along the southern part are good areas for the development of marine ecosystems and are an abundant source for marine products and chemicals.

Myanmar is endowed with rich natural resources used for the production of commercial energy. The current available sources of energy found in Myanmar are crude oil, natural gas, hydroelectricity, biomass, and coal. Besides these, wind, solar, geothermal, bioethanol, biodiesel, and biogas are the potential energy sources found in Myanmar.

Myanmar's proven energy reserves in 2017 comprised of 94 million barrels of oil, 4.552 trillion cubic feet of gas, and over 500 million metric tons of coal. The country is a net exporter of energy, exporting substantial amounts of natural gas and coal to neighbouring countries. However, it imports around 90% of its total oil requirements.

1.2. Socio-Economic Status

The population of Myanmar grew at 1.0% per year between 1990 and 2019 to 54 million in 2021. Myanmar's gross domestic product (GDP) was $74.28 billion (constant 2010 US$) in 2019, and its GDP per capita grew from around $200 in 1990 to $1,370 in 2019. With the objectives of enhancing economic development in Myanmar, five-year short-term plans have been formulated and implemented from 1992 to 2013. The first plan (1992–1995) achieved a 7.5% annual growth rate; the second (1996–2000), 8.5%; the third (2001–2005), 12,8%; and the fourth plan (2006–2010), 12%. The last five-year plan (2011–2016) has been formulated to achieve an average annual GDP growth rate of 7.0%.

1.3. Energy Consumption, Base Year

Myanmar's total primary energy supply was 20.48 million tons of oil equivalent (Mtoe) in 2019. Natural gas is mainly used for electricity generation and in industry. In 2019, Myanmar had 6034 megawatts (MW) of installed generation capacity and produced almost 23.19 terawatt-hours (TWh) of electricity. During the same year, thermal (coal, natural gas, and oil) and hydro, accounted for 57% and 43%. of total electricity generation, respectively.

Table 12.1 Installed Capacity and Power Generation by Fuel Type, 2019–2020

No.	Type of Fuel	2019–2020	
		Installed (MW)	Generation (GWh)
1	Hydro	3,262.37	10,032.27
2	Gas + Steam	2,495.70	12,275.4
3	Coal	120.00	692.96
4	Diesel	117.00	136.11
5	Solar	40.00	56.12
	Total	**6,034.33**	**23,190.93**

GWh = gigawatt-hour; MW = megawatt.

Source: Myanmar Ministry of Electric Power, 2020.

2. Modelling Assumptions

2.1. Gross Domestic Product and Population Growth

In this report, Myanmar's GDP is expected to grow at an average annual rate of around 4.9% from 2019 to 2050, slowing from 8.0% from 1990–2019. Population is assumed to increase by about 0.6% per year from 2019 to 2050 (Ministry of Labour, Immigration and Population, 2020).

2.2. Energy Consumption and Electricity Generation

Hydro and natural gas dominated electricity generation in Myanmar. Other fuels such as oil and coal also contributed to the country's generation mix, but at less than 13% in 1990. The Government of Myanmar plans to increase the share of natural gas, coal, hydro, and other renewables in the total generation mix and decrease oil share. The government also plans to export electricity to neighbouring countries such as Thailand and China from its hydro power plants.

As shown in Table 12.2, the Power Resource Balance scenario (Scenario 3) has the lowest installed capacity at 23,594 MW by 2030, with hydro share at 38%, coal 33%, gas 20%, and renewables (solar, wind, etc.) at 8%.

Table 12.2 Installed Capacity and Power Supply in Scenarios, 2030

No	Scenario 1 (Domestic Energy Consumption)			Scenario 2 (Least Cost)		Scenario 3 (Power Resources Balance)	
	Energy Resources	Installed Capacity		Installed Capacity		Installed Capacity	
		MW	%	MW	%	MW	%
1	Hydro(large)	12,147	42	12,147	43	1,412	6
2	Hydro (Small & Medium)	6,891	24	6,891	24	7,484	32
3	Gas	4,986	17	2,484	9	4,758	20
4	Coal	2,760	10	5,030	18	7,940	34
5	Renewable	2,000	7	2,000	7	2,000	8
	Total	**28,784**		**28,552**		**23,594**	

MW = megawatt.

Source: Myanmar Energy Master Plan, 2015.

The Myanmar Energy Master Plan, 2015 outlined installed capacities for three power demand scenarios in 2030 (Table 12.2). Scenario 3 is the power resource balance, which requires an increased share of hydropower and natural gas supply for power generation.

2.3. Energy and Climate Change Environmental Policies

Through intensive exploration and development activities, Myanmar's energy policy strives to maintain the status of energy independence by increasing indigenous production of available primary energy resources. The policy also addresses electric power as the main driving power source for economic development and the need to generate and distribute in terms of volume, density, and reliability. Myanmar's energy policy aims to increase the use of its abundant water resources for hydropower development to reduce the need for fossil fuel power generation. Energy efficiency management can reduce energy consumption to minimise harmful environmental impacts.

Based on 2018 data, Myanmar emits the least greenhouse gases (GHG) in the world, emitting only 0.61 tons of carbon dioxide equivalent per person (CO2e/person). Myanmar's total emission reductions contributions to the NDC are 244 million tonnes of CO2 emissions equivalent (tCO2e) unconditionally, and a total of 413 million tCO2e, subject to conditions of international finance and technical support by 2030, which is a significant commitment to global climate change efforts based on its national circumstances.

Myanmar will continue to mainstream climate change into short, medium, and long-term national development plans and policies. This includes state and regional development plans and policies under the guidance of the Myanmar Sustainable Development Plan, 2018–2030, which is aligned with the 2030 Sustainable Development Goals (SDG). In addition, the National Environmental Policy, 2019; Myanmar Climate Change Policy, 2019; Myanmar Climate Change Strategy, 2018–2030; and Myanmar Climate Change Master Plan, 2018–2030 were endorsed in 2019. Myanmar needs cross-cutting support to improve the implementation of climate change actions across an array of sectors, broadly defined as Policy, Institutions, Finance, Capacity, Technology and Partnerships. The Climate Change Strategy and Master Plan prioritises six sectors pertaining to adaptation, mitigation, and cross cutting issues. To facilitate the implementation of this plan, Myanmar will use the Green Climate Fund (GCF) Readiness Programme. This support will aid in the development of the Strategies for Natural Resources Management and the Urban Low-Emissions and Climate Resilient Development plans.

The National Environmental Conservation and Climate Change Central Committee (NECCCCC) led by the vice president provides oversight on all environmental and climate change activities.

2.4. The National Efficiency Policies

According to the *National Energy Efficiency & Conservation Policy, Strategy and Roadmap of Myanmar* by the Asian Development Bank in 2015, Myanmar aims to achieve 20% energy savings in the electricity sector between 2020 and 2030. Specifically, the targets include a 12% reduction in 2020 and a 16% reduction by 2025.

For the industry sector, energy savings is set for 5.34% in 2020, 5.31% in 2025, and 6.63% in 2030. Savings targets for commercial sectors are 1.99% in 2020, 2.98% in 2025, and 3.98 in 2030 . Savings in the residential sector is set for 0.68% in 2020, 1.02 % in 2025, and 1.36 in 2030. All other sectors collectively have targets set at t 0.68% in 2020, 1.02% in 2025 and 1.36% in 2030.

For the residential sector, approaches include the following:
(i) Introduction of energy efficiency performance standards and labelling for appliances, testing and certification facilities for appliances, and incentives for energy-efficient equipment
(ii) Phasing out inefficient appliances from the market
(iii) Promotion of efficient biomass cook stoves
(iv) Increasing consumer awareness of benefits in liquefied petroleum gas (LPG) for cooking and the introduction of energy efficient labelling for LPG cook stoves
(v) Regular EE awareness campaigns in national media

For the commercial sector, the following approaches include the following:
(i) Energy audits
(ii) Energy serformance standards for appliances
(iii) Incorporation of energy efficiency in new building design, energy building codes and refurbishments
(iv) Preparation of energy efficiency guidelines for commercial buildings.

2.5. Intended National Determined Contribution and National Determined Contribution

Mitigation actions and policies in the energy sector

1. Energy: 30% renewable energy in rural electrification via mini hydropower, biomass, solar, wind, and solar mini-grid technologies.
2. Clean cooking and heating: Distribute approximately 260,000 energy-efficient cooking stoves between 2016 and 2031.
3. Renewable energy (hydropower): 9.4 GW hydro-electric generation by 2030.
4. Energy efficiency: 20% electricity-saving potential based on the total forecasted electricity consumption for 2030.
5. Renewable energy: 12% of national energy mix (generation) by 2030, which includes greater than 2000 megawatts of renewable energy such as small and mini-hydro, biomass (Rice Husk & Municipal Solid Waste, year), wind, and solar.
6. Reduction of Deforestation: Myanmar has set a conditional target to reduce deforestation by 50% by the 2030, resulting in a cumulative emissions reduction of 256.5 million tCo2e over the period 2021–2030.

2.6. Alternative Policy Scenarios

In the previous studies, two scenarios were formulated to analyse the impact of policy interventions on the energy sector: (i) the Business-as-Usual scenario (BAU), which serves as the reference case to project energy demand and carbon dioxide (CO2) emission, and (ii) the Alternative Policy Scenario (APSs) to evaluate the impacts of policy interventions in the development and use of energy resources in the country. The APS can include policies to increase energy efficiency and conservation targets, expedite the penetration of new and renewable energy, and introduce cleaner technology including the option for a nuclear power plant. In order to further understand the impact of individual policy interventions, this year's study was formulated as follows.

1) APS1: Improved energy efficiency of final energy consumption
2) APS2: Higher efficiency of thermal electricity generation
3) APS3: Higher contribution of new and renewable energy (NRE), wherein NRE for electricity generation and biofuels in the transport sector are assumed
4) APS4: Introduction or higher contribution of nuclear energy
5) APS5: Combined impact of scenarios APS1 to APS4
6) Low Carbon Energy Transition (LCET): Increased hydro and natural gas meet net zero emission.

In the case of Myanmar, there is no existing plan to introduce nuclear energy for power generation. As such, the APS4 was not considered in the analysis. Thus, APS5 would only consist of APS1, APS2, and APS3.The APS3 includes more renewable energy in the power generation mix of Myanmar. For APS3, the additional installed capacity for coal-based and gas-based power plants for 2030 is replaced by renewable energy capacity, which includes a hydro plant. LCET includes hydrogen fuel in industry and the use of electric vehicles in transport.

3. Outlook Result

3.1. Business-as-Usual Scenario

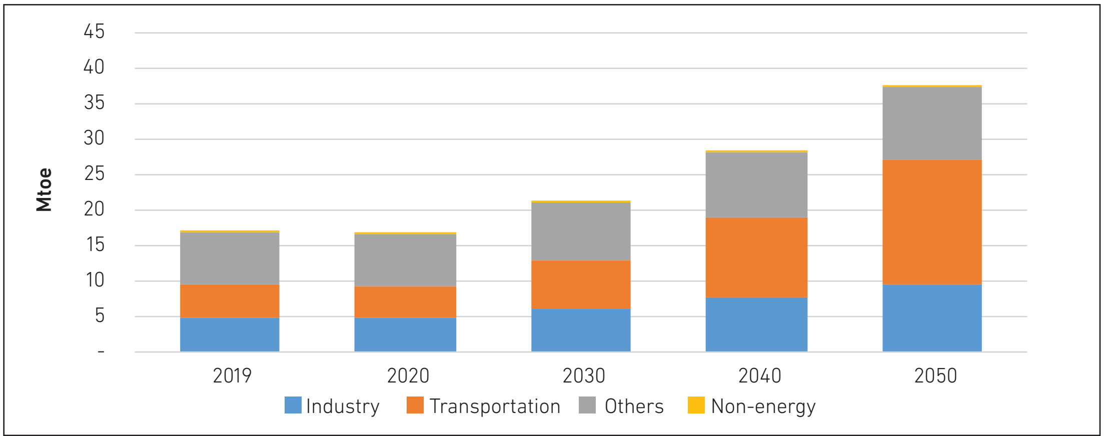
3.1.1. Final Energy Consumption

The total final energy consumption in Myanmar increased by about 2.1% per year, from 9.4 million tonnes of oil equivalent (Mtoe) in 1990 to 17.4 Mtoe in 2019. Industry was the fastest growing sector with an average annual growth of 9.1% during1990–2019. Consequently, the share of this sector in the total energy demand increased from around 4.2% in 1990 to almost 28.6% in 2019. Transport was the second fastest growing sector with an average annual growth rate of 8.5% over the same period. Its share in the total energy demand increased from 47% in 1990 to 26.9% in 2019.

The 'Others' sector, which comprised of the commercial and residential sectors, was the major contributor to the total final energy consumption. Its share declined from 90.2% in 1990 to 44.2% in 2019. This indicates that annual growth rate for demand within this sector (0.3%) was slower than in industry and transport.

Figure 12.1 shows the Final energy consumption by sector from 2019 to 2050 under the BAU scenario. Using the socio-economic assumptions stated above, the Final energy consumption in Myanmar is projected to grow at an annual rate of 2.6% under the BAU scenario, reaching 38.28 Mtoe in 2050. While Final energy consumption for transport grows fastest during 2019–2050, its growth rate is lower than the 1990–2019 period. The Final energy consumption from transport will increase at an average rate of 4.4% per year, while the demand from industry will grow at 2.2% per year. The Final energy consumption from the 'Others' sector (mainly residential and commercial) is projected to grow at an annual average rate of 0.4%, higher than in 1990–2019.

Figure 12.1 Final Energy Consumption by Sector, Business-As-Usual, 2019–2050
(Mtoe)



Mtoe = million tonnes of oil equivalent.

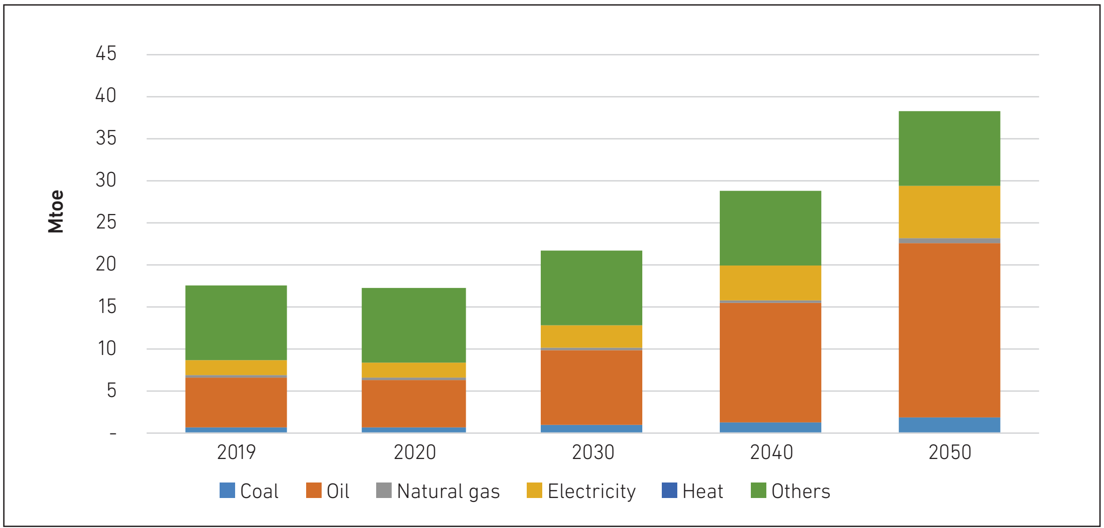
Source: Study outcome.

Under the BAU scenario, transport, industry, and non-energy will continue to grow, resulting in an increase in their shares of total final energy consumption. Meanwhile, the 'Others' sector share will decline. In 2050, share from transport is projected to increase to 47.1%, while industry would reach 25.7%. The 'Others' would decline to around 27.1% from 2019's 44.2%.

By fuel type, 'Others', which pertains mostly to biomass, was the most consumed fuel in 1990 with a share of 89.2% in the total final energy consumption of the country. In 2019, its share decreased to 51.4% due to the higher growth of other fuels, while demand for natural gas increased from 0.23 Mtoe. Coal demand grew the fastest at an average rate of 9.1% per year during 1990–2019.

Under the BAU scenario, the share of other fuels will decline to 23.4% in 2050, indicating that its future use will grow slower than the other fuels. In contrast, oil share will continue to increase and will reach 54.2% in 2050 from 33.0% in 2019, with an average growth of 4.2% per year. This is due to the rapid increase of transport activities during 2019–2050. Figure 12.2 shows the final energy consumption by fuel type from 2019 to 2050 under the BAU scenario.

Figure 12.2 Final Energy Consumption by Fuel, Business-As-Usual, 2019–2050
(Mtoe)



Mtoe = million tonnes of oil equivalent.

Source: Study outcome.

Coal is projected to have an average annual growth rate of 3.2% during 2019–2050, still slower than oil (4.2%). Electricity demand will still grow the fastest at an average annual growth rate of 4.4% per year during the same period. Its share will increase from 9.6% in 2019 to 16.5% in 2050.

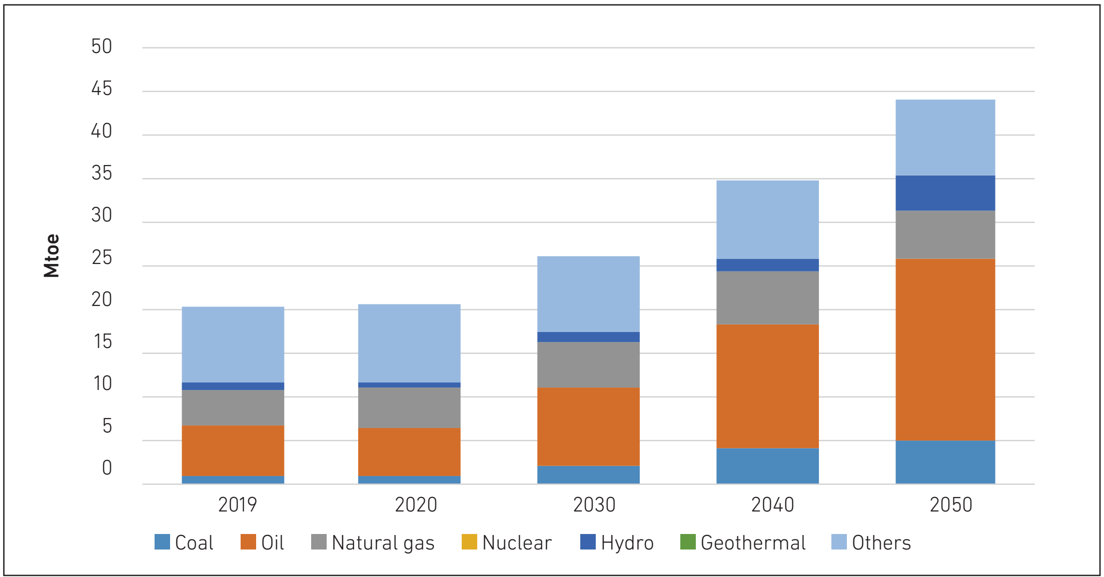
3.1.2. Primary Energy Supply

From 1990 to 2019, primary energy supply in Myanmar grew at an average annual rate of 2.3% from 10.68 Mtoe to 20.48 Mtoe. Amongst the major energy sources, hydro and oil grew the fastest with average annual growth rates of 7.7% and 7.4% respectively. Natural gas consumption grew at an average annual rate of 5.9%, and coal consumption increased at 9.2% per year on average. 'Others', such as biomass, dominated the primary energy supply mix in 2019 with a share of 43.7%. The next largest shares amongst the major fuels over the same period were oil (28.2%) and natural gas (19.7%)

In the BAU scenario, Myanmar's primary energy is projected to increase at an annual average rate of 2.5% per year to 44.17 Mtoe in 2019–2050. Hydro and natural gas are expected to grow at average annual rates of 4.9% and 1.1%, respectively. Coal will grow the fastest at 5.8% from 2019–2050, while oil will grow at 4.2% per year.

In 2050, while the share of oil in the total primary energy mix will increase to 47.4%, hydro will increase to 8.6%. Coal share will also increase from 4.2% in 2019 to 11.2% in 2050. Natural gas shares will increase to 12.8%. Notably, the share of biomass will decrease from 43.7% in 2019 to 20% in 2050 due to the shift from biomass use to LPG. From 43.7% in 2019, its share will decline to 20% in 2050. See Figure 12.3.

Figure 12.3 Final Energy Consumption by Source, Business-As-Usual, 2019–2050
(Mtoe)



Mtoe = million tonnes of oil equivalent.

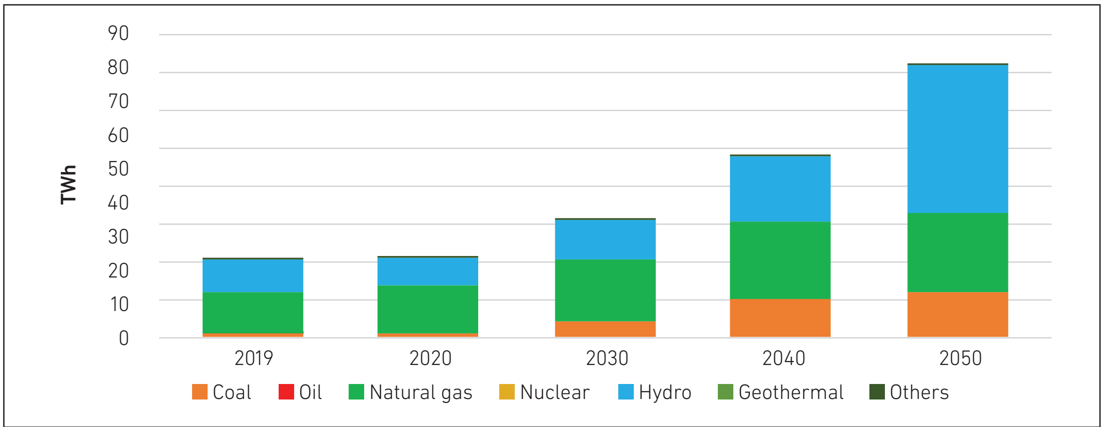
Source: Author's calculations.

3.1.3. Power Generation

Hydro and natural gas dominated the power sector fuel mix in Myanmar. In 2019, the share of hydro in the power generation mix reached 43.5%, while the natural gas share was 53.2%. The remaining fuel (coal and oil) accounted for only 3.0% of the total generation mix. During 2019, the share of hydro supply was less than natural gas. This was because of the flexibility in the natural gas power generation in Myanmar.

Under the BAU scenario, oil-based power plants will cease operation by 2030. While both hydro and natural gas would maintain shares in the power sector mix in 2050, the share would change to 5.7% from hydro-based power plants and to 28.9% from natural gas. The remaining fuels would have a more significant role in the future. The share of coal-based power generation in the total fuel mix would increase to 16.4% in 2050, becoming the dominant power generation sector while other renewable shares (solar, wind and biomass) would reach 4%. Total electricity generation from the different power plants will grow at an average annual rate of 4.1% during 2019–2050, with power plants based on natural gas growing at an average annual rate of 2.1%. Hydro power generation will increase, but at a slower average rate of 4.9%.

Figure 12.4 Power Generation Mix, Business-As-Usual, 2019–2050
(TWh)



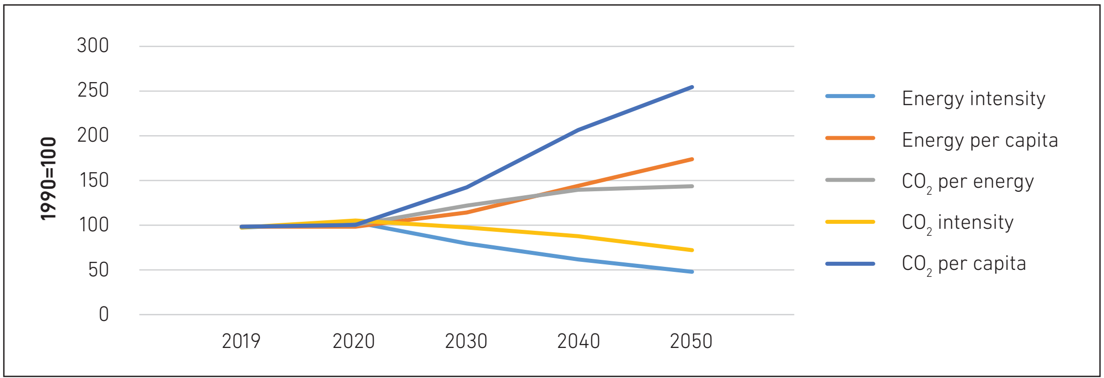
TWh = terawatt hour.

Source: Author's calculations.

3.1.4. Energy Intensity, Energy per Capita, and Energy Elasticity

Myanmar's primary energy intensity (TPES/GDP) has been declining since 1990. In 2019, primary energy intensity was 275.69 tonnes of oil equivalent per million 2010 US$ (toe/million 2010 US$), lower than what it was in 1990, which was 133 toe/million 2010 US$. It is projected that the intensity will continue to decrease to 135.07 toe/million 2010 US$ by 2050 an average rate of 22.3% per year. Energy consumption per capita grew from 0.3 toe in 1990 to 0.38 toe in 2019 and will increase to 0.68 by 2050, at an average annual growth rate of 1.9%. The CO_2 intensity was 140 tonnes of carbon per million 2010 US$ (t-C/million 2010 US$) in 1990 and decreased to 110 t-C/million 2010 US$ in 2019. It is projected that the CO_2 intensity will continue to decrease to 80 t-C/million 2010 US$ in 2050. See Figure 12.5.

Figure 12.5 Energy Intensity, CO_2 Intensity and Energy per Capita, 2019–2050



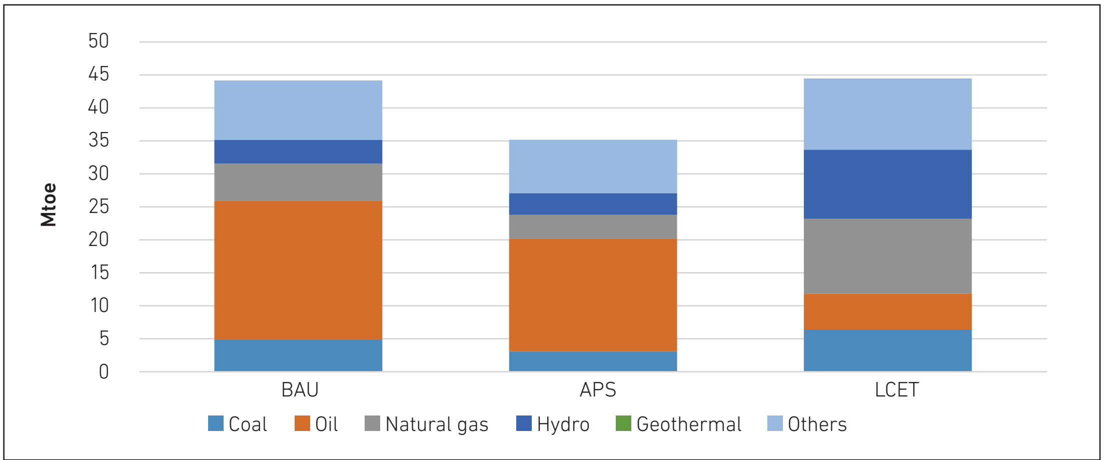
CO_2 = carbon dioxide.

Source: Study outcome.

3.2. Energy Savings Potential, Alternative Policy Scenario

The alternative policy scenario (APS) was analysed separately to determine the individual impacts of the policy interventions. The combination of all these policy interventions was further analysed in the APS. Figure 12.6 shows the changes in total primary energy supply in all the scenarios.

Figure 12.6 Comparison of Scenario to Total Primary Energy Supply (Mtoe)



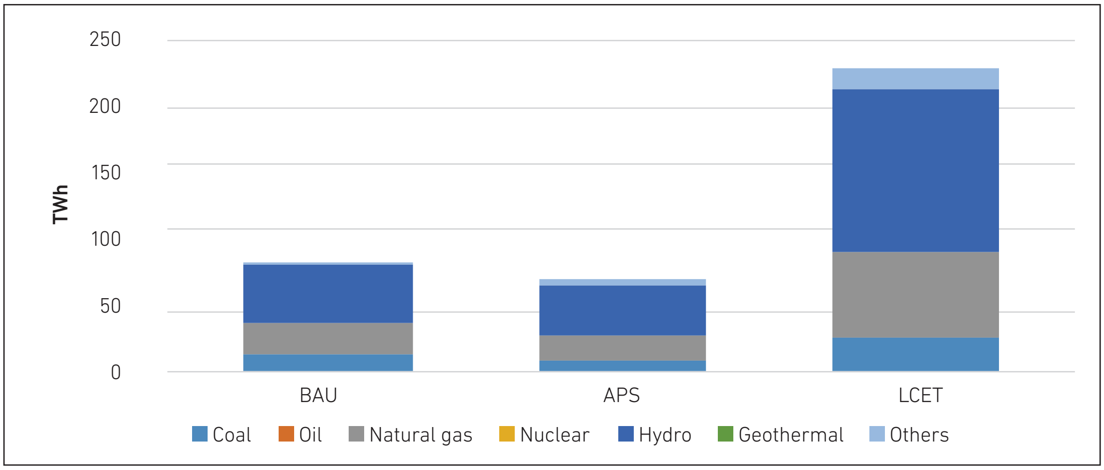
APS = alternative policy scenario, BAU = business-as-usual, LECT = low carbon energy transition, Mtoe = million tonnes of oil equivalent.

Source: Author's calculations.

In Figure 12.6 above, the APS has the largest reduction in total primary energy supply due to the implementation of the energy efficiency and conservation (EEC) action plans, improvement of thermal efficiency of fossil fueled power plants, and higher penetration of new and renewable energy in the country's supply mix. The average annual growth rate of the primary energy supply under the APS will be around 2% over the projection period. In 2050, the reduction of primary energy supply in APS as compared to the BAU, will be 31.67 Mtoe. The implementation of energy efficiency targets and its master plan alone will impact total primary energy supply. Achieving higher efficiency in the thermal power generation of coal and natural gas will reduce the use of hydro, coal, and natural gas. The higher penetration of new and renewable energy will increase the consumption of renewable energy such as solar, wind, and biomass.

The electricity demand would reach 81.00 TWh in 2050 under the BAU scenario. Under the APS scenario, the electricity demand would decrease by 12% as compared to the BAU scenario. As a result, the electricity demand in the APS scenario would only be 69.1 TWh in 2050. This reduction would come from natural gas, coal, and hydro power plants, with the highest reduction from coal power plants at 13.29 Mtoe in BAU and 7.72Mtoe in APS. The electricity saving of 12% has been assumed to continue to 2050 as no additional target is available after 2050. Figure 12.7 shows the total electricity generation in 2050 in all scenarios.

Figure 12.7 Comparison of Scenario of Electricity Generation
(TWh)

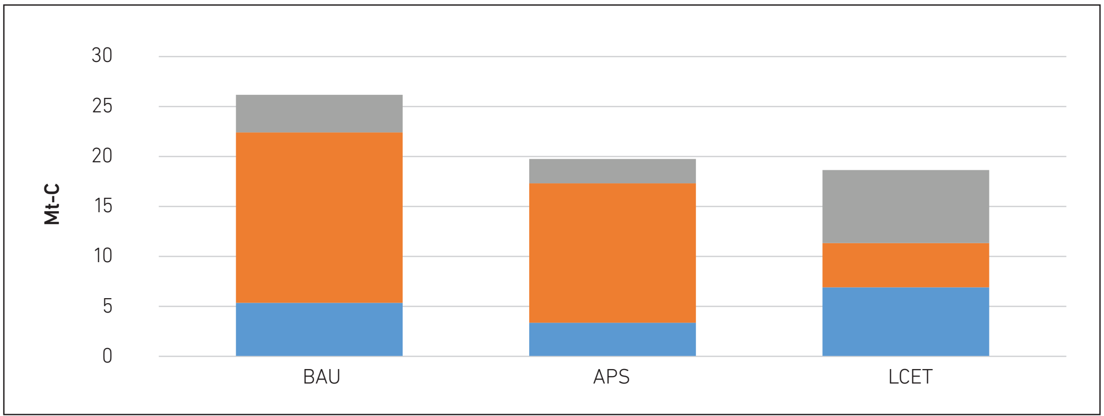


APS = alternative policy scenario; BAU = business-as-usual; LECT = low carbon energy transition; TWh = terawatt hour.

Source: Author's calculations.

In terms of reducing CO_2 emissions, energy efficiency assumptions in the APS is expected to reduce the most emissions by about 19.7 million metric tons of carbon (Mt-C) or 40% lower than the BAU. The decrease in CO_2 indicates that the energy-saving goals; action plans and policies in the promotion of programs; switch to less carbon intensive technologies, which will be effective in reducing CO_2 emissions. Figure 12.8 shows the projected CO_2 emissions in 2050 in all scenarios.

Figure 12.8 Comparison of Scenario of Carbon Dioxide Emission
(Mt-C)



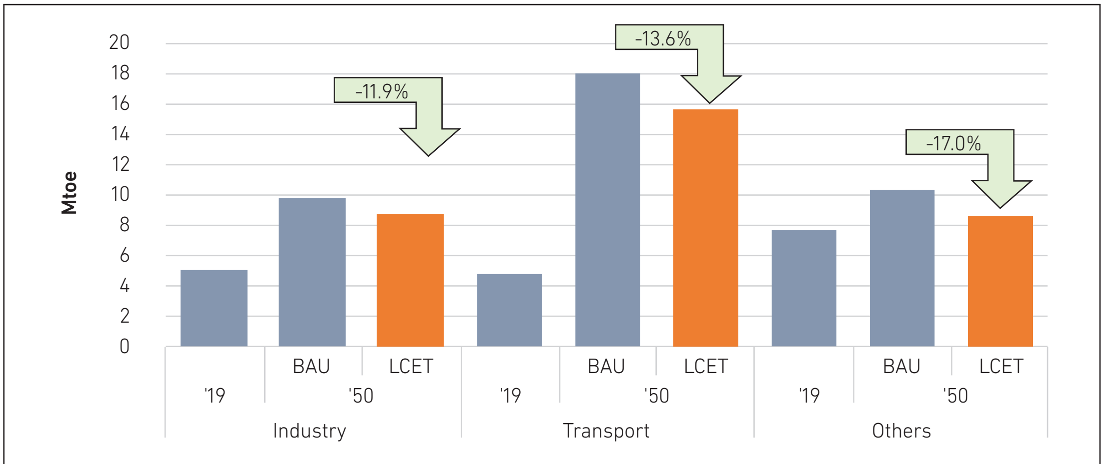
APS = alternative policy scenario, BAU = business-as-usual, LECT = low carbon energy transition, Mt-C = million tonnes of carbon.

Source: Author's calculations.

3.2.1. Final Energy Consumption

In the LCET, the growth in final energy consumption is projected at a lower average annual rate of 2.1% as compared to the 2.6% annual growth in the BAU. The reason for the slower growth rate is the result of technological improvement in manufacturing process and the reduction of final energy consumption of electricity (Figure 12.9).

Figure 12.9 : Final Energy Consumption by Sector, Business-as-Usual and Low Carbon Energy Transition
(Mtoe)



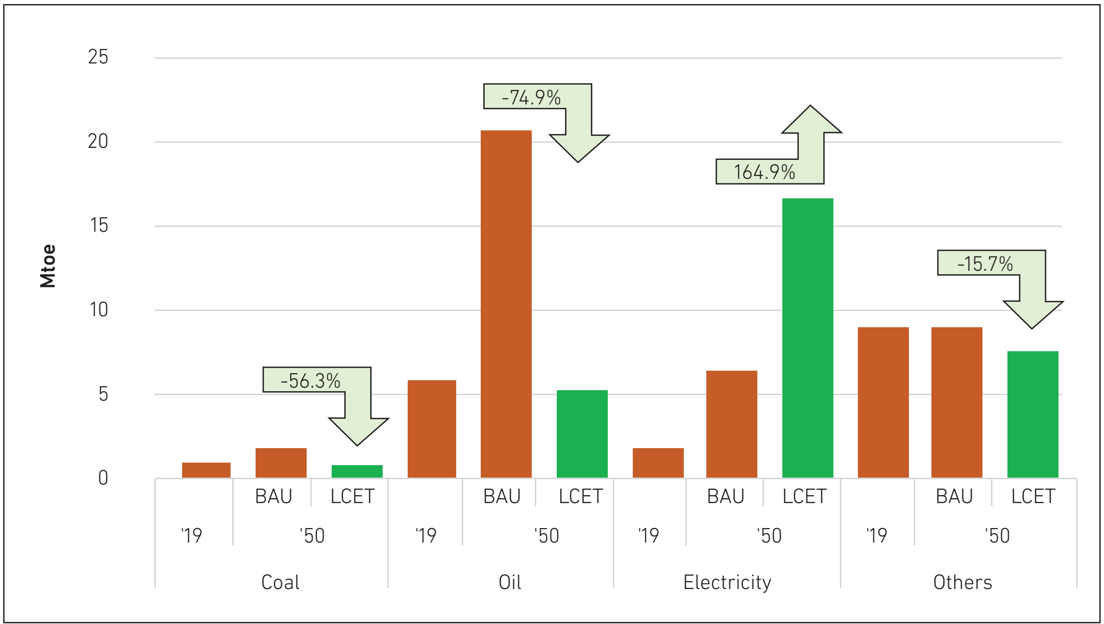
BAU = business-as-usual, LCET = low carbon energy transition, Mtoe = million tonnes of oil equivalent.

Source: Author's calculations.

3.2.2. Primary Energy Supply

In the LCET, Myanmar's primary energy supply is projected to increase by the same amount as in the BAU scenario. Between 2019 and 2050, hydro will grow the fastest at 8.4% per year, followed by coal at 6.8% per year. Natural gas is expected to grow at 3.4% per year. Oil is expected to decrease at an average annual rate of 0.2% over the same period. Figure 12.10 shows the primary energy supply by source in 2050 under the BAU and LCET.

Figure 12.10 Final Energy Consumption by Source, Business-As-Usual and Low Carbon Energy Transition, 2019 and 2050
(Mtoe)

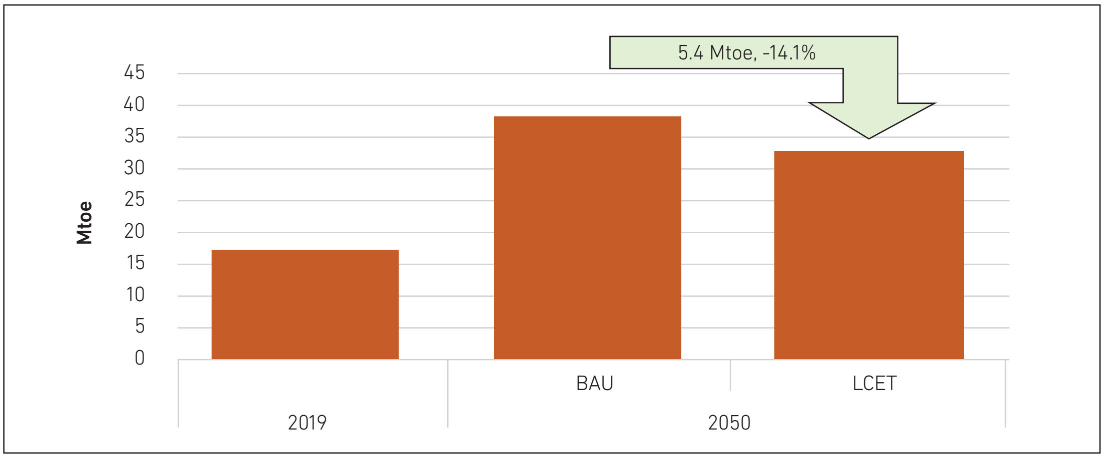


BAU = business-as-usual, LCET = low carbon energy transition, Mtoe = million tonnes of oil equivalent.
Source: Author's calculations.

In Myanmar, transport energy consumption is projected based on the energy requirements of major sectors (industry, transport, agriculture, and households). The choice of fuel type is determined by available supply, since energy demands must be met mainly by domestic sources.

Future savings in energy could be due to savings in primary energy supply in the residential, commercial, transportation, and industrial sectors. In this regard, Myanmar implemented a range of energy efficiency and conservation goals and action plans that target energy savings in all sectors. These will yield estimated savings of 5.4 Mtoe by 2050 in the LCET, relative to BAU, which is equivalent to 14.1% savings in the primary energy supply by 2050 under BAU. The LETC scenario includes the use of hydrogen fuel in industry and electric vehicles in transport.

Figure 12.11 **Final Energy Consumption by Source, Business-As-Usual and Low Carbon Energy Transition, 2019 and 2050**
(Mtoe)



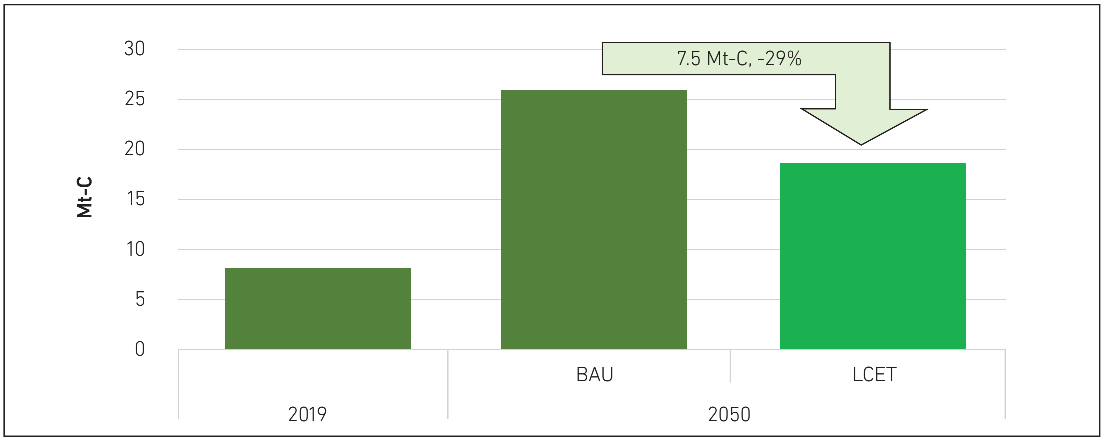
BAU = business-as-usual; LCET = low carbon energy transition; Mtoe = million tonnes of oil equivalent.

Source: Study outcome.

3.2.3. Carbon Dioxide Reduction Potential

In the LCET scenario, CO_2 emission from energy consumption is expected to reach about 7.5 million tons of carbon (Mt-C) in 2050, which is about 29% below the BAU level (Figure 12.12). The total CO_2 emission under the BAU in 2050 will be 26 Mt-C. Under the LCET, CO_2 emission will be around 18 Mt-C in 2050. Compared to BAU, this is a 28.43 Mt-C (29%) reduction of CO_2 emission.

Figure 12.12 **Final Energy Consumption by Source, Business-As-Usual and Low and Low Carbon Energy Transition, 2019 and 2050**
(Mt-C)



BAU = business-as-usual; LCET = low carbon energy transition; Mt-C = million tonnes of carbon.

Source: Study outcome.

4. Conclusion and Policy Implications

The Myanmar energy demand supply situation indicates that power generation mix must shift to more coal and hydropower, continued use of biomass, natural gas consumption, and appropriate increase of renewable energy such as solar PV and wind power generation. If Myanmar seeks an affordable energy supply, it will need to shift to more coal, hydropower, and biomass, with coal playing a key role in the future. In the LCET scenario, all sectors are expected to save energy as a result of the improving energy efficiency and the introduction of clean technologies.

Achieving early, partial, and deep decarbonisation of fossil power generation requires multiple phases. Financial institutions, policymakers, and the business community, should be informed about which technologies are suitable for financial arrangements, present potential business opportunities during the decarbonisation process, and are relevant for a fair and organised transition.