

# Chapter 14

## Philippines Country Report

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# Chapter 14

## Philippines Country Report

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### 1. Background

In 2020, a whole-of-government response took urgent measures to contain or prevent the spread of the coronavirus disease (COVID-19), mitigate its effects, and prevent serious disruption of government and community functions (Government of the Philippines, 2020 [8 March]). On 11 March, the World Health Organization (WHO) declared a COVID-19 pandemic (WHO, 2020).

#### 1.1. Lockdowns in Metro Manila and Luzon

Metro Manila, the centre of the pandemic, was locked down twice in 2020. From 15 March to 16 April, it was placed under community quarantine, restricting movement for the general population and limiting movement for essential workers such as medical workers, security personnel, and selected economic workers. From 17 March to 30 April, the whole of Luzon was put under the stricter enhanced community quarantine (ECQ) (Government of the Philippines, 2020b).

Road, air (domestic and international), and domestic sea travel were restricted with a few exceptions. Essential commercial establishments such as those providing food and medicine could operate. Other services were allowed to operate but only with a skeletal workforce and strict observation of minimum health protocols.

After balancing social, economic, and security factors against the COVID-19 epidemiological trend, the government gradually eased ECQ but extended it until 31 May 2020 in areas with high risk of infection and transmission. On 1 June, Metro Manila and nearby provinces were downgraded to general community quarantine (GCQ) to recover economic activity. However, in August, Metro Manila and nearby provinces were put under ECQ for 2 weeks to curb rising cases of COVID-19 and strengthen the health-care system's capacity. Granular lockdowns were imposed in Metro Manila for the rest of the year. Some provinces in the Visayas and Mindanao, specifically in Metro Cebu and Metro Davao, were locked down as COVID-19 cases rose. But the rest of the country was under GCQ.

## 1.2. Energy Supply and Demand Impacts of Lockdowns Caused by COVID-19

This chapter examines the impacts of curtailed economic activity on energy supply and demand. The official power statistics for 2020 and the partial energy statistics for oil and other fuels are used to validate the model's assumptions.

## 2. Macro Assumptions of the COVID-19 Scenario

The gross domestic product (GDP) assumptions used in the COVID-19 scenario (2018–2023) are based on *World Economic Outlook* (International Monetary Fund [IMF], 2020). The 2020 GDP assumptions, however, use the actual 9.5% GDP contraction based on *National Accounts of the Philippines* (Philippine Statistics Authority [PSA], 2020).

The GDP assumptions for 2021–2023 from the IMF (2020) are more conservative than the GDP growth targets set by the Philippines' economic managers (8.0%–10.0% to rebound to pre-pandemic economic growth).

**Table 14.1. Assumptions of Gross Domestic Product Annual Growth Rates, Business-as-Usual vs. COVID-19 Scenarios, 2018–2050**

	2018	2019	2020	2021	2022	2023	2023–2030	2030–2040	2040–2050
<b>COVID-19</b>	6.9%*	6.0%*	–9.5%*	7.4%	7.4%	6.5%	6.5%	5.4%	5.2%
<b>BAU</b>	6.9%	5.9%	5.6%	5.6%	5.6%	5.6%	5.4%	5.2%	5.2%

BAU = business as usual, COVID-19 = coronavirus disease.

\*Actual.

Source: Authors, based on International Monetary Fund (2020).

In the COVID-19 scenario, the value of goods and services slightly decreases compared with the business-as-usual (BAU) scenario in the short term but rebounds after 2030.

**Table 14.2. Assumptions of Gross Domestic Product, Business-as-Usual vs. COVID-19 Scenarios, 2018–2050**  
(constant PHP trillion)

	2018	2019	2020	2021	2022	2023	2030	2040	2050
<b>COVID-19</b>	9.3	9.8	8.9	9.5	10.3	10.9	16.3	28.0	48.4
<b>BAU</b>	9.3	9.8	10.4	10.9	11.6	12.2	17.8	30.1	50.0

BAU = business as usual, COVID-19 = coronavirus disease.

Source: Author (2020).

The crude oil price estimates from the Japan cost, insurance, and freight (2018 US\$/barrel) in nominal price were used in the COVID-19 scenario to reflect the nominal value effect of the price.

**Table 14.3. Assumptions of Crude Oil Price, Business-as-Usual vs. COVID-19 Scenarios, 2018–2050**  
(US\$/barrel in nominal price)

	2018	2019	2020	2021	2022	2023	2030	2040	2050
<b>COVID-19</b>	72.9	64.3	40.9	46.4	51.8	56.9	86.8	102.2	107.3
<b>BAU</b>	71.0	73.9	77.0	79.8	82.7	85.7	110.0	150.0	185.0

BAU = business as usual, COVID-19 = coronavirus disease.

Source: Author (2020).

### 3. Short-term Impact (2018–2023)

#### 3.1. Final Energy Consumption

In 2018–2023, the annual average growth rate of total final energy consumption (TFEC) decreases from 3.5 million tonnes of oil equivalent (Mtoe) in BAU to 1.2 Mtoe in the COVID-19 scenario.

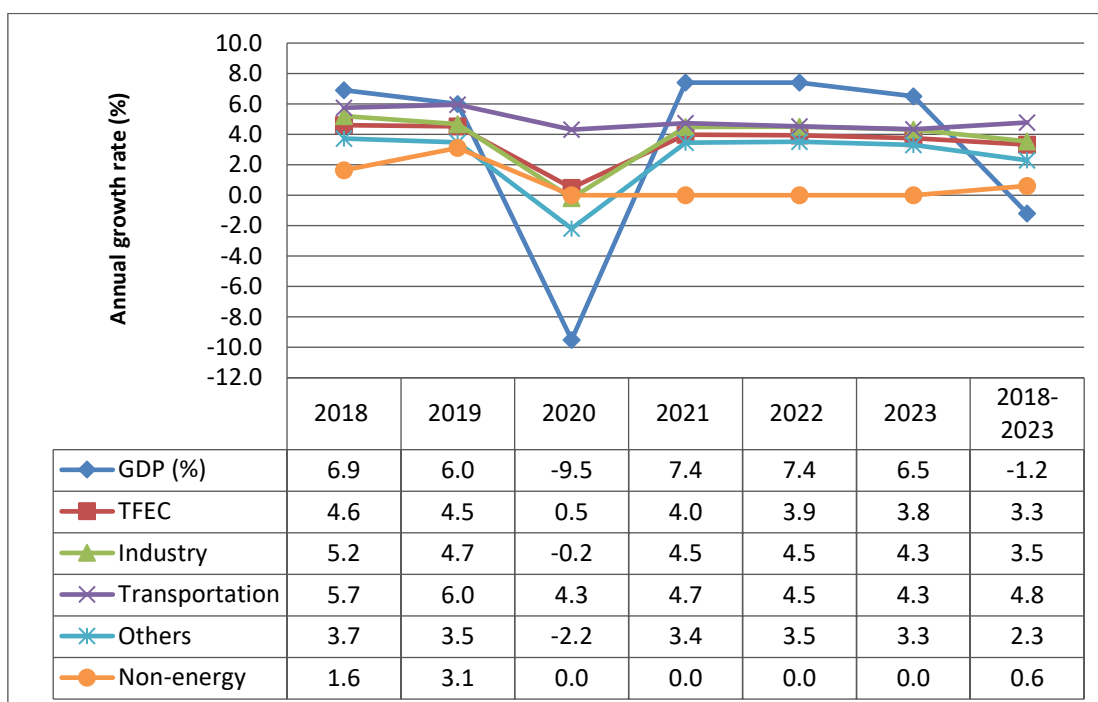
‘Others’ are the most affected in 2020, with growth of –2.2% because of reduced energy demand in the commercial (–4.1%), residential (–1.3%), and agriculture (–1.8%) sectors. Reduced demand can be attributed to the lockdowns and reduced operations capacity of commercial establishments, including those engaged in accommodation and food services, real estate and ownership dwellings, transport and storage, and education, to cite a few.

Industry demand growth rate falls from 4.2% in BAU to –0.2% in the COVID-19 scenario in 2020 because of sluggish growth of manufacturing and construction based on actual data (PSA, 2020).

Transport demand, however, decreases by only 1.7 kilotonnes of oil equivalent compared with BAU and grows by 4.3% in the COVID-19 scenario.

On average, all sectors have positive growth in the short term.

**Figure 14.1. Annual Growth Rate of Final Energy Consumption, by Sector, COVID-19 Scenario, 2018–2023**



GDP = gross domestic product; others = commercial, residential, and agriculture sectors; TFEC = total final energy consumption.

Source: Authors.

Based on actual GDP in 2020, the impact may be greater on some sectors. Transport does not follow the negative trend in GDP growth despite restrictions on public road transport and substantial decrease in demand. Air transport contracts significantly because of travel restrictions within the country and abroad.

‘Others’ – the residential, commercial, and agriculture sectors – experience varying degrees of impact as demand shifts. The residential sector exhibits positive demand growth compared with projected demand growth of –1.3% as about 70%–80% of white-collar workers worked from home.

The commercial sector contracts by 4.1% but might contract more because it is the most badly hit by lockdowns and restrictions. In 2019, services accounted for 61.0% of overall GDP, followed by industry at 30.2% and agriculture at 8.8% (O’Neill, 2021), while Metro Manila had the largest share of services at 42.7% (PSA, 2020).

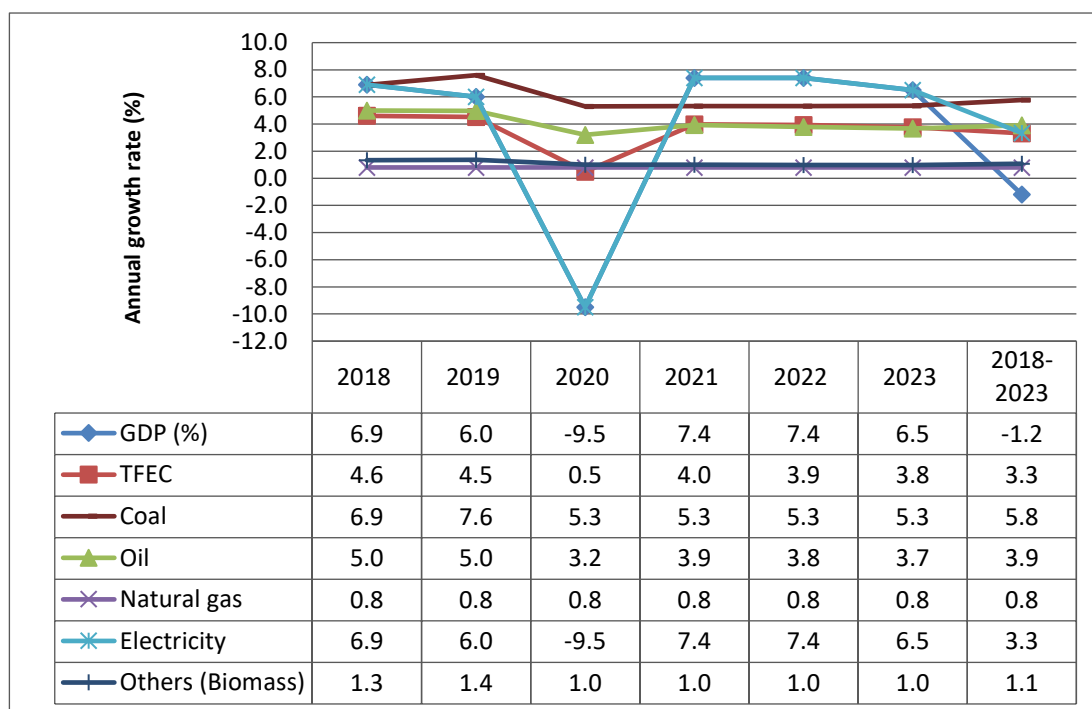
During the community quarantine, the government identified the establishments that could operate in a limited capacity, such as food services. A great number of entertainment hubs and establishments closed because they had little or no revenue. Hotels, rental accommodation services, and other ancillary services such as restaurants, cafes, gyms, spas, and the like, were significantly affected as they were not allowed to operate. Although the government later converted some hotels into quarantine centres for returning overseas

Filipino workers, the hotels and accommodation services operated only in limited capacity (Government of the Philippines, 2020 [15 October]).

The sectors' negative growth in final energy consumption per fuel can be largely attributed to the decline of electricity demand, which followed the GDP growth trend. Electricity demand growth falls from 5.6% (8.0 Mtoe) in BAU to -9.5% (6.8 Mtoe) in the COVID-19 scenario in 2020 (Figure 14.2). Coal's growth rate decreases by 2.3% from 7.6% in 2019 to 5.3% in 2020, which can be correlated to the trend of electricity demand as coal consumption is mostly used for power generation.

The oil demand growth rate decreases from 5.3% in BAU to 3.2% in the COVID-19 scenario in 2020, which can be attributed to decrease in demand for road transport diesel and gasoline and for air transport jet-A1 fuel. Actual oil demand may have negative growth compared with the 2020 projection.

**Figure 14.2. Annual Growth Rate of Final Energy Consumption, by Fuel, COVID-19 Scenario, 2018–2023**



GDP = gross domestic product, TFEC = total final energy consumption.  
Source: Authors.

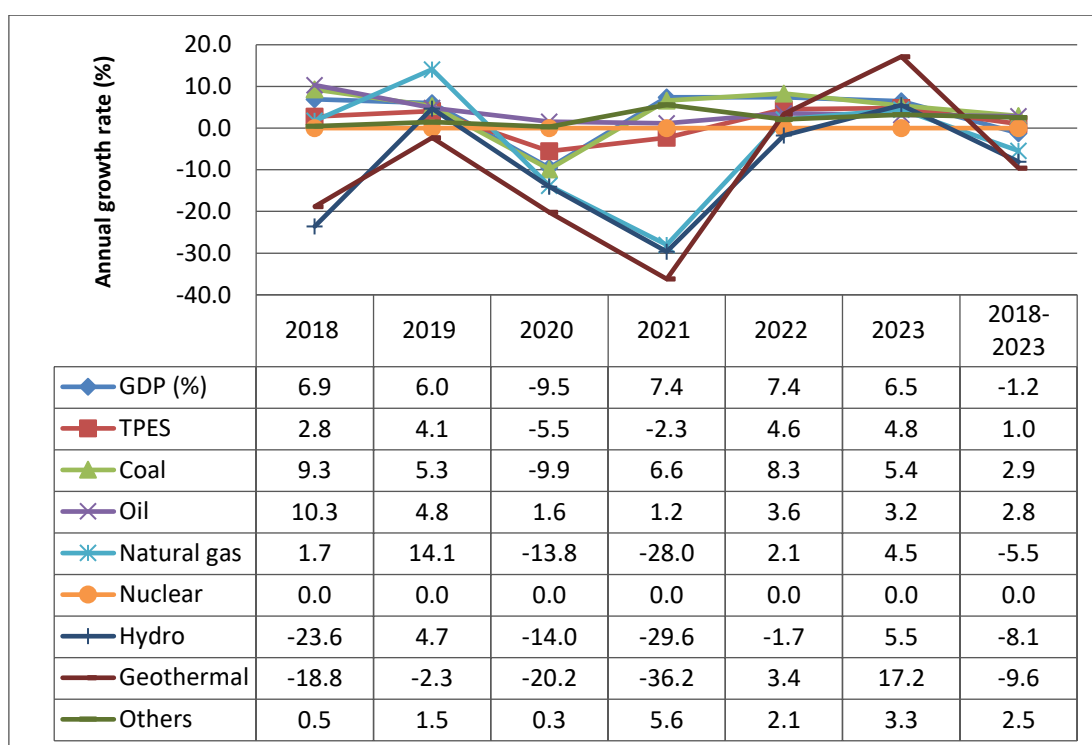
### 3.2. Primary Energy Supply

Total primary energy supply (TPES) grows more slowly in the short term by 1.0% in the COVID-19 scenario (2.0% in BAU). All fuel sources have negative growth, except oil and biomass,

because of the large decrease in electricity demand.

Oil demand declines but growth remains positive at 1.6% in 2020 because transport consumption of gasoline and diesel picked up as restrictions were gradually lifted and mobility increased. Coal remains the top source of power generation in the short term even with growth declining steeply by 9.9% in 2020. Coal’s actual share in gross power generation stands at 57.2% in 2020 (Department of Energy, 2020).

**Figure 14.3. Annual Growth Rate of Primary Energy Supply, by Source, COVID-19 Scenario, 2018–2023**



GDP = gross domestic product; others = commercial, residential, and agriculture sectors; TPES = total primary energy supply.

Source: Authors.

Geothermal growth drops the most, by 20.2%, in the COVID-19 scenario (6.6% in BAU). In 2020, hydro’s annual average growth rate is –14.0% and natural gas’ –13.8%. Although renewable energy–based sources must meet a certain percentage for dispatch in the wholesale electricity market, non-renewable sources as baseload supply are prioritised. In 2020, 20%–30% or about 3,000 megawatts of actual peak demand were shaved off the Luzon grid alone during the lockdown (Medenilla, 2020). Electricity consumption decreased from 106,041 gigawatt hours (GWh) in 2019 to 101,756 GWh in 2020. The residential sector accounted for the lion’s share at 33.7% (34,292 GWh), a 12.0% increase from the previous year. However, industrial consumption decreased by 9.0% and commercial consumption by 19% (Department of Energy, (2020. With depressed electricity demand, all fuel sources for

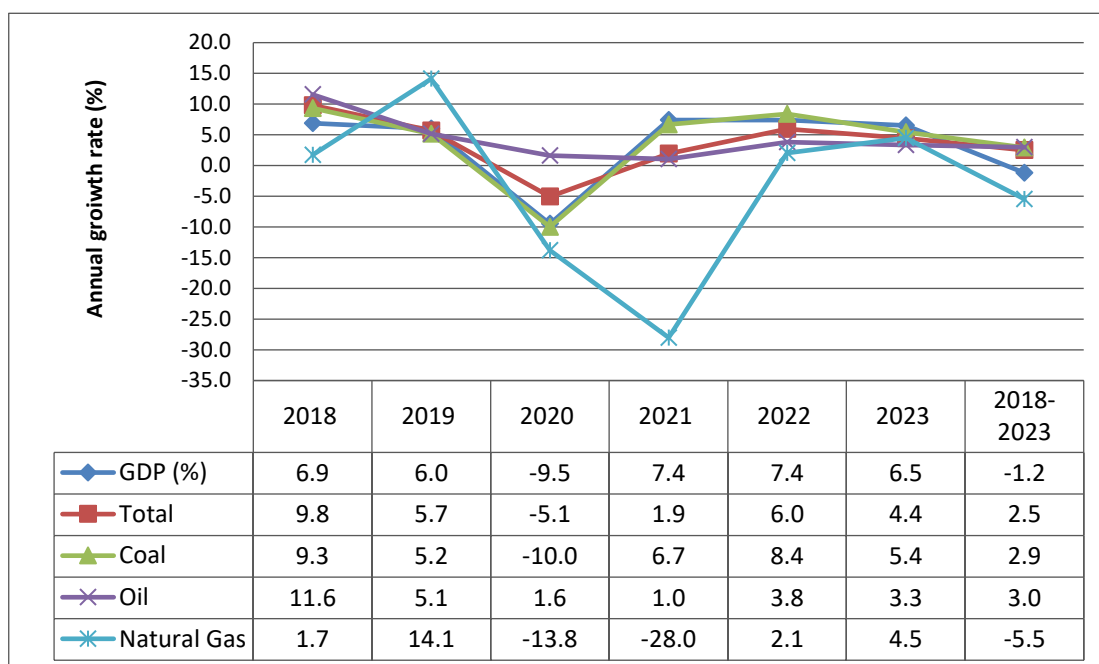
power generation face stiffer competition to be dispatched in the power market.

The primary energy supply gradually rebounds in 2021 and all sources have positive growth in 2023 as the economy starts to open up.

### 3.3. CO<sub>2</sub> Emissions

Because of lower energy consumption, greenhouse gas emissions in the COVID-19 scenario grow by 2.5% in 2018–2023 (3.7% in BAU scenario). In 2020, the largest decrease in growth is from natural gas (13.8%) followed by coal (10.0%) and oil (1.6%), following the trend in TPES.

**Figure 14.4. CO<sub>2</sub> Emissions, by Source, COVID-19 Scenario, 2018–2023**



COVID-19 = coronavirus disease, GDP = gross domestic product.

Source: Authors.

## 4. Long-term Impact (2023–2050)

The COVID-19 scenario has a more moderate impact in the long term than in the short term. The average annual growth rate of GDP output decreases from 5.5% in BAU to 5.3% in the COVID-19 scenario in 2017–2050. The decline is reflected in TFEC, where long-term average growth rate drops from 3.6% in BAU to 3.5% in the COVID-19 scenario. Recovery is slow in the short term from 2023. However, the average annual growth rates for TPES and CO<sub>2</sub> emissions are the same in BAU (3.5%) and the COVID-19 scenario (4.3%) in 2017–2050 (Table 14.4).



**Table 14.4. Gross Domestic Product Compared with Total Final Energy Consumption, Total Primary Energy Supply, and CO<sub>2</sub> Emissions, Business-as-Usual vs. COVID-19 Scenarios, 2017–2050**

Indicator	Scenario	2017	2023	2030	2040	2050	AAGR (2017– 2050)
GDP (constant PHP trillion)	BAU	8.7	12.2	17.8	30.1	50.0	5.5
	COVID-19	8.7	10.9	16.3	28.0	48.4	5.3
	COVID-19 vs. BAU (% change)	0.0	-10.7%	-8.4%	-7.0%	-3.2%	
TFEC (Mtoe)	BAU	36.7	46.2	59.8	85.0	116.1	3.6
	COVID-19	36.7	45.2	58.2	82.7	114.3	3.5
	COVID-19 vs. BAU (% change)	0.0	-2.2%	-2.6%	-2.7%	-1.6%	
TPES (Mtoe)	BAU	56.0	63.6	83.7	118.3	176.7	3.5
	COVID-19	56.0	60.6	79.8	113.4	172.6	3.5
	COVID-19 vs. BAU (% change)	0.0	-4.7%	-4.6%	-4.1%	-2.3%	
CO <sub>2</sub> emissions (Mt-C)	BAU	32.1	42.2	56.9	86.4	130.5	4.3
	COVID-19	32.1	39.9	53.9	82.4	127.7	4.3
	COVID-19 vs. BAU (% change)	0.0	-5.5%	-5.2%	-4.6%	-2.2%	

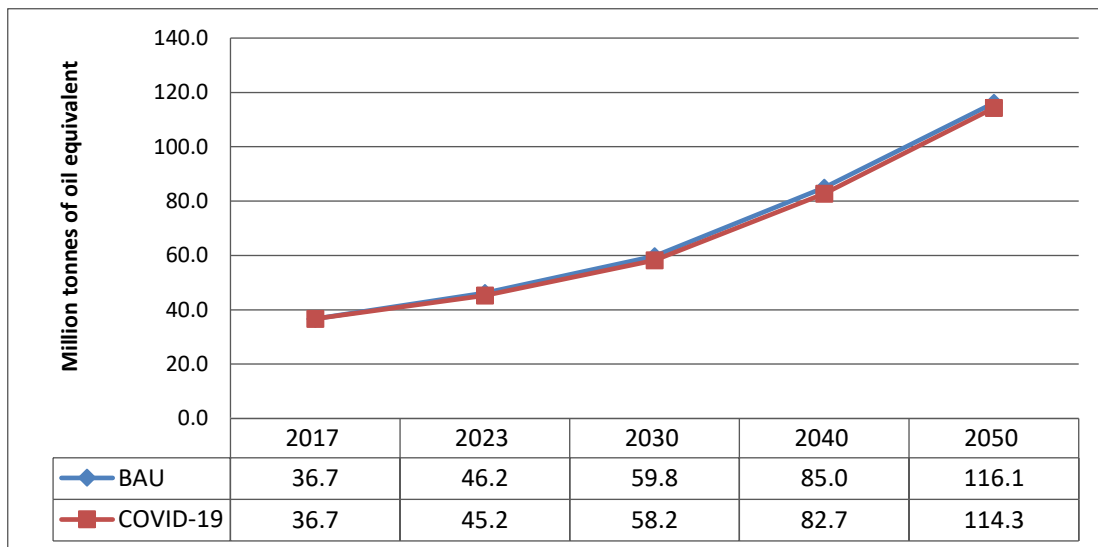
AAGR = average annual growth rate, BAU = business as usual, COVID-19 = coronavirus disease, GDP = gross domestic product, Mt-C = million metric tonnes of CO<sub>2</sub> equivalent, Mtoe = million tonnes of oil equivalent, TFEC = total final energy consumption, TPES = total primary energy supply.

Source: Authors.

#### 4.1. Final Energy Consumption

TFEC in the COVID-19 scenario catches up with BAU by 2030 and reaches 114.3 Mtoe, lower than BAU by 1.6%. The gap is widest by 2040 at 2.7% before it shrinks to 1.6% in 2050 (Figure 14.5).

**Figure 14.5. Total Final Energy Consumption, Business-as-Usual vs. COVID-19 Scenarios, 2017–2050**



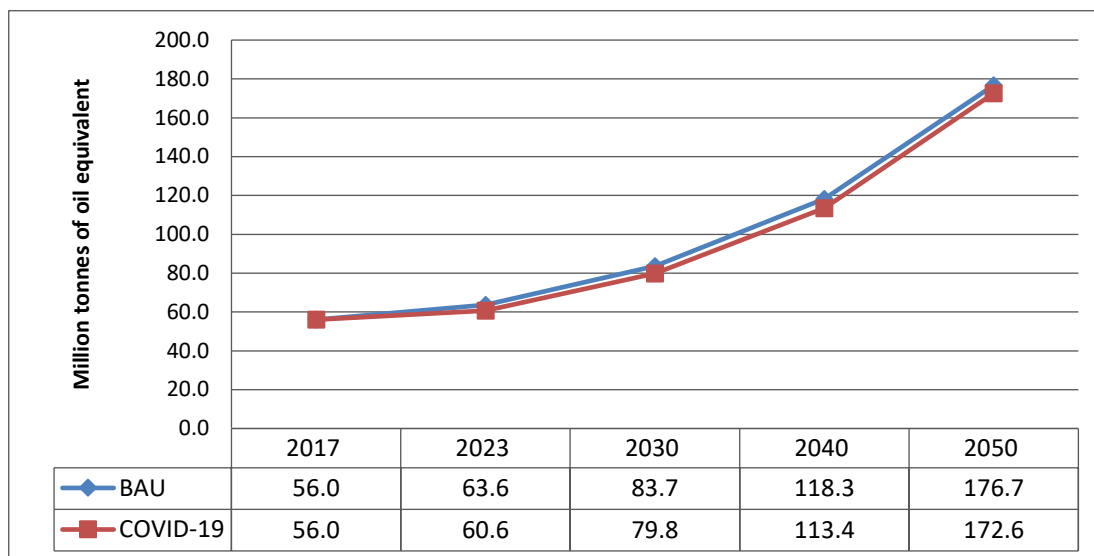
BAU = business as usual, COVID-19 = coronavirus disease.

Source: Authors.

#### 4.2. Primary Energy Supply

TPES increases by an average of 3.6% per year in 2017–2050 in the BAU and COVID-19 scenarios and is slightly lower than in BAU with a –2.3% change in output in 2050 (Figure 14.6).

**Figure 14.6. Total Primary Energy Consumption, Business-as-Usual vs. COVID-19 Scenarios, 2017–2050**



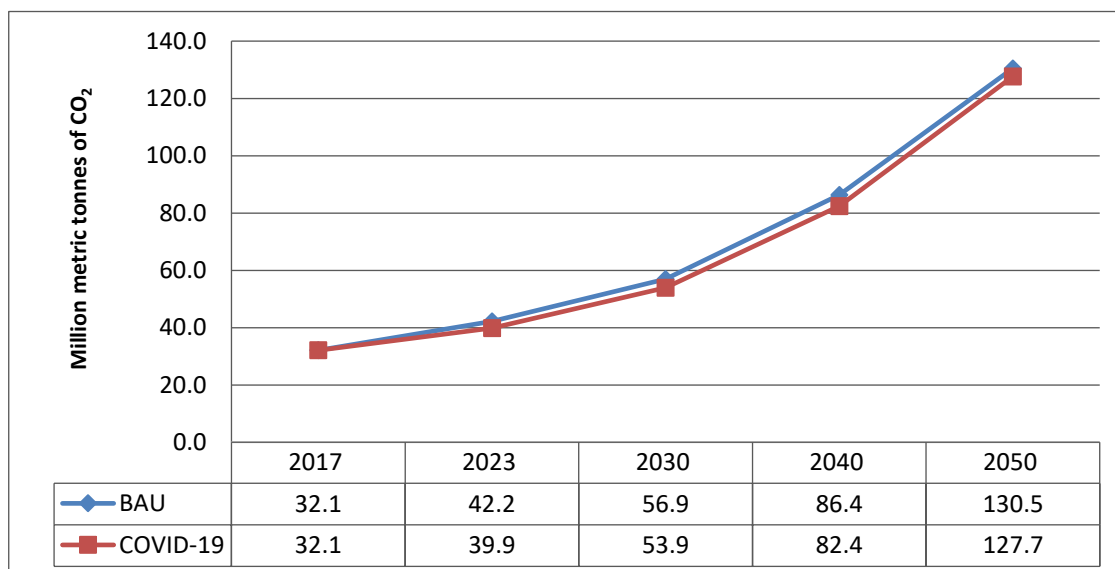
BAU = business as usual, COVID-19 = coronavirus disease.

Source: Authors.

### 4.3. CO<sub>2</sub> Emissions

In the COVID-19 scenario, CO<sub>2</sub> emissions grow more slowly than in BAU, by an average of 4.3%, in 2017–2050. CO<sub>2</sub> emissions are 127.7 Mtoe by 2050 (Figure 14.7).

**Figure 14.7. Total CO<sub>2</sub> Emissions, Business-as-Usual vs. COVID-19 Scenarios, 2017–2050**



BAU = business as usual, COVID-19 = coronavirus disease.

Source: Authors.

## 5. Implications and Policy Recommendations

The COVID-19 pandemic is a “black swan” event that has resulted in the deepest and worst economic downturn since the 1980s. The Philippines was the fastest-growing economy in the Association of Southeast Asian Nations (ASEAN) pre-pandemic. In 2020, however, the economy contracted by 9.5%, with the lowest growth in Southeast Asia. The government implemented health protocols and lockdowns, but prolonged restrictions have suppressed economic activity, leading to economic recession.

With GDP growth rate as a major indicator, the estimates adopted from IMF (2020) projections are conservative estimates in the short and long term. To see the varying impacts of this indicator, a higher GDP estimate may be used to force short-term recovery and achieve pre-pandemic economic levels. GDP higher than 6.5% can be targeted in 2023–2030.

Price drives energy demand. Economic restrictions bring down energy consumption, lowering energy demand. Although energy demand generally follows the GDP trend, this may not be the case in an economic shock such as the COVID-19 scenario. For example, the shift in sector demand is not driven by price or other economic indicators per se but is a forced change resulting from pandemic requirements. Work from home increased residential consumption regardless of the price of electricity. Hence, actual data must be used to further understand the COVID-19 scenario’s real effect on sector and fuel demand. Projections for primary energy supply’s reaction to the GDP growth rate may also differ from actual 2020 data.

In the long term, TFEC does not rebound to BAU given the GDP estimates because of the strong negative impact of the COVID-19 scenario in 2020. However, the scenarios’ estimates are extremely close by 2040. TPES grows at a similar pace as TFEC, by an average of 3.5%, in the COVID-19 scenario. Emission reductions are a positive impact, with estimated avoided greenhouse gas emissions as much as 2.8 million metric tonnes of CO<sub>2</sub> in 2050.

The plans, programs, and strategies in the Philippine Energy Plan 2018–2040 should be reviewed and updated, considering the impacts of the COVID-19 pandemic. Economic agencies’ requirements for economic recovery plans and policies to spur growth may be higher to meet the country’s energy needs. More energy is required to meet such ambitious economic targets. The energy sector must gear up and perform better than it did pre-pandemic. During the recession, the government should consider restructuring the economy to make it more resilient, robust, and responsive to shocks.

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