

Research by



OXFORD
ECONOMICS

Building Indonesia's future

Unblocking the pipeline of infrastructure projects



www.pwc.com/id

Outlook to 2025

Indonesia

Key points

- a. Total infrastructure spend is estimated to have been \$57.3bn in 2014. This figure is projected to increase to \$138.6bn by 2025.
- b. The 2025 figure represents a downward revision from our previous forecast. This is largely driven by a revision of historical estimates and spending. Compound annual growth rate to 2025 remains approximately the same at 8.4%. The outlook for extraction and manufacturing investment has weakened since our previous forecast; this is offset by a stronger outlook for telecoms and some transport subsector spending (ports, rail).
- c. Infrastructure spend was equivalent to 6.4% of GDP in 2014. The new administration's infrastructure programme is expected to accelerate spending before 2019, peaking at 7.7% of GDP in 2017. As the Indonesian economy matures, infrastructure spend in Indonesia will likely account for a slightly lower proportion of GDP, falling to 5.3% by 2025.
- d. Indonesia's share of regional and global infrastructure spend is expected to remain broadly stable throughout the forecast period, at around 4% and 2% respectively.
- e. Investment in health and education infrastructure is expected to grow particularly strongly from a low base – by more than 10% per year on average between 2015 and 2025. As such, social infrastructure is expected to account for 10% of total spend by 2025, up from 7% in 2014.

1. The macroeconomic environment

Growth of the Indonesian economy slowed to a five-year low in 2014 as mining revenue stalled on weak global demand. Business investment also slowed in the face of heightened economic and political uncertainty, including the protracted and turbulent presidential election.

At the time of the election of the new government and the months that followed, there was a definite sense of optimism that the economy was on an upward trajectory. Macroeconomic fundamentals were improving, with the 'twin' fiscal and external deficits moving in the right direction; at the same time, the new government's more business-friendly planned reforms were welcomed as a potential catalyst for stronger growth. The improvement in public finances, supported by the slashing of fuel subsidies, were also expected to boost infrastructure investment in those sectors more dependent on government funding like transport, electricity, water, health and education.

While the long-term outlook for Indonesia remains strong – this study forecasts that Indonesia's economy in real GDP terms will likely grow by 5% or more per year in the medium and long term to 2025 – the recent optimism has certainly been checked according to latest indicators, leading to downgrades in the

growth outlook in 2015 and 2016. Weaker external demand from key export markets such as Japan, China and Singapore, as well as for Indonesia's main commodity products, has been reflected in disappointing export and industrial production outturns. Business confidence expectations are relatively low and although the trade balance has improved, this is more down to weaker imports including for capital goods, which partly indicates implementation issues with public infrastructure spending. The authorities are trying hard to stimulate the economy but have their hands somewhat tied by macroeconomic stability targets for the current account and public finance deficits and inflation. The new president's lack of united support in Parliament and within his own party is also slowing reform.

Following a fraught 2013 when the Rupiah plunged, the economy has started to look less vulnerable to changing investor sentiment. Even though the Rupiah has depreciated by more than 10% against the US dollar since July 2014, this is no worse than many other major currencies like the euro or yen; in fact, the Rupiah has retained its value on a broader trade-weighted basis. Interest rate hikes in the US in the near future, however, could lead to capital outflows towards the end of 2015, prompting the central bank to maintain its tight monetary stance to avert this, as well as to bring down inflation. Any short-term exchange rate volatility should give way

to our longer-term outlook of a gradual appreciation of the Rupiah against the US dollar in line with strong economic fundamentals and rising capital inflows.

Some of the key drivers of Indonesia's future economic growth will be: a step change in and growth in infrastructure investment that will go some way to alleviating the economy's considerable supply-side bottlenecks; increased macroeconomic stability; continued strong demographic and labour supply growth; improvements to the business and regulatory environment (in areas such as business licensing, Public Private Partnerships (PPP); new public finance institutions; improved investment coordination and land acquisition for infrastructure); and, a growing middle class. Together these developments should lead to higher levels of domestic and foreign private investment. This is critical for the infrastructure sector as Government will only be able to fund about half of its targeted level of infrastructure investment over the next five years. Indeed there are already positive signs of a pick-up in private investment in the economy. According to the Investment Coordinating Board, total investment rose by 16.9% year-on-year in 2015 Q1 to a record level of IDR 124.6trn (\$10bn), with Foreign Direct Investment (FDI) rising by 14%.

2. Infrastructure spend outlook

2015-2019

The period of 2015 to 2019 – and potentially beyond – is likely to be a game-changing era for Indonesia's infrastructure sector. The sharp decline in global oil prices, and relatively weak rebound to date, prompted the new president Joko Widodo to largely scrap fuel subsidies in January – a move that is expected to save more than 10% of total government expenditure overnight. Around half of this windfall has been earmarked towards addressing the country's considerable infrastructure deficit. The 2015 public investment budget has jumped in comparison with 2014, resulting in a structural break in forecast infrastructure spend levels. Public investment in the forthcoming years up to 2019 is set to remain high as Government embarks on an ambitious medium-term infrastructure programme. Although Government needs to do better than it has done to date to implement its ambitious public infrastructure spending plans with the extra resources that are available to spend.

These developments are reflected in our infrastructure spend outlook for

Indonesia¹. The share of infrastructure spending as a percentage of national GDP and total economy investment (see Figure 1) and as a share of global and Asia-Pacific infrastructure investment is projected to rise sharply in 2015 and remain at higher levels than previous years until 2019. But benchmarking regionally, Indonesia's infrastructure shares of national GDP and total economy investment between 2015 and 2019 will still be considerably lower than in China during the mid-2000s.

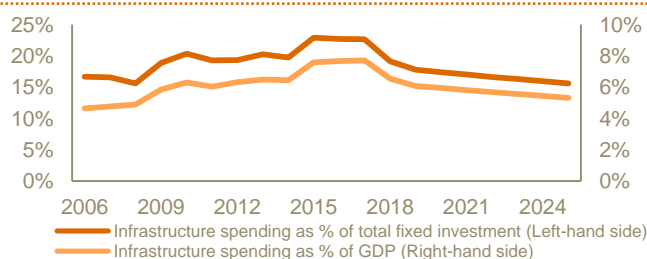
Total infrastructure investment between 2015 and 2019, in 2014 constant exchange rate terms and covering all sectors included in this study (which is a wider definition than that of the government's), is projected to be around 87% higher than the preceding five-year period. Importantly, our projections imply that Government will fall short of its ambitious targets by around 19%. This implication applies to all sectors though some may in practice get closer to target than others. The undershooting of the government's infrastructure target is based on historic patterns of spend (which were at much lower levels of investment than projected for the next five years) and recognition of the range of

bureaucratic, procurement, land and skills bottlenecks the infrastructure sector will face in managing this ramp-up in activity.

Looking beneath the aggregate detail, transport, utilities and manufacturing are the largest infrastructure sectors today in Indonesia based on annual investment in 2014. Over the next five years, transport will likely account for around 37% of total infrastructure spend, utilities 26% and manufacturing 21%. The remaining 16% will come from extraction, telecom and the social sector. Comparing cumulative spend 2015–19 to the five previous years, social spend will increase the most and extraction the least (see Figure 2).

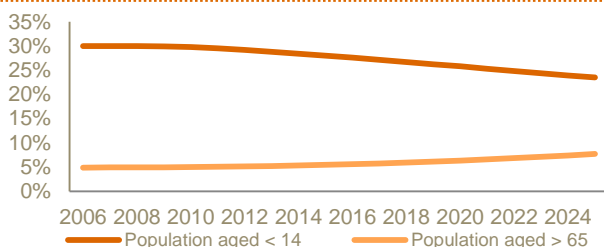
In terms of Indonesia's demographics, there are currently six times as many children aged 14 and under as there are the elderly aged 65 or over; however, the country is undergoing a dynamic demographic transition with this ratio falling from 6:1 to 3½:1 by 2025 (see Figure 3). Even though education accounts for a much higher share of social infrastructure spend than health today, we expect health infrastructure spend to grow at a faster pace than education going forward (see Figure 4). But both subsectors will remain a high priority for the new government.

Figure 1: Infrastructure spending in a national context



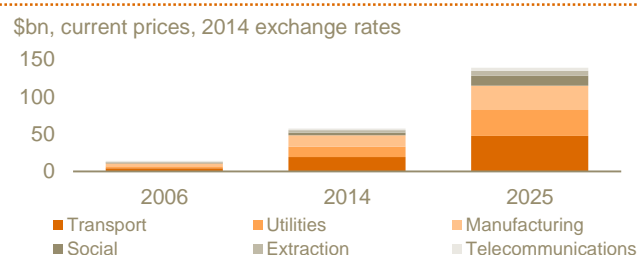
Source: Oxford Economics

Figure 3: Demographic change



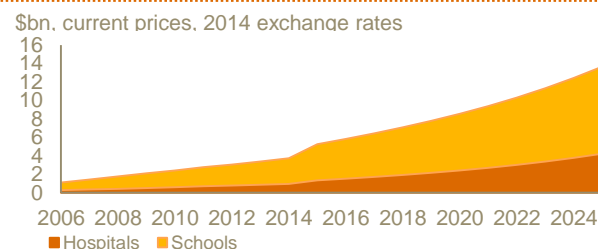
Source: Oxford Economics

Figure 2: Infrastructure spending by broad sector



Source: Oxford Economics

Figure 4: Social infrastructure investment



Source: Oxford Economics

¹ For more details on our methodology and definition of different infrastructure sectors, please see page 6 of Comprehensive Research Findings at <http://www.pwc.com/gx/en/capital-projects-infrastructure/publications/cpi-outlook/download.jhtml>

Beyond 2019

Much of this outlook focuses on the period of 2015 to 2019 as this coincides with the government's planning timeframe. It is more difficult, however, to make accurate predictions for the period of 2020 to 2025 as this will be strongly influenced by the government's next five-year plan. We assume a slowdown in the growth of infrastructure spend in the latter half of our forecast period (see Figure 5), resulting in a decrease in infrastructure's share of GDP and total economy investment. This would mean that between 2014 and 2025, infrastructure spend in Indonesia will likely grow at a pace similar to its regional neighbour the Philippines, but faster than Malaysia (see Figure 6). With Government likely to undershoot its infrastructure investment target from 2015 to 2019, it is possible for investment to spill over into the 2020–24 period – provided there is sufficient fiscal space to fund this and infrastructure remains a top priority. Such a spillover is not reflected in our forecasts.

While the infrastructure outlook is positive for Indonesia, there are important risks as well. Rising oil prices have brought into focus the policy to scrap fuel subsidies, and pump prices are still not fully reflective of market cost².

A broader backtrack on subsidies would almost certainly divert fiscal resources away from infrastructure. While political risks have subsided somewhat after the fiercely contested election, a disruptive opposition with a parliamentary majority and internal disagreements with the President's party could make it difficult for Government to fully implement its infrastructure programme.

Practical procurement bottlenecks present a potential source of downside risk too. The recent postponement of some power tenders in particular could slow down the implementation of the 35 GW programme (see Power Generation on page 9).

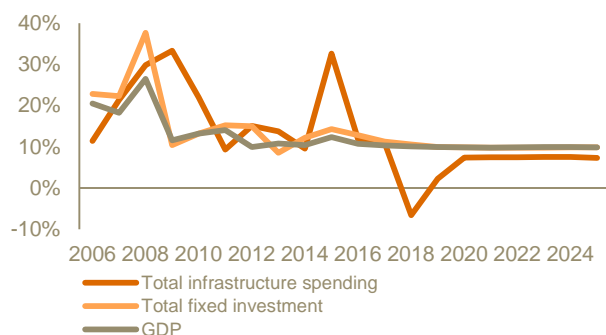
Lastly, nationalistic government policies against foreign private investment and ownership could constrain future private infrastructure spending (for example, the recent Rupiah Transactions Regulation, Bank Indonesia Regulation No. 17/3/PBI/2015), which means that some projects will be obliged to receive revenue in Rupiah, making them less attractive to foreign investors.

There is particular uncertainty around social infrastructure forecasts as it is not yet clear what priority Government attaches to social infrastructure investment.

Overall, there are significant risks in our forecasts but we have sought to strike a balanced view.

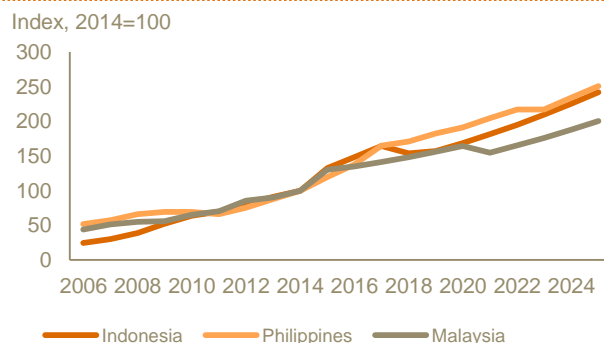
The forecasts are based on a macroeconomic model at a global level. They have also been reviewed at a country level. However, they do not account for such risks as political decisions and implementation issues related to individual projects and programmes that might materially affect actual results at a country level. Our forecasts take into account implementation risk generally in Indonesia but do not reflect the possible scenario in which the government might face political opposition and implementation challenges across many of its programmes. In such a scenario, the outturn in terms of investment might be much lower than our forecast.

Figure 5: Growth in infrastructure, investment and GDP



Source: Oxford Economics

Figure 6: Indonesia versus peers



Source: Oxford Economics

² International Institute for Sustainable Development, Global Subsidies Initiative, Indonesia Energy Subsidy Briefing, June 2015. http://www.iisd.org/gsi/sites/default/files/ffs_newsbriefing_indonesia_june2015_eng.pdf

3. Infrastructure policy

Infrastructure is a top priority for the Widodo administration. Elected in September 2014, Mr. Joko Widodo (“Jokowi”) ran on an infrastructure ticket, and has already earmarked IDR 112.4trn (\$9.5 bn³) of additional infrastructure funds this year in the national budget, APBN-P (see Figure 7). This represents a 39% increase over the 2014 budget, largely made possible by fuel subsidy savings.

The funds have been allocated across a range of infrastructure⁴ including oil and gas, power, water supply and waste treatment, road and urban transport, rail, ports and airports.

With the additional funds, the central government infrastructure spending plan for 2015 to 2019 totals IDR 2,216trn (\$187.0bn) over five years, or 2.9% of nominal GDP on an annual basis.

Recognising that the total infrastructure requirement is even higher, Government has set an overall target of IDR 5,519trn (\$465.7bn) over the same period, or 7.2% of annual GDP⁵. Including subnational government funding of IDR 545trn (\$46.0bn), state funding is planned to make up 50% of total investment, with 19% to come from state-owned enterprises (SOE) and 31% from the private sector (see Figure 8.)

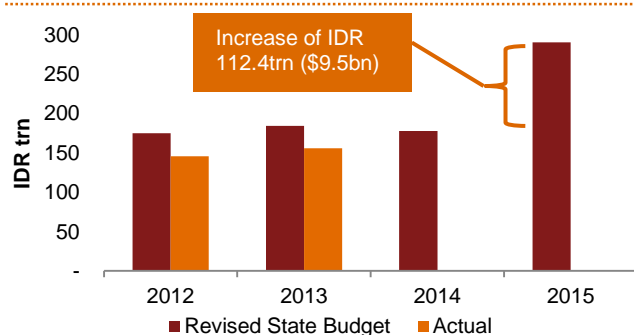
It is worth recognising that some of the funds earmarked as SOE or Public may in practice be foreign sovereign or other lending. For example, the Government of

Indonesia has signed a \$20bn Memorandum of Understanding with China Development Bank to finance infrastructure, which is planned to be channeled through SOEs.

SOE funds are already being disbursed. In January this year, several state-owned enterprises were injected with IDR 48trn (\$4.1bn) additional capital by the government, including:

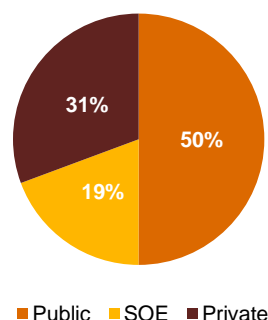
- Airport operator: PT Angkasa Pura II
- Construction companies: PT Hutama Karya, PT Waskita Karya Tbk and PT Adhi Karya Tbk
- Miner: PT Antam Tbk
- Port operator: PT Pelindo IV

Figure 7: Spending on infrastructure



Source: Ministry of Finance Data

Figure 8: Source of infrastructure financing 2015–2019



Source: National Medium Term Development Plan 2015–2019

³ All Rupiah-denominated government targets cited in this document have been converted to US dollars at a 2014 constant IDR:\$ exchange rate of 11,850:1.

⁴ Financing amounting to IDR 2trn (\$168.8m) was earmarked for ‘social infrastructure’ including schools and hospitals. This was channeled through PT SMI, the quasi-public infrastructure fund, and is not direct budget funding.

⁵ Expenditure figures from Bappenas (December 2014), Prioritas Kedaulatan Energi dan Infrastruktur RPJMN 2015–19.

Government has set aggressive targets, announced new funding commitments and displayed an openness to the intelligent leverage of private sector finance. Regulatory and policy reforms have gradually been put in place to create a more conducive environment for private sector participation, including:

- **PPP directives:** Presidential Regulation No.67/2005 has just been superseded by Presidential Regulation No.38/2015 to stimulate investment in Public Private Partnership projects by expanding eligible sectors and offering a more favourable legal framework.
- **Land acquisition bill:** Law No.2/2012 and Presidential Regulation No.71/2012 regarding

Land Acquisition for Public Interest, effective as of 2015, limits the land acquisition procedure to 583 days and allows for revocation of land rights in the public interest. This is crucial as many projects have been held up by extended land acquisition disputes.

- **BKPM One Stop Service:** BKPM, the Investment Coordinating Board, now provides a centralised licensing point for certain sectors, which should increase the efficiency of the investment approval process.

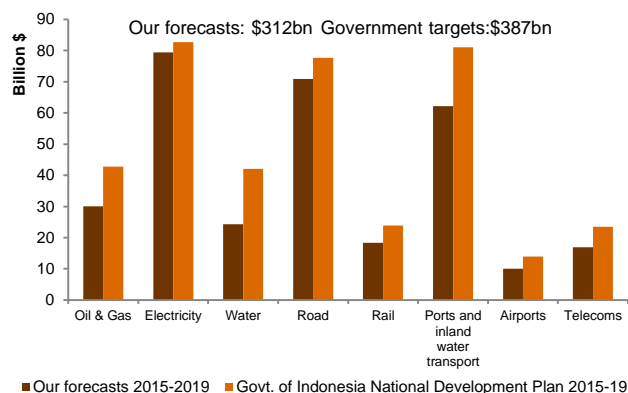
These measures are supported by a number of public finance institutions that have been set up, such as the Indonesia Infrastructure Guarantee Fund (IIGF), Indonesia Infrastructure Finance

Company (PT SMI) and PT Indonesia Infrastructure Finance (IIF).

More broadly, we observe that the availability of finance is not a constraint on the infrastructure programme; domestic and international funding is readily available for well-conceived and well-structured projects.

We consider how aggressive these targets are in quantitative terms. We have adjusted both government data and our data to facilitate a like-for-like comparison over the period 2015-19⁶, and included the results in Figure 9. Our forecasts are around 19% lower than equivalent government targets.

Figure 9: How do our core infrastructure forecasts compare to the government budget?



Source: PwC and Oxford Economics, National Development Planning Agency (Bappenas)

⁶ Schools, hospitals, chemical manufacturing, metal smelting/processing, housing and irrigation are not included in the like-for-like comparison due to absence of reliable data or comparable definition of the sector. Gas distribution and oil refining are included in Oil and Gas (rather than Utilities or Manufacturing respectively) for the same reason; note that this differs from other country analysis in this report series. These adjustments explain the difference between the totals in Figure 9 and the text on the previous pages.

There are several drivers of this shortfall. According to our analysis, there are inherent frictions in the macroeconomy that dictate the maximum speed of investment, such as banks' capacity to absorb FDI and shortages of skilled labour.

There are also specific issues hindering projects in the pipeline right now, as well as bottlenecks in the public and PPP procurement process at large. Notably, almost all of the projects listed as 'Ready for Tender' in the 2013 Book of PPP Projects are stalled. As discussed in the following sections, bottlenecks are sector-specific, but common issues include land acquisition problems, uncertainty on legal issues such as the right of the private sector to participate, reluctance or inability by SOE to invest, and problems of bureaucracy within and between government institutions. Crucially, many individual projects are not designed, documented and structured in line with international best practices.

There is also likely a multiyear lag between realising fossil fuel subsidy savings and being able to spend them⁷. As Figure 7 illustrates, government infrastructure spending averaged only 83% of budgeted expenditure between 2012 and 2013, and that is before new windfall revenues and the intention to substantially boost capital expenditure.

Government does acknowledge potential bottlenecks in the pipeline. On the financing side, The Investment Coordinating Board (BKPM) has stated that around half the planned expenditure is not likely to be funded from known public, SOE or private sources and so

will require additional private investment. The Committee for Acceleration of Priority Infrastructure Delivery (KPPIP) has also highlighted gaps in SOE and other planned funding sources in the overall targets.

But the outlook is mixed across sectors and some sectors like roads, airports and power may see investment close to target. Others will fall significantly short (e.g., water, oil and gas). We discuss select sectors one-by-one in Section 4 (see page 7).

But even achieving our forecasts of \$312bn on core infrastructure would be a huge achievement for Indonesia, and ease a critical constraint on economic development. Whatever the most realistic target is, there are several economy-wide critical success factors:

- **Stable investment climate:** This important success factor has been undermined by the recent constitutional court ruling rejecting private sector participation in water projects as well as the lower court ruling questioning the rights of offshore corporate bondholders to vote on restructurings. It remains to be seen what new measures might be taken to promote a more stable investment environment.
- **Leadership:** Strong political will is expected to be a critical factor in driving forward bottlenecked projects. Jokowi's reputation to 'get his hands dirty' and drive on-the-ground performance is encouraging, but he cannot do this nationwide. Using political clout to push through just a handful of model projects will

have a positive demonstration effect and boost investor confidence.

- **Phasing investment:** Given the procurement bottlenecks and uncertainty over future fiscal resources, staggering or phasing some investment will help minimise wastage of public funds.
- **Government coordination:** There is often a lack of coordination between the central, provincial, and regional governments; for example, the opening of Kuala Namu International Airport in Medan, North Sumatra was postponed due to delays in the construction of the 14 km road linking Medan to the airport⁸. A strong, centralised strategy for infrastructure and PPPs, which defined clear roles for different levels of government, would help.
- **Capacity building to prepare and finance projects:** Indonesia would benefit from faster and more transparent procurement as well as better project preparation at the Feasibility Study stage. KPPIP will have an important role to play in finding and training talented managers, especially at the regional government level.
- **Land acquisition:** Land acquisition has historically delayed many projects. The new law is welcome, but it is too soon to tell whether this will solve the problem. The lack of clear, nationwide land tenure recognised by the national and subnational government agencies as well as the courts will remain an ongoing challenge.

⁷ Jakarta Post, "Indonesia to enjoy constructive period this year: ANZ analysts", 26 January 2015.

⁸ Jakarta Post 'Road delays Kuala Namu International Airport Opening', March 2013.

4. Trends and outlook in select sectors

Extraction

Indonesia is amongst the world's major producers of minerals such as tin, nickel, coal, iron and copper ores. While Government does not publish specific targets for mineral extraction, we forecast \$2.8bn of new investment before 2019⁹ (see Figure 10). This is significantly lower than last year's estimate, and reflects two key drivers.

Firstly, the global fall in mineral prices has driven down returns. Iron ore, for example, fell over 50% in 2014.

Secondly, in January 2014, a ban on the export of unprocessed mineral ores came into force as part of the implementation of mineral value-add requirements contained in the 2009 Mining Law. A three-year reprieve was granted for certain copper concentrates subject to stiff export duties and a commitment to build refining facilities. Other ores must be processed to specified levels of mineral content before being exported.

This is a negative development for a sector that provides an enormous export and GDP contribution as well as hundreds of thousands of jobs; and the export ban had a significant drag on the 2014 current account deficit¹⁰. Fortunately, in this case, it was mitigated by lower oil prices.

The major players appear to be holding firm, continuing operations and negotiating with Government on individual smelters. However, capital expansion plans (new mines, etc.) are likely to be impacted, particularly for smaller peripheral players or those still in the exploration phase. The challenge for the sector going forward will be to reconcile tight operational cash flows with Government's understandable desire to add more value to raw materials through increased capex.

While short-term expenditure on extraction for minerals may have been dampened by the export ban, there are signs of interest in investments in integrated mine-smelter projects (particularly for nickel), which will likely see increased capital expenditure in these areas (together with the associated supporting infrastructure such as power and transport links) over the next three to five years. This is in addition to the commitments made by the large copper concentrate producers to build additional smelting capacity by 2017.

Government's seriousness in developing a downstream minerals industry is illustrated by the recent injection of IDR 7trn (\$590.7m) in capital into Antam, the state-owned minerals producer. However, to develop all of the projects in its pipeline, it is likely that Antam will need further capital through joint venturing with strategic investors.

It is not all doom-and-gloom for the sector, however. Thermal coal production continues to hold strong with 458 million tonnes produced in 2014 (greater than the government's target of 421 million tonnes). The announcement of 35 GW of new power capacity (see Power Generation on page 9 for more details) is also likely to support coal investment, despite the current low price. Low oil prices and the weak Rupiah support margins for coal producers.

It is important for Government to provide the necessary strategic direction and incentives (tax, supporting infrastructure and a supportive regulatory environment) to encourage the development of key projects that would boost the economy and foreign exchange revenues. It also needs to simplify the process for investment of foreign capital. Smelters are the type of long-term capital-intensive investments that the country needs to support the currency and the economy in general, offsetting the volatility of short-term foreign investments in the financial markets. But a "one size fits all" policy does not take into account the differing commercial viability of refining different minerals.

Figure 10: Investment in non-oil and gas infrastructure



Source: Oxford Economics

⁹ This excludes investment in mineral smelting, which is included in metal manufacturing investment (\$44bn).

¹⁰ World Bank, Indonesia Economic Quarterly, December 2014.

Oil and Gas

In the oil and gas sector, oil production and exploration activity has been falling in recent years and the outlook is for this trend to continue. Government is focusing instead on oil refining capacity and gas distribution. Our forecast (\$30bn) is notably lower than the overall investment target of \$43bn. Also, the recent fall in world oil prices and the sluggish recovery is expected to hold back oil and gas infrastructure investment in the near and medium term.

Many of the sector's challenges are faced upstream (\$20bn of the \$30bn). Oil production is in decline. And while mature fields will keep pumping regardless of the oil price, new exploration activity has been falling for years. Contract terms commensurate with the risk would catalyse investment, especially for harder-to-explore areas such as Eastern Indonesia¹¹.

However, downstream developments such as refining and gas distribution are also important focal areas for the government. Indonesia is short on refining capacity relative to crude output. Linking up sources of net gas supply (Eastern Indonesia) with net demand (Java, Sumatera) through increased liquefaction and gasification capacity, as well as intra-island pipeline networks, will enable growth. Gas distribution accounts for \$8bn of our \$30bn forecast.

However, the refining sector has a chequered history and Pertamina, the state-owned oil and gas company, has not built new refining capacity since the 1990s. Our forecasts assume that refining accounts for \$4bn of new investment between 2015 and 2019, or enough for around 200,000 barrels/day of new capacity at International Energy Agency (IEA) benchmark costs¹²; this is less than half the government's target of 600,000 barrels/day. But, the outlook for

refineries is particularly uncertain. More than \$4bn in total may be available for a number of new projects and refinery upgrades, but relatively long construction periods (up to 4–5 years) make it difficult to tell when the new capacity will come online, or even if any will come online before 2019.

Pertamina in particular will play a leading role, mainly through joint ventures with foreign partners (Government expects one-third of funding to come from SOEs, with the rest from the private sector). It has already publicly announced discussions with at least two international oil companies for joint development of refineries.

¹¹ President of Indonesian Petroleum Association, May 2015, as quoted in Katadata news.

¹² At International Energy Agency (IEA) benchmark capex of \$20,000 per barrel/day of capacity.

Utilities

Already one of the three largest infrastructure sectors today in Indonesia, utilities is expected to grow to a little over a quarter of the infrastructure market by 2019. Power generation and water will be two major areas of focus.

Power generation

Power generation is the largest utilities subsector in Indonesia today by level of infrastructure investment. One of the key drivers of demand is urbanisation. According to the UN¹³, Indonesia's urbanisation rate is projected to rise from 50% in 2010 to 60% in 2025, equivalent to 50 million extra urban dwellers. Given this situation, the Government of Indonesia has set an ambitious target of adding 35 GW of capacity within the next five years. Accounting for 7 GW of ongoing projects, PLN, the national state-owned utility, is planning for a total of 42 GW of new capacity within the same time frame¹⁴. Including transmission and distribution, the required capital investment (\$83bn) is broadly in line with our forecast of \$79bn by 2019. It is critical that these forecasts in particular are realised as current black/brown-outs and reliance on diesel generators represent a significant cost to business. The social imperative must also be to increase household access to a reliable power source, which in remote areas is likely to involve mini-grid and other innovative solutions.

Fossil fuels, especially coal, will continue to play a dominant role in baseload power, but renewables have an increasing

role to play and are planned to account for 31% of generation by 2050¹⁵. Huge geothermal and hydropower resources remain untapped across the country.

PLN was planning to provide 18 GW of the 42 GW target itself, while procuring Independent Power Producers (IPPs) to fund the remaining 24 GW, although Government has recently indicated that more projects may be available to IPPs, given PLN's need to focus on investment in transmission infrastructure.

Again, this is in line with our expectations. IPPs already account for approximately 19% of Indonesia's total generation capacity, and 11.4 GW of IPP projects are committed¹⁶ to be built by 2019. One positive step was the launching of the BKPM One Stop Service, which this year mainly serves the power sector. In addition, PLN is under new management since late 2014, and the new President Director has a background in the financial sector.

However, there are challenges for both PLN and IPPs. Power tariffs do not always reflect the cost of production. Flagship coal-fired PPP projects have stalled due to land acquisition problems. State guarantees are generally restricted to PPP projects and IPP projects on the Fast Track Programme (a priority list of investments in the Indonesia power sector from the Yudhoyono administration). Eligibility of projects in the 35 GW programme for a government guarantee is not yet clear, but this would

significantly enhance the commercial viability of IPP investments.

More worryingly, we are seeing delays in several power project tenders; continuation of this trend could drag down the forecasts and the ability of the government to hit its 35 GW target by 2019.

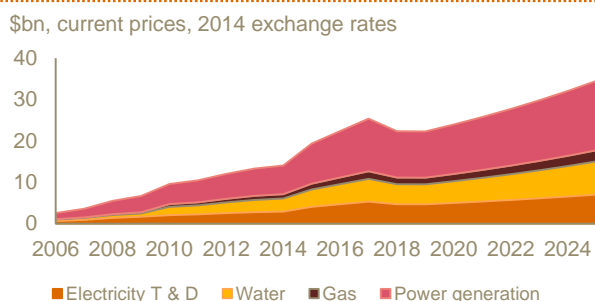
Government adjusted the Negative Investment List provisions in April 2014, removing the possibility of foreign majority equity ownership in projects less than 10 MW in capacity. This last provision will hit renewables projects hardest, for which we were seeing strong foreign interest in the early 2014 PLN bidding rounds.

However, planned development of smelters in the minerals sector will create additional power needs, and recent government regulations to allow fast-tracking of tenders through Direct Appointment/Direct Selection by PLN may lead to more success in achieving the targets than was the case in the past.

Water

In the water sector, Government has set a target to provide 100% access to safe drinking water and to sanitation facilities, which will require \$42bn of investment by 2019. Our forecast (\$24bn) is notably lower than this, partly due to the impact of a recent court ruling, which is likely to destabilise private investment.

Figure 11: Utilities infrastructure investment



Source: Oxford Economics

¹³ United Nations, World Urbanization Prospects (2014).

¹⁴ PLN RUPTL (Annual Business Plan) 2015-2024.

¹⁵ Dewan Energi Nasional Republik Indonesia, Outlook Energi Indonesia 2014.

¹⁶ The PLN definition of 'committed' is that a project developer and financing source are both committed.

Since the 2004 Water Resources Law, private participation in the sector was regulated but encouraged, and various projects were being developed under the PPP programme. But in February 2015 (in a case related to a water bottling plant), the Constitutional Court ruled that private participation was contrary to Indonesia's constitution, which guarantees the basic right to water and state control of water resources. Government has said that it will clarify the impact of the ruling on the sector and will protect existing projects; but, until this point, it is likely that most current projects will be frozen.

Yet private investment is essential to the water sector. Many of the local water utilities (PDAMs) have insufficient cash flow to fund investment in new water supply, given low water tariffs. In the previous planning period (2010-2014), it

was estimated¹⁷ that funding capability from public sources was less than half the required investment needed to meet Millennium Development Goals, and there is no evidence that PDAMs are any better funded now than in 2011.

The outlook for the water sector is unclear. Under a best-case scenario, if a regulatory compromise can be found to satisfy the requirement for state control while allowing privately-operated concessions, then investment may revert to our forecast of \$4.9bn per year by 2019. Under a worst-case scenario, where the old 1974 Law on Water Resources Development is again applicable, then public sector investment by itself would be unlikely to reach target levels without the expansion of local government funding capacity and/or significant increase in PDAM water tariff levels.

Therefore, the immediate priority for the government is to clarify the law for private investors. Our forecasts assume that, in line with announcements by the central government, a compromise will be found and private investment can resume in some form, albeit with some delay.

Over the longer-term, the focus should continue to be on making private sector projects commercially viable as well as continued reform of PDAMs, including consolidation and increases in tariffs to fund capital investment. National government has an important role to play in addressing capacity limitations and administrative barriers in subnational government (such as the inability to budget across more than one year).

¹⁷ Ministry of Public Works & World Bank (2012) Indonesia Water Investment Roadmap.

Transportation

All transport subsectors are projected to have increasing levels of infrastructure spend over the next five years. Roads and ports are the largest subsectors today by investment value, but growth is expected for airports and railways as well in the coming decade.

Roads

Government has set a target of adding 3,650 km of new roads (including 1,000 km tolled) and maintaining 46,770 km roads, which will require IDR 805trn (\$67.9bn) of investment by 2019. In addition, a share of the IDR 115trn (\$9.7bn) allocated for Urban Transport is aimed at constructing Bus Rapid Transit ("BRT") in 29 cities¹⁸.

Our forecast of \$70.9bn is a little lower than this and reflects an expected increase in historical state spending patterns (which averaged \$7bn per year according to a Spending Review in 2012¹⁹).

The main reason for optimism that the outlook will improve this year is progress on land acquisition. This has long been an issue in the industry and has caused major delays in past years. But with the implementation of Land Acquisition Law No.2/2012 starting this year, we expect it to be easier to deliver transport projects. As a result, investment could increase.

For example, there are \$11bn of toll road concessions signed in the last 10 years for which land acquisition is incomplete. Constructing these concessions in the next five years would add 1,000 km of new toll roads.

At the moment, the state-owned enterprise Jasa Marga is the dominant player in toll roads. But given several concessions being tendered before the end of 2015, the private sector could increasingly play a major role in this industry.

Although the sector outlook is good, Government must ensure that the impact of the land acquisition bill is felt on the ground and that other steps are taken to encourage private participation (for example, to hold as many open tenders as possible).

Rail

Government has set a target of adding 3,258 km to the existing railway network (2,159 km intercity and 1,099 km urban), which will require IDR 283trn (\$23.9bn) of investment between 2015 and 2019. In addition, a share of the IDR 115trn (\$9.7bn) allocated for Urban Transport is aimed at constructing Mass Rapid Transit ("MRT") in six metropolitan cities and 17 large cities across Indonesia.

Reducing logistics costs is a national priority and urban MRT projects in

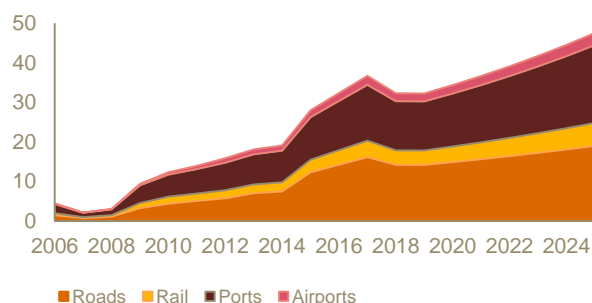
particular are critical for alleviating congestion in major cities (Jakarta was recently estimated to be the world's most congested city²⁰). However, we forecast only \$18.3bn of investment for rail and rail MRT projects.

Our forecasts largely reflect low historical investment by Kereta Api, which for many years did not raise fares to a level needed to generate strong cash flow. With several years of reform under the previous CEO (who is now Minister of Transport), including increases in passenger fares and operational restructuring, it is plausible that investment could grow significantly this year. Profitability has improved since Kereta Api swung into the black in 2009²¹, and in 2013 the allocated capital expenditure was IDR 7.3trn (\$616m).

The use of PPP schemes for rail is a new development. Projects planned for tender include the Jakarta-Bandung High Speed Rail and the Soekarno-Hatta Airport Rail Link. The private sector can participate in passenger railways under such schemes and can invest in freight railways according to Law No.23/2007 on Railways. For now, the public sector and SOEs are still likely to be the major developers of conventional passenger rail projects.

Figure 12: Transportation infrastructure investment

\$bn, current prices, 2014 exchange rates



Source: Oxford Economics

¹⁸ For the analysis and graphics in this section, we have assumed urban transport is 50% MRT and 50% BRT, in the absence of a more detailed breakdown.

¹⁹ World Bank (2013) *Investing in Indonesia's Roads: Improving Efficiency and Closing the Financing Gap - road sector public expenditure review 2012*.

²⁰ Castrol Stop-Start Survey 2015.

²¹ The Edge Singapore, "The Pragmatist Who Restored Indonesia Railway to Profitability", 9 September 2013.

The private sector role has been constrained by the unviability of projects due to the lack of public subsidy and the lack of commercial flexibility (in the case of Special Railway concessions). Flexibility could be enhanced by relaxing the restrictions that only one customer (the owner or controller of the Special Railway) can use the Special Railway or limiting the number of non-end use stops to only one²². For PPP projects such as High Speed Rail where the financial viability is a challenge, Viability Gap Funding may be needed.

It is also important for Government to clarify the role of the private sector. On High Speed Rail it now appears that Chinese or Japanese developers will lead project development, supported by state funding. On the Soekarno-Hatta Airport Rail Link, lack of clarity about Kereta Api's role is causing uncertainty.

For urban rail, the outcome will depend on project-by-project progress. For example, the MRT project in Jakarta is the first MRT project in Indonesia. As a result, the country has not yet developed strong technical and project management expertise for such schemes. In addition, land acquisition may potentially cause delay since the project requires considerable amount of land in urban areas. Other cities developing LRT will likely struggle at first with similar issues of lack of expertise.

Previously, the construction of the Jakarta MRT faced major delays due to regulation (in relation to financing) and land acquisition issues. However, the situation has changed: the Governor of Jakarta has coordinated and negotiated with various lines of government to move the programme forward. For instance, he coordinated with the Ministry of Youth and Sports Affairs to dismantle Lebak Bulus stadium as part of MRT construction. This is an encouraging step for other rail projects in Indonesia. And he has emphasised his commitment to deliver the project by giving PT MRT Jakarta full authority in acquiring land

even though some residents disagree with the level of compensation.

Ports

Government has targeted the expansion or construction of 24 ports in total – five port hubs and 19 feeder ports across the archipelago. This will require IDR 900trn (\$81.0bn) of investment by 2019. We forecast \$62.2bn of new investment, about 80% of target.

The development of ports throughout Indonesia has become the top priority on the infrastructure development agenda under the new government. And since, historically, investment in ports has primarily come from the public sector through the four state-owned enterprises, Pelindo I–IV, there are grounds for optimism. The combination of political will and new funding could accelerate public investment.

The private sector will probably not play a leading role by itself, but mostly participate in the form of joint ventures with these SOEs or through private single-commodity ports. In terms of legal framework, Shipping Law 2008 significantly updated the previous Law No.21/1992, changing the structure of port administration and allowing private operators access to the sector in the form of PPPs. In addition, the private sector can now also participate as a terminal operator.

High logistics costs will remain an issue for the 'Archipelago Nation' unless Government realises its plan to develop more – and more efficient – ports. The bottleneck at Jakarta's Port of *Tanjung Priok*, for instance, leads to long waiting times; the maximum capacity of the port is 5 million twenty-foot equivalent units (TEUs), but it handled 5.9 million TEUs in 2013. The New *Priok* project – a \$2.5bn project procured by Pelindo II (IPC), of which the first terminal is due for completion in 2015 – should ease the situation.

Nationwide, it has been estimated that logistics costs account for 24% of GDP, and it costs three times more to ship a container from Jakarta to Padang, Sumatera than to Singapore²³, despite being the same distance from Jakarta. However, given the low economic activity and potential volumes for shipping in many parts of the country, it is difficult to incentivise private sector capital. SOEs and public funding will be the key to the sector's transformation and reducing costs in Eastern Indonesia.

Airports

Government has set a target of IDR 165trn (\$13.9bn) of investment in the airport sector, including maintenance of existing airports and construction of new airports and Air Traffic Control facilities. In comparison, our forecast of \$10bn falls around 39% short of target.

Investment will come from a number of sources. The two state-owned operators are undertaking multibillion-dollar capital investment programmes across more than half of their 26 airports (a mixture of bond and balance sheet financing). In addition, the Ministry of Transport is building 15 new airports and revitalising 10 existing airports. A handful of pure private sector airports have been proposed.

With double-digit passenger and fleet growth (driven particularly by the Low Cost Carriers), many airport projects should be commercially viable. The policy framework is largely sound, if untested. The priority for Government should be the acceleration of individual projects, including the preparation of feasibility studies and business cases, as well as the detailed sounding of market views. The two SOEs have shown a willingness to partner with foreign operators and EPC contractors, which may also accelerate progress.

²² Indonesia Infrastructure Initiative (2011) Special Railway Guidelines and Regulatory Framework Recommendations Final Report.

²³ Business Monitor International, *Indonesia Infrastructure Report Q1 2015*.

Contributors

Strategic direction and project pipeline

Julian Smith

PwC Indonesia
Capital projects & infrastructure

Rizal Satar

PwC Indonesia
Capital projects & infrastructure

Tim Boothman

PwC Indonesia
Capital projects & infrastructure

Economics

Graeme Harrison

Oxford Economics

To have a deeper conversation about this subject, please contact:

Julian Smith

Indonesia Capital Projects & Infrastructure
Tel: +62 21 521 2901 ext 90966

Mark Rathbone

Asia Pacific Capital Projects & Infrastructure
Tel: +65 6236 4190

Richard Abadie

Global Leader Capital Projects & Infrastructure
Tel: +44(0) 20 7213 3225

This report from PwC, with research by Oxford Economics forecasts through 2025 capital project and infrastructure spending by country for investors, public officials and companies planning capital investments. It provides insight into factors driving the expected investment growth.

In developing this analysis, Oxford Economics used data sets to provide consistent, reliable, and repeatable measures of projected capital project and infrastructure spending by country. Historical spending data is drawn from government and multinational organisations statistical sources. Projections are based on proprietary economic models developed by Oxford Economics at the country level. The results for this report have been estimated using the following underlying data sources: World Health Organisation, UNESCO, World Bank, Annual Capital Expenditures Survey, Association of American Ports, Edison Electrical Institute, Office of Highway Policy Information, Federal Highways Authority, Department of Transportation, National Clearinghouse of Educational Facilities, Department of Education and Oxford Economics. The analysis, completed over the first half of 2015, incorporates all available information at that time.

PwC Indonesia

The PwC network is the world's largest professional network of services firms. Drawing on the knowledge and skills of more than 196,000 people in 157 countries, PwC firms build relationships by providing services based on quality and integrity.

PwC Indonesia is comprised of KAP Tanudiredja, Wibisana, Rintis & Rekan, PT Prima Wahana Caraka, PT PricewaterhouseCoopers Indonesia Advisory and PT PricewaterhouseCoopers Consulting Indonesia each of which is a separate legal entity and all of which together constitute the Indonesian member firm of the PwC global network, which is collectively referred to as PwC Indonesia.

PwC Indonesia has been operating in Indonesia since 1971 as a member firm of PricewaterhouseCoopers International Limited. We have over 1,600 professional employees in Jakarta who are trained in providing various assurance, tax and advisory services to Indonesian and international companies, state owned companies, and non-profit organisations. Our employees are bilingual and have in-depth knowledge of the local business environment.

www.pwc.com/id

Advisor, Infrastructure and Transportation



Julian Smith
+62 21 50992901 ext. 81966
smith.julian@pwc.com

Advisory Deals Services

Capital projects and infrastructure



Rizal Satar
+62 21 50992901 ext. 90350
rizal.satar@pwc.com



Agung Wiryawan
+62 21 50992901 ext. 81666
agung.wiryawan@pwc.com

Investment Services



Adi Pratikto
+62 21 50992901 ext. 81605
adi.pratikto@pwc.com

Japanese Business Desk



Shunsuke Wariishi
+62 21 50992901 ext. 81330
shunsuke.wariishi@pwc.com

Korean Business Desk



Taehun Jung
+62 21 50992901 ext. 81449
taehun.jung@pwc.com

Chinese Business Desk



Toto Harsono
+62 21 50992901 ext. 82205
toto.harsono@pwc.com

Assurance Services

Transportation (Toll road, ports, railways, and other infrastructure)



Jumadi Anggana
+62 21 50992901 ext. 81990
jumadi.anggana@pwc.com



Marcel Irawan
+62 21 50992901 ext. 81486
marcel.irawan@pwc.com

Energy Utilities and Mining



Sacha Winzenried
+62 21 50992901 ext. 81968
sacha.winzenried@pwc.com

Power & Utilities



Yanto Kamarudin
+62 21 50992901 ext. 82053
yanto.kamarudin@pwc.com

Tax Services

Transportation (Toll road, ports, railways, and other infrastructure)



Suyanti Halim
+62 21 50992901 ext. 82004
suyanti.halim@pwc.com

Power & Utilities



Tim Watson
+62 21 50992901 ext. 81370
tim.robert.watson@pwc.com

Consulting Services

Financial Effectiveness



Charles Vincent
+62 21 50992901 ext. 75960
charles.vincent@pwc.com

People & Change



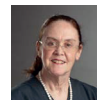
Marina Tusin
+62 21 50992901 ext. 81567
marina.tusin@pwc.com

Technology



Peni Rahayu
+62 21 50992901 ext. 75984
peni.rahayu@pwc.com

Forensic & Security Services



Elizabeth Goodbody
+62 21 50992901 ext. 75557
elizabeth.goodbody@pwc.com

Operations



Pieter Van de Mheen
+62 21 50992901 ext. 81569
pieter.van.de.mheen@pwc.com

Strategy&



David Hovenden
+62 21 5213885
david.hovenden@strategyand.pwc.com

Program & Project Management



Elvia Afkar
+62 21 50992901 ext. 72063
elvia.afkar@pwc.com

This content is for general information purposes only, and should not be used as a substitute for consultation with professional advisors.

© 2015 PwC. All rights reserved. PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.