

PwC Indonesia Economics and Policy Advisory

Statement of Credentials



How we can help you







It's our job to understand, advise on and solve the complexities involved in the economics and policy of projects, companies, and policies.

We bring together Indonesian and international economic expertise into one dedicated Economics and Policy Advisory team. We apply financial and economic tools and principles to problems facing businesses, governments and other agencies. Our experience is grounded in the sectors below, but our methodologies are applicable to a wide range of investment and policy decisions.













PwC Indonesia's Economics and Policy Advisory offers a range of services. We can help you:

- ✓ Analyze and project quantitative trends (e.g., market demand) for capital investments
- ✓ Conduct revenue or demand forecasts to be used for the financial modeling of infrastructure projects.
- ✓ Quantify projects' socio-economic impacts on key stakeholders, to support engagements with politicians, regulators and communities.
- ✓ Calculate projects' cost-benefit ratios and economic return, required for projects contracting under Public Private Partnership ("PPP") regulation (e.g., Viability Funding Gap funding applications).
- ✓ Analyze procurement strategies for capital projects (i.e., public sector delivery, PPP, or some other mode of delivery).
- ✓ Help ensure accountable, transparent, participative decision making in government that maximizes economic and social outcomes.

Range of Services

Infrastructure	Other Sectors
<ul style="list-style-type: none">  Demand Analysis  Economic Impact Assessment  Cost-Benefit Analysis  Value for Money Analysis  Feasibility Study/Business Case  Good Governance 	<ul style="list-style-type: none"> • Macroeconomic Commentary and Forecasting • Policy/Regulatory Impact Assessment • Policy and Investment Environment Review • Market Study • Other Bespoke Forecasting and Analysis

Our specialty infrastructure sectors include:

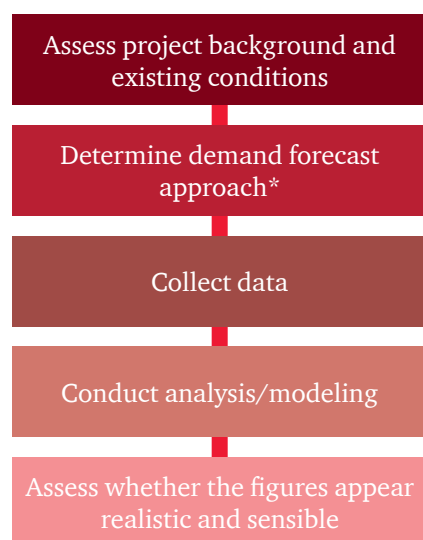
Transport				Energy/Utilities				Health	Telecoms	Tourism	Special Economic Zone
											
Airports	Road	Rail	Port	Power	Water	Mining	Oil & Gas				

Our Services

Demand Analysis

What is demand analysis?

An analysis that provides insight into the factors that determine market behavior, and can forecast demand for a product or service.




A demand forecast can help inform strategic decisions on investments and resource allocation. There are a range of forecasting frameworks with different levels of detail, so one of the main issues is to clearly identify the objectives of forecasting and select the appropriate method of forecasting, which will also be influenced by the industry to be assessed.

For example, demand for transport is a derived demand affected by many factors, including demographics, income, value of time, other modes of transport available, and land use patterns. Transport demand forecasting is a critical component in transport infrastructure development and is the primary input in any decision related to the creation and management of transportation infrastructure.

We can help you to:

- Review demand forecast studies
- Investigate the profile and overview of the potential market
- Perform demand analysis, define the market, and develop demand forecasts
- Conduct sensitivity analysis
- Recommend improvements to the project
- Refine detailed specifications (e.g. match station location to sources of demand)

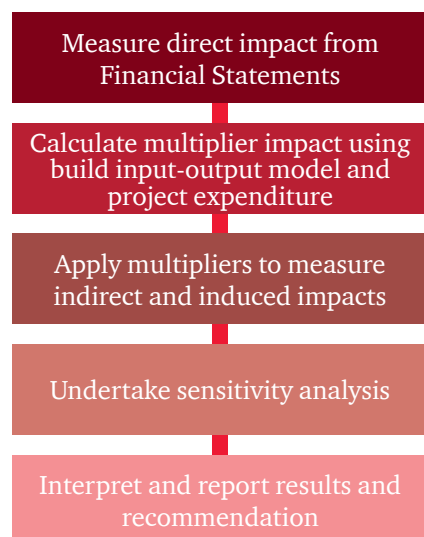
Selected case study in transport demand analysis

Client project	Description, scope of work and results
 Pre-feasibility study Light Rail Transit (“LRT”) in South Sumatera Rail	<p>Description: PwC was commissioned to conduct a pre-feasibility study for an LRT project in South Sumatera</p> <p>Scope of work:</p> <ul style="list-style-type: none">• Conduct market research to investigate the potential market, including passengers’ willingness to pay and their preferences regarding modes of transportation• Perform demand analysis and develop high-level demand forecast for the proposed South Sumatera LRT project• Perform capacity analysis and estimate the fleet size required to meet the demand• Perform tariff analysis and provide recommendations on the tariff level <p>Results: The project is still ongoing. We have identified potential cost savings on the LRT system design. We also suggested the appropriate tariff level and estimated the amount of Public Service Obligation (“PSO”) required to improve the project financial feasibility.</p>

Economic Impact Assessment

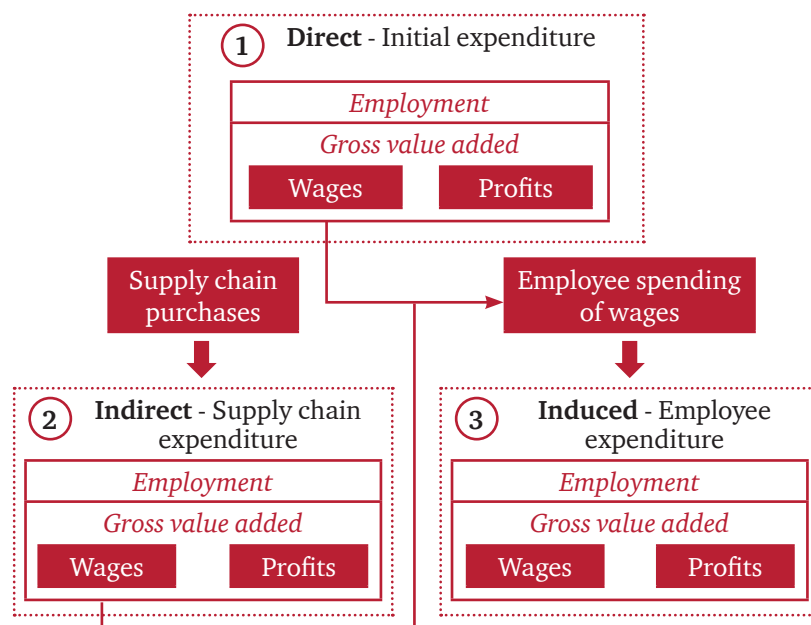
What is economic impact assessment?

An analysis of the effect of a business or project on a local economy.



Economic impact assessment is a quantitative method to estimate the economic impacts that a particular project or industry has on the local economy and communities.


This assessment estimates the economic impact of day-to-day business operations (direct impact) as well as their knock-on impact through expenditure down the supply chain (indirect impact), and the expenditure of employees and suppliers' employees (induced impact).



We can help you to:

- Assess the economic impacts of policy decisions
- Understand the economic significance of major investments
- Understand the economic footprint of your business
- Gain deeper insight into the structure of the supply chains of major investments

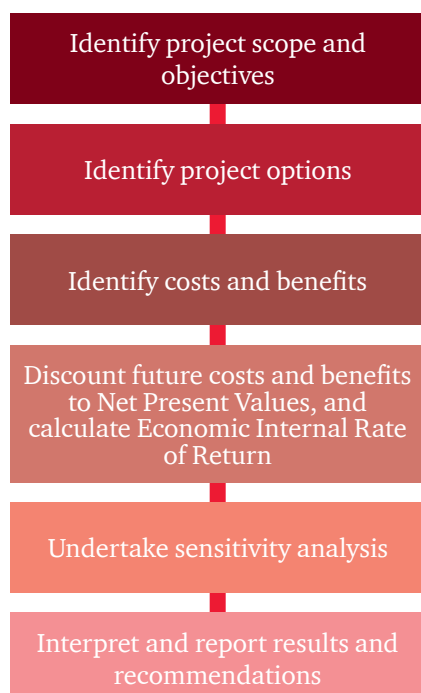
Selected case study in economic impact assessment

Client project	Description, scope of work and results
 <p>Economic benefits of captive power in industrial estates in Indonesia</p> <p>Energy/ Manufacturing</p>	<p>Description: PwC was commissioned by General Electric (“GE”) to conduct a joint PwC-GE study of the economic benefits of captive (i.e., off-grid) power generation for industrial estates in Indonesia.</p> <p>Scope of work:</p> <ul style="list-style-type: none"> • Conduct surveys and interviews with stakeholders from government, industrial estate developers and tenants • Build economic model to estimate the costs of blackouts • Report on cost-benefit analysis, regulatory, business model, financing, and strategy for captive power • Launch captive power event and media articles <p>Results: The report was launched publicly as part of a large event hosted by GE and PwC, and gained widespread media attention. We attracted significant industry and government interest in the topic.</p> <p>http://www.pwc.com/id/en/publications/assets/eumpublications/utilities/Private%20Power%20Utilities%20-%20Economic%20Benefits%20of%20Captive%20Power%20in%20Industrial%20Estates%20in%20Indonesia.pdf</p>

Cost-Benefit Analysis

What is cost-benefit analysis?

A decision-making tool used to analyze the net economic benefits of a policy or investment or to choose between projects.




Policy-makers need to choose the best quality projects to obtain the best value for money and to enhance economic welfare. Cost-benefit analysis can be used to appraise an investment decision to facilitate the efficient allocation of resources.

Cost-benefit analysis is a technique used to compare the total costs of a program/project with its benefits. It assigns a monetary value on all costs and benefits of a programme, including tangible and intangible returns to people/organizations. Cost-benefit analysis is required for all projects contracting under a PPP structure (Bappenas Ministerial Regulation No.4/2015).

We can help you to:

- Analyze the project's contribution to the economic welfare of a region or country, including social and environmental impacts.
- Analyze the economic efficiency of a project to fulfill the eligibility criteria for PPP projects.
- Prioritize projects based on the net economic benefits that each project generates.

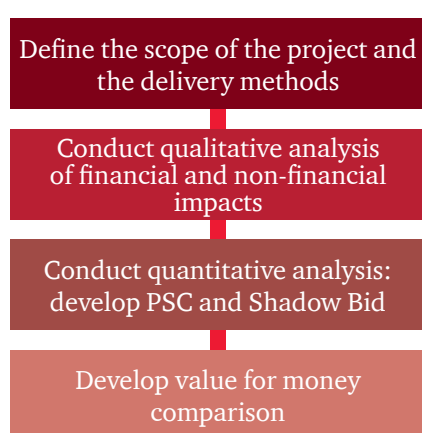
Selected case study in cost-benefit analysis

Client project	Description, scope of work and results
 <p>Green Growth Program for Indonesia</p> <p>Industrial Estate SEZ</p>	<p>Description: PwC was commissioned by the Global Green Growth Institute, an international organization headquartered in South Korea, to perform a cost-benefit analysis of multiple economic development projects, including:</p> <ul style="list-style-type: none"> - Maloy Port Industrial Estate in East Kalimantan - Strategic Economic Zone Mamminasata in South Sulawesi - Multiple renewable energy projects across Kalimantan <p>In total, these analysis covered fossil fuel-based and renewable power generation, coal mining, water, palm oil plantation, forestry, road, urban, and the industrial rail and shipping sectors.</p> <p>Scope of work:</p> <ul style="list-style-type: none"> • Gathering feasibility and master planning data for a wide range of sources and defining potential scenarios for project development • Producing financial and economic cost-benefit model to calculate Economic Net Present Value, Economic Internal Rate of Return ("EIRR"), and cost-benefit ratio • Drafting report to summarise results and provide recommendations on policy to facilitate investment in projects <p>Results: The client was able to use the reports to engage government on policy reform, draft road maps with recommendations for each sector, and discuss with project promoters how to make developments economically, socially, and environmentally more beneficial.</p>

Value for Money Analysis

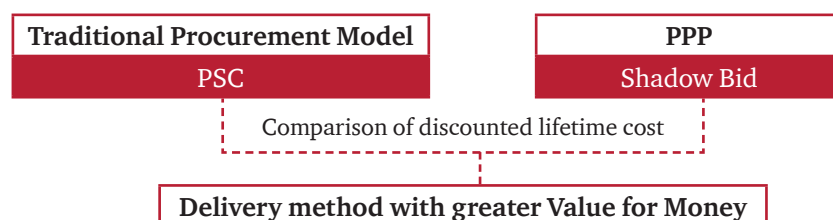
What is value for money (“VfM”) analysis?

A decision support method used to compare the project cost to Government under different procurement models.



Under “Traditional Procurement” of an infrastructure project, the Government typically designs a project itself (or contracts the design to an engineering firm), and then launches a competitive tender for construction companies to build the project. Alternatively, under a PPP procurement, the Government typically awards a single contract to the private sector to design, build, finance, operate, and/or maintain a project. One key difference of the public sector traditional procurement model and PPP delivery method is the allocation of risk between the public and the private sector.

VfM analysis helps to compare Traditional Procurement with PPPs, and provides guidance for Government decision making by determining the delivery method that is the most efficient and offers the greatest value.




VfM analysis typically involves a combination of qualitative and quantitative analysis. The quantitative analysis is done by comparing the discounted cash flows from a PPP with a Public Sector Comparator (“PSC”). A VfM analysis is required for all projects contracting under a PPP structure (Bappenas Ministerial Regulation No.4/2015).

We can help you to:

- Develop a structured approach to assess the value for money expected from a project using the PPP approach, to facilitate decision-making for a variety of delivery methods
- Comply with the Government’s mandate to conduct VfM analysis as a part of the eligibility criteria for PPP projects
- Estimate the lifetime cost of a PPP, either as proposed by a private bidder or a hypothetical Shadow Bid at the pre-procurement stage

Selected case study in Value for Money analysis

Client project	Description, scope of work and results
 <p>VfM analysis for new refinery development</p> <p>Energy</p>	<p>Description: PwC was commissioned by KPPIP to perform a VfM analysis of a proposed oil refinery PPP in Bontang, East Kalimantan.</p> <p>Scope of work:</p> <ul style="list-style-type: none"> • Build VfM model based on international best practice for PPPs • Assess different options for procuring the project • Analyze which option resulted in lowest lifetime discounted cost for the public sector, taking into account risk transfer and taxes <p>Results: The client was able to decide that PPP was the optimal method to deliver the project. The VfM analysis was able to accelerate project development. The project had been delayed for approximately 5 years until 2015.</p>

Feasibility Study/Business Case for Infrastructure Projects

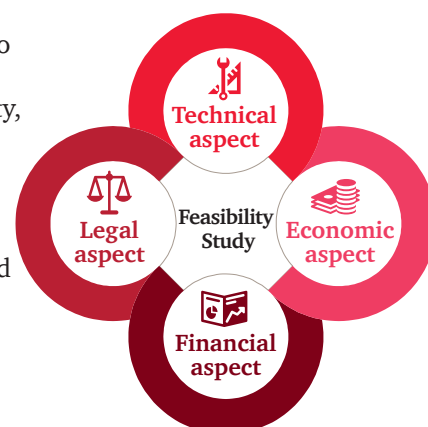
What is a feasibility study/business case?

An overall analysis used to support the decision-making process to determine project viability.



The Feasibility Study (“FS”), or business case process aims to identify whether a project is economically, commercial, technically and legally viable. And, whether improvements can be made to the feasibility. The headline result is usually confirmation that an investor can expect (or not) to earn a rate of return higher than the risk-adjusted cost of capital. A Pre-FS is required for PPP projects under Bappenas Ministerial Regulation No.4/2015). An FS typically includes the following:

- Technical: centred on the technical resources available to the project
- Economic: assesses the viability, socio-economic costs, and benefits associated with the project
- Financial: assesses financial viability based on the projected cash flow and financing structure
- Legal: investigates if the proposed project is consistent with legal requirements




The feasibility study may also include a detailed risk analysis across all these areas, as well as potential commercial and transaction structures.

We can help you to:

- Conduct business planning and market analysis
- Project manage technical and legal advisors to coordinate a single set of recommendations on project feasibility
- Evaluate alternative scenarios and their impact on a project’s value
- Arrive at tailored recommendation for commercial and transaction structure
- Identify high-level risk and mitigation strategies
- Decide whether to proceed with the business/ investment idea

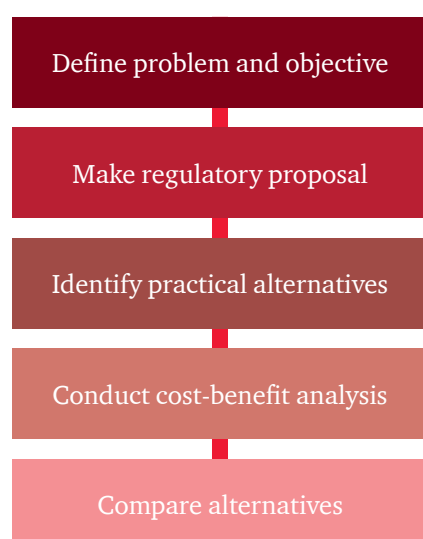
Selected case study in feasibility study/business case

Client project	Description, scope of work and results
 <p>Pre-feasibility study for Port Network Development in Eastern Indonesia</p> <p>Port</p>	<p>Description: PwC was commissioned to conduct a Pre-feasibility study for a Port Network Development in Eastern Indonesia.</p> <p>Scope of work:</p> <ul style="list-style-type: none"> • Conduct analysis of Port Operation and Opex • Commercial Structure and Development Strategy • Develop Dynamic Financial Model and Carry Out Financial Analysis • Assess the project’s financial and economic feasibility including Internal Rate of Return, Net Present Value, cost-benefit analysis, supply and demand, and related financial ratios • High Level Risk Identification and Mitigation Strategy <p>Results: The study provided recommendations to the client regarding the technical, financial, and economic viability of the sea ports development plan in Eastern Indonesia.</p>

Regulatory Impact Assessment/Policy Analysis

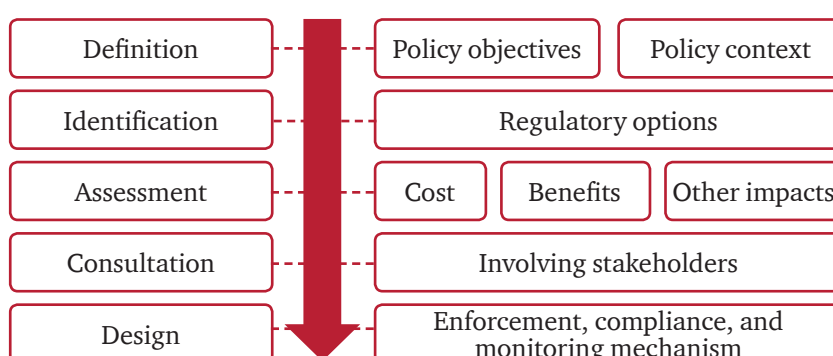
What is regulatory impact assessment?

The process of identifying and assessing the expected impacts of regulatory proposals.



A regulatory impact assessment is a document created before a new government regulation is introduced. It can help to ensure that all practical options for addressing the problem have been considered and that the benefits of the preferred option not only exceed the costs, but also represents the highest level of net benefit.


A thorough stakeholder consultation process helps avoid unintended consequences of regulation and improves the drafting of regulations before they are enacted.



We can help you to:

- Design regulations that are as efficient and effective as possible
- Avoid unintended consequences of regulations
- Communicate to stakeholders who will be affected by a regulation and how it will work in practice
- Promote systematic decision-making and a comparative approach to policy decisions

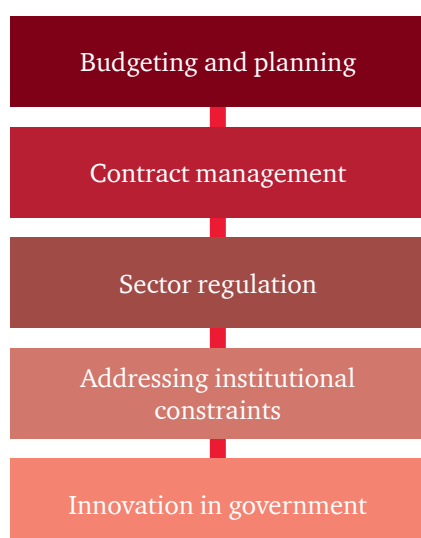
Selected case study in regulatory impact assessment

Client project	Description, scope of work and results
 <p>Trans-Pacific Partnership Agreement ("TPPA")</p> <p>International Trade</p>	<p>Description: PwC Malaysia was commissioned to analyze the potential economic costs and benefits of the TPPA on the Malaysian economy and ten selected key economic sectors.</p> <p>Scope of work:</p> <ul style="list-style-type: none"> • Estimate the national and sectoral economic impact of participation in the TPPA, under various scenarios, using a Computable General Equilibrium model. • Identify and quantify industry- and firm-specific opportunities and challenges, particularly relating to trade and investment. • Consider other themes such as the impact on state-owned enterprises, small and medium enterprises, and poorer households in society, and regional impacts. <p>Results: The study results facilitated the government in making an informed decision on Malaysia's participation in the TPPA. The study indicated that the TPPA presented net economic benefits to Malaysia, with adjustment costs to firms from increased competition and cross-sectoral TPPA obligations.</p>

Good Governance to improve local service delivery

What is Good Governance?

Good governance in local service delivery is ensuring decision making is accountable, transparent, participative and maximizes economic and social outcomes given limited resources.




Decentralisation, coupled with democratic reforms, has highlighted the importance of improving key services at the local level such as water, sanitation, education, health, local roads and urban transport. Good Governance in these sectors requires local administrations and their political leadership to develop a broad range of skills and capabilities in matters such as budgeting and planning, contract management as well as sector regulation governing matters such as licensing, access and tariffs.

It also requires understanding and addressing institutional constraints to reform and aligning incentives across key stakeholders such as local parliaments, public and private sector service providers and consumers. Importantly, Good Governance ensures local decision making is accountable, transparent, and participative and makes the best use of available resources. It can result from innovations such as: new modalities for procurement and contract management using performance based contracting; PPPs; and, also from new ways of promoting cooperation such as 'social contracts' in the water sector.

We can help you to:

- Undertake institutional risk analysis to assess economic and political feasibility of key reforms
- Work with stakeholders to align incentives for tariffs/other reforms
- Use the range of policy tools in this brochure, such as impact assessments, CBA, RIA and VfM analysis to maximize outcomes given limited resources
- Develop new innovations in procurement for local infrastructure such as performance based contracting and PPPs
- Develop comprehensive business planning tools for local government-owned utilities

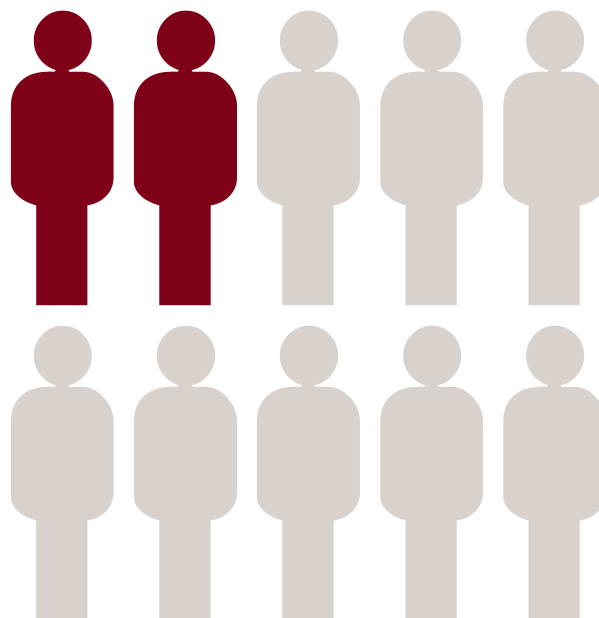
Selected case study in Good Governance

Client project	Description, scope of work and results
 <p>Good corporate governance and business planning in the Indonesian water sector</p> <p>Water</p>	<p>Description: PwC was commissioned by DFAT/AusAID through IndII (Indonesia Infrastructure Initiative) programme to assist local government-owned water utilities (PDAMs) to prepare bankable business plans that could be used to secure government funding and bank loans.</p> <p>Scope of work:</p> <ul style="list-style-type: none"> • Development of various masterplans, feasibility studies, engineering designs, demand studies and socio-economic surveys to support expansion in drinking water networks by the PDAMs • Development of bankable business plans and tools to access government funding/bank lending • Work with the local government, community groups and local parliaments to achieve (or develop transition plans to achieve) full cost recovery tariffs, and to secure broader support and engagement regarding the planned investments and the business plan • Various measures and tools used to improve corporate governance of the PDAMs • Various initiatives to reform local government treatment and governance of PDAMs <p>Results: PwC was able to assist the select PDAMs with developing bankable quality business plans that helped secure funding through local or central government budget allocations, and also through commercial borrowing. Independent evaluation of these programs showed that assisted PDAMs saw substantial improvements in profitability, efficiency, and access to external funding.</p>

Our Experience

Our key clients include:

- Private local companies
- Multinational companies
- State-owned enterprises
- Government institutions
- International development organizations
- Non-profit organizations



Indonesia

- Kingdom of the Netherlands
- Komite Percepatan Penyediaan Infrastruktur Prioritas
- GE
- Kereta Api Indonesia
- Indo Mines
- Global Green Growth Institute
- Indonesia Port Corporation
- Indonesian Coal Mining Association
- Sarana Multi Infrastruktur
- Jaya Trade

International

- AgustaWestland
- Puma
- Coca Cola
- Anglo American
- De Beers
- British Land
- Southern Electric Scottish Hydro SWALEC

Publications

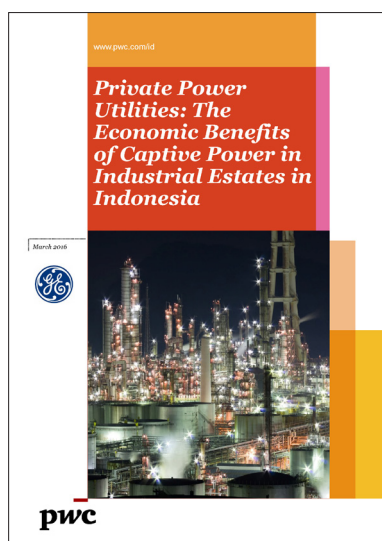
One of our objectives is to support good policy making and to help business understand issues in detail. We frequently publish public reports that discuss current industry hot topics, by ourselves and at the request of our clients.

Recent examples of public reports produced by PwC include:

Private Power Utilities: The Economic Benefit of Captive Power in Industrial Estates in Indonesia

**With: GE Operations
Indonesia**

March 2016



<http://www.pwc.com/id/en/publications/assets/eumpublications/utilities/Private%20Power%20Utilities%20-%20Economic%20Benefits%20of%20Captive%20Power%20in%20Industrial%20Estates%20in%20Indonesia.pdf>

Supplying and Financing Coal-Fired Power Plants in the 35 GW Programme

With: Indonesian Coal Mining Association

March 2016



<http://www.apbi-icma.org/wp-content/uploads/2016/03/03-03-2016-APBI-PwC-Report-on-Supplying-and-Financing-the-35-GW-program-FINAL-FINAL-rev-8-32016.pdf>

Indonesian Infrastructure: Stable Foundations for Growth

August 2016



<http://www.pwc.com/id/en/cpi/asset/indonesian-infrastructure-stable-foundations-for-growth.pdf>

Our Economics Team



Julian Smith is a Technical Advisor in PwC's Capital Projects & Infrastructure team. Julian has over 24 years working experience in mergers and acquisitions, PPP and privately financed infrastructure projects across Europe, North America, Africa, Asia and Russia/CEE, where he has prepared feasibility studies and developed different PPP structures, procurement processes, financing solutions and commercial arrangements. In Indonesia, he has been active in the infrastructure market, speaking at and chairing many infrastructure conferences.



Triono Soedirjo is a Partner in PwC's Corporate Value Advisory team. Triono holds the Chartered Financial Analyst designation from the CFA Institute. Triono has 27 years of experience in business and corporate valuations for merger and acquisition, divestment, business and financial projection review. His clients include medium-to-large domestic and multinational companies in various industries including oil & gas, telecommunication, media, manufacturing, telecom operators and VSAT operators.



Muhammad Chowdhury is a Technical Advisor in PwC's Telecoms, Media, and Technology Consulting team and an adviser with 25 years' experience in covering strategy, economics business development, mergers and acquisitions, technology, innovation, digital, regulatory and public policy across emerging and developed markets. He is also a prolific emerging markets expert quoted regularly by the Financial Times, BBC, and Forbes, and has been a speaker at the Mobile World/Asia Congress for the past 4 years.



Agung Wiryawan is a Partner in PwC's Capital Projects & Infrastructure team. He is a specialist in the Infrastructure & Utilities sectors both in the private and public sector. He has been involved in a significant number of projects in the areas of PPP, financial modeling, business review, valuation and various other financial advice.



David Ray is a Technical Advisor in PwC's Capital Projects & Infrastructure team and is an economist with 20 years' experience in economic development, mainly in Indonesia and Vietnam. David has significant experience as head of the respected Indonesia Infrastructure Initiative, an Australian government funded program to enhance Indonesia's infrastructure policy, planning and investment. David's skills cover a broad range of areas including regulatory and microeconomic reform, infrastructure policy, international and domestic trade, decentralization and local government service delivery, research methods as well as project management.



Lenita Tobing takes care of the Strategy and the People & Change practice for the Energy, Utilities and Mining sector. Her experience is mainly around strategy based transformation, market entry, regulatory review, partnership development and organization restructuring in various oil and gas, power and mining companies in Indonesia. She is currently supporting a few State Owned Enterprises in developing joint ventures and going through organisation transformations.



Pieter Van De Mheen is an adviser at PwC Indonesia Consulting and is responsible for PwC's transport industry and supply chain management services in Indonesia. Within the transport industry his main experience is in the port and shipping and LSP industry. He has over 20 years of experience handling port, transport and infrastructure related projects, in a wide variety of different countries.



Tim Boothman is a Technical Advisor in PwC's Capital Projects & Infrastructure team, focusing on economic and financial advisory. He has particular expertise in energy and transport economics, carbon finance, cost-benefit analysis and impact assessment, PPPs/procurement, and business case development for infrastructure projects, and policy/stakeholder engagement projects. Tim has worked on Economic, Policy and Financing projects across Europe, Middle-East, and South-East Asia with both public and private sector clients.

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