

FIXING INDONESIA'S INFRASTRUCTURE

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AGENDA



Indonesia's infrastructure problems



Causes: History, institutions and policy decisions



Previous attempts at solutions



**Jokowi Government Aspirations:
The Infrastructure Reform Program**



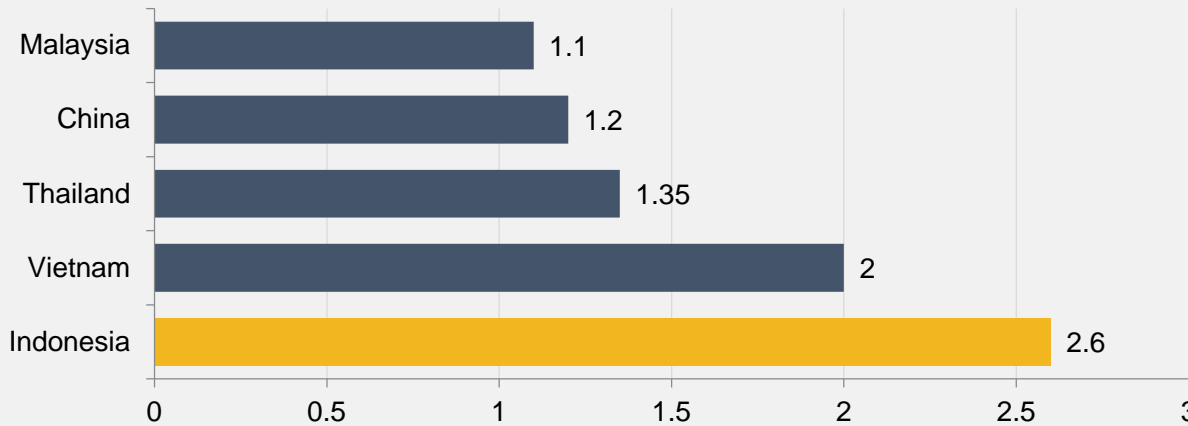
KPPIP and Its Mandate



Recent KPPIP Achievements

National Infrastructure Performance Compared to Other Countries (1/4)

ROAD TRAVEL TIME (HRS/100KM)

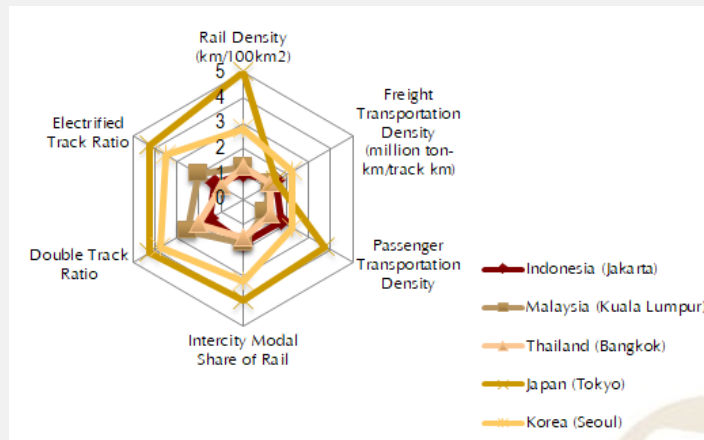


Poor Quality Roads causing slow travel speeds, accidents and high logistics costs.

In 2012 only **59% of regional roads were up to standard**. Maintenance is a major problem throughout Indonesia. Bappenas estimated IDR 1.3 trillion (US\$100 billion) needed to bring roads to standard similar to Thailand.

Background references: see Soehodho (2009), Bappenas (2015)

SLOW DEVELOPMENT OF RAIL SYSTEM



Slow Modernization and Development of Rail Sector

Growth in the railway sector in Indonesia has been very slow since the end of the colonial era.

Only around **4,800 km** in total.

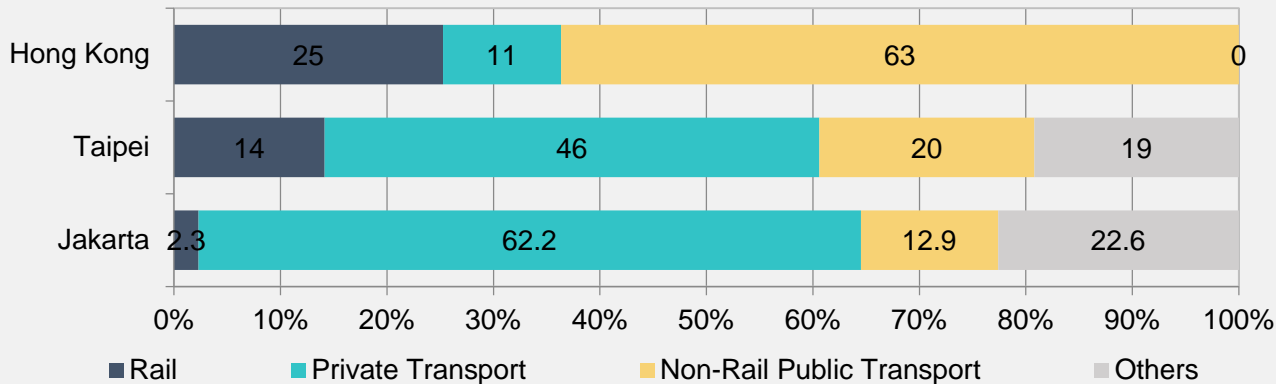
Only **7.7%** of the 4,800km network has been **double-tracked**.

Modal share less than 7%, compared with 20-32% in developed countries. IDR 0.3 trillion (US\$23 billion) to bring to Thailand standard.

Background reference: see Putranto et. al. (2003), Bappenas (2015)

National Infrastructure Performance Compared to Other Countries (2/4)

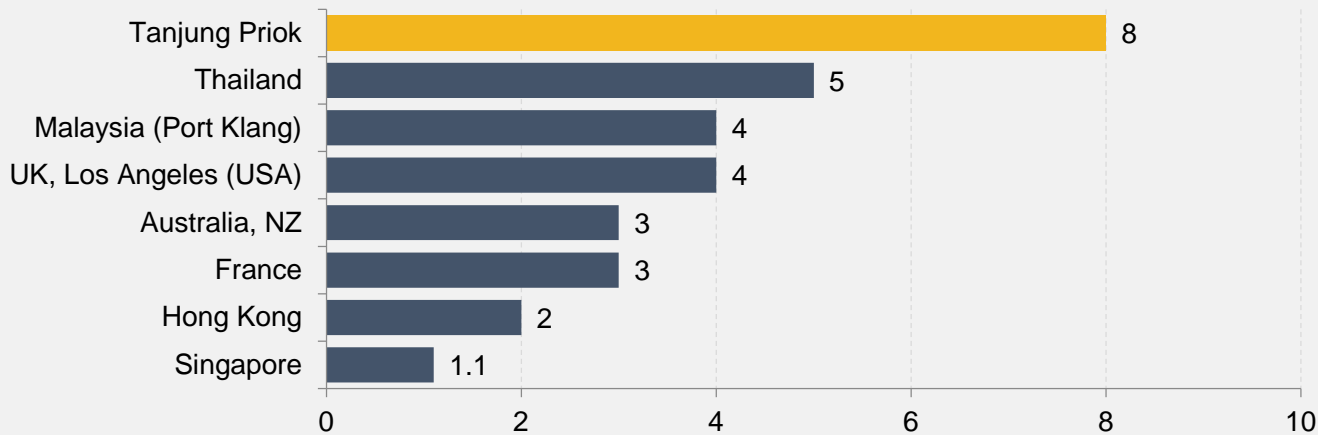
TRANSPORT MODAL SHARE (%)



Lack of Public Transport is a major cause of urban congestion which increases the **modal share** of private transportation.

Background reference: see Soehodho (2017)

SLOW PORT TURNAROUND

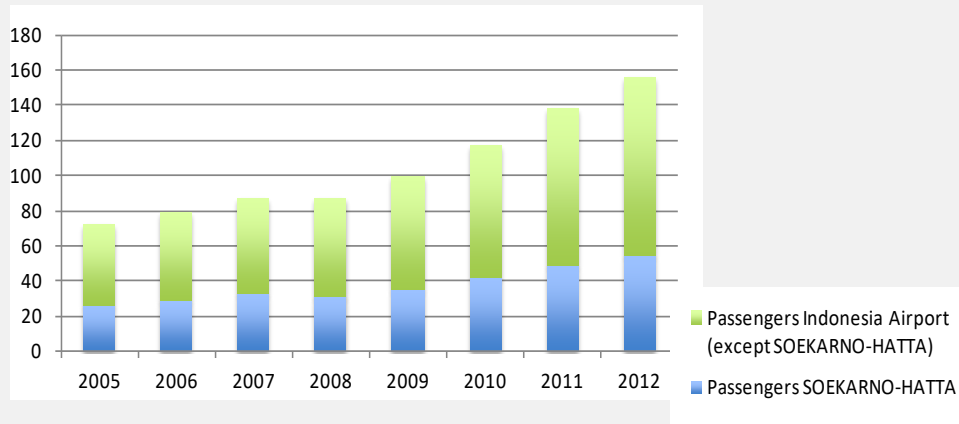


Poor Performance in the Port Sector
A major issue is the **high dwelling time for containers - 8 days in Tanjung Priok port**, for example – leading to high logistics costs. IDR 560 billion (US\$43 billion) needed.

Background references: see Cribb and Ford (2009), Bappenas (2015)

National Infrastructure Performance Compared to Other Countries (3/4)

RAPID GROWTH IN AIR TRANSPORT DEMAND



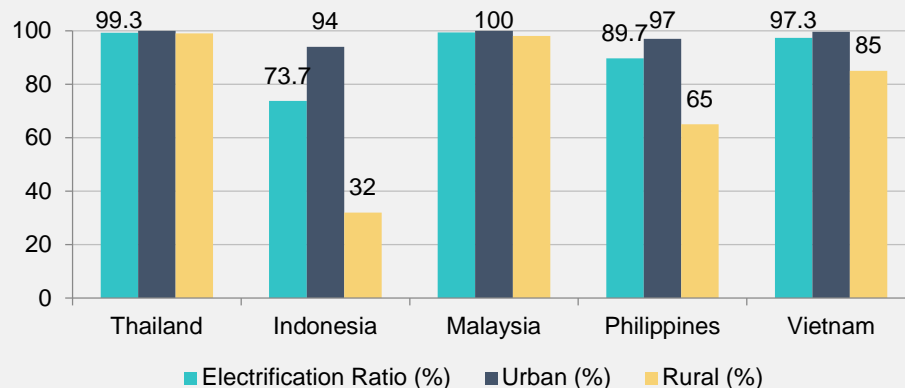
Source: DGCA, 2013

Over-loading of Air Transport Network

Since deregulation in 2004, growth in air travel has increased rapidly but airport development has lagged behind. Bappenas estimated IDR 182 billion (US\$14 billion) needed.

Background references: see DGCA (2013), Duval (2016), Bappenas (2015)

ELECTRIFICATION RATIO (%)



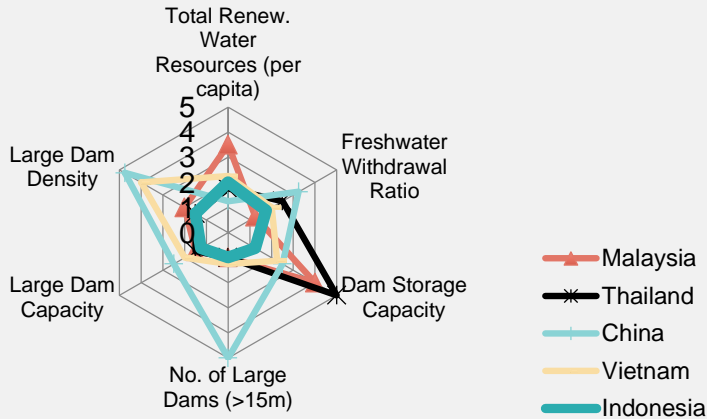
Indonesia's **electrification ratio** is substantially lower than that of neighboring South East Asian countries, with **rural electrification coverage as low as 32%**.

Program Indonesia Terang (PIT) has made progress with exploring where localised electrification solutions are needed, and defined how to do this, usually involving renewable technologies.

Background reference: see ADB (2016a), Ministry of Energy and Mineral Resources (2017)

National Infrastructure Performance Compared to Other Countries (4/4)

WATER RESOURCES INFRASTRUCTURE

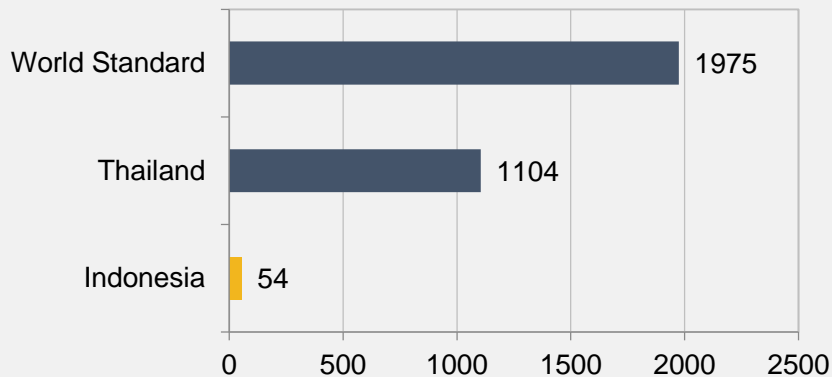


Poor Performance of Water Resources Infrastructure – Need more bulk water and better disaster management

Dam and coastal defense development has been minimal, causing severe damage to urban areas due to flooding.

Background reference: see ADB (2016c)

WATER STORAGE RESERVE CAPACITY (M³/CAPITA/YEAR)



Low Water Supply Reserve Capacity

World standard requirement for drinking water reserve per capita needs to be at 1,975 m³/capita/year. Indonesia only has 54 m³/capita/year.

Background reference: see ADB (2016b)

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Indonesia's infrastructure problem



Causes: History, institutions and policy decisions



Previous attempts at solutions



Jokowi Government Aspirations:
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KPPIP and Its Mandate



Recent KPPIP Achievements

Why the problems developed

1

The Asian financial crisis and the fall of Suharto led to pressure for decentralisation in the late 1990's. Many central functions were transferred to provincial and local governments.

2

These local governments had inadequate experience, staffing and funding.

3

Spending on infrastructure investment fell from 7% of GDP pre-2000 to around 4% in 2010.

4

Separation of Bappenas (Planning Ministry) and Ministry of Finance (Funding) also led to inadequate budget allocations at the central level. MOF has followed a conservative fiscal stance, seeking to further tighten the debt/GDP ratio following the global financial crisis.

5

A misplaced belief that public-private partnerships could fill the funding gap reduced focus on public provision.

6

Attempts to solve the problem, for example the Masterplan for the Acceleration and Expansion of Indonesia's Economic Development (MP3EI), were derailed by political issues and lack of institutional support.

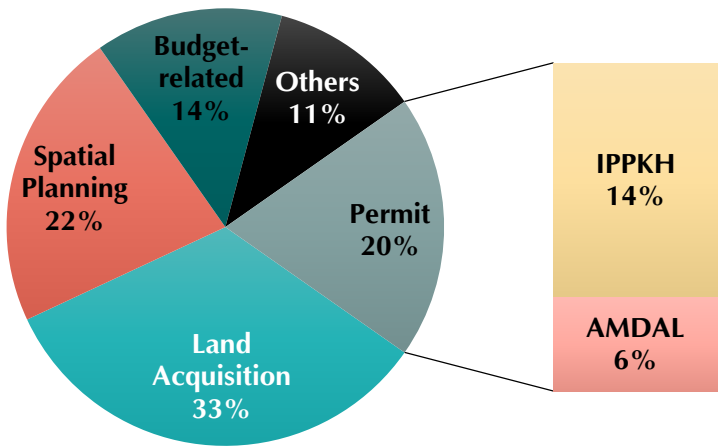
7

Agencies that were tasked with improving matters were not empowered or funded adequately (for example Policy Committee for The Acceleration of Infrastructure Provision (KKPPI) and the secretariat for MP3EI (KP3EI)).

Poor infrastructure delivery is mainly caused by implementation bottlenecks and the general lack of investment

The key issues and bottlenecks faced by a selection of priority projects:

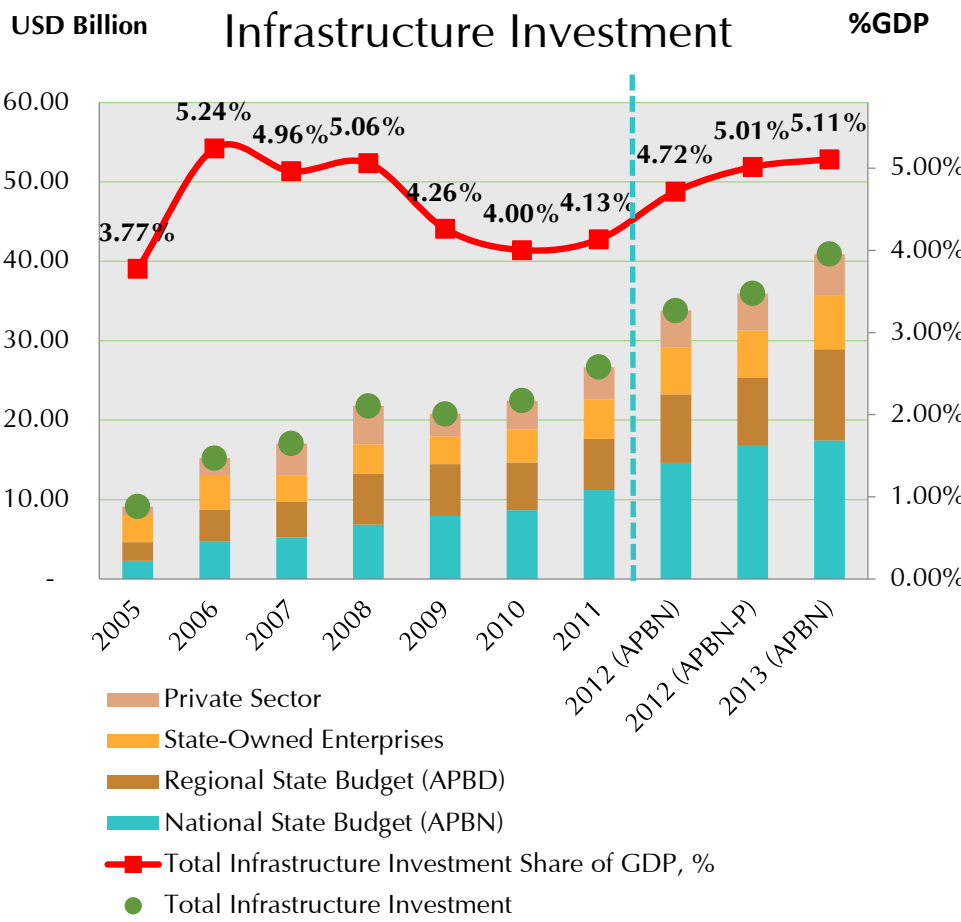
Main issues:



- Other cross cutting issues faced by many infrastructure projects:
- Ambiguous legal and regulatory frameworks
 - Lack of long-term financing
 - Inadequately prepared projects
 - Poor asset management
 - Lack of consequence management
 - Weak human capital and poor institutional capacity
 - Lack of industry capacity
 - Absence of community support for infrastructure projects

Source: Tusk Advisory Analysis

Official statistics on infrastructure investment suggest around 5% of GDP is invested – The percentage of APBN and APBD (state and regional budgets) is actually lower, since these data include costs of buildings infrastructure for related ministries.



Source: Tusk Advisory Analysis based on State Budget data from the Ministry of Finance

A previous failure: The History of KKPPI

After the Asian Financial Crisis of 1997/8, infrastructure spending in Indonesia fell steeply. By June 2001, it was clear that a new approach was needed to 'kick-start' infrastructure development. A new Committee, the Policy Committee for The Acceleration of Infrastructure Provision (KKPPI) was established.

Members of the Committee were the key people involved in Indonesia's economic development. It should have been very influential and effective.

- Co-ordinating Minister for Economic Affairs, Minister for National Development, twelve key ministers and agency Chairmen, reporting directly to the President.

The duties allocated to KKPPI at its foundation included:

- developing coordination strategy in the implementation of infrastructure development acceleration;
- coordinating and monitoring the implementation of the policies for the acceleration of infrastructure provision by related ministers and local governments;
- developing policies on the implementation of public service obligation in order to accelerate infrastructure provision; and
- coordinating the resolution of any issue related to the acceleration of infrastructure provision.

KKPPI was given substantial rights to seek information, and to carry out consultation. Greater powers were allocated in 2005, it to determine resolution of issues and problems.

However, KKPPI met infrequently, both before and after 2005, and did little fundamental work. Its powers were rescinded in 2011, and KKPPI was largely dormant until KPPIP was formed in 2015.

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Previous attempts at solutions



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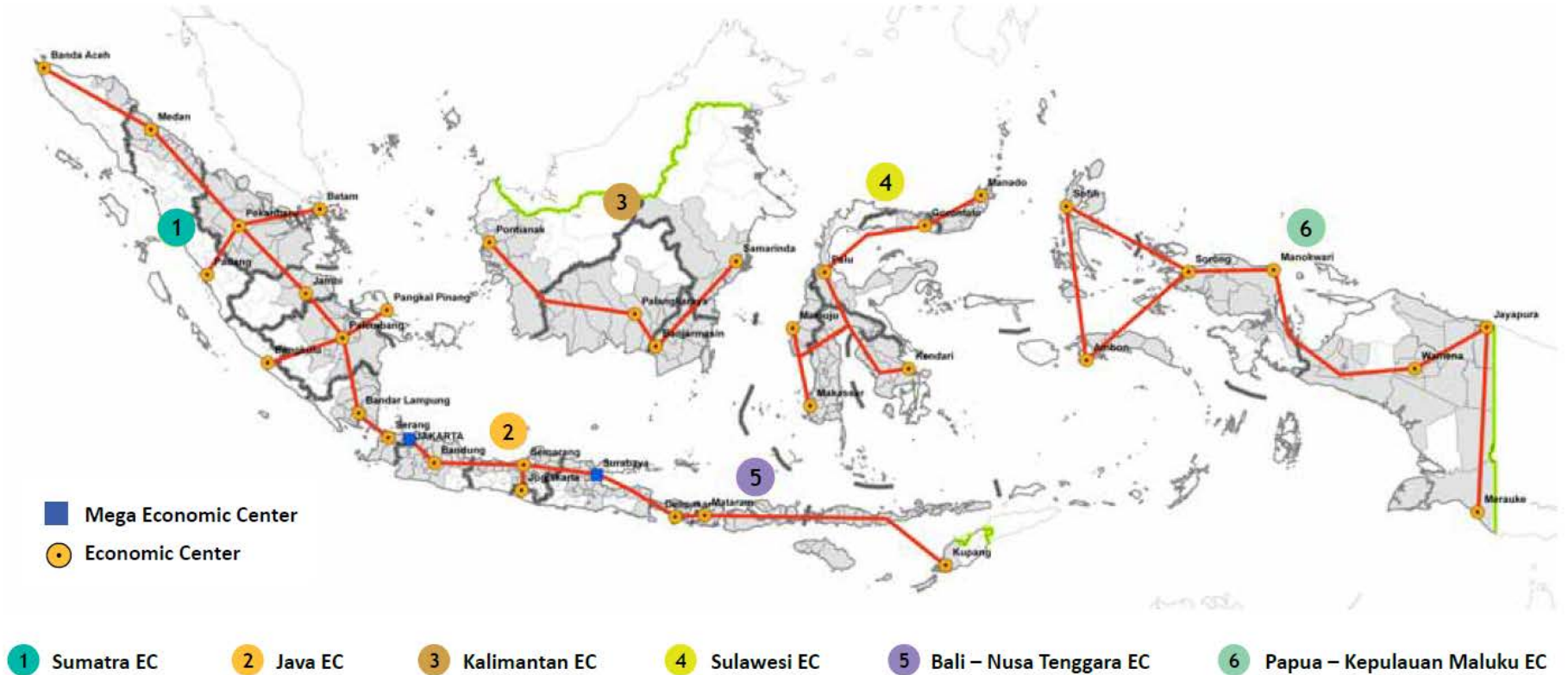


KPPIP and Its Mandate



Recent KPPIP Achievements

MP3EI Masterplan



Source : Masterplan: Acceleration and Expansion of Indonesia Economic Development 2011-2025, Figure 3.A.1

KP3EI and Tusk Initiatives

- 1 Critical path analysis - to accelerate project delivery
- 2 Regulation database - to identify conflicting regulations
- 3 Standard Operating Procedures developed – to assist officials
- 4 Land Acquisition SOPs – to remove bottlenecks
- 5 Communication strategy – development of guidance, meetings with stakeholders
- 6 Process flowcharts
- 7 Investor guidelines

National Medium Term Plan (RPJMN)

2015 - 2019

Logistic Related



Sea toll concept as a means to becoming a world maritime axis.

- develop **24 new seaports**
- increase number of substantial vessels (pioneer cargo, transport vessels, pioneer crossing vessels)
- develop 60 crossing ports



Strengthen connectivity through air transport infrastructure development

- develop **15 new airports**
- develop air cargo facilities in 6 locations
- increase number of pioneer airplanes



Develop urban transport

- develop Bus Rapid Transit (BRT) in **29 cities**
- develop Mass Rapid Transit (MRT) in **6 metropolis** and **17 large cities**.



Improve transport efficiency through road development and maintenance

- develop **2,650 km** of new roads
- develop **1,000 km** of new toll roads
- rehabilitate **46,770 km** of existing road



Reduce logistics costs by improving railway infrastructure

- develop new tracks in Java, Sumatra, Sulawesi, and Kalimantan:
 - **2,159 km** inter-urban railways
 - **1,099 km** urban railways

Energy Related



Achieve electrification ratio of 96.6% by 2019 through generating capacity improvement

- develop **power plants with total capacity of 35,000 MW**



Achieving food sovereignty through irrigation system improvement

- develop **33 new dams** and **30 hydropower plants**
- expand 1 million ha irrigation system
- rehabilitate existing irrigation system



Ensure efficiency of fuel production by optimizing domestic refineries

- build **new oil refineries of 2x300,000 barrels**
- Expand existing refineries in Cilacap and Balongan

Need for Infrastructure Investment 2015 – 2019

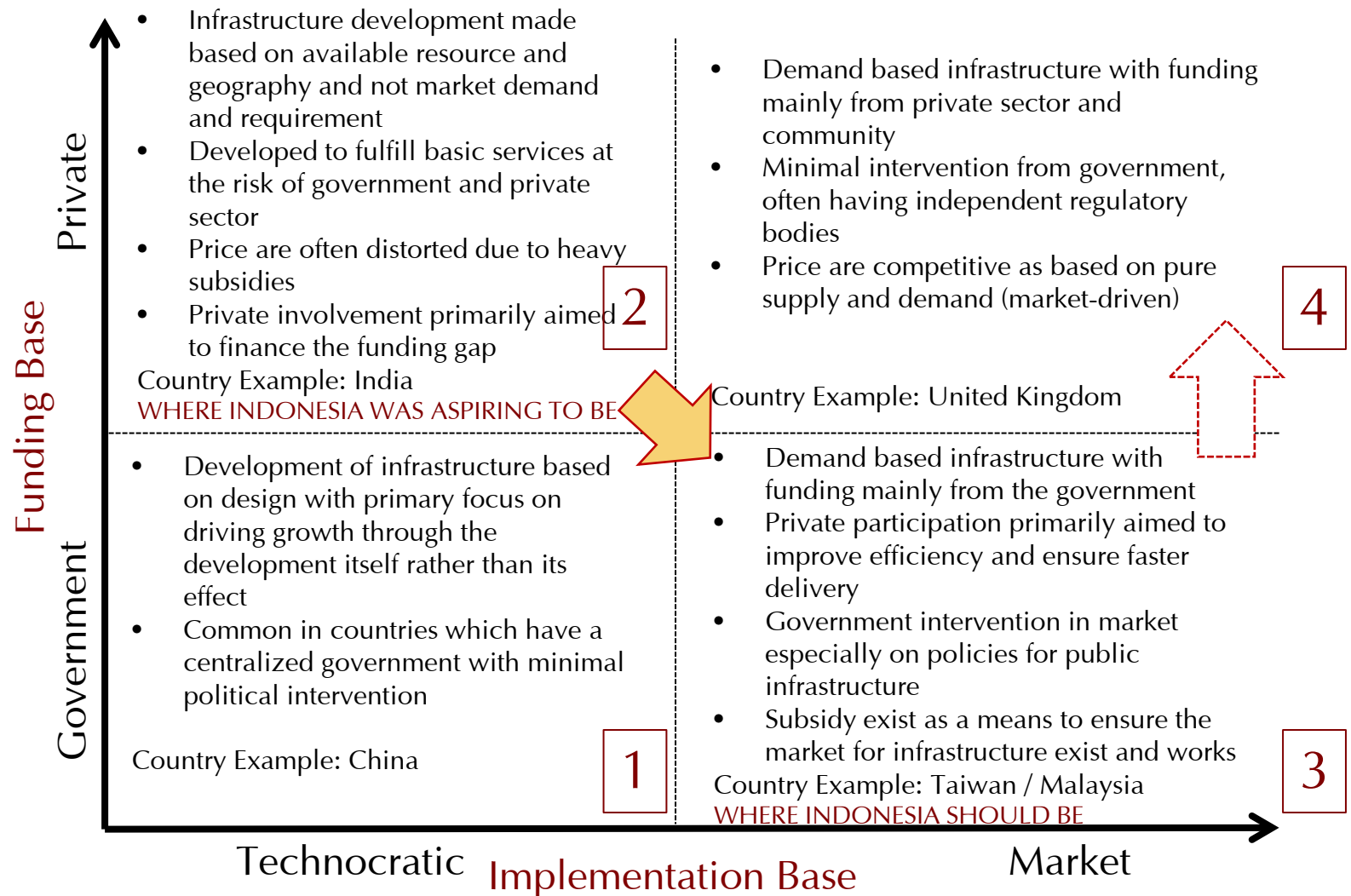
(intended for ~7,0 % econ growth)

In IDR Trillion

SECTOR	APBN	APBD	SOE	PRIVATE	Total
Road	268	200.0	65.0	200	733
Railways	93	-	11.0	122	226
Sea Transport	260	-	238.2	93	591.2
Air Transport	64	5.0	50.0	25	144
Ferries and Inland Waterways	37	-	10.0	-	47
Urban Transport	61	15.0	5.0	5	86
Electricity	120	-	445.0	435	1000
Oil & Gas	4.3	-	151.5	351.5	507.3
Information and Communications Technology (ICT)	15	15.3	27.0	223	280.3
Water Resources	196	68.0	7.0	179.9	450.9
Water Supply and Sanitation	131	198.0	44.0	30	403
Public Housing	184	44.0	12.5	87	327.5
Total Budget Req. for Infrastructure	1,433.3	545.3	1,066.2	1,751.4	4,796.2
<i>Percentage by Spread</i>	<i>29.88%</i>	<i>11.37%</i>	<i>22.23%</i>	<i>36.52%</i>	<i>100%</i>

Investment Need for prioritized/strategic Infrastructures = 368.9 bill US\$

Government needs to adopt a paradigm shift by providing funding schemes that leverage private sector's delivery capabilities...



During the previous decade, the traditional PPP schemes proposed by the government expected the private sector to assume both delivery and revenue risks even for projects that were not bankable. This has not worked.

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**Jokowi Government Initiatives:
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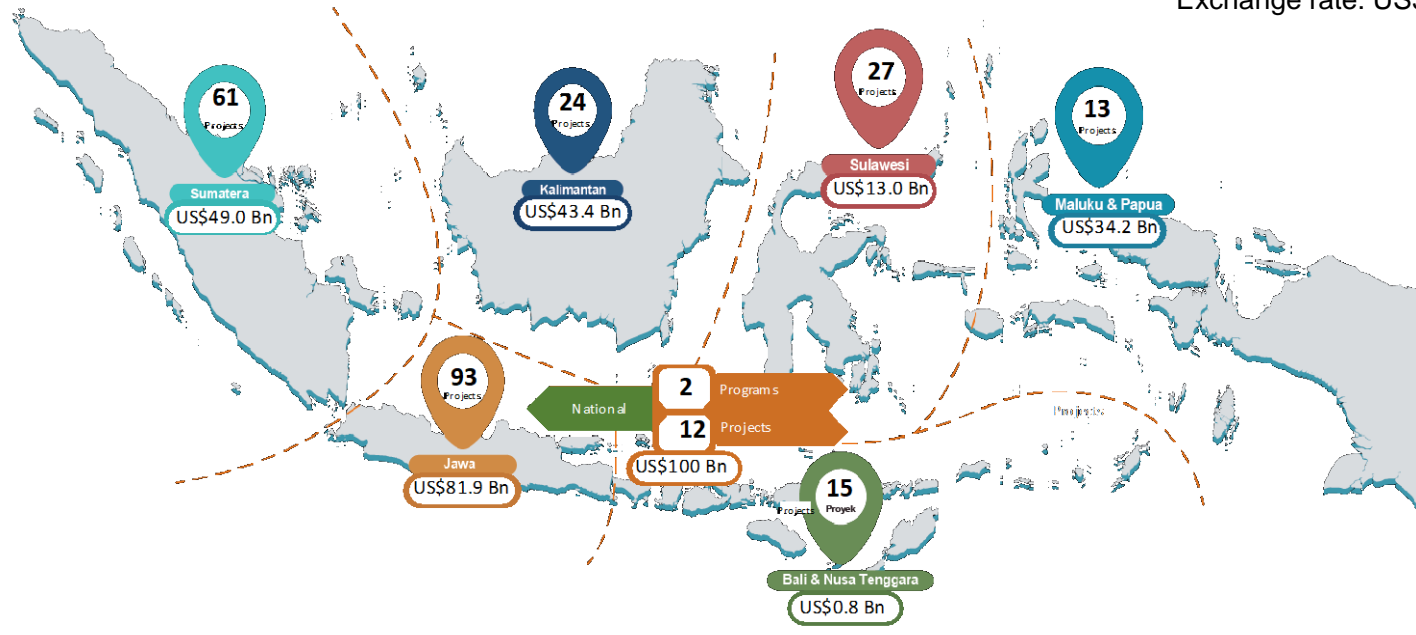


Recent KPPIP Achievements

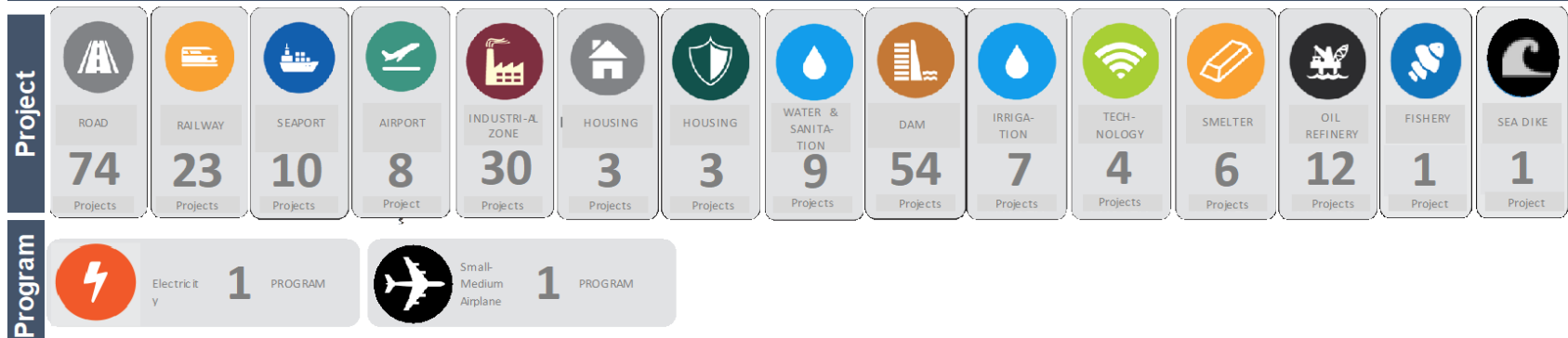
National Strategic Projects

Under Presidential Reg. No. 58/2017, **245 projects and 2 programs** were listed as National Strategic Projects (PSN) - estimated total investment of **US\$322 billion***

*Exchange rate: US\$ 1 = IDR 13,000



PSN includes 15 sectors at project level and 2 sectors at program level



Mechanisms

Fiscal Reforms

1) Viability Gap Funding (VGF)

Increase project financial feasibility by contributing up to 49% of the construction cost. (MoF Reg. No. 223/2012)

2) Availability Payments

Issuance of regulatory framework to allow annuity payment by the Gov't during concession period to concessionaire since project operation based on infrastructure service availability. (MoF Reg. No. 190/2015 for Central Gov't and MoHA Reg. No. 96/2016 for Regional Gov't)

3) Land Revolving Fund

A revolving-fund sourced from State Budget, to accelerate land acquisition. (MoF Regulation No. 220/2010)

4) Risk-sharing Guidelines

IIGF has issued risk allocation and mitigation guidelines for PPP projects.



Institutional Reforms

1) KPPIP

KPPIP is actively involved in accelerating delivery of priority infrastructure projects

2) PT Sarana Multi Infrastruktur

Merger between PT SMI and Gov't Investment Center (PIP) to become an infrastructure funding company.

3) PT Indonesia Infrastructure Finance (IIF)

PT Indonesia Infrastructure (IIF) provides capital for infrastructure development and support the GCA in the preparation and transaction stages for PPP projects)

4) PPP Unit

Provide facilities to help GCAs in preparing PPP projects (PDF/TA)

5) BLU LMAN

The State Asset Management Agency (BLU LMAN) is mandated to provide land funding for National Strategic Projects to ensure timely land acquisition processes

6) Indonesia Infrastructure Guarantee Fund (IIGF)

IIGF has the potential to provide project guarantee for non-PPP projects.



Regulatory Reforms

1) Direct Lending

Allow guarantee for direct lending to SOE to accelerate financial close process for infrastructure projects. (Presidential Reg. No. 82/2015.)

2) Land Acquisition

Stimulate land acquisition acceleration based on Law No. 2/2012. (Presidential Reg. No. 148/2015)

3) 14 Economy Packages

Conduct deregulation for issues hindering infrastructure delivery and develop a task force under CMEA to ensure the implementation's effectiveness of Economy Packages.

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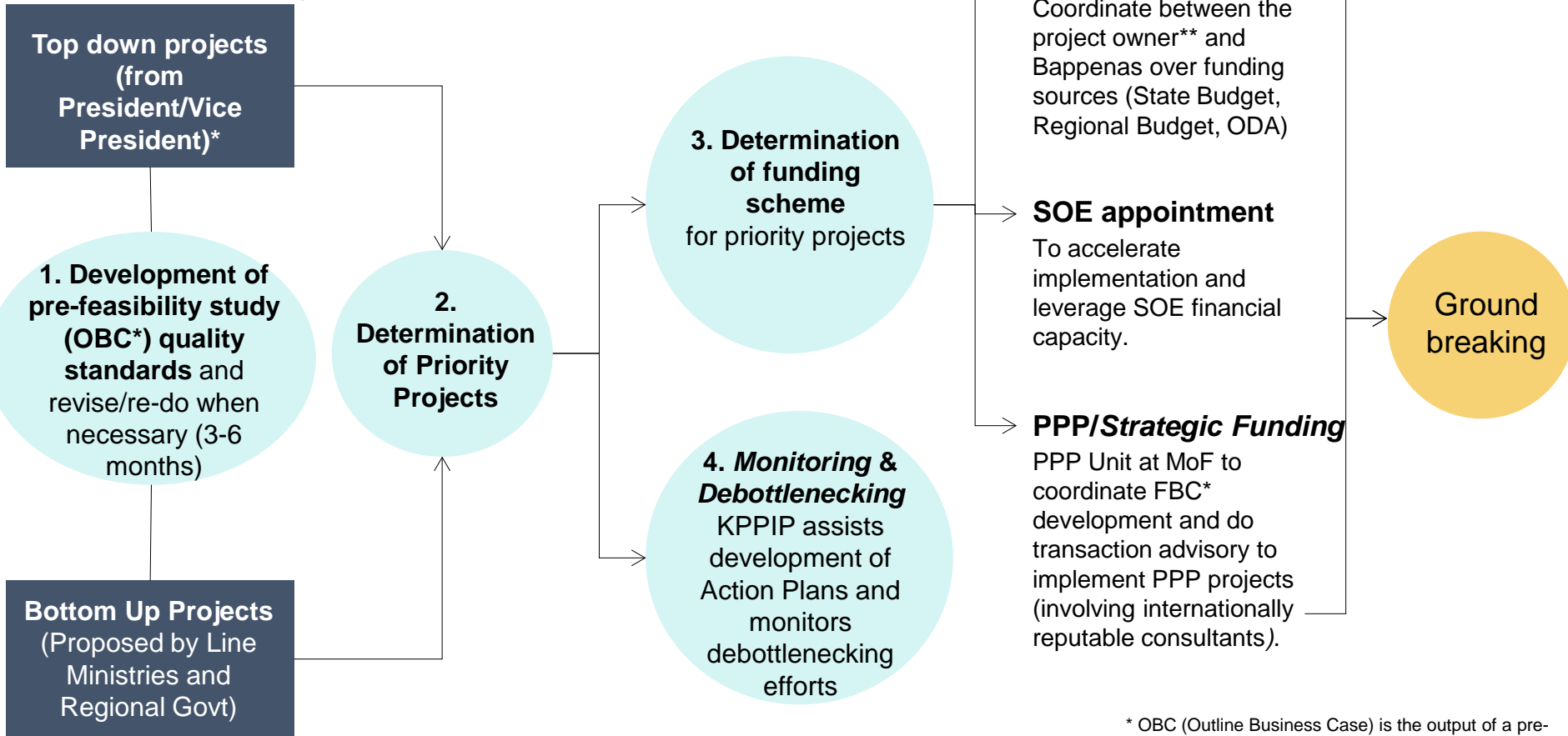
KPPIP and Its Mandate



Recent KPPIP Achievements

Into action: KPPIP

KPIP's six main tasks as stipulated in Pres. Reg. No. 75/2014
j.o. Presidential Regulation No. 122/2016



* OBC (Outline Business Case) is the output of a pre-feasibility study. FBC (Final Business Case) is the output of a full feasibility study.

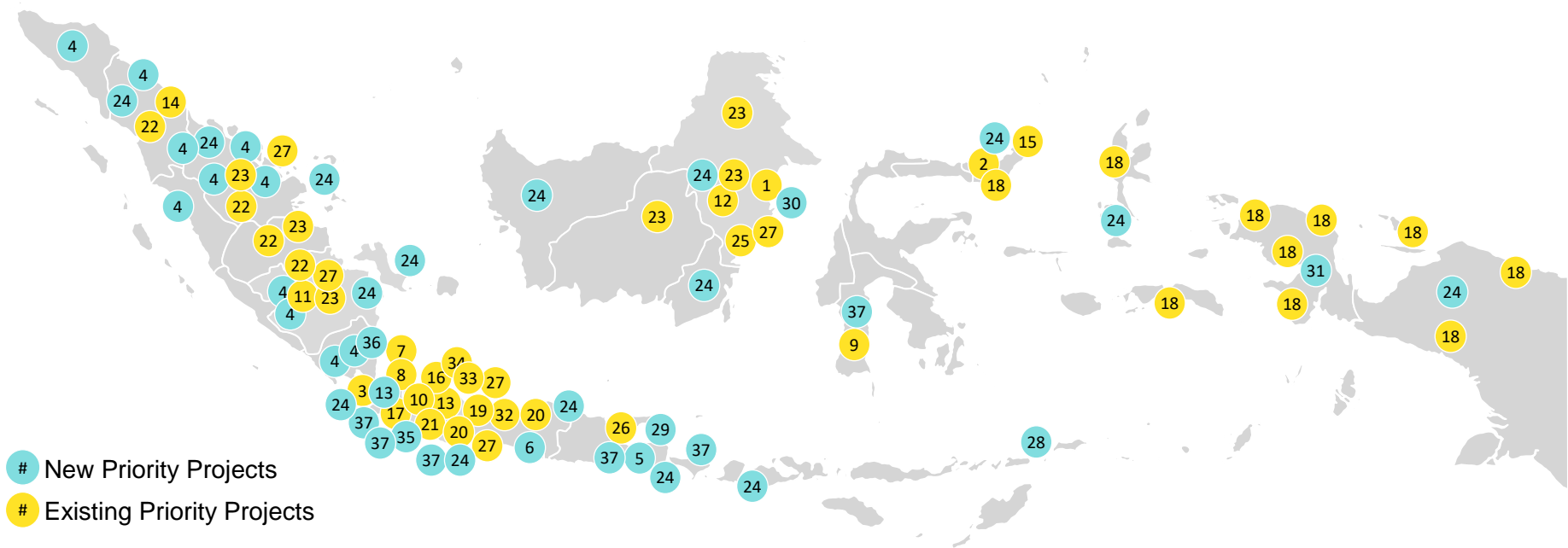
** Project owner is the ministry, agency head, regional heads, SOE/ROE heads established as the responsible party in priority infrastructure delivery.

5. Determine strategy and policy

6. Facilitate capacity and institutional building related to Priority Infrastructure delivery

Additional mandate for National Strategic Projects: Monitoring and Evaluation including debottlenecking high level issues.

From the 245 National Strategic Projects, 37 Priority Projects have been selected



New Priority Projects
Existing Priority Projects

- | | | |
|------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 1. Balikpapan-Samarinda Toll Road | 13. Light Rail Transit (LRT) of DKI Jakarta | 26. Tuban Oil Refinery |
| 2. Manado-Bitung Toll Road | 14. Kuala Tanjung International Hub Seaport | 27. RDMP/Revitalization of Existing Oil Refineries (Balikpapan, Cilacap, Balongan, Dumai, Plaju) |
| 3. Panimbang-Serang Toll Road | 15. Bitung International Hub Seaport | 28. Abadi WK Masela Field |
| 4. 15 Segments of Trans Sumatera Toll Road | 16. Patimban Port | 29. Unitization Field Has Jambaran-Tiung Biru |
| 5. Probolinggo-Banyuwangi Toll Road | 17. Inland Waterways/Cikarang – Bekasi – Laut (CBL) | 30. Indonesian Deepwater Development (IDD) |
| 6. Yogyakarta-Bawen Toll Road | 18. Palapa Ring Broadband | 31. Tangguh LNG Train 3 Development |
| 7. SHIA Express Railway | 19. Central Java Power Plant (CJPP) | 32. West Semarang Drinking Water Supply |
| 8. MRT Jakarta North – South Line | 20. Central – West Java Transmission Line 500 kV | 33. Jakarta Sewerage System |
| 9. Makassar – Parepare Railway | 21. Indramayu Coal-fired Power Plant | 34. National Capital Integrated Coastal Development (NCICD) Phase A |
| 10. Light Rail Transit (LRT) of Jakarta, Bogor, Depok and Bekasi | 22. Sumatera 500 kV Transmission (4 Provinces) | 35. Jatiluhur Drinking Water Supply |
| 11. Light Rail Transit (LRT) of South Sumatera | 23. Mulut Tambang Coal-fired Power Plant (6 Provinces) | 36. Lampung Drinking Water Supply |
| 12. East Kalimantan Railway | 24. PLTGU (16 Provinces) | 37. Waste to Energy Program in 8 Cities |
| | 25. Bontang Oil Refinery | |

Priority Projects receive four special facilities via KPPIP

OBC Facility by KPPIP/National Planning Agency

Priority Projects are eligible for financing and provision of a panel of consultants for Outline Business Cases review or redo.

KPPIP allocates more than 50% of its budget for this facility.



Prioritization by PPP Unit of Ministry of Finance

PPP Unit of Ministry of Finance prioritizes the preparation of PPP projects that are enlisted as KPPIP Priority Projects. Those projects become eligible for Project Development Facility / Transaction Advisory (PDF/TA) Facility, Government Guarantees, Viability Gap Funding (VGF), and/or Availability Payments Schemes.



Debottlenecking and Task Force Establishment

Priority Projects can receive full support from KPPIP internal full time experts whose background are from the private sector.

KPPIP is authorized to establish an ad hoc task force to debottleneck specific issues.



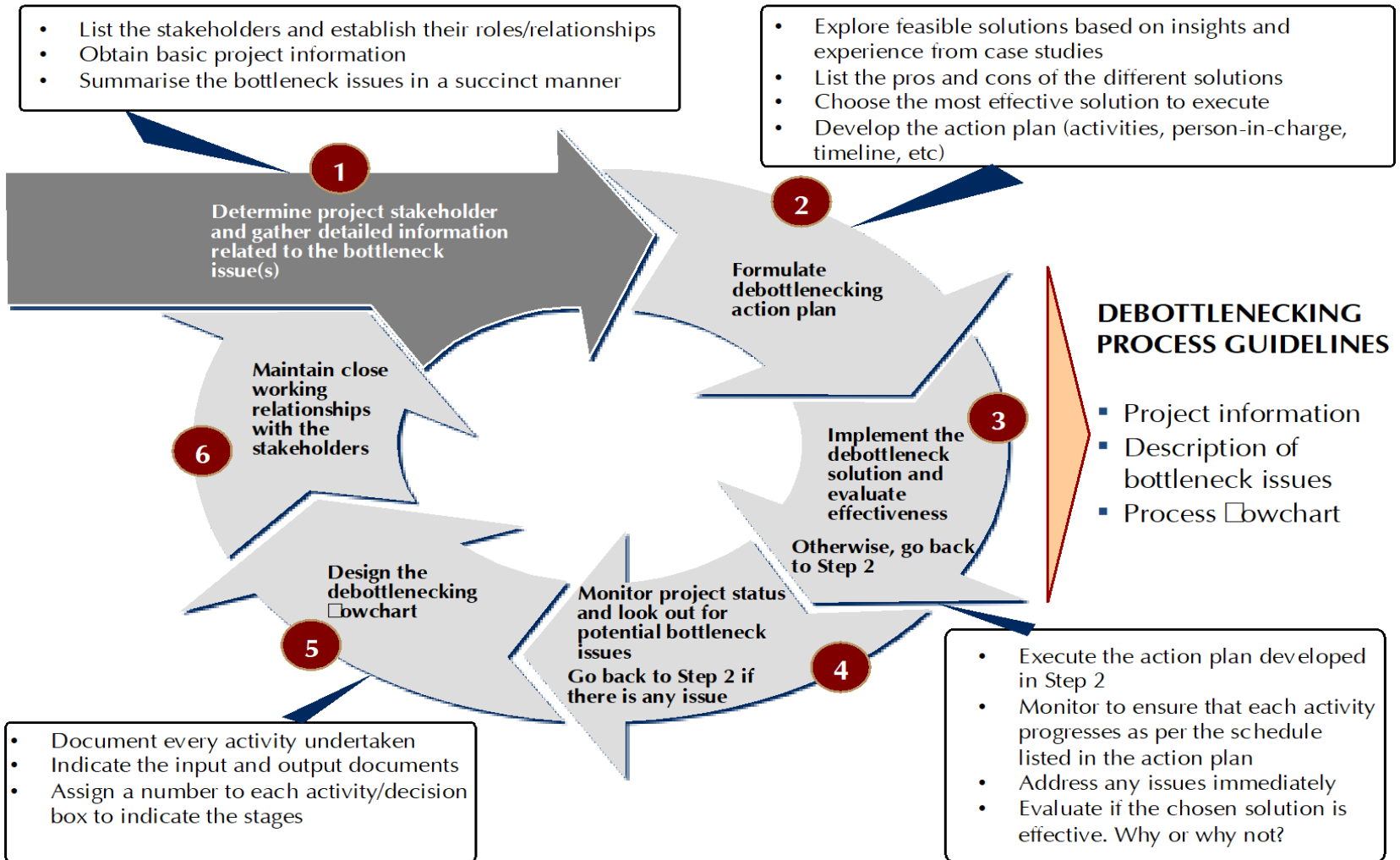
Provision of 'incentives and disincentives' on project implementation

KPPIP provides an incentive and disincentive program based on the performance of the project owner in implementing the project action plan. Incentives can be in form of an additional quota for priority projects in the following year, project preparation studies, etc. Disincentives can be in the form of project owner black-listing and study facility repayment.



* The forms of incentives and disincentives are still being discussed

Project Debottlenecking



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A View of Infrastructure Needs: MP3EI



Attempts to Implement MP3EI
and Emerging Problems



RPJMN 2015 – 2019: The Crisis Defined



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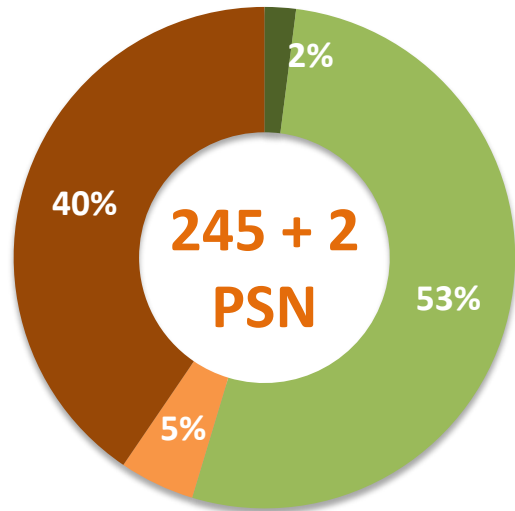
KPPIP and Its Mandate







Recent KPPIP Achievements

Progress status of 245+2 National Strategic Projects (PSN) and 35 GW Electricity Program as per July 2017

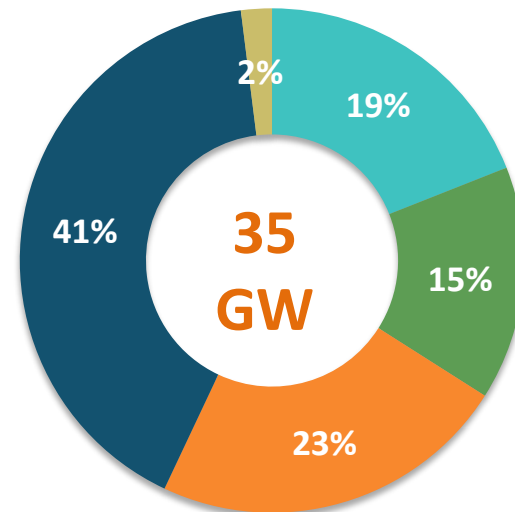
Progress of 245 PSN + 2 Programs per July 2017



-  **5** projects are **completed**
-  **130** projects are in **construction**¹
-  **12** projects are in **transaction**
-  **100** projects are in **preparation**

¹Including one electricity program under construction category (39% of electricity program has reached construction per April 2017)

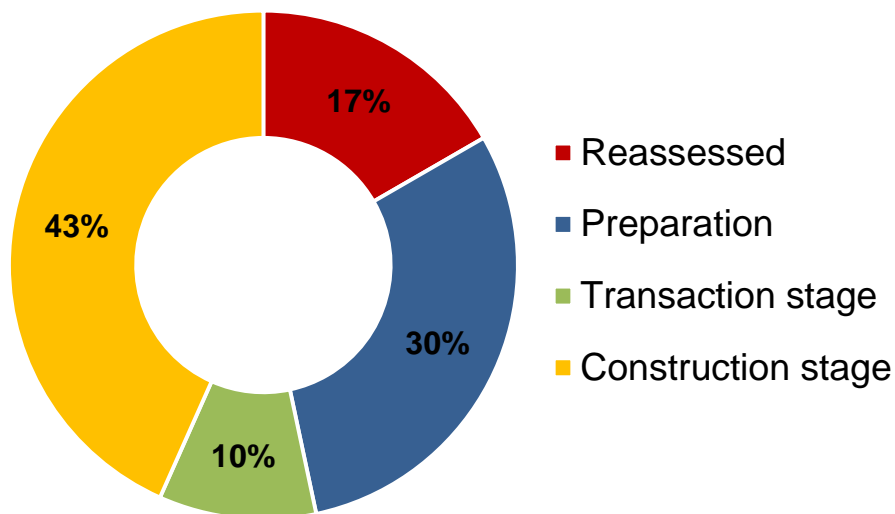
Progress of 35 GW Electricity Program per July 2017



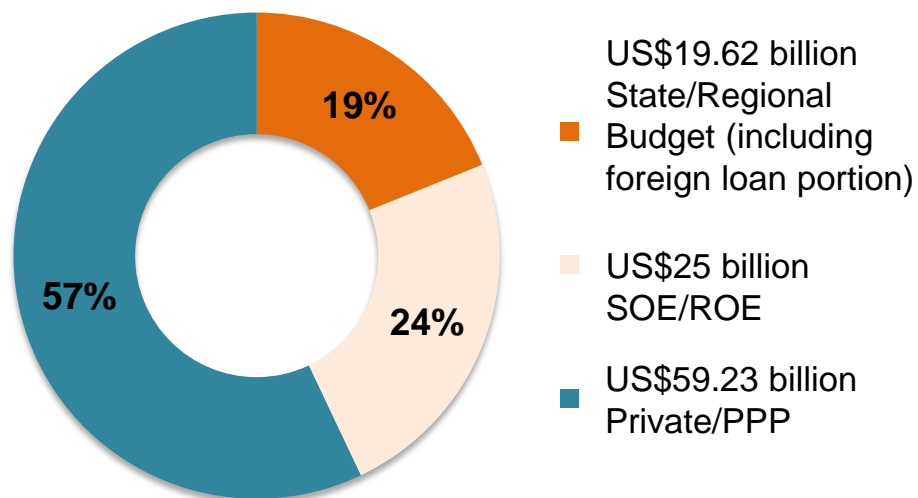
-  **758 MW** are **operating**
-  **14.593 MW** are in **construction**
-  **8.150 MW** have **signed PPA** but have not yet reached financial close
-  **5.355 MW** are in **procurement**
-  **6.970 MW** are in **planning**

Progress Status of Priority Projects as per July 2017

Progress Status of Priority Projects



Funding Schemes for Priority Projects



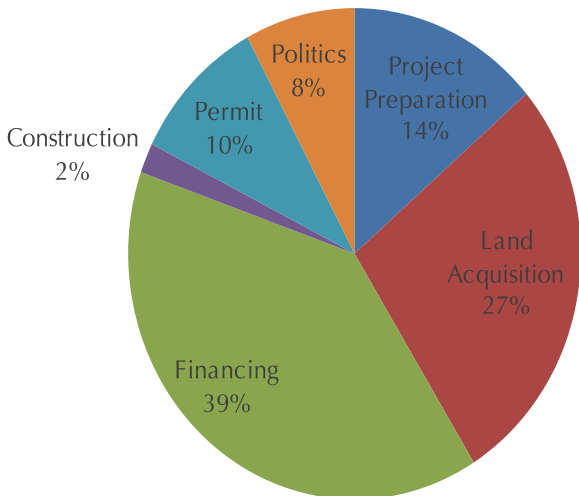
¹ Five reassessed projects including HVDC; Karangates IV and V Hydro-Electric Plants; Kesamben Hydro-Electric Plant; Lodoyo Hydro-Electric Plant; and South Sumatera 8,9,10 Mine to Mouth Power Plant (South Sumatera 8 Mine to Mouth Power Plant operational is postponed to 2023; this project is bundled with South Sumatera 8 Coal-fired Power Plants that are reassessed by PLN)

* Initially, KPPIP was charged with supporting 30 priority projects. This was increased to 37 in 2017.

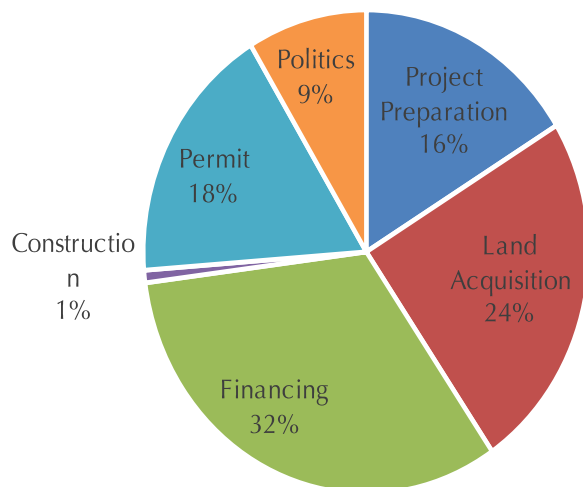
Exchange rate: US\$ 1 = IDR 13,000

Sorting out bottlenecks

Issues Classification Based on Frequency on Priority Projects



Issue Classification based on Priority Projects Investment Value



Bottleneck issues and number of projects

1. Financing (19 Projects – US\$ 36.2 Bio)

- 9 toll road projects
- 4 refinery projects
- 2 railway projects
- 2 seaport projects
- 2 sewerage & water supply projects

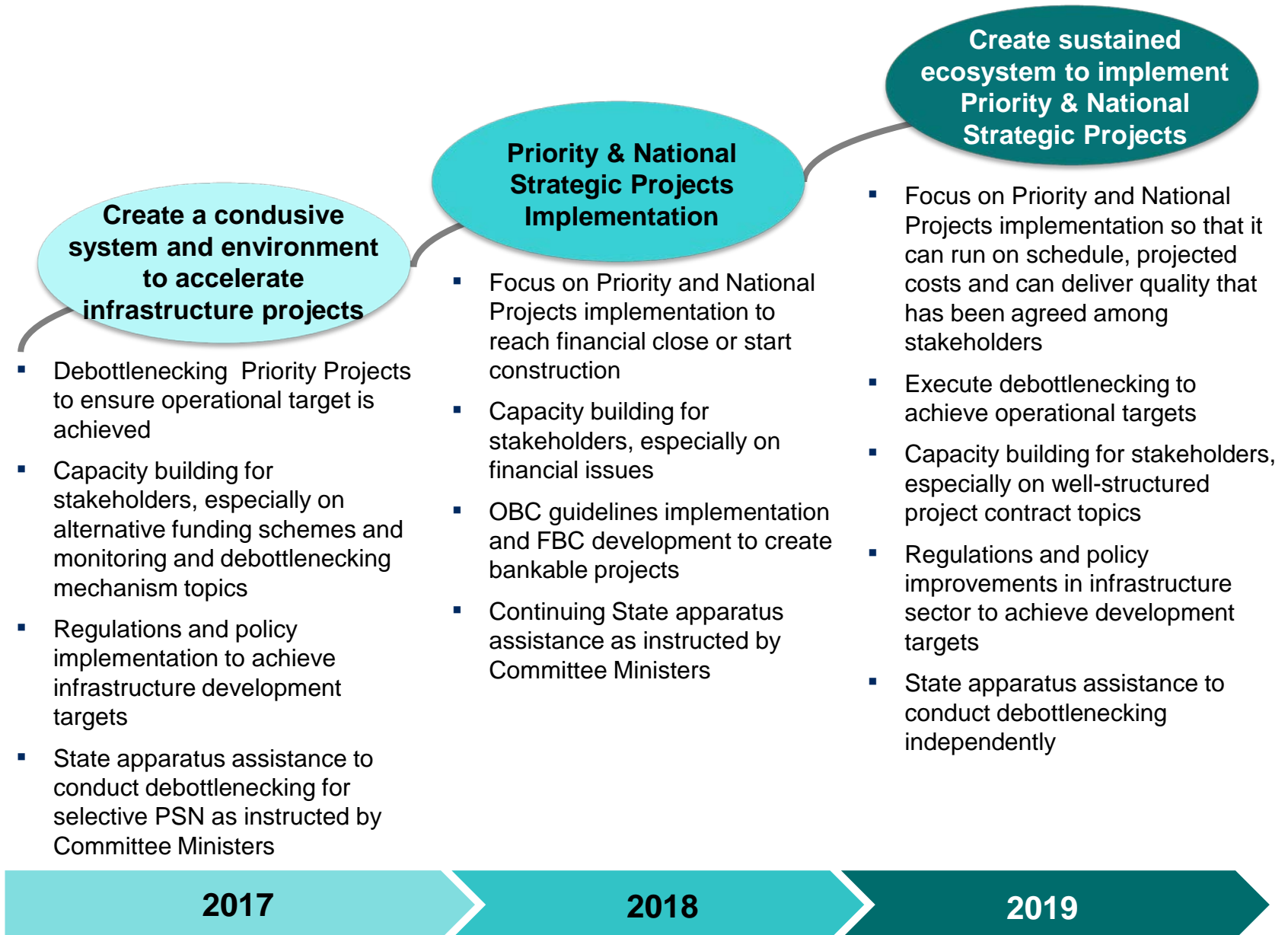
2. Land acquisition (12 projects – US\$ 26.9 Bio)

- 5 toll road projects
- 2 transmission projects
- 2 refinery projects
- 1 coal-fired power plant project
- 1 railway project
- 1 telecommunication project

3. Project preparation (7 projects - US\$ 18.1 Bio)

- 3 hydropower plant projects
- 2 railway projects
- 1 sewerage project
- 1 coastal defense projects

KPPIP's Continuing Role



Some Key Takeaways



Increasingly infrastructure projects are sub-financial, thus government needs to accept that they need to share some of the project risks and it needs to coordinate and lead project delivery...

- Indonesia, like many other Asian and particularly ASEAN countries, needs government led funding schemes to support its infrastructure development for strategic projects
- Agencies such as KPPIP are crucial, with appropriate budgeting, support and empowerment



The Ministry of Finance needs to adopt a stronger and more central role in coordinating the transaction and funding of economically important and strategic projects – an Infrastructure Law can enable these

- Governments, through their fiscal agencies, are increasingly involved in strategizing and coordinating priority infrastructure development. They usually establish strategic companies to achieve these goals
- There are several tools for the government to fund infra projects, such as ODA, Concessionary longterm loans, annuity or availability payments, soft loans to SOEs, targeted taxation support etc
- Implementing these schemes requires political courage and regulatory changes and more importantly ability to manage fiscal support responsibly



Systematic application of debottlenecking solutions, co-ordinated by an agency such as KPPIP, can make a big difference to project delivery

- With complex and multi-level government, it is not sufficient to expect all the ministries and agencies to co-ordinate themselves. Systematic co-ordination is needed.
- Funding of projects is hard, as many are not immediately bankable, so imaginative and innovative solutions need to be developed.
- Debottlenecking tools, with supporting improvement of local capacity, can be a very effective mechanism in improving project delivery.



THANK YOU

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On the work of Tusk Advisory, please see <https://tuskadvisory.com/>

Nicholas Morris: recent Indonesian activities

1 Currently Team Leader supporting KPIP

- Role has included involvement in 'one map' policy development.

2 Development of PIT – Rural Electrification Programme

3 Co-author of the background papers for RPJMN 2015-2019

Role included:

- assessment of Indonesian fiscal and monetary policy, exploration and modelling of Indonesian public finances
- understanding and modelling regional disparities
- development and costing of detailed asset development plans.

4 Co-author of 'White Paper' on Indonesian Energy Policy

5 Previous projects:

- Team Leader supporting KP3EI
- Review of Indonesian decentralisation
- Rationalising water supply in Bali
- Regulation of the toll road operator, Jasa Marga.

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