



Summary

Indonesia is the fifteenth largest country in the world, with a total area of roughly 1,904,569 km². Consisting of over 17,000 islands, it is the largest archipelago in the world and home to roughly 273 million people. The country's population is highly concentrated on two islands, Java and Sumatra, which collectively account for 77.1% of the total population. The capital city of Indonesia is Jakarta and is situated on the island of Java. Indonesia is the world's largest Muslim country, with roughly 87.2% of the country's inhabitants following the religion.

Coincidentally, the fifteenth largest country in the world is also the fifteenth largest economy. Indonesia's GDP stood at USD1,060 billion in 2020 and has increased at an average rate of 4.6% since 2011; equal roughly to the Philippines' average GDP growth and eclipsing that of Malaysia, Thailand and Sri Lanka.

The seventh and current president of Indonesia is Joko Widodo, who captured 55.5% of the votes in the 2019 presidential election. Indonesia operates under a multi-party parliamentary, with sixteen parties sharing

157,475,213 total votes. The Indonesian Democratic Party of Struggle, of which President Widodo is a member, received the highest share of votes at roughly 19.3%. The Indonesian Democratic Party of Struggle, Golkar and the Great Indonesia Movement Party won the largest share of seats, capturing 22.3%, 14.8% and 13.6% respectively.

The World Bank's Ease of Doing Business Index ranked Indonesia 73rd of 190 countries, with its score up 1.4 percentage points on the year prior. Several topics are considered when determining a country's ranking including the ease of starting a business, the ability to enforce contracts and the ability to obtain construction permits.

Bank Indonesia (The Central Bank of Indonesia) is mandated with creating rupiah stability. The bank has adopted an Inflation Targeting Framework since July 2005, aimed at controlling inflation and thus, meeting its mandate. The inflation target is publicly announced, with monetary policy subsequently implemented thereafter. The Government set the inflation target for 2019-2021 at 3.5%, 3% and 3% respectively within a ±1% corridor.

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With innovation, superior human resources and technology, we will escape our dependence on natural resources.

Joko Widodo, current president of Indonesia

"



The Global Infrastructure Hub, a G20 initiative, publishes the infrastructure investment needs of 56 countries globally. The most recent projection placed Indonesia's infrastructure investment gap (the difference between current and required spending plans) at USD70 billion. The country is in the process of delivering important infrastructure projects including a high-speed railway that will eventually serve four main stations between Bandung and the country's capital Jakarta.

As of June 2020, Indonesia's total installed power generating capacity was 71 GW. Roughly 14.7% of the country's capacity is classified as renewable, of which hydro and geothermal account for 58.1% and 20.3% respectively. The country is still heavily dependent on coalfired electricity generation, with the electricity generated by the fossil-fuel having grown at a CAGR of 10.7% between 2009 and 2019. A further 21,000 MW of coal-fired capacity is continuing to be developed and thus, incentivising the deployment of renewable energy infrastructure should be a priority.

The Perusahaan Listrik Negara (PLN) or National Electricity Company, a state-owned entity (SOE), is the dominant force in Indonesia's electricity sector. In a positive move, the SOE has pledged its desire for carbon neu-

trality by 2050. The challenge ahead is, and will continue to be, difficult although the implementation of renewable energy policy should help. The Indonesian government has removed the requirement for independent power producers to operate under a Build-Own-Operate-Transfer scheme and has implemented a 'must-run' policy that requires the PLN to prioritise the dispatch of renewably-generated electricity. A renewable energy tariff is in the pipeline and should provide a much-needed stimulus for further renewable deployment.

BTI 2020

The Bertelsmann Stiftung Transformation Index (BTI, scale 1 to 10) analyses and evaluates the quality of the democracy, market economy and political management in 137 developing and transitioning countries. Progress and regress is measured on a path to constitutional democracy and a market economy accompanied by social policy.

Status Index

6.3 #47 || 137 Indonesia

5.5 Asia/Oceania*

Democracy Status

.5 #52 || 137

5.3 Asia/Oceania*

Market Economy Status

6.1 #50 || 137

5.7 Asia/Oceania*

Governance Index

5.4 #50 || 137

4.9 Asia/Oceania^a

*Regional average

INDONESIA

AN OVERVIEW



INDONESIA

HAS THE WORLD LARGEST...



muslim population with 231 million people.

INDONESIA

IS THE WORLD ...



4th largest country by total population with 273 million people.



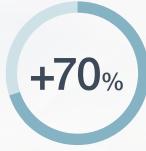
Average age of population: 29.7 years

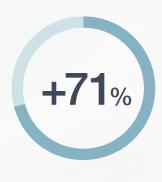
Indonesia consists of more than 17,000 islands though more than 75% live on just two of them.



The population density of Jakarta is 1,171 per km², almost 8 times greater than the country's average.







BBB

WITH NEGATIVE **OUTLOOK**

POPULATION GROWTH

from 2000 - 2030

GDP GROWTH

POWER CONSUMPTION

from 2010 - 2018

CREDIT RATING

Standard & Poor's





FOURTH

largest population in the world, which will increase by 30 million by 2050



72nd

of 141 countries in the world by infrastructure quality

Indonesia is the fifteenth largest economy in the world with a GDP of 1,060bn US Dollars.



14%

only 14% of power generating capacity comes from renewable energy.



Indonesia accounts for 9% of the worlds coal consumption.



Geography

Located off the coast of mainland Southeast Asia, Indonesia is the largest archipelago in the world. The total area of Indonesia stands at 1,904,569 km2; of which 95% is land and 5% is water, making it the world's 15th largest country. According to the United Nations Population Division (UNPD), Indonesia's population at end-2020 was 273,524,400 people. It is therefore the world's fourth most populous country.

The country consists of over 17,000 different islands of which many are uninhabited. Indonesia has 34 different provinces, the highest-level of administrative sub-division. Immediately below the provinces lie the regencies and cities; the second-level administrative sub-divisions. The classification of an area, be it regency or city, depends on its demography, size and economy. A city is normally classified by non-agricultural economic activities. Generally, a regency comprises a rural area larger than a city and includes various towns. In total, there are 514 second-level administrative sub-divisions, of which 416 are regencies and 98 are cities.

The island of Java is home to six different provinces; Banten, Central Java, East Java, West Java, Special Capital Region of Jakarta and Special Region of Yogykarta. The Central Bureau of Statistics' (CBS) latest population projections put the island of Java's total population at 151,650,200 people. With a total estimated population of 273,524,000, the island accounts for roughly 55.4% of Indonesia's

population; despite only accounting for 6.8% of Indonesia's total land mass. As a result, the population density of Java is roughly 1,171 people per km² and around eight times greater than the country's average. A country comparison can help to provide perspective: the island of Java is just over half the size of the United Kingdom yet its population more than double. Whilst the population density differs across islands, it also varies significantly within. The Special Capital Region of Jakarta has an area of roughly 664 km² and a population of 10,576,400 million people. Its population density, therefore, is close to 16,000 people per km² and nearly 14 times greater than the island of Java's.

The island of Sumatra is home to ten Indonesian provinces and has a land mass of roughly 480,789 km². With a projected population of 59,196,800 million people, the island's population density equates to roughly 123.1 people per km²; around a tenth the density of Java.

CLIMATE: Indonesia's climate is almost entirely tropical. Whilst temperatures can vary across regions, they remain fairly constant. The CBS' most recent temperature recordings were in 2015, with the average, minimum and maximum temperature recorded for each of the 34 provinces. The maximum temperature recorded was 39.5°c in Central Java, with the minimum temperature of 15°c recorded in West Java. The average temperature across all provinces was 27.2°c, with Central Java recording the highest average temperature of 28.5°c.



Total land area:

1.904.569 km², 15th largest in the world, 95% land, 5%

Capital:

Jakarta

Time zone:

UTC+7h (West Indonesian Time), UTC+8h (Central Indonesian Time), UTC+9h (East Indonesian Time)

Currency:

Indonesian Rupiah (abbreviated as IDR)

Continent:

Coordinates: 6°10'S 106°49'E

Highest point:

Puncak Jaya (world's highest mountain on an island) 4.884m

Lowest point:

Indian Ocean 0 m

Longest river:

Kapuas River, 1,150km (located on island of Borneo)

Largest lake:

Lake Toba (on Sumatra Island), 87 km length and 27 km width (volcanic crater) In addition to providing temperature data, the CBS also publicises the yearly amount of precipitation across the country's 34 provinces. Indonesia's average rainfall stood at 1,871 mm in 2015, 22.4% lower than the prior 4 years' average' prior average. The province of Sumatera Barat experienced the highest rainfall at 3,548 mm; over three times the UK's average. The average number of rainy days stood at 144.4 in 2015.

AGRICULTURE: With increased industrialisation, the importance of Indonesia's agriculture industry has diminished and will likely continue to do so. Nevertheless, the sector remains an integral part of the country's economy, employing roughly 30% of its workforce. Having analysed the composition of Indonesian GDP, it can be seen that the agriculture, forestry and fishing (AFF) industry still plays its part. In 2020, AFF accounted for 12.9% of Indonesia's GDP, up half a percentage point on the year prior. The sector's share of GDP has remained largely consistent since 2014, averaging 12.8% and varying with a range of 0.7%. The 12.9% share of GDP in 2020 represented a 2.7 percentage point drop when compared to the composition of GDP in 2000. A further look back and the declining importance of agriculture is more easily seen; the sector accounted for nearly one-quarter of Indonesian GDP prior to 1990. Given that the AFF industry has experienced positive growth consistently since 2015, the country's changing GDP composition is attributed to higher sector growth elsewhere.

The agriculture sector is comprised of both large and small-holder estates. The large-scale, often mechanised plantations, are generally operated by state-owned entities or larger conglomerates. The smallholder estates, of which there are millions, often farm on areas of less than 2 hectares and produce crops for both income-generation and subsistence. The CBS' preliminary figures for 2020 put the number of large-estate crop companies at 3,001, of which 77.8% are engaged in the production of palm oil. The remaining 22.2% is comprised of rubber, coffee, tea, cocoa, tobacco and sugar cane producers. The number of large-estate palm oil producers has approximately doubled since 2010.

The total plantation area of the six crops previously mentioned, as well as coconut, stood at 25,470,800 hectares in 2020. Palm-oil plantations accounted for 58.3% of the total plantation area, with rubber and coconut accounting for 14.5% and 13.3% respectively. The total plantation area of sugar cane stood at 420,700 hectares, roughly 5.6% higher than the area of sugar cane planted in the Philippines' 2020-2021 calendar year. A total of eight Indonesian provinces are home to sugar cane plantations. Lampung, a province on the island of Sumatra, and East Java are the two largest sugar cane producing provinces and account for 31.3% and 43.4% of the country's sugar cane plantations respectively. The islands of Java and Sumatra are home to seven of the eight sugar cane producing provinces, with the province of Nusa Tenggara Barat the exception.

The Ministry of Agriculture (MOA) is responsible for overseeing the development of Indonesia's agricultural industry. The MOA published its 2020-2024 strategic plan for agriculture, outlining several objectives including increasing the production and productivity of strategic foods and the expansion of economic-based agricultural infrastructure.



Indonesia still has the third largest rainforest in the world (after Brazil and the Congo Basin). According to the Food and Agriculture Organization of the United Nations (FAO), more than 27 million hectares of forest land were lost between 1990 and 2015, roughly equivalent to the area of New Zealand.

The growth rate of Agriculture, Forestry and Fishing sub-sector GDP

Growth rate of AFF sub-sector GDP									
	2015	2016	2017	2018	2019	2020			
Food crops	4.3%	2.6%	2.3%	1.4%	-1.7%	3.5%			
Horticultural crops	2.3%	2.9%	3.7%	7.0%	5.5%	4.2%			
Plantation crops	2.0%	3.5%	4.5%	3.8%	4.6%	1.3%			
Livestock	3.6%	4.5%	4.0%	4.6%	7.8%	-0.3%			
Agricultural services and Hunting	3.8%	3.2%	4.1%	3.1%	3.2%	1.6%			
Forestry and logging	1.8%	-1.0%	2.1%	2.8%	0.4%	0.0%			
Fishery	7.9%	5.2%	5.7%	5.2%	5.7%	0.7%			
Agriculture, Forestry and Fishing	3.8%	3.4%	3.9%	3.9%	3.6%	1.8%			

Source: Bank Indonesia



Demographics

The Indonesian population is comprised of several different ethnic groups. The largest ethnic group in Indonesia is the Javanese who accounted for roughly 40.2% of the country's population in the 2010 census. The Sundanese are the second largest ethnic group in Indonesia, representing 15.5% of the population; approximately the same percentage as the next five largest ethnic groups combined. Those five ethnic groups are the Malays, the Bataks, the Madurese, the Betawis and the Minangkabaus who accounted for 3.7%, 3.6%, 3%, 2.9% and 2.7% of the population respectively. Additional ethnic groups include the Bantanese, the Banjarese and the Balinese.

According to the 2010 Census, 87.2% of Indonesia's population identifies as Muslim. The second largest religion followed is Christianity, representing 9.8% of the population. Of the 9.8% following Christianity, 6.9% identify as Protestant whilst the remaining 2.9% are Catholic. Around 1.7% of the population follows Hinduism, with the remaining population comprised of those following Buddhism, Confucianism, Indigenous religions, Gafatar or those who did not respond. According to the International Religious Freedom Report for 2019 by the US Department of State, many Indonesian religious groups incorporate elements of several religions. The Ministry of Religious Affairs (MORA) extends official recognition to six religious groups: Islam, Cathol-



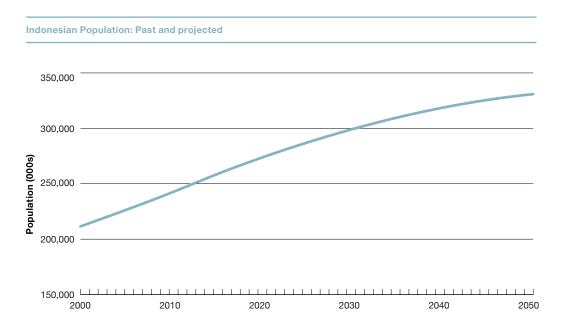
The approximately 273 million inhabitants of the island state belong to about 300 different ethnic groups and speak more than 700 languages and dialects.

Population of Indonesia and selected other economies

Country	Land Area (sq. km)	Populati	Population Density (km²)	
		2020	2050*	
Indonesia	1,826,440	273,524	330,905	150
Bangladesh	130,170	164,689	192,568	1,265
India	2,973,190	1,380,004	1,639,176	464
Philippines	298,170	109,581	144,488	368
Germany	349,380	83,784	80,104	240
United Kingdom	241,930	67,886	74,082	281

Source: United Nations Population Division, *prediction using medium fertility variant





Source: United Nations Population Division, *prediction using medium fertility variant

icism, Protestantism, Buddhism, Hinduism, and Confucianism.

Using a medium fertility variant, the UNPD anticipates the population of Indonesia reaching 330,905,000 people by 2050; a 21% increase on 2020. Of the six countries included in Table 1, only the Philippines' population is expected to grow at a faster rate than in Indonesia.

Whilst absolute population size is useful, a country's population density can also provide insight into the potential challenges facing its infrastructure. Indonesia's population density ranks lowest of the six countries studied, with India and the Philippines roughly 3x and 2.5x more densely populated respectively.



Economy

According to data published by the IMF, Indonesia's GDP stood at USD1,059.64 billion in 2020, making it the world's 15th largest economy. The emergence of COVID-19 marked the country's first contraction in GDP since the Asian financial crisis of 1998 when GDP fell roughly 13%. Thankfully, the fall in GDP for 2020 was significantly lower (-2.1%) and is expected to be followed by a swift recovery in 2021.

Between 2011-2020, average annual GDP growth for the countries selected below was 4.9%. Trailing by roughly three-tenths of a percent, Indonesia's average GDP growth was

4.6%, exceeding only that of Sri Lanka, Malaysia and Thailand. The IMF's growth forecast is slightly more promising, with the country's GDP expected to grow at an average of 5.27% per annum between 2021 and 2026.

TRADE: The total value of Indonesia's exports stood at USD159.8 billion in 2020, down 3.1% on the year prior. The annual figure marked the second consecutive fall in export value following the 7.7% fall between 2018 and 2019.

The composition of countries' exports varies significantly and often depends on the level of economic development. Indonesia's exports



Of the \$8.2 billion raised by Southeast Asian startups last year, 70% went to Indonesia.

GDP	arowth	(%)	of	Indonesia	and	selected	economies
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Country	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Bangladesh	6.5	6.5	6.0	6.1	6.6	7.1	7.3	7.9	8.2	3.8
China	9.5	7.9	7.8	7.4	7.0	6.9	6.9	6.7	5.8	2.3
India	6.6	5.5	6.4	7.4	8.0	8.3	6.8	6.5	4.0	-8.0
Indonesia	6.2	6.0	5.6	5.0	4.9	5.0	5.1	5.2	5.0	-2.1
Malaysia	5.3	5.5	4.7	6.0	5.0	4.5	5.8	4.8	4.3	-5.6
Philippines	3.9	6.9	6.8	6.3	6.3	7.1	6.9	6.3	6.0	-9.5
Sri Lanka	8.4	9.1	3.4	5.0	5.0	4.5	3.6	3.3	2.3	-3.6
Thailand	0.8	7.2	2.7	1.0	3.1	3.4	4.2	4.2	2.3	-6.1
Vietnam	6.4	5.5	5.6	6.4	7.0	6.7	6.9	7.1	7.0	2.9

Source: IMF World Economic Outlook

Value of Indonesia's exports (000s USD)

Type of Export	2015	2016	2017	2018	2019	2020
Agricultural Products	5,764,642	5,494,777	5,934,180	5,822,944	5,835,423	6,163,885
Manufactured Goods	106,188,347	106,660,895	122,131,803	126,817,901	123,006,747	125,856,052
Mining Products	34,444,764	29,751,815	37,578,472	44,118,624	34,158,426	26,893,285
Other Merchandise	1,326,902	1,197,123	1,357,266	1,943,268	1,910,394	885,546
Total	147,724,655	143,104,610	167,001,721	178,702,737	164,910,990	159,798,768

Source: Bank Indonesia

can be split into three main categories; agricultural products, manufactured products and mining products. Of the USD159.8 billion in export value, 78.8% or USD125.9 billion was generated from the exportation of manufactured goods. Looking in more detail, we see that the exportation of textiles and textile products, base metal products and palm oils account for 8.3%, 13.4% and 14.3% of total export value respectively. The emergence of COVID-19 affected many countries' international trade and Indonesia was no different. The demand for textiles and textile products fell 45.8% between February and May of 2020; the demand for palm oils also suffered, falling 28.6% over the same time-period. The exportation of mining and agricultural products accounted for 16.8% and 3.9% of total export value respectively in 2020.

Trade statistics for Indonesia are available from 2005-2012 and 2015 onwards. Indonesia witnessed a significant increase in the value of its exports between 2005 and 2012. The country's

export value grew at a CAGR of 11.6%, peaking in 2011 with an export value of USD198.5 billion. In fact, the export value for 2011 represented a 26.8% increase on the year prior; largely attributed to the 34% and 24.5% increase in the exportation value of mining and manufactured products respectively. From Table 2, it is clear that Indonesia did not sustain such values, with the 2020 export value representing a 19.4% fall from the all-time high.

In terms of exports, China is Indonesia's largest trading partner and has been since 2016. The value of goods exported from Indonesia to China has increased significantly, growing at a CAGR of 17.4%. Of the five countries, only China and the US experienced growth in the value of goods imported from Indonesia in 2020, with Singapore experiencing the largest decline. It is worth noting Indonesia's dependency on exporting goods to Asia and the Middle East; roughly 72.3% of the country's export value was generated from sales to the region.



The dynamic economic development of the past ten years, with annual growth rates of around five to six percent, has made Indonesia an attractive market.

Top 5 destinations of Indonesian exports (000s USD)

Rank	Country	2015	2016	2017	2018	2019	2020
1	China	14,611,015	17,037,050	23,238,232	26,946,250	27,912,462	32,570,860
2	United States	15,977,225	16,068,802	17,761,095	18,454,928	17,814,460	18,638,343
3	Japan	17,455,820	15,265,069	17,026,602	18,763,677	15,272,018	13,583,330
4	Singapore	11,770,922	11,141,463	12,751,079	13,831,319	12,904,470	10,620,506
5	India	11,635,073	10,076,131	13,997,145	13,712,737	11,797,304	10,198,718

Source: Bank Indonesia, ranking of countries corresponds to 2020 export value

Source of Indonesian imports (000s USD)

Rank	Country	2015	2016	2017	2018	2019	2020
1	China	29,381,441	30,677,815	34,292,172	43,678,116	43,165,693	38,426,488
2	Singapore	17,784,006	14,501,421	18,217,827	23,957,617	20,168,411	13,525,467
3	Japan	13,255,694	12,981,644	15,363,524	18,304,503	16,084,462	10,777,903
4	United States	7,608,621	7,419,480	8,156,624	10,133,329	9,292,376	8,526,133
5	South Korea	8,424,260	6,657,910	8,354,646	9,350,079	8,707,588	7,050,363

Source: Bank Indonesia, ranking corresponds to 2020 import value

In 2020, the value of goods imported into Indonesia stood at USD139.3 billion; a significant decline of 18.9% on the year prior. The importation of industrial supplies (processed) accounted for 34.7% of Indonesia's import bill. In addition, the importation of capital goods (excluding transport equipment) and parts/accessories for capital goods accounted for 15.6% and 12.7% of Indonesia's import value. Given the importance of Indonesia's manufacturing sector, the composition of its imports is unsurprising.

The largest source of Indonesian imports is China, accounting for roughly 27.6% of import value. In fact, the difference between China and the four other countries combined, in terms of import value, is only USD1.5 billion. It is clear to see that Indonesia is dependent on China, in relation to both the importation and exportation of goods.

As of March 2021, Indonesia's foreign exchange reserves stood at USD137.1 billion, down USD1.7 billion from the month prior; February's reserve level was Indonesia's highest on record. Bank Indonesia referenced the country's reserve level and noted it could cover 10.1 months of imports.

Indonesia's current account deficit stood at USD4.7 billion in 2020; as a share of GDP, the current account deficit equated to 0.45%. Bank Indonesia's balance of payments data stretches back to 2014, with the country having operated in a current account deficit for each year. The current account deficit recorded in 2020 was the lowest on record in that time-frame, largely attributed to the fall in imports.

EMPLOYMENT: The Central Bureau of Statistics (CBS) is responsible for the publication of Indonesia's employment data. The CBS publicises its findings bi-annually, both in February and in August. As of August 2020, Indonesia's working age population (15+) amounted to 203.97 million people. Whilst members of the population may be suitable for work, the

pursuit of education, retirement etc. means that the country's labour force is significantly lower. Indonesia's labour force stood at 138.22 million people in August 2020; of which 128.45 million were in employment and 9.77 million unemployed. The country's unemployment rate therefore stood at 7.07%, up 2.13 percentage points in comparison to February 2020 and up 1.84 percentage points year-on-year. Perhaps unsurprisingly, the CBS highlights COVID-19 as a factor for Indonesia's 'significant increase in unemployment".

In August 2020, three sectors accounted for 62.6% of Indonesian employment:

- Agriculture, Forestry and Fishing 29.76%
- Wholesale and retail trade; repair and maintenance of cars and motorbikes 19.23%
- · Manufacturing 13.61%

Interestingly, the unemployment rate in Indonesia is higher for those living in an urban area as opposed to those living in a rural location. In August 2020, the unemployment rate for Indonesia's urban population stood at 8.98%, up 2.69 percentage points on the year prior. In contrast, the unemployment rate for the country's rural population stood at 4.71%. As shown above, the agriculture, forestry and fishing industry is a significant source of employment and is likely to benefit those living rurally. An additional feature of Indonesian employment that differs from many other countries is that male unemployment exceeds that of their female counterparts. The male unemployment rate stood at 7.46% in August 2020, whilst the percentage of females unemployed stood at 6.46%.

Whilst the unemployment rate for Indonesia's male population exceeds that of the female population, the monthly wages differ. The average monthly wage for males stood at 2.98 million rupiahs whereas females commanded an average monthly wage of 2.35 million rupiahs. The average monthly wage of those in urban areas is greater than the average monthly wage experienced in rural locations.



Economic and business environment

FOREIGN INVESTMENT: The Indonesian Investment Promotion Centre (IIPC) is tasked with promoting Indonesia as an attractive investment opportunity for foreign investors. The IIPC helps foreign investors navigate the investment pathway and provides the necessary information needed to secure foreign investment.

The country has several investment incentives including tax holidays and import duty exemptions. The size of the tax holiday depends on the size of the initial investment:

- Investments in excess of 500 billion IDR (roughly USD35 million)
 - 100% single rate reduction
- 50% CIT reduction for the next two years
- · Investments between 100 and 500 billion IDR
 - 50% single rate reduction
 - 25% CIT reduction for the next two years

Investment into economic infrastructure is covered by the tax holidays above and includes investment into power plants. Additional tax incentives are available, depending on the absorption of local labour, use of local inputs etc.

There is also an exemption of import duty on the importation of capital goods for two years during the construction period. EASE OF DOING BUSINESS: The World Bank's Ease of Doing Business Index assesses 190 economies and their respective business regulations. A higher ranking indicates a more favourable regulatory environment in which to operate a business. In 2020, Indonesia ranked 73rd in the index. The ranking is based on several topics; including contract enforcement and dealing with construction permits, for which Indonesia ranked 139th and 110th respectively.

The IIPC highlights political stability, economic prowess and the ability of its workforce as reasons to invest in the country. Furthermore, as the only south-east Asian member of the G20, the IIPC highlights the global influence Indonesia has and its duty to represent the voice of developing countries.

The Indonesian government updated its investment list in 2021 allowing further investment into sectors that were previously subject to restrictions. Whilst it does not directly affect the likely sectors of investment for ThomasLloyd, it is seen as an attempt to make Indonesia a more attractive proposition in terms of foreign investment.

CREDIT RATING: In April 2020, Indonesia's credit rating outlook was downgraded by S&P from 'stable' to 'negative'. The credit rating agency had raised the country's debt rating to



Indonesia is seen as a future economic giant. It is the largest economy in Southeast Asia and the world's seventh by purchasing power parity (Index Mundi, 2020).

The usual key drivers of the economy are private domestic consumption - stimulated by its huge market with a growing middle class of nearly 70 million people (55% of GDP).



BBB in May 2019, however it has since been revised down. Indonesia witnessed significant depreciation of the Rupiah and the agency expects that the country's debt burden will increase. The government issued emergency regulations in 2020 to waive the fiscal deficit ceiling of 3% of GDP.

MONETARY POLICY: Bank Indonesia (Central Bank of Indonesia) is mandated with creating and maintaining rupiah stability. Rupiah stability is determined in two ways; the price stability of goods and services (inflation) and the rupiah exchange rate stability against other currencies.

On 1st July 2005, Bank Indonesia adopted an Inflation Targeting Framework (ITF) and thus, controlling inflation is the primary objective. The 'inflation target corridor' is publicly announced and monetary policy is subsequently implemented to achieve that target.

Bank Indonesia announces the inflation target for a specific future period. In co-ordination with the government, Bank Indonesia sets the inflation target for the upcoming three years. The government set the inflation target for 2019-2021 at 3.5%, 3% and 3% respectively within a $\pm 1\%$ corridor. One of the main tools used to influence inflation is setting the BI 7-day repo rate.

Finally, Bank Indonesia acknowledges the importance of the government in helping control inflation. The impact of government policies is often felt on the supply-side and can have an impact on prices. As a result, the relevant organisations need to work in tandem to achieve an effective policy mix with the aim of maintaining inflation within the corridor.

GOVERNMENT REVENUE, EXPENDITURE AND DEBT: According to Bank Indonesia data, Indonesia's government revenue in 2019 stood

at USD137.5 billion, up 0.87% on the year prior. Each year, forecasts for both government revenue and expenditure are made. In 2019, the government's actual revenue fell short of the forecast by 9.4%. The composition of government revenue is also provided, with income tax revenue accounting for 39.4%.

In 2019, government expenditure stood at USD161.9 billion, up 4.4% on the year prior. A simple calculation of revenue less expenditure shows that the Indonesian government debt grew further in 2019. That trend is expected to continue given the emergence of COVID-19 and the relaxation of the fiscal deficit ceiling as mentioned previously.

Politics

As in the United States, Indonesia has a presidential system whereby the president is head of both state and government. As part of an amendment to the country's constitution (originally adopted in 1945), the president must be directly elected by the people rather than by the parliament.

Indonesia's independence from the Netherlands was proclaimed on 17 August 1945, by Sukarno and Mohammad Hatta; two prominent advocates for independence and the country's first president and vice-present respectively. Although independence was proclaimed in 1945, the transfer of sovereignty did not take place until the end of 1949. President Sukarno remained in office until 1967 where he was toppled by General Suharto. According to a publication by the European Parliament, General Suharto ruled Indonesia with an 'iron fist' with his regime labelled the 'New Order'. Suharto eventually fell from power in 1998. There have been five presidents in power since Suharto, with Joko Widodo the country's incumbent. Indonesia's presidency is now subject to a maximum of two 5-year terms. Interestingly, presidential candidates can only be nominated by political parties who have won at least 20% of seats or 25% of votes in the prior parliamentary election. Evidently, this restricts the number of parties with the ability to nominate candidates. Joko Widodo received 55.5% of the presidential vote, beating Prabowo Subianto, the only other candidate.

The People's Consultative Assembly, Indonesia's bicameral parliament, is comprised of two houses; the House of Representatives (DPR) and the Council of Representatives of the Regions (DPD). The DPR is responsible for the country's legislation and budget and consists of 575 seats. Indonesia has 80 constituencies, with the number of seats on offer for each constituency ranging from 3 to 10. The members are elected by proportional representation on a party-list system; a party must have at least 4% of the national vote to have seats in the DPR. The DPD is responsible for debating regional matters and can present bills on regional mat-

ters to the DPR. The Council of Representatives of the Regions does not adopt legislation itself. Votes for the DPD are cast in tandem with those for the DPR, with four members elected for each of Indonesia's 34 provinces. All laws must be adopted by Parliament and have preliminary approval of the president. The president can be impeached by the Parliament providing a two-thirds majority vote is cast.

Indonesia operates under a multi-party parliamentary system, with a single party yet to have captured an outright majority in a democratic election. In the 2019 election, the Indonesian Democratic Party of Struggle (Joko Widodo's party) captured the highest percentage of the public vote at 19.3%. The Great Indonesia Movement Party and the Golkar party followed behind, capturing 12.6% and 12.3% respectively.

LEGAL SYSTEM: The Indonesian judicial body consists of the Supreme Court, general courts, military courts, religious courts, state administrative courts and the Constitutional Court. The Constitutional Court is responsible for overseeing any impeachment process. In addition, the court has the authority to review laws contrary to the Constitution, settle government disputes, dissolve political parties and settle election disputes.

Indonesia's main legal system is civil law, as adopted under Dutch colonial rule. In addition, the country also recognises the customary legal system as well as the religious legal system. The province of Aceh is the only province currently implementing Sharia law; a religious code for living that all Muslims should adhere to.

In general, there are three courts in Indonesia: district courts, the high courts and the Supreme Court. Legal disputes will begin in the district courts, before being escalated to the high courts and subsequently the Supreme Court if required.



Indonesia is planning to move its capital from Jakarta in Java to a new city in East Kalimantan on the island of Borneo. The project is estimated to cost over \$33 billion.

Infrastructure

As of 2019, the total length of roads in Indonesia was 544,474 km, of which 325,606 km and 218,868 km were asphalted and non-asphalted respectively. The country's toll-roads reached a total length of 2,346 km at the end of December 2020, up 258 km on the year prior. Although the length of toll-roads increased by 12.4%, the realised figure fell short of the government's target. By 2024, the Indonesian government is aiming to more than double the current length of toll-roads, a difficult feat if current growth rates are maintained. In fact, a CAGR of 19.4% would be required to reach the goal by the end of 2024.

There are 297 airports in Indonesia. The Directorate General of Civil Transportation is responsible for overseeing and regulating Indonesia's airport infrastructure. 26 of the 27 busiest airports in Indonesia are managed by two state-owned enterprises; Angkasa Para I and Angkasa Para II. Angkasa Para I oversees the operation of 15 airports including Bandara I Gusti Ngurah Rai, the main airport serving the tourist hotspot of Bali. The fifteen airports served 32,710,820 passengers in 2020. In addition, a total 436,048 tonnes of cargo went through the airports. Garuda Indonesia is the country's national carrier.

The World Bank puts the length of Indonesia's railway network at 6,062 km. The number of railway passengers stood at 186,125,000 in 2020, down significantly on the year prior when the number of passengers totalled 428,006,000. Train travel in Indonesia is restricted to the two main islands of Java and Sumatra. A joint-venture between Chinese and Indonesian companies has resulted in the planned construction of the Jakarta-Bandung High-speed railway. With an expected investment totalling USD6.07 billion, the trains will serve four main stations between Bandung and the country's capital Jakarta. The trains will travel at 350 kilometres per hour, drastically reducing travel times by around 75% from 3 hours to 45 minutes. The emergence of COVID-19 has contributed to the project's slowing, with 2022 now earmarked as the year for operation.

In 2019, 73.8% of Indonesian households accessed the internet, up roughly 7.5 percentage points on the year prior. Of the 34 provinces, Papua ranked the lowest in terms of internet access, with only 31.3% of households having accessed the internet within a 3-month

period. As one would expect, the percentage of households accessing the internet differed significantly between urban and rural households. The urban average stood at 83.6% whereas only 61.2% of households in a rural location had accessed the internet. As of 2019, only 14.5% of the Indonesian population were using computers. As with internet access, Papua lagged the country average, with only 8.2% of its population using computers. As computer use increases, the need for both reliable energy and broadband infrastructure will prove key.

Indonesia is home to Southeast Asia's fifth biggest port, with an annual traffic of 7.6 million TEU's. A TEU or twenty-foot equivalent unit is used to measure cargo capacity, with the two common container sizes being 20 and 40 feet long. The Port of Tanjung Priok, or Port of Jakarta as it is more commonly known, handles 50% of the country's shipping traffic. The port is currently undergoing expansion, with an anticipated completion date of 2023. The expansion is expected to more than double the annual traffic currently received. In addition, it will enable the port to handle the largest ships currently in service, as well as those expected to come online in the future. The Quebec-based pension fund, Caisse de dépôt et placement du Québec (CDPQ), has also ventured into Indonesia's port infrastructure. The pension fund is part of a joint-venture with the aim of developing and subsequently operating a container port in East Java.

The improvement of infrastructure is a key driver of economic growth. The Global Infrastructure Outlook, a G20 initiative, aims to forecast the level of infrastructure investment needed for several countries. The investment gap, the difference between investment at current trends and the level of investment forecast to be needed, stood at USD70 billion for Indonesia for the period 2015-2040. The investment gap can be further analysed by sector, with the USD70 billion divided as follows:

· Telecommunications: USD2.9 billion

Airports: USD2 billionWater: USD65 billion



About 1 million motor vehicles and 7.5 million motorcycles and scooters are added to Indonesia's roads every year.

Energy market

Electricity is important from both an economic and social perspective. The provision of electricity in Indonesia is seen as vital and is thus controlled by a state-owned entity (SOE). The Perusahaan Listrik Negara (PLN) or National Electricity Company is responsible for the majority of Indonesia's electricity generation. In addition, the powers over transmission, distribution and supply are almost exclusively held by the PLN.

The Ministry of Energy and Mineral Resources (MEMR) is responsible for overseeing the country's electricity sector and is responsible for both the formulation and implementation of Indonesian energy policy. The Directorate General of Electricity (DGE) plays a role within the MEMR and focuses specifically on the formulation and implementation of electricity policy. In addition, there exists the Directorate General of New and Renewable Energy and Energy Conversation (DGNREEC) which specialises in renewable energy policies.

Independent power producers are (IPP's) are allowed to construct transmission and distribution lines, however, the ownership is generally transferred to the PLN upon completion.

ELECTRICITY SECTOR: As of 2019, Indonesia's electrification ratio stood at 98.89%, up nearly 33 percentage points since 2009. When considering the country's population, the increase in electrification equates to roughly 90 million people having electricity in 2019 who previously did not. The country's per capita electricity consumption stood at 1.08 MWh in

2019; roughly 5 times lower than that in China and the United Kingdom. Whilst electrification is high, there is clearly scope for growth in electricity consumption.

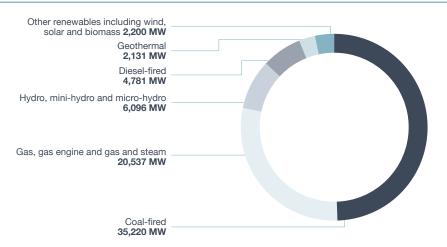
As of June 2020, the total installed capacity of Indonesia's power plants stood at 71 GW; a 1.9% increase on the prior year's total of 69.7 GW. The composition of the country's installed capacity is as follows:

- · 35,220 MW: coal-fired power plants
- 20,537 MW: gas, gas engine and gas and steam power plants
- 6,096 MW: hydro, mini-hydro and microhydro power plants
- · 4,781 MW: diesel power plants
- · 2,131 MW: geothermal power plants
- 2,200 MW: other renewables including wind, solar, biomass, biogas and waste

Evidently, Indonesia's power sector remains heavily dependent on fossil-fuel generation, with the total non-renewable capacity standing at 60.5 GW or 85.3% as a share of total installed capacity. Renewable power plants account for the country's remaining installed capacity, of which hydro (including mini and micro) and geothermal account for 58.1% and 20.3% respectively. The press release also provided insight into the ownership of Indonesian power capacity; the PLN owns 43,047 MW, independent power producers (IPP) 18,816 MW, operating permit holders 5,645 MW, public private utilities 3,583 MW and the government 55 MW.

The Ministry of Energy and Mineral Resources publishes the Handbook of Energy & Economic





Source: Handbook of Energy and Economic Statistics

Statistics yearly, with the most recent edition released in 2020. Between 2009 and 2019, Indonesia's installed capacity increased at a CAGR of 8.1%. The growth rate of capacity varied significantly depending on the generating-technology in question. The CAGR's of solar and wind capacity were 94.3% and 64.6% respectively, whereas the capacity of steam-generated power plants (predominately coal-fired) grew at a CAGR of 10.7%. It must however be considered that the combined capacity of wind and solar in 2019 equated to only 0.43% as a share of total capacity.

The handbook shows each generating-technology's production of electricity in GWh. In 2019, 278,942 GWh of electricity was produced on-grid in Indonesia. Of that figure, 193,543 GWh (69.4%) was produced by the state-owned company PLN. The remaining 85,399 GWh was procured by the PLN from IPP's and PPU's. Between 2009-2019, the PLN's production of electricity grew at a CAGR of 4.8%. The growth could almost entirely be attributed to the growth in coal-fired generation; coal-fired generation grew at a CAGR of 10.7% over the same time-period. Evidently, the significant growth in coal-fired generation must have been at the detriment of other sources of power. The country's use of oil as an input for electricity generation fell from 9,031 GWh in 2009 to 126 GWh in 2019. It must however be noted that this trend was not consistent, with significant YoY fluctuations including a 1,400% increase in oil use between 2014 and 2015. A total of 13,992 GWh was generated through renewables by the PLN; 9,877 GWh, 4,110 GWh and 5 GWh were produced from hydro, geothermal and solar respectively.

The 85,399 GWh of electricity purchased by the PLN in 2019 was 8.9% higher when compared to the year prior. As with PLN generation, coal was the primary fuel-input, accounting for 64.4% of IPP and PPU generation. Interestingly, 20.6% of IPP/PPU electricity generation stemmed from renewable inputs; almost 3x the share renewables accounted for in PLN generation.

The electricity generated through solar and waste was negligible and thus did not warrant inclusion in the chart.

The introduction of off-grid electricity generation occurred in 2018, with a total of 16,690 GWh produced. Indonesia has several off-grid power plants, using a variety of generating technologies. Of the 16,690 GWh generated, 67.9% was produced using biomass.

The production of electricity varies significantly across Indonesian islands. Unsurprisingly, given the island's population, Java is the largest generator of electricity. The island's six provinces produced a total of 203,784 GWh, roughly 73% of the country's total on-grid production.



Today, coal-fired plants produce about 60 percent of the country's energy, and natural-gas plants contribute an additional 22 percent. As a result, Indonesia has barely tapped its potential for renewable energy.

Composition of IPP/PPU renewable generation



Source: Handbook of Energy and Economic Statistics 2019



Renewable energy policy

The Indonesian government is targeting a 23% share for renewables in the country's primary energy mix by 2025. Using both renewable generation and renewable capacity as the metrics for evaluation, the country is certainly falling short. In 2019, renewable generation as a share of total generation stood at just 11.3% whilst renewable capacity as a share of total capacity stood at 14.7% in 2020. It is clear that further renewable deployment is, and will be, needed if the country wants to be successful in achieving its targets and reducing its CO₂ emissions.

The PLN has pledged its desire for carbon neutrality by 2050. In order to achieve the goal, the need for deploying several renewable technologies has been recognised. PLN plans to increase solar and wind deployment, introduce biomass co-firing to its coal-fired power plants and convert its diesel-fired power plants to renewable alternatives. It plans to convert 2,130 diesel-fired locations into renewable energy power plants, with the first phase envisaging the conversion of 200 of them (225 MW capacity) into renewable energy plants by 2024. The PLN's plans also include the implementation of 52 co-firing biomass/coal power plants by 2025. Whilst this is good news, the logistical challenge of procuring an estimated 9 million tonnes of biomass should not be underestimated.

Despite publicising its plans for carbon neutrality, PLN is continuing with the development of 35,000 MW in additional power generating capacity of which 60% is accounted for by coal. A coal-fired power plant could potentially be operated for 40+ years and thus, the plans to continue coal-fired capacity development come at a very heavy environmental cost.

In order to produce electricity, an electricity supply business license (IUPTL) is needed. The application for an IUPTL is dependent on the fulfilment of several requirements including proof of project financing, schedule for construction, agreement on PPA etc. The operation of an electricity generating plant also requires an operational feasibility certificate (SLO). Before an IUPTL holder can connect to the transmission grid, a proposal must be submitted to the transmission operator.

The government has promised to set new renewable tariffs through a presidential regulation, although a date is yet to be announced. The Ministry of Energy and Mineral Resources (MEMR) current regulations state that the selling price of renewable energy to the PLN must be less than the PLN's production cost. Given the coal is used intensively in PLN generation, the purchase price for renewable generation is unattractive. Without the introduction of a renewable energy tariff, the commerciality and attractiveness for investors is questionable.

Despite the lack of progress concerning tariffs, there has been progress elsewhere in MEMR regulation. Firstly, the MEMR has expanded its 'must-run' policy to include renewable plants with capacity in excess of 10 MW. The 'must-run' policy means that the PLN must prioritise the dispatch of renewably-generated electricity over fossil-fuelled alternatives. The MEMR has also removed the requirement for IPP projects to be implemented under the Build-Own-Operate-Transfer (BOOT) scheme. Originally, the ownership rights of a site would have to be handed over to the PLN upon the purchase-power agreement's (PPA) maturity. In a positive move, investment can now occur under a Build-Own-Operate (BOO) scheme.



For solar PV, however, REmap identifies potential for 47 GW) of installed capacity by 2030. This includes plans to use solar PV to provide electricity to nearly 1.1 million households in remote areas that currently lack adequate access to electricity.

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Memberships and voluntary commitments









