Infrastructure In-depth: Philippines

2015 Investment Guide
by KPMG in the Philippines

In this issue:

Philippine Economy and Good Governance

Infrastructure Development Plan

Insights and Perspectives

KPMG
cutting through complexity

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Contents

Introduction

Roberto G. Manabat
Chairman & CEO
R.G. Manabat & Co.

The Philippines continues to be one of the strongest and fastest-growing economies in Southeast Asia. With an impressive average GDP growth of 6.3% since the start of the Aquino administration in 2010, the country remains strong in its economic management and is committed to improving its investment climate in order to achieve further progress. Rating agencies have also consistently upgraded the credit ratings of the Philippines. Moody's assigned a positive outlook of Baa3 to the country in September 2014 while Standard & Poor's improved its rating with a stable outlook of BBB in May 2014. Fitch affirmed the country's long-term foreign and local currency issuer default ratings at 'BBB-' and 'BBB,' respectively, in March 2014.

According to the East Asia and Pacific Economic Update report released recently by World Bank,[1] the government needs to ramp up its spending in order to sustain the country's economic momentum. Infrastructure spending and development, in particular, are essential in order to support growth, calling the projects under the public-private partnership program as "new sources of growth". Representatives of the International Monetary Fund also highlighted the need to expedite infrastructure investment and open up the sector to increased competition by lifting restrictions on foreign investors for long-term growth.

The Philippine government, on the other hand, is focused on enhancing infrastructure albeit implementing the projects and development plans remains a challenge. It is working on critical reforms in order to address these challenges, improve governance and create a better investment climate as the infrastructure sector continues to be considered as a key driver in the country's rapid and sustained economic growth.

We hope that this guide will provide an overview of the infrastructure sector in the Philippines with practical insights for investors looking to enter this dynamic sector.

[1] Enhancing Competitiveness in an Uncertain World, World Bank East Asia and Pacific Economic Update. October 2014.

Contributors

Paul Patrick R. Afable

Building through Partnerships

Paul Afable is currently a senior manager in the Advisory group of R.G. Manabat & Co. He has service experience in different industries such as energy, financial services, public sector, retail and real estate.

Henry D. Antonio

Developing Energy Resources

Henry Antonio is currently the head of the Advisory group of R.G. Manabat & Co. He has extensive experience on forensic and fraud investigations, business process reviews, corporate rehabilitation, and risk management and compliance.

Emmanuel P. Bonoan

A Promising Economy; The Philippine Medium term Development Plan

Emmanuel Bonoan is the Vice Chairman and Head of Tax of R.G. Manabat & Co. He is a former Undersecretary of the Philippine Department of Finance and exercised oversight functions over the Bureau of Internal Revenue and the customs authority.

Michael Arcatomy H. Guarin

Paving the Way Through Good Governance

Michael Guarin is the head of the Transactions & Restructuring group of R.G. Manabat & Co. Mike has extensive advisory experience in the banking, mining, hospitality and media sectors in the Philippines.

Jerome Andrew H. Garcia

Enhancing Water Resources

Jerome Garcia is a Principal in the Transactions & Restructuring group of R.G. Manabat & Co. He has over 15 years of experience in the areas of mergers and acquisitions, investment banking, corporate finance, and financial advisory, having been previously connected with several investment banks and financial institutions.

Ma. Cynthia C. Hernandez

Addressing the Challenges of an Emerging Global City

Cynthia Hernandez joined R.G. Manabat & Co. in 2014 as a Director under Transactions & Restructuring of the Advisory group. She currently handles engagements in the infrastructure and energy sectors.

Mary Karen Quizon-Sakkam

Taxation of Infrastructure Projects

Karen Quizon-Sakkam has been in the tax practice for more than seven years. Her client portfolio includes companies engaged in the financial service and business processing sectors. Karen has also participated in a number of tax due diligence, compliance review and tax reporting engagements involving clients from various industries.

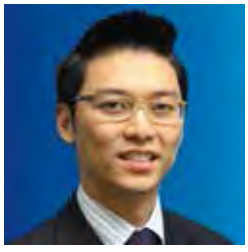
Sharad Somani

Funding of Infrastructure Projects

Sharad Somani is a Partner at KPMG in Singapore who leads the Infrastructure and Projects practice focusing on the Asia Pacific region. Sharad specializes in Project Finance and has handled various projects across infrastructure sectors including broadband, industrial infrastructure, energy and transport.

Geno Armstrong

Project Risk Management
Geno Armstrong is a principal in KPMG's Major Projects Advisory services practice. He has substantial experience with cost auditing, independent risk and controls assessments, and assisting companies in developing appropriate strategies that promote successful project delivery.



Jonathan Jong

Project Risk Management
Jonathan Jong is a Chartered Civil Engineer and experienced project manager who has advised infrastructure clients on project delivery, project controls, risk management, project monitoring and project reporting. He has extensive experience in construction, infrastructure, transportation, aviation, rail and mass-transit projects.

Reid Tucker

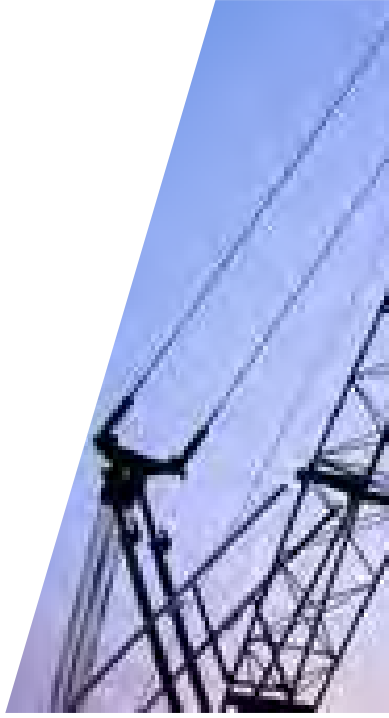
Project Risk Management
Reid Tucker is currently a director in KPMG's Major Projects Advisory practice with over 16 years of project management, construction management, project accounting and contract administration. In addition, Reid has assisted in establishing project management office organizations for delivering major power and utility construction programs.

We are grateful for the valuable insights of the following:

Mr. Rolando G. Tungpalan
Deputy Director-General, Investment Programming
National Economic Development Authority

Ms. Maria Catalina E. Cabral
Assistant Secretary
Department of Public Works and Highways

Ms. Cosette Canilao
Executive Director
Pulbic-Private Partnership Center of the Philippines



A Promising Economy

Emmanuel P. Bonoan, Vice Chairman and Head of Tax, KPMG in the Philippines

Philippine gross domestic product (GDP) grew 5.7 percent in the first quarter of 2014, which was lower than the 7.2 percent growth for full year 2013 and the 6.8 percent growth in 2012. Notwithstanding the slowdown – which was attributed to the impact of the natural disasters in 2013 on agriculture and to a tightening bias in monetary policies – the Philippines was still the third fastest growing economy in Asia after China and Malaysia. In the last five years, Philippine GDP grew at an average of 6.33 percent, the third highest growth rate after Singapore and China.

The country's strong performance has caught the attention of global investors and has been recognized, somewhat belatedly, by rating agencies. Last year, the three rating agencies, Moody's, Standard & Poor's (S&P) and Fitch finally upgraded the country's rating on external debt to investment grade – although the markets have, for several years, been pricing Philippine debt at tighter spreads than its credit rating.

Underlying the remarkable performance are strong fundamentals which have been forged over years of persistent sound macro policies, fiscal consolidation, an independent monetary policy framework, and flexible exchange rate policies. These reforms have allowed the Philippines to be recognized as one of the most dynamic economies in the region.

The country benefits from the significant steady flows of remittances from 10 million overseas Filipino workers and the burgeoning Business Process Outsourcing (BPO) sector that taps the natural advantages of educated young Filipinos in English-speaking shared services skills.

The recent turn of economic developments in the country has prompted investors and analysts to add the Philippines in various lists of countries representing the next wave, beyond Brazil, Russia, India and China (the BRICs), of promising economies with significant upside potentials:

- Global Growth Generators (GGG) countries "with the most promising growth prospects in the coming decades: Bangladesh, China, Egypt, India, Indonesia, Iraq, Mongolia, Nigeria, Philippines, Sri Lanka and Vietnam. (Citi 2011) [1]
- The Next Eleven (N-11): Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, the Philippines, Turkey, South Korea, and Vietnam. (Goldman Sachs 2007) [2]
- Next Break Out Stars of Emerging Markets: Philippines, Indonesia, Thailand, Peru, Chile, Colombia. "The Philippines, for instance, is now among the most cost-competitive destinations for information technology and business process outsourcing service – sectors where India used to dominate with its ubiquitous call centers." (Wall Street Journal Private Equity Beat May 2013) [3]
- The PINE economies: Philippines, Indonesia, Nigeria and Ethiopia with a high potential of

[1] Citi Global "Growth Generators: Moving beyond 'Emerging Markets' and 'BRIC'". Global Economics View 21 February 2011.
[2] Goldman Sachs. "The N-11: More Than An Acronym." Global Economics Paper No 153. 28 March 2007.
[3] Wall Street Journal, "Beyond BRIC: The Next Breakout Stars of Emerging Markets." Private Equity Beat. 15 May 2013.

becoming, along with the BRICs, the world's largest economies of the 21st century. (Time, March 2014) [4]

- PPICS: Peru, Philippines, Indonesia, Colombia, and Sri Lanka as countries "which are accelerating their development." (COFACE, March 2014) [5]

In order to realize the promise of its strong potential for improving the lives of ordinary Filipinos and transforming the economy, the Philippines will have to achieve consistent real economic growth of six to seven percent sustained for seven to 10 years. It has to shift from a consumption-led growth to an investment-led one. To complement the rapidly growing services sector, domestic and foreign private investments have to be attracted to the manufacturing sector to create jobs in large numbers for inclusive growth.

Infrastructure: the Challenge and Opportunity

Among the key challenges to an investment-led growth are the significant gaps in the country's infrastructure and resolving the infrastructure deficits will by itself be a main driver for growth.

The major gaps in the country's roads, ports, airports, urban mass transit, water, and energy have been the cumulative result of years of underinvestment and delays in implementing public capital expenditures, fiscal constraints, and weak institutions for governance.

According to the latest survey in the World Economic Forum Global Competitiveness Report from 2013 to 2014, the Philippines ranks a very poor 98 in the overall quality of infrastructure compared to its Asian country neighbors. The highest ranking is Singapore at 5.

Global Infrastructure Competitiveness Ranking

	Country					
Indicator	**Philippines**	**Singapore**	**Malaysia**	**Thailand**	**Indonesia**	**Vietnam**
Quality of roads	87	7	23	42	78	102
Quality of railroad infrastructure	89	10	18	72	44	58
Quality of port infrastructure	116	2	24	56	89	98
Quality of air infrastructure	113	1	20	34	68	92
Quality of electricity supply	93	8	37	58	89	95
Fixed telephone connectivity	109	29	79	96	82	88
Mobile telephone connectivity	81	18	27	49	62	21
Overall	**98**	**5**	**25**	**61**	**82**	**110**

Source: World Economic Forum (WEF) Global Competitiveness Report 2013-2014

[4] Michael Shuman "Forget the BRICs; Meet the PINES." TIME Business Emerging Markets 13 March 2014
[5] Coface "COFACE IDENTIFIES 10 EMERGING COUNTRIES HOT ON THE HEELS OF THE BRICS, Country Risk and Economic Studies. 25 March 2014.

The Philippines' overall ranking is second from the bottom after Vietnam. It ranked the worst on five indicators and came in second from the bottom after Vietnam on the other two indicators, which are quality of roads and electricity supply.

For specific sectors, there have been some improvements over the recent years, but the Philippines still ranks low among 144 countries in the survey.

Ranking and status of the Philippines, 2010-2012, and selected ASEAN countries, 2012, in key infrastructure indicators

Indicator	Philippine ranking/status			Ranking/status of selected ASEAN countries in 2012				
	2010	2011	2012	Malaysia	Thailand	Indonesia	Cambodia	Vietnam
Quality of overall infrastructure [6]	113 of 139	113 of 142	98 of 144	29	49	92	72	119
Quality of roads [6]	114 of 139	100 of 142	87 of 144	27	39	90	66	120
Quality of railroad infrastructure [6]	97 of 139	101 of 142	94 of 144	17	65	51	81	68
Quality of port infrastructure [6]	131 of 139	123 of 142	120 of 144	21	56	104	69	113
Quality of air transport infrastructure [6]	112 of 139	115 of 142	112 of 144	24	33	89	75	94
Quality of electricity supply [6]	101 of 139	104 of 142	98 of 144	35	44	93	105	113
Information and communications technology (ICT) development index [7]	92 of 152	94 of 155	98 of 157	59	95	97	120	88
ICT price basket (cost and affordability of ICT services) [7]	114 of 165	113 of 161	119 of 161	53	90	110	130	112
e-Government ranking [8]	78 of 183	(no data)*	88 of 190	40	92	97	155	83
Water supply coverage [9]	84.8%	84.4%	(no data)	100%	96%	-	-	96%
Sanitation coverage [9]	92.5%	91.9%	(no data)	100%	100%	-	-	-
Hospital beds per 1,000 people [10]	0.5 (c. 2009)	1.0	(no data)	1.8 (2009-2011)	2.10 (c. 2010)	-	-	2.2 (c. 2010)

*Note: *Survey conducted twice a year*
Source: Table 10.1 from NEDA (2014) Philippine Development Plan – Midterm Update with Results Matrices. Chapter 10: Accelerating infrastructure development, p. 3/24. Reproduced with permission.

Real life costs of infrastructure bottlenecks

Going beyond the statistical comparisons, the infrastructure deficiencies translate to real costs to the economy in terms of productivity and efficiency and to ordinary citizens in terms of travel time, congestion, pollution, and poor access to basic utilities.

For public transport, commuters anecdotally report a commute of three to four hours every day, requiring several transfers from tricycle, minivans, rail and bus from the suburbs to Makati, Metro Manila's main business district. Bloomberg quoted a jeepney driver who has been driving for 20 years who said that a 15-kilometer route which used to take 30 to 40 minutes now takes two hours, cutting down his turnaround time and daily income.[11]

For a transport system to be successful in large volumes of passengers in urban areas, the system should be able to shift ridership away from cars, jeepneys and buses to urban mass transit systems – with cars as the least socio-economically efficient people movers across this range of transport modes to trains as the most efficient.

What has been happening, however, has been the opposite. From 1996 to 2012, person trips by car increased 15 percent while trips using public transport (jeepneys and buses) declined by 7 percent. In terms of vehicle trips (as opposed to person trips) car trips increased 69 percent during the 16-year period while public vehicle trips increased by only 41 percent. Among public vehicles (buses versus jeepneys), the pattern was similar. The increase in jeepney trips (less efficient for transporting people) was twice as much as the increase in bus trips.[12]

Correlating the trends in person trips and vehicle trips, the trend reflects an increase in car ownership and a decline in the occupancy rate per vehicle. These trends do not augur well for more efficiency in moving people and reducing congestion.

6 Global Competitiveness Reports for 2010-2011, 2011-2012 and 2012-2013 by World Economic Forum
7 Measuring the Information Society (MIS) Reports for 2011, 2012 and 2013 by International Telecommunication Union (ITU)
8 United Nations Global e-Government Survey 2010 and 2012
9 Annual Poverty Indicators Survey Report for 2010 and 2011 by National Statistics Office (for Philippines); Progress on Sanitation and Drinking Water: 2013 Update by WHO and UNICEF (for ASEAN countries)
10 World Bank – Health Nutrition and Population Statistics
11 Bloomberg News, "Epic Gridlock Reigns over Manila's 23 Million." 10 April 2014.
12 JICA, Roadmap for Transport Sector Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A). Final Report Main Text. March 2014 p. 2-37.

The congestion caused by the inadequacy of mass transits is feeding on itself, as Metro Manila residents buy more cars but use them less efficiently: car occupancy decreased from 2.5 to 1.7 persons per car. The efficiency of public transportation has also suffered with vehicle occupancy for jeepneys declining from 15.1 to 10, while for buses vehicle occupancy decreased from 46.5 to 35.5 passengers. More trips made in vehicles are less efficient, and these vehicles, in general, are being used less efficiently.[13]

In the meantime, traffic studies show that most roads are operating at close to capacity, resulting in frequent gridlocks and reduced travel speeds. A recent Japan International Cooperation Agency (JICA) study reported that with a few exceptions, the average speed in major Metro Manila roads is 10 kph, with 75 percent to 92 percent of travel in the network below 20 kph.[14]

The same JICA study has estimated that the economic cost of congestion at US$54.35 million per day in Metro Manila, and another US$22.65 million in the Bulacan, Rizal, Laguna and Cavite area. This amounts to US$27.18 billion per year in the Mega Manila area or 11 percent of GDP.[15]

A truck ban scheme has been in place in Metro Manila since 1978 whereby cargo trucks with a gross vehicle weight (GVW) of more than 4,000 kg are prohibited from passing along major thoroughfares during peak traffic rush hours in the morning and in the afternoon. The scheme has been modified over the years in terms of restricted hours, alternative routes, and GVWs but the net effect has been the reduction in efficiency and increase in the cost of transporting goods in Metro Manila. The underutilization of freight vehicles has induced freight forwarders to have more trucks than necessary to handle the cargoes in and out of ports during the limited time windows. Trucks trips per day are cut down from three to one. The additional transport costs are then passed on to consumers.

Recently, the city of Manila imposed a ban on eight wheelers and vehicles with a gross weight of 4,500 kgs from plying Manila's streets between 5:00am to 9:00pm, with a temporary concession for six to eight months, allowing a window from 10:00am to 3:00pm. Without an alternative transport linkage between the economic zones in the Cavite-Laguna-Batangas-Rizal-Quezon (CALABARZON) area, Citigroup has estimated the economic cost of the truck ban has been estimated by Citigroup to be as much as US$7.25 billion (about 2.9 percent of GDP), putting at risk about a million manufacturing jobs.[16] Citigroup also said that the ensuing transportation bottleneck could chop at least 1 percent to as much as 5 percent off the country's GDP mostly through the impact on the country's nontechnology export commodities.

The truck ban has further implications on the cost of cargo shipping. Shipping companies such as Hapag Lloyd impose a congestion surcharge of US$100 per twenty-foot equivalent unit (TEU) on all imports into Manila as a result of higher operational costs.[17]

On 13 September 2014, the Manila City government temporarily lifted the seven-month old truck ban in light of the severe congestion in the Port of Manila and major losses to exporters and importers, food shortages, rising prices of basic goods, traffic jams, and the threat of an estimated US$7.25 billion loss to the economy attributed to the truck ban. Prior to the lifting of the truck ban the government formed a Task Force Pantalan to oversee traffic management along the major thoroughfares leading out of the Port of Manila.[18]

For air infrastructure, according to Deputy Director General John Andrews of the Civil Aviation Authority of the Philippines (CAAP), airlines have been incurring losses of more than US$158.56 million a year in fuel expenses because of the worsening congestion at Ninoy Aquino International Airport (NAIA).[19] Planes unable to immediately land, for example, would need to burn extra amounts of fuel. Andrews estimated that about 200,000 to 400,000 kilograms in additional fuel are expended as a result of the congestion, or US$226,000 to US$453,000 a day, by the airlines. Airlines incur close to US$83.79 million a year in added fuel expenses and lose another US$83.79 million from "engine costs and cost of aircraft time."

In the power space, the critical power situation in the country is well-documented. Electricity prices are the highest in Asia, even higher than Japan. There is also limited supply in the Philippines compared to

[13] Ibid.
[14] JICA (2014) p. 2-38.
[15] Op. cit. p. 2-41
[16] Citi Macro Research Note 7 March 2014
[17] SeaNews, Truck ban prompts Hapag-Lloyd to levy Manila import congestion charge, 3 June 2014.
[18] "Erap lifts Manila city truck ban", Philippine Daily Inquirer, 14 September 2014.
[19] Philippine Daily Inquirer, "Airlines losing P7 billion due to congested airport." 29 May 2014.

Electricity supply and demand indicators, ASEAN-6, 2008

	Installed Capacity (Mil KW), 2008	Total domestic production (GWh), 2008	Total supply, includes net exports (GWh), 2008	Total consumption, includes use of energy sector but net of distribution & transfer losses (GWh), 2008	Population (million), 2008	Consumption per capita (kWh), 2008	Distribution & transfer losses as % of total supply, 2008[1]
Indonesia	27.8016	149,437	149,437	134,399	227.3	591.2	10.1%
Korea, South	79.859	446,428	446,428	429,052	48.7	8,801.6	3.9%
Malaysia*	22.973	96,916	97,392	94,721	27.0	3,506.3	2.3%
Philippines	15.680	60,821	60,821	53,140	90.3	588.2	12.6%
Singapore	10.950	41,717	41,717	39,610	4.8	8,184.9	5.1%
Thailand**	40.669	149,032	147,427	140,079	67.4	2,078.7	6.1%
Vietnam	13.850	76,269	73,049	68,907	86.2	799.3	10.1%

*Notes: *net energy exporter, **net energy importer, 1-Author's calculation*
Sources: International Energy Agency and US Energy Information Administration; World Bank for the population

other countries. According to an American Chamber of Commerce report, Thailand has 40,699MW power capacity serving 67 million people. South Korea has 79,859MW serving 49 million while the Philippines has only 15,680MW for 90.3 million people. In per capita terms, electricity consumption in the Philippines is the lowest at 588 kilowatt-hour (kwh).

An enormous task

The task of resolving the infrastructure deficits in the Philippines is arguably daunting in magnitude and complexity. For the Greater Capital Region (GCR) alone, the transport sector projects identified in the JICA "dream plan" are estimated to cost a total of US$11.79 billion.

According to the National Economic and Development Authority Public-Private Partnership Center (NEDA-PPP),

> "In the past, the Philippines' infrastructure spending was low compared to other ASEAN economies due to fiscal deficit situation. Other major impediments include the absence of long-term planning, no political will to improve infrastructure delivery, and lack of reforms in the existing policy framework. The policies and procedures already in place were no longer attuned to the existing business environment. In addition to regulatory uncertainties or risks, corruption likewise emerged as another critical element contributing to the poor business environment in the country.
>
> Foreign equity restrictions for operators of public utilities have also discouraged potential foreign investments. The lack of legal and technical capacities on the part of the implementing agencies, especially those relating to project preparation and procurement, was also seen as one of infrastructure's stumbling block. All of the foregoing reasons hindered the development of efficient and critical modern infrastructure."[20]

It is possible, however, to identify certain elements in the country situation and the current government's initiatives which count towards increasing the chances of positive and significant progress in the coming years. For one, a new governance ethic is being put in place in the Department of Public Works and Highways (DPWH) which will enable mission-efficient expenditures even as the government accelerates the pace of execution and implementation. Hopefully, this will also be adopted in other government infrastructure agencies. (See Chapter 3.)

The new edition of the public-private partnership (PPP) program is building capacity for tendering solicited proposals consistent with the government's development plans and priorities and ensuring appropriate risk allocation between the private sector and the government. The coverage of the PPP modality is being expanded over a broader portfolio of sectors.

[20] NEDA-PPP Center written response to KPMG questionnaire, 18 July, 2014.

The macroeconomic stability and domestic financial evolution in recent years have created a base of domestic local currency funding that can support the volume and tenors required by infrastructure projects.

What's in it for the private sector?

The emphasis being given to the PPP modality attests to the recognition and expectation that the private sector will have a major role in solving infrastructure bottlenecks. Among the key challenges that remain is the need to calibrate the risk-reward configuration offered to private investors in PPP projects in order to have an optimal allocation of risks while attracting sufficient response from investors to bid for the projects. This will be important for foreign investors which are allowed to participate up to 40 percent of the project company in most sectors, and up to 100 percent in power generation projects.

For the non-PPP projects to be executed through regular procurement, local private contractors can look forward to an improving governance framework in the awarding of projects. Foreign contractors are allowed to bid only for the so-called foreign assisted projects (FAPs) usually funded from grants and loans from official development assistance (ODA) sources.

For further information, please contact:

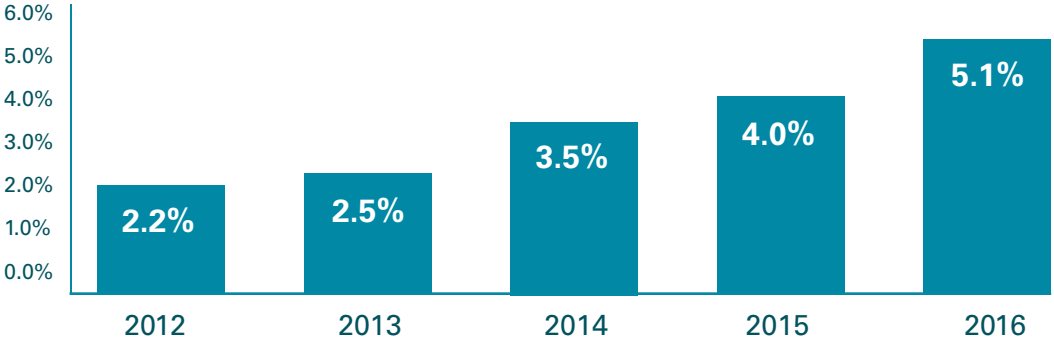
Emmanuel P. Bonoan
Vice Chairman and Head of Tax
KPMG in the Philippines
T: +63 2 885 7000 ext. 200
E: ebonoan@kpmg.com

The Philippine Medium term Development Plan

Emmanuel P. Bonoan, Vice Chairman and Head of Tax, KPMG in the Philippines

The midterm update of the 2013-2016 Philippine Development Plan calls for accelerating pace of economic growth. Gross domestic product (GDP) is targeted to grow at 6.5 to 7.5 percent in 2014, increasing to 7 to 8 percent growth in 2015, and to 7.5 to 8.5 percent by 2016.

Infrastructure spending as component of capital outlay, 2012-2016



Note: Actual figure for 2012.
Source: Department of Budget and Management and National Economic and Development Authority

Infrastructure development is to be a key driver to achieve this rapid and sustained growth.

> "The overall strategy… is to invest massively in infrastructure development by increasing public infrastructure spending to at least 5 percent of the country's GDP by 2016. For the whole plan period, the government expects to spend PhP4.17 trillion (US$94.44 billion) but the major single item in the plan is PhP2.46 trillion (US$55.71 billion) 'for accelerating infrastructure development."[1]

For the first semester of 2014, actual government infrastructure spending grew by almost 63 percent to US$552.57 million. The faster pace of infrastructure spending was spurred by the accelerated construction program of the Department of Public Works and Highways (DPWH) and the rehabilitation and reconstruction programs in the Haiyan-hit areas. Budgetary reforms adopted in 2013, which made the General Appropriations Act (GAA) as the release document, also enabled the faster disbursements of budgetary appropriations.

[1] NEDA (2014) Philippine Development Plan 2011-2016– Medium Term Update with Results Matrix. Chapter 10:

Public Investment Program (PIP) targets by theme*

in PhP mn

PDP Theme	Total (2013 - 2016)	%
Accelerating Infrastructure Development	2,461,220	53.2
Social Development Sector	733,145	21.2
Competitive arid Sustainable Agriculture and Fisheries Sector	549,063	15.2
Peace and Security	207,139	4.3
Sustainable and Climate-Resilient Environment and Natural Resources	176,443	4.9
Competitive and Innovative Industry and Services Sector	23,230	0.6
Good Governance and the Rule of Law	15,752	0.4
Macroeconomic Policy	4,115	0.1
Resilient and Inclusive Financial System	164	0.0
TOTAL	**4,170,332**	**100.0**

*Notes: *With possible duplication of investment targets reflected for cross-cutting programs and projects (PAPs); May not add up due to rounding off. PIP consists of both core investment programs and projects (CIPs) and non-CIPs.*

Source: Enhancing Resilience to Sustain Inclusive Growth March 2014 Presentation of the Bangko Sentral ng Pilipinas

The performance for the first several months of 2014 is in line with the targets for full year 2014. Public infrastructure expenditures are budgeted to increase by 40 percent to US$9.15 billion from US$6.52 billion in 2013, which ramps up from the 36 percent growth in the public infrastructure budget in 2013. The bulk of the expenditures will be in Roads and Bridges at US$3.37 billion for full year 2014. This is before any supplemental budgets for the Haiyan reconstruction requirements.

There are several reasons why infrastructure spending to GDP has been historically low which continued to be reflected in the major approval criteria for projects at the National Economic and Development Authority-Investment Coordination Committee (NEDA-ICC). Projects are evaluated at the NEDA-ICC based on the "fiscal, monetary and balance of payments (BOP) implications of major capital projects" taking into account the peso requirement and foreign exchange requirements of the project in terms of current and capital outlays, sources of funds and conditions for proposed financing, "compliance with the foreign debt ceiling under Republic Act (RA) No. 4860 or the Foreign Borrowings Act of 1966."

Such criteria were driven by the difficult macro environment which prevailed in the past few decades. The country had to contend with the challenge of executing stable monetary policies on a consistent basis which was made difficult by a weak fiscal base, chronic BOP problems, low international reserves, very high external debt (which was restructured in the early 1990s), and limited access to international capital markets. The macroeconomic conditions of the country posed a binding constraint on infrastructure spending. Other historical reasons were the weak bureaucratic institutions inherited from the Marcos martial law government.

Major Government Spending Initiatives: Ramped-up investments on public infrastructure

Particulars	2012 Actual (PhP mn)	2013 GAA (PhP mn)	2014 GAA (PhP mn)	Growth Rate (%) 2012-2013	2013-2014
Roads and Bridges	84,218	108,097	149,599	28.4	38.4
Basic Educational Facilities*	11,012	26,268	50,967	138.5	94.0
Flood Control/Seawalls	11,331	16,536	34,806	45.9	110.5
Housing	10,518	22,373	16,317	112.7	(27.1)
National Irrigation	24,193	22,212	15,785	(8.2)	(28.9)
Farm-to-Market Roads	4,868	5,657	12,603	16.2	122.8
Health Facilities Enhancement Program	5,078	13,558	9,138	167.0	(32.6)
Electrification	4,950	6,374	9,679	28.8	51.8
Airports/Air Navigational Facilities	802	5,195	9,114	547.8	75.4
Other Public Works	15,120	1,321	10	(91.3)	(99.2)
Water Supply	1,516	1,839	6,954	21.3	278.1
Preliminary and Detailed Engineering	780	1,724	3,026	121.0	75.5
Land Transportation/Railway	-	3,834	1,642	-	(57.2)
Ports and Lighthouses	679	2,361	1,377	247.9	(41.7)
Quick Response Fund	1,383	1,150	1,305	(16.8)	13.5
Others	35,015	49,964	81,989	42.7	64.1
Total Infrastructure Outlays	**211,463**	**288,464**	**404,312**	**36.4**	**40.2**

*Note: *Inclusive of School Building Program*

Source: Table B.6, 2014 GAA-Based Infrastructure Outlays as published in Bangko Sentral ng Pilipinas investor Relations Office (March 2014) Enhancing Resilience to Sustain Inclusive Growth. Table reproduced with permission.

The situation is clearly different today. The country is on a much stronger macroeconomic footing. The fiscal sector, while in deficit, is manageable with an improved revenue base after the passage of the expanded Value-Added Tax (VAT) in 2005 and the sin tax law in 2013. After the restructuring of the government debt to commercial banks in 1992 under the Brady deal, the government has nurtured an investor base in international capital markets. Large inflows from overseas Filipino workers and service exports from business process outsourcing (BPO) companies have generated strong external balances and boosted international reserves. There is ample domestic liquidity. Term project financing is available from major domestic banks in sizable amounts for tenors of 10 to 12 years. In the midterm update of the Philippine Development Plan, the government maintains the objective of inclusive growth, to consist of poverty reduction in multiple dimensions through "massive quality employment creation" with a focus on spatial and sectoral strategies, and based on rapid and sustained economic growth. The government has introduced the concept of High Standard Highways (HSH) which would have limited access, high speed, long distance highways, most of which will be constructed as concession public-private partnerships (PPPs). The master plan for the High Standard Highway Network Development calls for the construction of an additional 234.13 kilometers (km) of toll expressways that will provide interconnectivity in Central Luzon, Metro Manila and the CALABARZON (Cavite, Laguna, Batangas, Rizal and Quezon).

The sheer size of the infrastructure deficits suggests that a sustained effort to resolve bottlenecks across a broad front of sectors and regions will by itself contribute significantly to economic development. The government, however, is very conscious about the "need to put in place the right infrastructure in the right place, in the right time," as expressed by NEDA Director General Rolando Tungpalan.

Thus, under the overarching theme of enhancing interconnectivity of sectors, urban centers, and markets, the government intends to put in place a seamless multimodal logistics system along the Subic-Clark-Manila-Batangas (SCMB) corridor "to ensure efficient flow of commodities, supplies, and inputs to tourism, agricultural production and economic/industrial zones." The SCMB corridor is expected to eventually extend further north and further south.

The government is also exploring the establishment of a long-distance, high-speed mass rail transit system and an integrated/full-length railway system for freight-rail services across Luzon that would be linked to Metro Manila and other urban centers. The government also continues to pursue the Central RORO (Roll-On/Roll-Off) Spine Project to enhance inter-island logistics and the movement of passengers, vehicles and goods along the Luzon-Panay-Negros-Cebu-Bohol-Mindanao nautical highway.

As in previous Public Investment Plans, there is an effort to have an integrated approach in the development plan, various termed as "cross cutting" or "cross reference" projects. As explained by NEDA Director General Rolando Tungpalan, the overall investment is not just a collation of individual projects and programs (PAPs) submitted by each agency, but there has to be a strategic roadmap that integrates the impact of PAPs on transportation, traffic, drainage, etc.

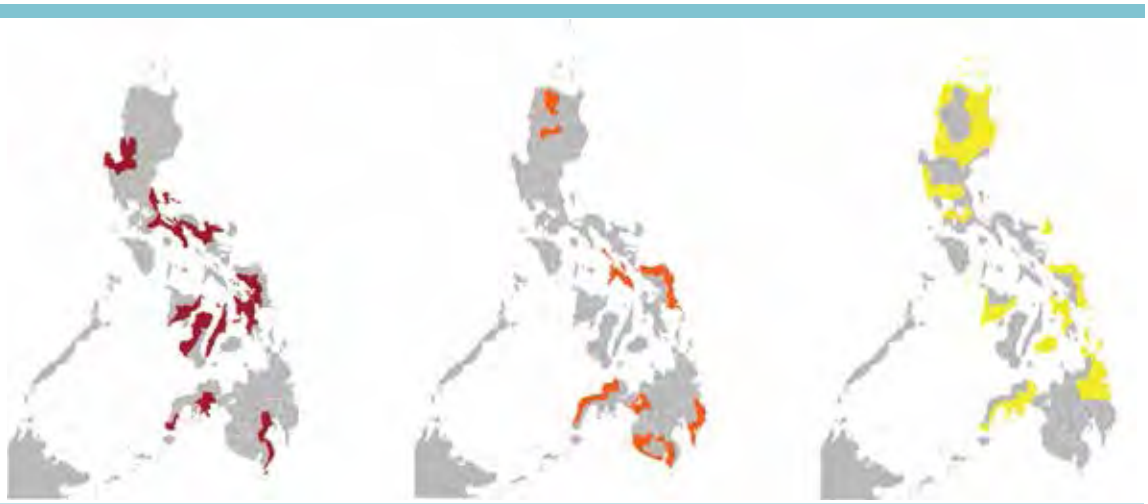
The midterm update introduces a spatial dimension to the challenge of inclusive growth by identifying the top provinces most affected by poverty either in terms of high numbers of poor families or high poverty incidence, and those provinces most exposed to environmental hazards.

For each category, the plan proposes specific social interventions such as employment creation, diversifying income sources, and infrastructure services.

The integrated approach is reflected in the Convergence Strategies of the DPWH that supports and coordinates its projects under its mandate of constructing roads, bridges, flood control, and government buildings with the projects and programs of the Department of Tourism (DOT), Department of Education (DepEd), Department of Agriculture (DA) and local governments.

The convergence program of DPWH and DOT will coordinate construction of access roads to priority tourism destinations under the National Tourism Development Plan (NTDP). The Department of Transportation and Communications (DOTC) will upgrade principal airports to international and principal Class 1 and 2 airports. Tourism airports are also planned for Marinduque, San Jose, Siargao, Vigan, Basco, Bukidnon, General Santos, and Roxas airports. Tourism ports will be upgraded in ports like Ivana Port in Batanes, Panganngan Port in Bohol, Lawigan Port in Camiguin, and Cagban Jetty Port in Aklan.

The integrated approach is also found in the innovation and growth corridors for Mindanao where integrated infrastructure development strategies will link agricultural production bases to processing centers and markets.



	Category I – provinces with highest number of the poor	Category II – provinces with highest proportion of the poor	Category III – provinces prone to multiple hazards
Addressing the specific constraints faced by the poor requires consideration of geophysical characteristics	• Rapid growth opportunities exist but not for the poor • In-migrants are attracted but they cannot participate in the growth process as well	• Very remote, sparsely populated • Limited growth opportunities • Confronted by conflict and/or frequent disasters	• Prone to multiple hazards
Addressing the specific constraints requires different strategies	• Create more growth opportunities • Undertake skills training, employment facilitation • Encourage flexible work arrangements	• Promote economic mobility of labor through human capital and infrastructure development • Link residents to the value chain • Strengthen peace-building efforts	• Capacitate officials and residents on disaster risk-reduction strategies • Promote income diversification • Expand social protection and insurance

Source: Bangko Sentral ng Pilipinas presentation on Enhancing Resilience to Sustain Inclusive Growth March 2014

Innovation and growth corridors in Mindanao

- Mindanao Food, Agribusiness and Logistics Corridor (Tagum-Davao-General Santos);
- Mindanao Industrial Trade Corridor (Western and Northern Mindanao);
- Mindanao Food Basket Corridor (Central Mindanao-Bukidnon);
- Mindanao Biodiversity and Ecotourism Corridor (Surigao-Agusan-Davao Oriental including former Paper Industries Corporate of the Philippinos [PICOP] concessionaire areas); and
- Mindanao Mariculture and Trade Corridor (Zambasulta: Zamboanga-Basilan-Sulu-Tawi-Tawi)

Source: Philippine Development Plan 2011-2016 http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

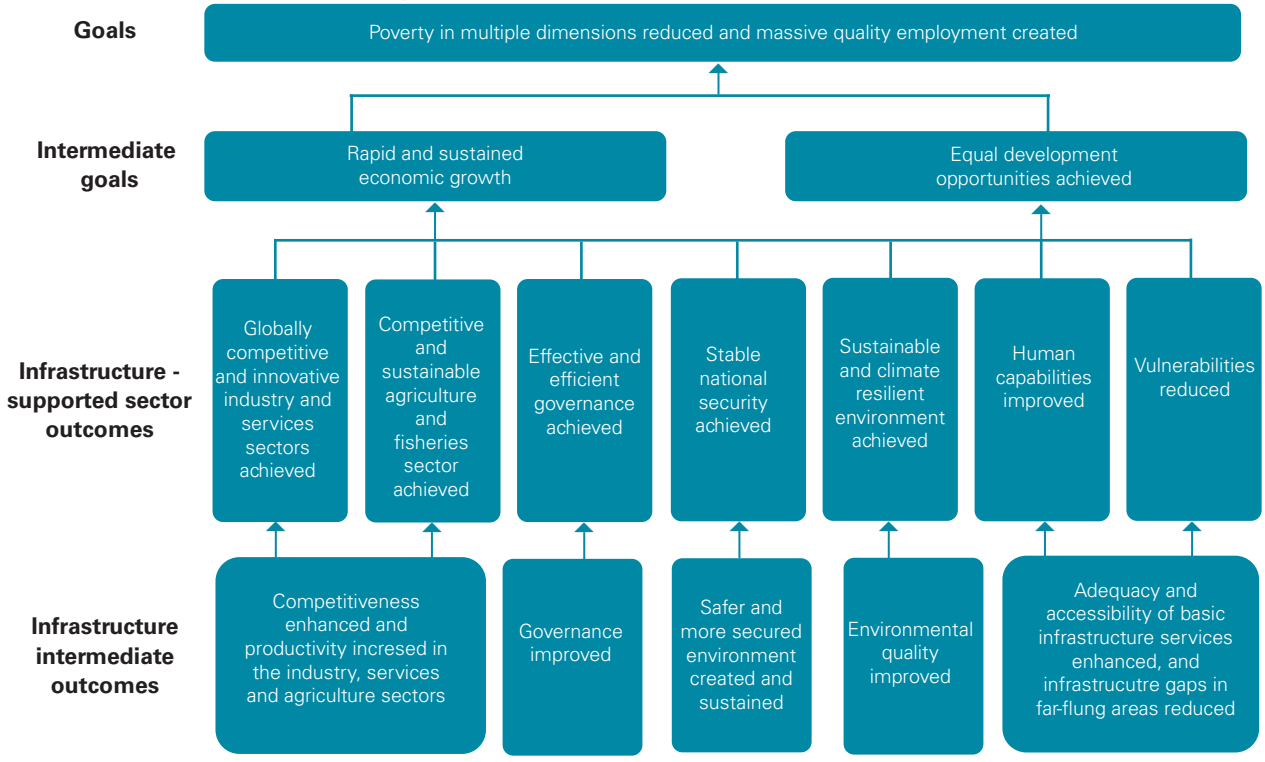
Another manifestation of the integrated effort are the long term "dream plans" for 2035 for transportation development for Metro Manila and Metro Cebu put together with the assistance of the Japan International Cooperation Agency (JICA), which envisions more livable, less congested, environmentally friendly mega-urban areas conducive to productive employment. At the same time, the World Bank is involved in formulating plans for the regions that do not belong to the National Capital Region (NCR). Under the overall goal of "poverty reduction in multiple dimensions and the creation of massive quality employment" along with the use of the so-called "logical framework" for formulating development plans, the updated midterm Philippine Development Plan identifies two intermediate goals of (1) rapid and sustained economic growth while achieving (2) equal development opportunities.

There are, in turn, seven "infrastructure-supported sector outcomes", which are driven by five "infrastructure Intermediate outcomes" and 14 specific strategies.

The sector outcomes, which are impacted by the state of the country's infrastructure, have to do with (1) global competitiveness in the industrial sector; (2) competitiveness in the agricultural sector, (3) effective governance, (4) stable national security, (5) environmental sustainability, (6) improvements in human capabilities, and (7) reduction of vulnerabilities to natural calamities.

These sector outcomes will depend on five intermediate outcomes: (1) the enhancement of competitiveness and productivity, (2) better governance, (3) improved security, (4) environmental quality, and most significantly, (5) adequacy and accessibility of basic infrastructure services including the far-flung areas.

Results framework on accelerating infrastructure development



Source: Philippine Development Plan 2011-2016 http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

The fourteen infrastructure development strategies are directed towards the five intermediate infrastructure outcomes which support the sector outcomes.

For each strategy, there is a results matrix (RM) which specifies mostly physical indicators and targets to measure the government's success in each strategy.

For Intermediate outcome A, Strategy 1: Improve connectivity and efficiency among urban centers, and regional growth hubs, the following is the Results Matrix from 2013 to 2016 in the original Philippine Development Plan, and the revalidated results matrix in the midterm update. The end-of-plan targets have been mostly reaffirmed. (See Appendix A and B)

The targets are as specific as the transfer time between MRT/LRT platform to platform and concourse to platform; the number of passengers per square meter vs. the optimal; the volume of tonnage transported through the Central RORO spine; the number of passengers transported through airlines; and percentage of mobile services with broadband facilities.

As reflection of the scale and complexity of the transportation problem in Metro Manila and other urban areas, it indicates that the target set for the average travel time via road along key urban corridors is to decrease from the baseline of 20.59 minutes in 2012 to just 20.03 minutes by 2016. An improvement of travel time by 56 seconds will hardly be felt by urban commuters. Perhaps what the target represents is the objective that traffic in Metro Manila's main corridors will at least not worsen between 2014 to 2016.

The targets for the transfer times for LRT and MRT passengers to go down by four to five minutes also do not seem material.

- Intermediate outcome A: Competitiveness enhanced and productivity increased in the industry, services and agriculture sectors
  - Strategy 1: Improve connectivity and efficiency among urban centers, regional growth hubs
  - Strategy 2: Support agricultural production
  - Strategy 3: Pursue energy and water security
  - Strategy 4: Improve business climate through institutional and policy reforms, and legislation
- Intermediate outcome B: Adequacy and accessibility of basic infrastructure services enhanced and infrastructure gaps in far-flung areas reduced
  - Strategy 5: Improve access to and adequacy of basic infrastructure services
  - Strategy 6: Address infrastructure gaps in far-flung areas
- Intermediate outcome B: Adequacy and accessibility of basic infrastructure services enhanced and infrastructure gaps in far-flung areas reduced
  - Strategy 5: Improve access to and adequacy of basic infrastructure services
  - Strategy 6: Address infrastructure gaps in far-flung areas
- Intermediate outcome C: Governance improved
  - Strategy 7: Promote good governance through information and communication technologies (ICTs)
  - Strategy 8: Improve coordination and planning, and streamline government processes
  - Strategy 9: Optimize resources and investments in infrastructure
- Intermediate outcome D: Safer and more secured environment created and sustained
  - Strategy 10: Provide safety and security measures
  - Strategy 11: Enable development in conflict-affected areas
- Intermediate outcome E. Environmental quality improved
  - Strategy 12: Strengthen resilience to climate change and disasters
  - Strategy 13: Improve wastewater and solid waste management
  - Strategy 14: Support measures to improve air quality

Source: Philippine Development Plan 2011-2016
http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

For other items in the Results Matrix, the physical targets that appear to be significant are:

Indicators	Baseline (2012)	End of Plan	Percent change
Load transported via Central RoRo spine (tons per ship-hour)	189	251	32% increase
Davao	126	179	42% increase
Cagayan de Oro	42	47	11.9% increase
Batangas	21	25	19.0% increase
Passengers transported via air per annum	37,960,765	56,084,528	47.7% increase

Source: Philippine Development Plan revalidated results matrix and author's calculations.

Another salient observation is that the lead agency for the strategies will mostly be the DOTC which has been managing challenges in rolling out public-private partnership (PPP) projects.

For strategy 2, supporting agricultural production, the physical targets refer to the percent of potential areas with irrigation services. (See Appendix C)

For Strategy 3 covering water and energy security, there are specific physical targets for the ratio of power supply to demand; non-revenue water; 24/7 water service availability; etc. The physical targets do not reflect ambitious target indicators. (See Appendix D)

For the power sector, the target for the ratio of dependable capacity to peak demand including required reserve in fact goes down from 108 percent in 2010 to 104 percent for the country as a whole. For Luzon, this goes down from 113 percent to 107.85 percent while for the Visayas, the ratio increases from 103 percent to 105 percent. The critical demand-supply situation in Mindanao and the realistic prospects for addressing them are reflected in the drop of the ratio from 107 percent to just 100 percent by 2016.

The table below shows the committed and indicative capacities for private sector power projects in Luzon, Visayas and Mindanao from 2013 to 2016, and the targeted ratio of dependable capacity to peak demand and required reserve by 2016.

Target capacity of committed and indicate private sector-initiated power plant projects, 2013-2016

Particulars	Grid		
	Luzon	Visayas	Mindanao
Capacity of committed power plant projects (2013-2016), in MW	767.4	429.6	515.0
Capacity of indicative power plant projects (2013-2016), in MW	9,702.5	718.0	1,928.0
Ratio of dependable capacity to peak demand and required reserve (2016)	107.86%	105.32%	100.0%

Source: Philippine Development Plan 2011-2016 http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

In the water sector, the targets actually show a degradation of the ratio of million liters per day (MLD) of water supplied to water demand for the country as a whole, from 116 percent to 92 percent. This appears to be weighed down by the prospects in the Metropolitan Waterworks and Sewerage System (MWSS) Concession area which drops from 122 percent to 113 percent, with a note that the MWSS Concession areas will be in deficit by 2017.

Although the other major urban areas show an increase or a constant ratio of supply to demand, the actual ratios point to the continuing critical situation as well. In Metro Cebu, the ratio of supply to demand was only 32 percent, improving but still below 100 percent, to 58 percent by 2016. Bulacan and Davao City targets show a slight improvement over actuals but will still be in the 85 to 86 percent by 2016. Only Cagayan De Oro shows an improvement from 109 percent to 121 percent in the plan period.

The full-time coverage of water supply services in cities are targeted to increase from 78 to 90 percent. Non-revenue water is projected to decrease from 36 to 23 percent.

The government also intends to develop master plans for river basins, including water resource assessments or water availability studies, particularly for water-critical areas, and to identify new water sources for domestic, commercial, industrial, irrigation and other needs.

"The Philippine Development Program of this government is committed to sustain the growth rate trajectory of 7-8 percent by investing in the right infrastructure both purely public and purely private infrastructure so that the sustainability of such growth can be assured. But at the same time, we are not just blinded by high growth. As important as high growth is the inclusive growth. Geographically, we have mapped out where we can make a dent of poverty reduction."

- NEDA Deputy Director Rolando Tungpalan

Surface water will be prioritized over groundwater resources, where appropriate particularly in water-critical areas such as Metro Manila, Metro Cebu, Metro Davao, Angeles City, Metro Iloilo, Cagayan de Oro City and Bulacan. Alternative water sources to the Angat Dam, which supplies 97 percent of Metro Manila's water requirements, are also being explored.

This is to reduce the risks arising from being dependent on a single water source for various consumption needs. The two other water PPP projects are Laiban Dam and the Bulacan Bulk Water projects.

Major government infrastructure projects to pursue energy and water security

- Angat Dam and Dyke Strengthening Project
- Angat Water Transmission Improvement Project
- New Centennial Water Source-Kaliwa Dam
- Bulacan Bulk Water Supply Project
- Rehabilitation, Operation and Maintenance of the Angat Hydro Electric Power Plant (AHEPP) Auxiliary Turbines 4 & 5 through PPP
- Uprating of Agus 6 Units 1 & 2
- 50-MW Isabel Coal Mine-Mouth Power Plant
- 50-MW Coal-fired Power Plant in Malangas
- 278.4 MW Renewable Energy Project

Source: Philippine Development Plan 2011-2016
http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

The current Philippine development plan rightfully puts "pride of place" in infrastructure as the key challenge and major opportunity in the country's economic growth and development. The ultimate goals reflect the mantra of "inclusive growth": poverty reduction and generation of quality employment.

The plan presents a logical framework on the relationship between these ultimate goals, intermediate goals, thematic outcomes, and sector strategies. Reflecting recent natural calamities, the midterm update

also adds the spatial dimensions of poverty, vulnerability to natural disasters, and sustainability.

Finally, it presents the midterm update results matrices by which the government intends to evaluate achievement versus the plan in terms of quantitative physical targets and amount of time consumed. The plan reflects the government's commitment to make measurable progress in infrastructure development.

For further information, please contact:

Emmanuel P. Bonoan
Vice Chairman and Head of Tax
KPMG in the Philippines
T: +63 2 885 7000 ext. 200
E: ebonoan@kpmg.com

Paving the Way Through Good Governance

Michael Arcatomy H. Guarin, Advisory Partner, KPMG in the Philippines

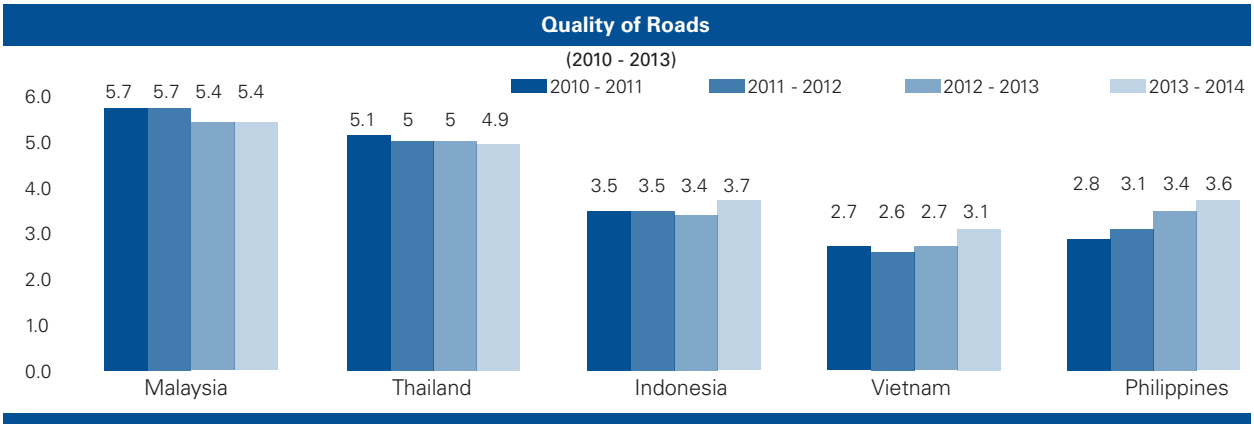
Infrastructure spending by the Department of Public Works and Highways (DPWH) is expected to reach US$4.30 billion in 2014, which would be more than double the US$2.05 billion level in 2011. Infrastructure spending has been growing at 28 percent a year in the last three years. The bulk of the spending and the highest growth has been in highways, which jumped from US$1.54 billion in 2011 to US$2.90 billion in 2014. The DPWH budget for 2015 could go up to as much as US$6.79 billion.

The DPWH has set ambitious targets to overcome the country's deficit in terms of the quality of roads in comparison with neighbouring countries. By 2016, the target is to completely pave the 32,000 kilometers (km) of national roads, from only 86 percent as of 2013. The quality for the paved roads is targeted to be at the international roughness scale of 4. The DPWH is upgrading 117,000 lineal meters of bridges nationwide. Added to the task are the rehabilitation and reconstruction requirements in the regions damaged by Typhoon Haiyan.

The DPWH is also supporting the development programs of other agencies such as the agriculture, tourism, and education departments under its Strategic Convergence Program (SCP).

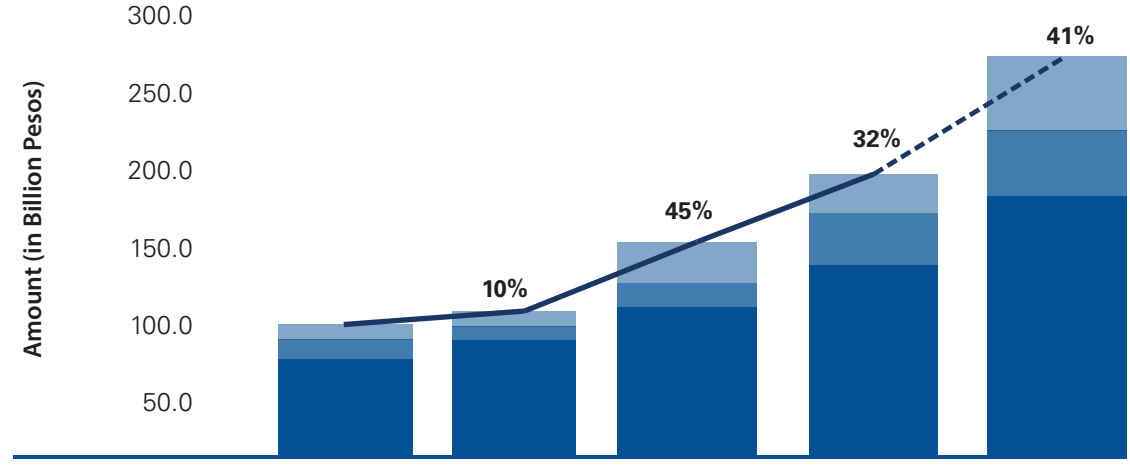
The Global Competitiveness Report

The ranking of the Philippines significantly improved from no. 114 (2010-2011) to no. 87 (2013-2014) in the quality of roads indicator in the World Economic Forum (WEF) Global Competitiveness Index



Notes: 1 = extremely underdeveloped; 7 = extensive and efficient by international standards (Based on 146 Countries)
Source: Bangko Sentral ng Pilipinas presentation on Enhancing Resilience to Sustain Inclusive Growth March 2014

2011-2015 DPWH Infrastructure Program:
Capital Outlays (By Category)



	2011	2012	2013	2014	Proposed 2015
Highways	68.0	78.1	100.9	129.4	173.5
Flood Control	11.3	10.8	15.9	33.6	44.8
Others	11.3	10.8	27.6	27.9	51.4
Total (PhP)	90.7	99.5	144.3	190.9	269.7

Source: Bangko Sentral ng Pilipinas presentation on Enhancing Resilience to Sustain Inclusive Growth March 2014

The DPWH has introduced the concept of High Standard Highways (HSH) which are limited access, high speed highways for long distance trips in a 200 km radius in the National Capital Region (NCR). These will be constructed under the public-private partnership (PPP) program. By 2020, the HSH network is projected to increase from 420 kilometers to 626 kilometers. Another 236 kilometers are proposed to be constructed by 2030, and 130 kilometers beyond 2030, for a total of 995 kilometers.

But even more significant than the quantum increase in infrastructure spending and physical accomplishments by DPWH are qualitative changes in governance which are transforming the way the DPWH is delivering on its mandate. A "massive increase in spending" by government is usually associated with massive irregularities and governance issues as well. Under the banner of a "good governance reform and anti-corruption program", DPWH Secretary Rogelio Singson has launched various initiatives to safeguard against such risks. In pursuing its ambitious targets, the DPWH adopted the following priorities:

1. Right Projects

2. Right Cost

3. Right Quality

4. Right Time

5. Right People

The DPWH adopted concrete steps and approaches to make sure that these priorities do not remain as mere slogans. Many of these steps are ingeniously simple but are proving to be effective in curbing moral hazards and spending irregularities.

The procurement process has been made more transparent and simplified to ensure the most qualified proponents are chosen. The number of signatures required has also been reduced to five. This lowers the chances for moral hazard in the form of bureaucratic interference. The number of documents required to be submitted has also been reduced from 20 to five.

Additionally, the DPWH used to require bidders to submit letters of intent for projects being tendered and the potential bidders are posted in public. This step allowed bidders to find out who the other bidders competing for the project. Notwithstanding laws and rules to the contrary, the process was prone to collusive behaviour to the disadvantage of the DPWH. Under the current process, bidders simply procure the bid documents and submit their bids with the DPWH providing no information on who the other bidders are. In the past few years, this new approach has allowed the DPWH to generate US$452.93 million in savings in terms of the Approved Budget for the Contract (ABC) and the actual cost of the bids awarded. The DPWH also introduced standard unit costs which are published in their website and has initiated a Quality Assurance program which is outsourced to an external consultant.

Governance Reform and Anti-Corruption Program

Key Reforms	Policies and Program
Right Projects	■ Objective programming criteria based on planning applications (i.e. PMS-HDM 4); ■ Project Status available on the DPWH website; ■ Public consultation and disclosure on public expenditure (eNGAS) and project identification up to project completion.
Right Cost	■ Detailed Design, Program of Work and Detailed Cost/Estimates prepared/evaluated based on restructured Indirect/Direct Cost; ■ Open, Transparent and Competitive Bidding which resulted in savings.
Right Quality	■ 24/7 DPWH Call Center (165-02) to address queries and complaints; ■ Outsourced project inspection and quality assurance; ■ Developing ISO Standards of DPWH Offices.
Right On Time	■ Accredited 47 Civil Society Organizations (CSOs) partners for monitoring; ■ Bantay Lansangan Road Sector Report Card Rating ■ Close monitoring of project implementation.

Source: Bangko Sentral ng Pilipinas presentation on Enhancing Resilience to Sustain Inclusive Growth March 2014

In collaboration with the Philippine Contractors Association (PCA) and the DPWH's Accreditation Board, the eligibility of contractors to bid is based on their certification and credit rating. To ascertain the financial capacity, the DPWH requires no less than a certification from the Bureau of Internal Revenue (BIR).

The DPWH is working to cluster projects to ensure that these are executed by contractors with the proper capabilities and equipment. Smaller project lot sizes are also being discontinued as much as possible. The DPWH annual report for 2012 states the following anecdote:

> "Bidding irregularities in DPWH Region 4-B. The District Engineering Office (DEO) in Mamburao, Occidental Mindoro began a project worth PhP473.457 million (US$ 10.72 million), well beyond the PhP50 million (US$1.13 million) that district engineers can sign off on their own. To bypass clearance from regional and central offices, they cut the project into components that would not breach the said limit. DPWH cancelled the bidding of these projects, clustered them into six projects, and rebid these in September 2011. Total approved budget for the contract (ABC) for the six clustered projects was PhP463.8 million (US$10.50 million). Through public bidding, the DPWH was able to save PhP46.6 million (US$1.06 million) as the total awarded contract amounted to only PhP417.2 million (US$ 9.45 million)."

The DPWH has created a national road database of all projects nationwide which at any time can give the status of each project. It enables the DPWH to optimize the deployment of resources for timely execution and completion, and to prioritize repairs.

In the case of farm to market roads under the SCP with the Department of Agriculture (DA), the DPWH insists on one simple basic criterion: that the farm to market road has to connect to a major road or highway. This curbs the tendency for the alignment of farm to market roads to be based more on local political considerations rather than the direct contribution linking farm areas to market centers. The DPWH is geo-tagging[1] farm to market roads to support this.

In its SCP with the Department of Tourism (DOT), the DPWH emphasizes the interconnections between ports and airports to tourist destinations.

The DPWH is also supporting local governments and schools in constructing rainwater catchment facilities in order to augment the water supply in specific locations.

In terms of getting the right people, the DPWH has initiated a cadet engineer program to encourage young entry level engineers to pursue a career in government service. They are required to take qualifying exams, designed by the Development Academy of the Philippines (DAP) and the Civil Service Commission (CSC), not just on the eligibility but also on their management competencies. The competency test is a way of making sure that the right candidates are selected based on qualifications and not on endorsement by government officials. Over time, this will result in the upgrading of the overall skills and professionalism in the DPWH.

In addition, the DPWH has also enlisted the support of civil society groups to improve performance and governance.

> "Road projects are now being implemented according to approved plans and specifications by better equipped and qualified contractors with closer project inspection and monitoring, including the monitoring and participation of a network of Civil Society Organizations (CSOs), Non-Government Organizations (NGOs), Church and private sector organizations. As of February 2012, DPWH accredited 52 Civil Society Organizations (CSOs) as partners/observers in all stages of project development cycle (identification, preparation, budgeting, procurement, implementation, operation and post evaluation) and in other areas of mutual interest."[2]

[1] Adding geographical identification metadata for each road.
[2] DPWH Accomplishment Report 2012.

These reforms introduced in the last three years have begun to make a difference in the public perception of governance at the DPWH.

Opportunities for the private sector

The significant opportunities for the private sector are in the PPP projects in the HSH of the DPWH:

- Plaridel Bypass Toll Road (DPWH) Laguna Lakeshore Expressway Dike Project
- C-6 Expressway (Southeast, East and North Section) (DPWH)
- NLEx East Expressway (DPWH)
- Camarines Sur Expressway Project (DPWH)
- Skyway Stage 3

On-Going Construction: 160.83 km

Project Name	Length (km)	Project Cost (PhP Bn)	Completion
Tarlac-Pangasinan-La Union Expressway	88.85	17.52	2018
Daang Hari-SLEx Link	4.00	2.01	2014
STAR, Lipa-Batangas, Phase II	19.74	2.32	2015
NAIA Expressway	7.15	15.52	2015
Metro Manila Skyway Stage 3	14.82	26.66	2017
NLEx-SLEx Connector Road	26.27	37.07	2017

NEDA Board-Approved: 77.70 km

Project Name	Length (km)	Project Cost (PhP Bn)	Completion
CALA Expressway (Cavite and Laguna side)	47.00	35.43	2018
Central Luzon Link Expressway (CLLEx), Phase I (Tarlac-Cabanatuan, Nueva Ecija)	30.70	14.94	2017

Proposed (Priority): 140.79 km

Project Name	Length (km)	Project Cost (PhP Bn)	Completion
Metro Manila Expressway, C-6	58.09	TBD	TBD
Daang Hari-SLEx Link	47.00	122.81*	2021
STAR, Lipa-Batangas, Phase II	35.70	14.20	TBD

*Note: *Includes PhP57.89 billion reclamation cost*
Source: Bangko Sentral ng Pilipinas presentation on Enhancing Resilience to Sustain Inclusive Growth March 2014

Other prospective PPP Projects

PPP Bridges:

- Field validation of national bridges proposed for PPP is on-going.
- The Research, Education and Institutional Development (REID) Foundation will prepare Business Case Study for the Package I, construction/rehabilitation of 139 selected bridges in Luzon
- Target for Invitation to Bid – December 2012
- Submission and Evaluation of Bids – August 2013

Kenon and Marcos Highway:

- Upgrading and improvement of the landslide prone sections of Kenon and Marcos Highway with a combined length of 80.86 km.
- Terms of Reference (TOR) for the Consultancy Services to Conduct Business Case Study and the subsequent ABC for the corresponding Consultancy Services was already approved.

Quirino Highway (Operation and Maintenance):

- Improvement/rehabilitation of a 93.45 km (2 lanes) national road that traverses Quezon, Camarines Norte and Camarines Sur provinces.
- TOR for the Consultancy Services to Conduct Business Case Study and the subsequent ABC for the corresponding Consultancy Services was already approved.
- Conduct of Business Case Study to be funded under the Project Development and Management Facility (PDMF) of the PPP Center.

ADB, JICA, WB Road Sector Portfolio Summary

Component	ADB Assisted RUPP		JICA Assisted RUPP		World Bank Assisted NRIMP 2	
	(P'B)	($'M)	(P'B)	($'M)	(P'B)	($'M)
Upgrading / Improvement Component	0.385	8.95	8.823	205.19	12.948	301.12
Asset Preservation Component	4.519	105.09	23.77	541.33	13.657	317.60
Institutional Capacity Development	1.024	23.81	2.061	47.93	2.760	64.19
Others (Front End Fee, CM)	0.313	7.28	-	-	0.029	0.67
Total	**6.241**	**145.14**	**34.161**	**794.44**	**29.394**	**683.58**

Notes: 1. US$1 = PhP43, 2. P'B – pesos in billion, 3. $'M – US dollars in million
Source: DPWH presentation on Strategic Infrastructure Policies and Programs May 2012

Going beyond these specific opportunities which include some very large projects, there is the recognition gaining ground in the private infrastructure sector of the improvements in the governance ethic in the DPWH which can ultimate translate into the significant expansion of the highway network with higher quality and cost efficiency, thereby broader economic opportunities for the private sector.

For further information, please contact:

Michael Arcatomy H. Guarin
Advisory Partner
KPMG in the Philippines
T: +63 2 885 7000 ext. 347
E: mguarin@kpmg.com

Building Through Partnerships

Paul Patrick R. Afable, Advisory Senior Manager, KPMG in the Philippines

The Philippine experience with public-private partnership (PPP) programs goes back almost 30 years. The country had the first Build-Operate-Transfer (BOT) law in Asia in 1990 which served as a model for other countries. Even prior to the BOT law, the first BOT contract in Asia was awarded to Hopewell for the 210MW Navotas plant in 1988. The Philippines also used the PPP approach to solve the power crisis in the 1990s when eight to 12 hour blackouts paralyzed the industry and crippled exports. From 1991 to 1995, 4,200MW of new private power capacity was commissioned with project costs totalling almost US$5 billion. In 1997, the Philippines executed the largest water privatization in the world with the award of the Metropolitan Waterworks and Sewerage System (MWSS) franchise to two concessionaires at a total project cost of US$7.5 billion.

Private sector participation in infrastructure investments, however, went through a declining phase in the second half of the 1990s. The Asian Financial Crisis in 1997 adversely affected the government's exposure to the BOT projects in two ways. (1) The large peso depreciation meant that National Power Corporation's (NPC) take-or-pay contracts, mostly denominated in US dollars, ballooned dramatically in peso terms. NPC, however, was not able to pass on the higher foreign exchange costs fully and immediately to consumers. (2) Worse, the economic recession resulted in weaker economic growth than had been assumed in the projections for electricity demand. Lower electricity consumption resulted in excess power capacity which NPC was committed to pay for the take-or-pay contracts whether they were dispatched or not. This created stranded costs, estimated at US$1.68 billion and stranded debts of US$55.48 million (incurred when NPC had to borrow to cover its operating and financial losses). The stranded costs and stranded debts eventually required the restructuring of the power sector and the privatization of NPC under the the Electric Power Industry Reform Act (EPIRA) of 2002 which transferred the assets and liabilities of NPC to the Power Sector Assets and Liabilities Management Corporation (PSALM). The peso depreciation also severely impacted one of the MWSS water distribution concessionaires, eventually resulting in buyout and re-privatization.

Other projects undertaken after the first phase of the PPP program became problematic. Take for example the MRT3 project. The government guaranteed 15 percent equity returns in dollar terms to the project sponsors while tariffs were highly subsidized. This resulted in a heavy fiscal burden which continues to the present. Another are the alleged irregularities and discrepancies between the bid award and commercial franchise in US$300 million Ninoy Aquino International Airport (NAIA) terminal 3. This resulted in the Supreme Court voiding the contract and a takeover of the project from the concessionaire Piatco, and a lengthy litigation which has not been settled. Terminal 3 became fully operational in August 2014 after Takenaka Corp., the construction contractor completed the rehabilitation works in the airport which was originally constructed in 2002. The arbitration proceedings however between the German firm Fraport, the majority

owner in Piatco continues to be pending in the International Centre for Settlement of Investment Disputes (ICSID) in Singapore.

A World Bank country study in 2005 noted the involvement of the private sector in infrastructure had dropped from a peak of six percent of gross domestic product (GDP) in 1998 to one percent by 2002. The World Bank observed that many of the controversial projects were unsolicited proposals, and that the framework for vetting unsolicited proposals was vague and gave a lot of leeway for corruption. To address this, the World Bank suggested that the government try to reinstate a process for attracting private investments on a transparent and competitive basis instead of through unsolicited bids. A key condition for this shift would be to address the weaknesses in the planning, preparing, and executing of private infrastructure projects and even basic requirements such as a sufficient budget and the skills to prepare quality pre-investment studies for projects that are likely to attract private investors.[1]

> "PPP projects should be well-prepared, highly bankable, and should undergo competitive bidding (for solicited projects) or Swiss challenge[2] (for unsolicited projects). We put high regard in PPP contracts prepared in a transparent manner, promote a level playing field, and can withstand legal scrutiny. Before a project can be undertaken through PPP, there are certain criteria that must be complied with such as the following: (i) economic viability; (ii) financially and commercially attractive; (iii) PPP mode is the most viable option for the government to undertake the project and results in better value for money; (iv) risks are appropriately allocated; (v) tariffs are affordable. During the cooperation period, PPP projects are constructed and/or operated using an output-based specification approach. Concessionaires are required to follow the Minimum Performance, Standards, & Specifications and key performance indicators defined in each project's concession agreement."[3]

The country's initial experience in PPP projects yielded the following "lessons":[4]

1. Be judicious in providing guarantees and performance undertakings, particularly for those risks which the private sector is in a better position to bear, such as market demand and foreign exchange depreciation.
2. Prefer solicited proposals on projects which are aligned to the national government programs and priorities.
3. Establish a clear and transparent process for project selection and approvals.
4. Build up capacity for preparing solicited projects through business cases, pre-feasibility studies, bidding packages, etc.[5]

It is in the context of such lessons that the government sought to re-launch the PPP Program in 2010.

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1 World Bank (2005). The Philippines. Meeting Infrastructure Challenges. Infrastructure Sector Department, East Asia and Pacific Region.
2 A Swiss challenge is a form of public procurement which requires the government agency which has received an unsolicited proposal to publish the bid and invite third parties to match or exceed it.
3 NEDA-PPP Center written response to KPMG questionnaire, 18 July 2014.
4 WB (2005) op. cit. Chapter 4 "Maximizing the benefits of Private Sector Participation"
5 WB (2005) op. cit. p. 80.

The current edition of the Philippine PPP Program has made significant strides since its inception, having achieved a sound policy framework, institutional reforms, robust pipeline of PPP projects, and well-capacitated implementing agencies.

Under the new framework, the government is willing to assume regulatory risk but will transfer commercial risks to the private sector. The national government has also been more sparing in providing performance undertakings or guarantees on the obligations of government agencies and corporations not only to avoid incurring the fiscal burdens as in previous projects but also as a way to take advantage of the new confidence and positive investor perceptions of the country's economic standing and prospects.

The government has also adopted various modes of PPP structures outside of the usual BOT or build-lease-transfer (BLT) to include hybrid structures where the private sector is responsible for civil works and the implementing agency (IA) is responsible for operation and maintenance (O&M), or vice-versa, and Build Transfer with deferred payments. Different types of bid parameters beyond the typical "lowest cost" bid are being applied, including highest premium offered, lowest viability gap financing (VGF) required, etc. The VGF is being adopted from other countries which have used the approach to ensure affordability of consumer tariffs while making the project commercially viable and attractive to investors.

The government has reorganized the former BOT Center, previously attached to the Department of Trade and Industry (DTI), into the PPP Center attached to the National Economic and Development Authority (NEDA). The PPP Center is the nexus and the main driver of the PPP Program. The PPP Center works with IAs to prepare well-structured PPP projects and acts as a technical adviser in the project cycle of project structuring, setting minimum performance standards and specifications, and contract terms for approval by the NEDA Investment Coordination Committee (ICC) or NEDA Cabinet Committee. The PPP Center also acts as a non-voting adviser to the IAs in the bid and award process.

> "The implementing agencies identify priority projects which shall be included in the Public Investment Program (PIP). The PIP contains the projects, programs and activities that will be implemented by the agencies within the medium-term. Note that projects selected should be consistent and aligned with the goals and objectives of the Philippine Development Plan. The PIP also indicates the procurement method of each project identified (whether PPP, official development assistance [ODAs], or traditional procurement).
>
> The PPP Center aims to roll-out the Policy Guidelines on Pipeline Development, to aid agencies in mapping out their project pipeline and priority projects."[6]

The PPP Center also manages the Project Development and Monitoring Facility (PDMF) which is the recipient of a revolving fund from ODA funds for engaging consulting firms in providing expertise in project structuring and investment requirements.

> "PPP is more than just a means to address the lack of public funds. More than just a financing scheme, PPPs bring in private sector innovation to implement critical infrastructure projects. Through PPP, private sector expertise and efficiency would enable us to build high-quality infrastructure services at a faster pace.

[6] NEDA-PPP Center written response to KPMG questionnaire, 18 July 2014.

> Aside from efficiency gains, PPPs allow the proper allocation of risks to the party that is best able to manage and assume the consequences of the risk involved. PPPs enable the government to take on fewer risks due to appropriate risk allocation with the private partner."[7]

PPP projects, especially those that are supported by PDMF, undergo a Value for Money (VfM) analysis at the project development stage to determine if a project is more viable to be undertaken through PPP or through other procurement methods. If a project is to be taken forward as a PPP, it must be demonstrated that it will deliver better VfM than the traditional method of delivery through government procurement, and that the government's resources are managed with due regard for economy, efficiency and effectiveness.

To enhance the transparency and accountability of the approval process, a PPP Governance Board has been instituted consisting of the principals of the major agencies involved in the PPP process such as NEDA, Department of Finance (DOF), and the Department of Budget and Management (DBM).

The BOT Law (RA 7718) is currently being reviewed by government agencies and legislative working committees to update the legal and regulatory framework on issues such as the maximum government support for a project, VGF as a mode of subsidy, unsolicited proposals, joint ventures, etc. The PPP Center is diligently pushing for the enactment of the PPP Act, which amends the existing BOT Law, in order to ensure the sustainability of the PPP Program. It also aims to have a robust PPP pipeline with at least 50 projects in various stages of the project cycle by end of 2016; 15 PPP contracts signed; five projects completed; and at least 10 infrastructure projects handed over to the private sector for operation and maintenance.

The government also initiated a process for managing contingent liabilities (CLs) that may materialize from PPP projects and how these CLs would be appropriated for and funded. As an interim measure, the government has included provisions for CLs in the Unprogrammed Fund of US$452.93 million in the General Appropriations Act of 2014.

The PPP Center also advocates policy reforms to improve the legal and regulatory frameworks governing the PPP Program.

To ensure the continuity of the revised PPP program, the government is introducing institutional measures that would sustain the reforms beyond the current administration.

- The Implementing Rules and Regulations (IRR) of the existing BOT Law and NEDA have also issued the Revised Joint Venture Guidelines for government-owned and controlled corporations (GOCCs).

- Executive Order No. 136, s. 2013, allowed for the creation of a PPP Governing Board as the policy-making body for all PPP-related concerns, and strengthening the monitoring of projects by authorizing the procurement of independent consultants through the PDMF.

- The Investment Coordination Committee-Cabinet Committee (ICC-CC) also introduced reforms in the appraisal of PPP projects which effectively and efficiently streamlines the process and delineates the roles of concerned agencies. It created the ICC-Technical Working Group (ICC-TWG) for PPP projects, which consists of (i) NEDA: for alignment and contribution to the national, regional or local government plans or programs, and socio-economic analysis; (ii) DOF: for risk structure and allocation of the project, fiscal requirements and government undertakings, the project's financial internal rate of return, and its impact on fiscal sustainability through assessment of direct and contingent government costs; (iii) Department of Environment and Natural Resources-Environmental Management Bureau (DENR-EMB): for the environmental impact of the project; and (iv) PPP Center: for VfM analysis, commercial financial viability, bankability, and project structuring.The PPP Center also acts as the PPP Secretariat for the ICC-TWG and ICC-CC for PPP projects.

- Through the enhanced appraisal process which has been in place since January of this year, approvals have been secured for six projects from the ICC-CC, and four projects from the NEDA Board. The average turnaround time for the appraisal and ICC-CC approval of projects is one month from the date of submission by the IAs. It is also notable to highlight the importance of the conduct of clarificatory and reconciliation meetings prior to the approval of projects such that project issues are threshed out and resolved prior to presentation to the ICC-CC.

[7] Ibid.

- Aside from these, the government will soon be issuing the IRR on alternative dispute resolution (ADR); the PPP Manual for National Government Agencies (NGAs); policy guidelines on pipeline development; and other sector-specific PPP guidelines to continuously improve the PPP policy environment.

- Cognizant of the important role of the local government units (LGUs) in achieving sustainable development and inclusive growth, the government advocates the mainstreaming of PPPs at the local level through the PPP Center's Capacity Building Program for LGUs. Further, the Internship Program and Partnerships with selected Local Capacity Building Institutions (LCBIs) have been identified as short-term and medium-term strategies of the PPP Center in providing assistance to LGU-PPP programs and projects.

- Another important initiative is the standardization of PPP contracts, aimed at streamlining the drafting of concession agreements and creating templates for implementing agencies by incorporating the tested procedures and lessons learned from previous PPP contracts.

- The PPP Center is also introducing probity management in PPP projects to bolster transparency and integrity in the existing PPP procurement process and also increase the private sectors' confidence in the bidding process.

The government has enumerated a pipeline of projects based on an updated Philippine Infrastructure Plan (but which includes some projects which have been on the drawing board for years) which will be bid out as solicited projects. The projects are in diverse sectors such as expressways, airports, public school classrooms, hospitals, bulk water, and urban railways.

Pipeline of projects

6 Awarded Projects
- Daang Hari-SLEx Link Road
- PPP for School Infrastructure Project (PSIP) Phase I
- NAIA Expressway (Phase II) Project
- PPP for School Infrastructure Project (PSIP) Phase II
- Modernization of the Philippine Orthopedic Center
- Automatic Fare Collection System

4 Projects with Live Bidding
- Mactan-Cebu International Airport (MCIA) Passenger Terminal Building [For issuance of Notice of Award]
- Cavite-Laguna Expressway
- LRT Line 1 Cavite Extension and Operation and Maintenance
- Integrated Transport System - Southwest Terminal

1 NEDA Board-Approved
- Bulacan Bulk Water Supply Project

4 For Evaluation of Relevant Bodies
- Operation and Maintenance of the Laguindingan Airport
- Enhanced Operation and Maintenance of the New Bohol (Panglao) Airport
- New Centennial Water Supply Source Project (See Chapter 6)
- Operation and Maintenance of LRT Line 2

1 For Finalization of Project Structure
- Davao Sasa Port

11 Projects with On-going Studies
- Operation and Maintenance of the Puerto Princesa Airport
- Integrated Luzon Railway Project
- Mass Transit System Loop
- Regional Prison Facilities through PPP
- Laguna Lakeshore Expressway Dike-Calamba-Los Baños Toll Expressway
- Central Luzon Link Expressway Phase II
- Operation and Maintenance of Iloilo, Davao, and Bacolod Airports Project
- Improvement and Operation and Maintenance of Kennon Road and Marcos Highway
- Motor Vehicle Inspection System Project
- LRT Line 1 Extension to Dasmariñas Project
- Upgrading of the San Fernando Airport

5 For Procurement of Consultants to Conduct Pre-investment Studies
- Modernization of the National Center for Mental Health
- Plaridel Bypass Toll Road
- Manila Bay-Pasig River-Laguna Lake Ferry System
- Batangas-Manila (BatMan) 1 Natural Gas Pipeline
- C-5 Transport Development Project

3 Other Projects for Implementation
- NLEx-SLEx Connector Road
- Skyway Stage 3 Project
- MRT Line-7

13 Projects under Conceptualization/ Development

- Civil Registration System – IT Project Phase II
- Central Spine RORO
- Ferry Passenger Terminal Buildings Development
- Operation and Maintenance of Clark Airport
- Metro Cebu Expressway Project
- Tagum-Davao-General Santos High-Standard Highway
- C6 Expressway (South-East, East, and North Sections)
- Modernization of the Region 1 Medical Center
- PhilHealth Information Technology Project
- Manila Heritage and Urban Renewal Project
- Tri-Medical Complex (including Modernization of the Jose Fabella Memorial Hospital Project)
- R-7 Expressway
- NLEx East

Source: Public-Private Partnership Center publication on PPPs @ PH Investment Opportunities February 2014

While the number of PPP projects that have been rolled out for bidding or implementation has been lower than initial expectations, the current edition of the PPP program arguably presents a significant "proof of concept" of the PPP approach in enlisting the participation of private investors in infrastructure development.

Taking into account important lessons from the previous BOT projects the current PPP program has emphasized solicited projects developed by the government consistent with the priorities of the Philippine Development Plan, proper allocation of risks between the government and the private sector, with the government veering away from assuming risks in market demand, revenues, and returns.

The current PPP approach also pursues a more transparent mode of providing government capital support in the form of the Viability Gap Funding as the bid parameter which prompts investors to disclose efficient level of government support for affordable services and commercially viable and bankable projects.

The prerequisites for moving in these directions include capacity building for project development and preparation, where important progress has been made in the PPP Center and implementing agencies, and enhancing the PPP framework through the PPP government board and revisions of the BOT law now pending in Congress.

For further information, please contact:

Paul Patrick R. Afable
Advisory Senior Manager
KPMG in the Philippines
T: +63 2 885 7000 ext. 767
E: pafable@kpmg.com

Addressing the Challenges of an Emerging Global City

Ma. Cynthia C. Hernandez, Advisory Director, KPMG in the Philippines

The National Economic Development Authority Board, chaired by President Benigno Aquino III, approved in early September 2014 a long term "Dream Plan" for the transport infrastructure of Mega Manila that aims to resolve the heavy congestion frequently experienced by Metro Manila commuters. This plan promises to create a more liveable Greater Capital Region (GCR) with higher mobility and connectivity by 2030.

According to a recent Japan International Cooperation Agency (JICA) study the population of Metro Manila is expected to reach 13.904 million by 2030, from 11.858 million in 2014. The population in the adjoining provinces of Bulacan, Rizal, Cavite and Laguna (BRLC) is expected to reach 15.486 million by 2030, for a total population in Mega Manila[1] of around 30 million, making it one of the largest urban areas in the world.[2]

The JICA study observes that the complex social, economic, and public sector management problems besetting Metro Manila can be boiled down to five major issues:

1. Uncontrolled urbanization
2. Environmental degradation and hazard risk
3. Lack of affordable housing
4. Traffic congestion
5. Concentrated spatial structure

Given the importance of the region to the economy in terms of share in population, gross domestic product (GDP), industry, and services, the manner in which these issues are managed will make a significant impact on the country as a whole. These issues also provide an agenda for integrating plans and programs so that the interrelated problems in Metro Manila are addressed in a coherent manner.

Population growth and density

Between 1980 and 2010, the population in Metro Manila doubled from 5.9 million to 11.9 million while the rate of growth has slowed down from 2.95 percent annually in the 1980s to 1.79 percent in 2000-2010. This is lower than the natural rate of increase for the whole country growth rate of 1.9 percent – an indicator of some out-migration from the core capital region. The population density of 191 persons per hectare (ha) in Metro Manila was 70 times the national population density of 2.7 persons per hectare. As a comparison, this is higher than the population density of Seoul at 170, Tokyo at 131, Jakarta at 131 and Shanghai at 124.

For the adjoining BRLC provinces, population growth averaged 4.7 percent annually in the 1980s, rising to 5.9 percent in the 1990s, and tapered to 4.0 percent in 2000-2010. These growth rates, far in excess of the natural rate of growth, indicate high rates of in-migration from either the National Capital Region (NCR) or from the rest of the country. By 2030, Metro Manila is expected to accommodate an additional two million persons while BRLC will absorb an additional six million. Within Metro Manila itself, densities in some cities are even higher by an order of magnitude. The highest density is in the City of Manila proper at 662 persons per hectare.

[1] City of Manila and the cities of Caloocan, Las Piñas, Makati, Malabon, Mandaluyong, Marikina,Muntinlupa, Navotas, Parañaque, Pasay, Pasig, Quezon City, San Juan, Taguig, and Valenzuela, as well as the Municipality of Pateros.

[2] Japan International Cooperation Agency Presentation on Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A) Summary of the Outputs September 2013

This is followed by Mandaluyong at 353, Pasay at 281, Navotas at 280 and Caloocan at 267. The cities which were growing higher than the rate of natural increase were Caloocan, Muntinlupa, Parañaque, and Pasig. According to the JICA study, at the barangay level, "about 50 percent of the people live in high-density barangays (> 300 persons/ha population density). If the population growth trend continues, Metro Manila's density will increase from 191 persons/ha to 224 persons/ha."

"The outward rapid urbanization and densification from Metro Manila to BRLC and beyond is inevitable. Without policy and planning intervention, such urban sprawl will have the concomitant worsening of the urban blight, environmental degradation, severe housing and sanitation conditions, and traffic congestion," says the JICA study.

Under a "do nothing" scenario, the transport cost of traffic in Metro Manila will increase from US$54.35 million per day to US$135.88 million per day by 2030, while in the peri-urban[3] BRLC this will increase from US$22.65 million per day to US$79.26 million per day. The volume/capacity ratio in the major thoroughfares will be 15 times in excess.

The economic contribution of transport systems is to provide efficient connectivity among markets, factory districts, residential communities, shopping areas, business districts, recreation areas, schools and hospitals, ports and airports.

A transport network facilitates the switching to the most appropriate mode according to the characteristics of the payload, e.g. commuters,

Traffic demand and impact (Mega Manila)

			2012	2030	'30/'12
Traffic demand	Metro Manila		12.8	14.5	1.13
(mil.trips/days)	BRLC		6.0	8.0	1.33
Public transport share in total demand			69%	69%	1.00
Occupancy road space by private vehicles			78%	78%	1.00
Transport cost	Metro Manila		2.4	6.0	2.50
(PhP bil./day)	BRLC		1.0	3.5	3.50
Air quality (mil.tons/year)	Metro Manila	GHG	4.79	5.72	1.19
		PM	0.014	0.019	1.36
	BRLC	GHG	3.20	4.49	1.40
		PM	0.005	0.010	2.00

Source: Japan International Cooperation Agency Presentation on Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A) Summary of the Outputs September 2013

[3] Area immediately adjoining an urban area.

high bulk low value, low bulk high value, long distance trips, etc. The transport system interacts dynamically with the growth of urban hubs and central business districts. The transport development strategy will be instrumental in influencing the spatial configuration of Mega Manila.

The JICA study has proposed a short-term strategy for the transport development priorities in the 2014-2016 planning period, and a longer-term agenda based on a vision for a more viable and livable Mega Manila.

Specific ideas proposed by JICA are:

1. Consider a bigger planning area of a Greater Capital Region (GCR) consisting of Metro Manila, and Region III and Region IV-A.
   a. At the GCR level, avoid urban sprawl and promote the development of regional growth centers instead while strengthening the connectivity between the region and Metro Manila, and among the regional growth centers.
   b. For Metro Manila, pursue a planned and guided expansion of urban areas toward the peri-urban provinces of Bulacan and Cavite through integrated public transport and multi-modal network and services.

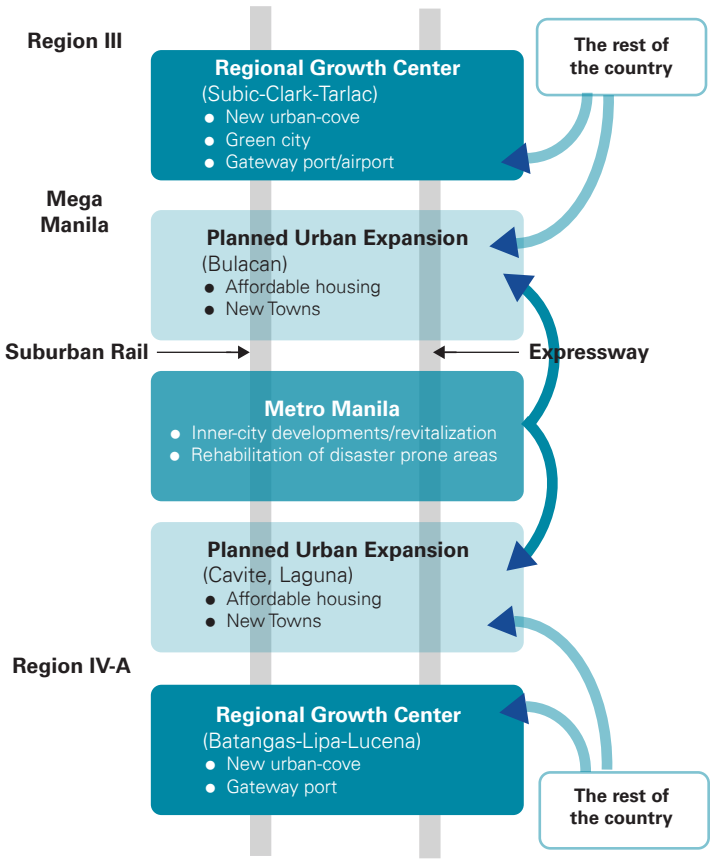
2. Promote the shift away from the metro-centric urban pattern to a hierarchy of multiple urban centers and hubs, including large new towns that will be countermagnets to the attraction of Metro Manila.

Five regional clusters are envisioned consisting of:

1. Metro Manila
2. Peri-urban areas in Bulacan
3. Peri-urban areas in Cavite and Laguna
4. The northern regional growth center in Subic-Clark-Tarlac axis
5. The southern regional growth center of Batangas, Lipa-Lucena

Metro Clark (San Fernando, Angeles City, Mabalacat City, and Porac) and Metro Batangas (Batangas City and Lipa City) are envisioned as regional centers and core cities with self-sustained diverse economies, industry, services, higher education, health services, cultural activities, etc.

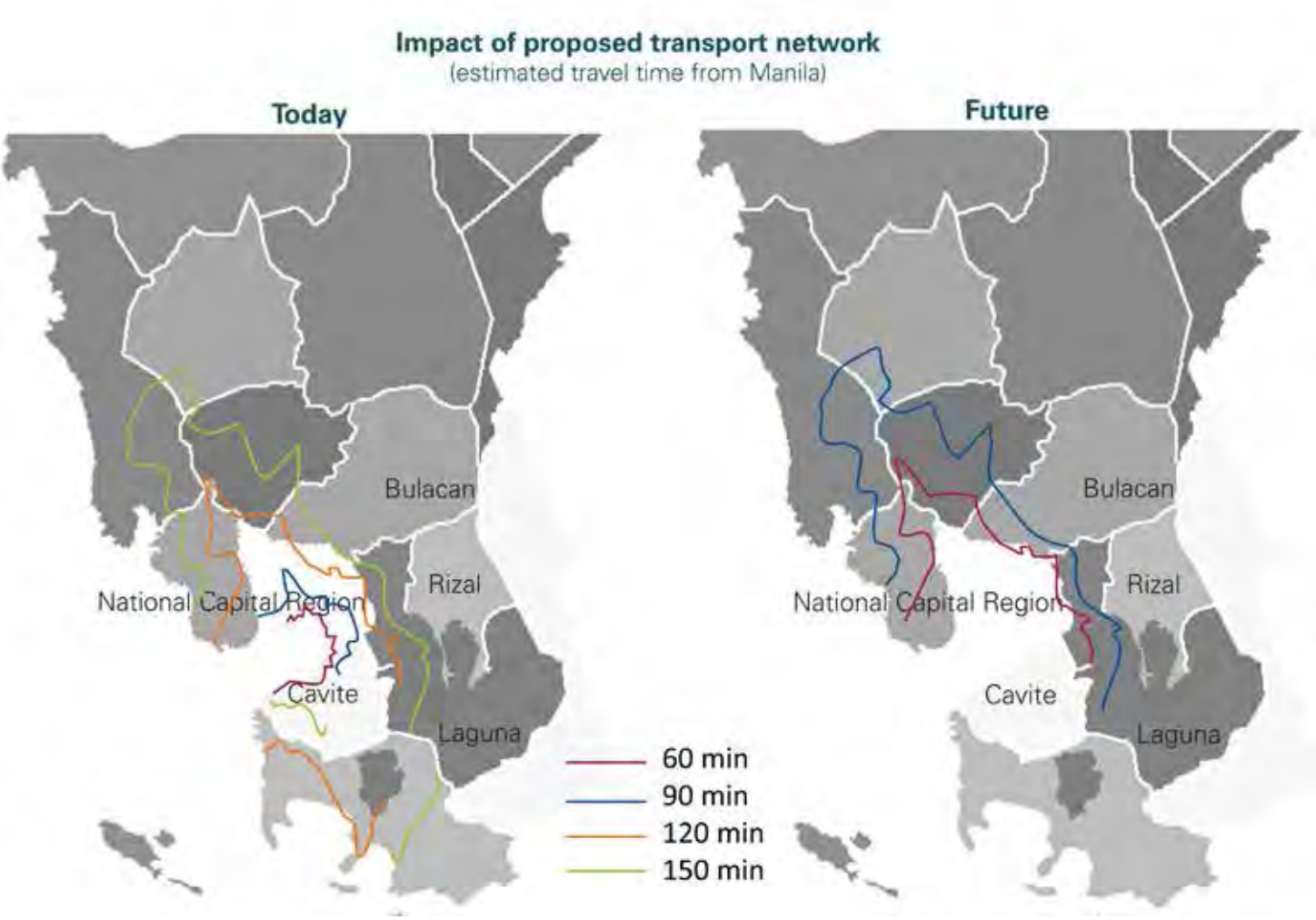
They will serve as regional hubs of the transport network within 100 kms from Metro Manila. They will also function as international gateways as an alternative to Manila. Provincial capitals or city centers such as in Malolos, Tarlac, Cabanatuan, Olongapo, Malolos, Tagaytay, and Calamba will be expected to be centers of sub-regions by providing a wide range of employment opportunities, residential areas, education and health services.



Source: Japan International Cooperation Agency Presentation on Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A) Summary of the Outputs September 2013

The transport development strategy for the GCR calls for the improvement of gateway ports in Subic and Batangas and the Clark International Airport, the north-south backbone in the form of expressways and mass transit, and the secondary roads for Regions III and IV-A.

The development plan for the transport network of Mega Manila aims to strengthen the north-south transport axis to guide future urban expansion and to promote the shift from road-based traffic to rail based mass transit, and to enhance the resiliency of the network through an integrated multi-modal transport system.



Source: Japan International Cooperation Agency Presentation on Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A) Summary of the Outputs September 2013

The major components will be:

At grade roads

- Missing links in C3 and C5
- 137 kms of new roads
- Flyovers
- Sidewalks and pedestrian facilities

Expressways

- 426 kilometers of inter-city expressways
- 78 kilometer of urban expressways

Urban/suburban rail

- 246 kilometers of six main lines
- 72 kilometers of five secondary lines

An integrated urban mass transit network will aim to accommodate an increase in ridership from 1.5 million per day in 2012 to 9.1 million by 2030 and avoid the worsening of traffic by increasing the modal share of railways in Metro Manila to 41 percent by 2030, compared to 10 percent at present.

The urban expressway network will cater to long-trip fast travel traffic for those willing to pay for congestion-free thoroughfares.

The proposed transport sector dream plan for Metro Manila is projected to avoid the US$135.88 million/day transport cost in the 2030 "do nothing" scenario by 45 percent and even reduce these from the current level of US$54.35 million.

There will also be remarkable improvements in air quality. Similar benefits will accrue to the peri-urban BRLC region. The "reach" of a one-hour travel time from Manila will expand outward, giving better access and assisting in decongesting the core city center.

Opportunities for the private sector

The focus on the PPP approach for implementing the urban rail and expressway projects opens up numerous opportunities for private investors. The bidding out of urban rail and expressway projects has gained some traction in the recent months, including LRT1, CALAx, NAIAx. The current pipeline includes US$30.80 billion in urban rail projects and US$16.33 billion in road and expressway projects. (See Appendix E)

JICA is quick to point out, however, that many of the projects have been on the drawing board for years, and many of the original designs have been overtaken by the developments on site. JICA urges:

> "All the projects that had been studied and planned in the past, but which had so far eluded realization, should now be rushed into implementation. The sweet spot (convergence of many favorable factors) may not last long. For roads, this includes: (i) all the missing sections of C3, C4, and C5; (ii) several flyovers and interchanges; (iii) at least one of the two North Luzon Expressway (NLEx) - South Luzon Expressway (SLEx) connector roads; and (iv) frontloading by private sector concessionaires of their investment commitments on SLEx, Manila-Cavite Expressway (CAVITEx), and NLEx. For railways, this includes: (i) LRT 1 Extension to Cavite; (ii) LRT 2 extension to the East; (iii) MRT-3 capacity expansion and system upgrade; (iv) improvement and rehabilitation of the commuter service on the south and revival of the north service, and (v) MRT-7 from Quezon City Circle to San Jose del Monte.
>
> Similarly, the computerized traffic signalling system of Metro Manila should be expanded rapidly, and its system upgraded as part of an intelligent urban transport system. For airports, un-freeze and complete several landside and airside projects for Manila and Clark airports." (See Appendix F)

Immediate opportunities

For the short-term program (2014-2016), US$7.34 billion in expressways and other road projects are projected to be implemented, with many of the larger projects to be procured under the PPP mode. Another US$3.56 billion in urban railway projects are also scheduled for implementation in the short-term.

Short-term Program (2014-2016)

Railways

Name of Project		Amount (PhP million)	Status
1. LRT1 - Cavite Extension (Niyog)		30,764	Committed
2. LRT2 - East Extension		9,446	Committed
3. MRT3 Capacity Extension		10,200	Committed
4. MRT7 stage 1 (Quezon Ave. - Commonwealth Ave.)		51,870	Committed
5. AFCS Common Ticketing System		1,722	Committed
6. System Rehabilitations for LRT1 and 2		4,500	Committed
7. Mega Manila North-South Commuter Railway	a. C4 EDSA-Taft Ave. to Roxas Blvd.	24,800	Proposed
	b. C4: Roosevelt / Congressional		Committed
	c. C4: West Ave. / North Ave. / Mindanao Ave.		Proposed
8. Metro Manila CBD Transit System Project Study		120	Proposed
9. F/S of New Transport System (e.g. Monorail, AGT)		75	Proposed
Railways Total		**146,897**	-

Road Public Transport

Name of Project	Amount (PhP million)	Status
1. ITS (3 Provincial Bus Terminals)	6,300	Comitted
2. Public Road Passenger Transport Reform Study	60	Proposed
3. BRT System 1	3,500	Proposed
Road-based Public Transport Total	**9,860**	-

Roads

Name of Project		Amount (PhP million)	Status
1. Missing Link of C5	a. Flyover on CP Garcia in Sucat	251	Committed
	b. Coastal Rd/C5 Extn. South Flyover	210	Committed
	c. C5 South Extn. Flyover at SLEx	235	Proposed
2. Global City-Ortigas Link Road		8,120	Proposed
3. Skyway/FTI/C5 Link		17,880	Committed
4. C3 Missing links (S. Juan to Makati [Sta. Ana oval])		24,000	Proposed
5. EDSA Rehabilitation		3,744	Committed
6. Plaridel Bypass, packages 3 & 4		900	Committed
7. Metro Manila Interchanges / Flyovers	a. C4 EDSA-Taft Ave. to Roxas Blvd.	2,430	Committed
	b. C4: Roosevelt / Congressional	941	Committed
	c. C4: West Ave. / North Ave. / Mindanao Ave.	1,502	Committed
	d. C5: Greenmeadows / Acropolis	1,575	Committed
	e. C5: Pasig-Bagong Ilog	435	Committed
	f. C2: Gov. Forbes / Espana	1,070	Committed
Roads Total		**63,293**	-

Expressways

Name of Project		Amount (PhP million)	Status
1. Daang Hari-SLEx Link Tollroad		2,000	Committed
2. NLEx-SLEx Connectors	a. Link Expressway (MNTC)	7,800	Committed
	b. Skyway 3 section (Citra)	9,000	Committed
	c. Common section (DPWH)	11,000	Committed
	d. Seg. 9&10, and connection to R10	8,600	Committed
3. NAIA Expressway, phase 2		15,520	Committed
4. CALA Expressway, stages 1 and 2		14,232	Committed
5. CLLEX Phase I (La Paz, Tarlac-Cabanatuan)		12,833	Committed
6. Calamba-Los Banos Expressway		16,900	Proposed
7. C6 extension - Lakeshore Dike Road		43,380	Proposed
8. Segment 8.2 of NLEx to Comm.		7,000	Proposed
Expressways Total		**148,265**	-

Other Roads Total

Name of Project	Amount (PhP million)	Status
1. Secondary Road Packages	69,100	Proposed
2. Preparatory studies for several projects	500	Proposed
3. Other Central Luzon road projects	16,000	Committed
4. Other Southern Luzon road projects	36,360	Committed
Other Roads Total	**121,960**	-

Traffic Management Projects

Name of Project	Amount (PhP million)	Status
1. Modernization of traffic signaling system	5,000	Comitted
2. Systematic Road Safety Interventions	1,000	Proposed
3. Comprehensive Traffic Management Study	60	Proposed
Traffic Management Projects Total	**6,050**	-

Airports

Name of Project		Amount (PhP million)	Status
1. NAIA	a. NAIA improvements - airside package	4,249	Committed
	b. NAIA improvements - landside package		Committed
2. Clark	c. Clark improvements - airside package	6,802	Committed
	d. Clark improvements - landside package		Committed
3. Feasibility study of a new NAIA		50	Proposed
Airport Infrastructure Total		**11,125**	-

Ports*

Name of Project	Amount (PhP million)	Status
1. Projects for North Harbor	6,000	Committed
2. Projects for South Harbor	1,000	Committed
3. MICT	4,000	Committed
4. Feasibility Study of NH Redevelopment	75	Proposed
5. Other Ports	1,010	Proposed
Port Projects Total	**12,085**	-

*Notes: *Planned expansion projects recommended for rescheduling to promote diversion of cargo to Batangas and Subic ports as well as decongest roads of Metro Manila*
Short-term Program (2014-2016) = PhP520 billion
Source: Japan International Cooperation Agency Presentation on Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A) Summary of the Outputs September 2013

The latest "Dream Plan" for Metro Manila conducted by JICA and recently approved by the government breaks down the problem into five areas: uncontrolled urbanization, environmental degradation and hazard risk, lack of affordable housing, traffic congestion, and concentrated spatial structure.

The urban infrastructure challenges in Metro Manila are complex and formidable. The only way to make a sensible plan to resolve these problems is to consider development strategies for a wider area, longer time horizons, and multi-sectoral and multi-modal solutions.

Thus the current plan identifies a Greater Capital Region the encompasses an area much wider than the current Greater Manila Area.

The plan proposes development strategies that stretch to the year 2030, and a massive infrastructure development program for railways, roads, airports, and seaports with a total cost of US$58.88 billion, including US$11.78 billion for 2014-16, as against the estimate of traffic congestion of US$54.35 million a day cited by the study.

Private investors can consider several projects in the Metro Manila plan which are expected to be executed under the PPP mode.

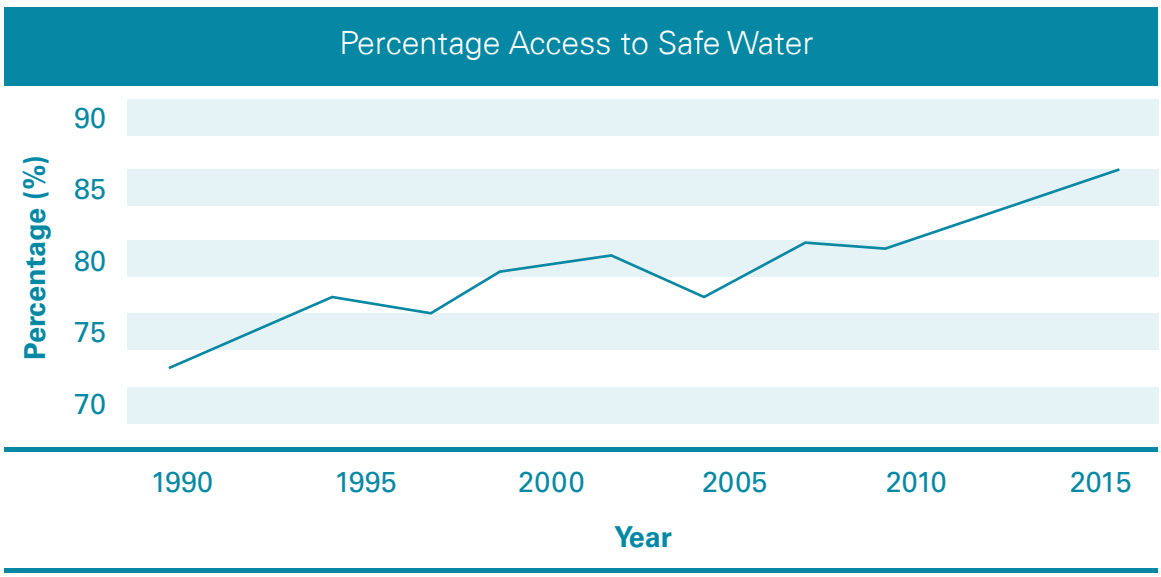
For further information, please contact:

Ma. Cynthia C. Hernandez
Advisory Director
KPMG in the Philippines
T: +63 2 885 7000 ext. 485
E: mchernandez@kpmg.com

Enhancing Water Resources

Jerome Andrew H. Garcia, Advisory Principal, KPMG in the Philippines

The Philippines is expected to be on track to meet the 2015 Millennium Development Goal (MDG) on water and sanitation. The MDG target was to cut in half the proportion of the population without sustainable access to safe drinking water and improve sanitation. This translates to an increase in the proportion of Filipino families with access to water from 73 percent in 1990 to 86.5 percent by 2015. Citing data from the Association of South East Asian Nations (ASEAN) statistical unit, the National Statistical Coordination Board (NSCB) stated that Filipinos with access to safe drinking water represented 84.8 percent of the population as of 2010. On this basis, the NSCB tagged this target as having a high probability of being achieved by 2015.



Source: Philippines Progress Report on the Millennium Development Goals 2010

Statistics at a glance of the Philippines' Progress based on the MDG indicators

Goals/Targets/Indicators	Baseline	Target	Latest	Probability
Goal 7: ENSURE ENVIRONMENTAL SUSTAINABILITY				
Target 7.C	Halve, by 2015, the proportion of population without sustainable access to safe drinking water and improved sanitation			
Target 7.7a Proportion of families with access to safe water	**73** 1990	**86.5** 2015	**84.4** 2011	High
Target 7.8a Proportion of families with sanitary toilet facility	**67.6** 1990	**83.8** 2015	**91.9** 2011	Exceeded

Source: Philippine Statistics Authority – Makati's MDG Watch May 2014 publication

This implies, however, that 15.73 million people continue not to have access to safe drinking water. The broad MDG indicator masks the complicated issues in the water sector. Up-to-date information on the status of water facilities and access is either not available or not consistent and consolidated.

Levels of Access to Safe Drinking Water

Access to formal levels of service: 80%					Informal Access: 20%
Level 3: 45%			Level 2: 10%	Level 1: 25%	Self-provision through private wells, tanked or vended water supply or piped supply provided by SSIPs
WDs: 20%	POs: 5%	LGUs and CBOs: 20%	LGUs and CBOs: 35%		

Notes: 1. WDs: Water Districts, 2. PO: Private Operators (e.g., concessionaires, private developers, etc.), 3. CBOs: Community-based Organizations (e.g., rural or barangay water service associations, cooperatives, etc.)
Source: WB Report, Philippines: Meeting Infrastructure Challenges, 2005, as quoted in the NEDA Philippine Water Supply Sector Roadmap 2nd Edition

As defined in NEDA Board Resolution No. 12, Series of 1995:

Level I	A protected well or a developed spring with an outlet but without a distribution system as it is generally adaptable for rural areas where the houses are thinly scattered serving an average of 15 households with people having to fetch water from up to 250 meters distance
Level II	A piped system with communal or public faucets usually serving four to six households within 25 meters distance
Level III	A fully reticulated system with individual house connections based on a daily water demand of more than 100 liters per person

Based on the National Statistics Office (NSO), the proportion of households in the Philippines in 2004 with access to water was around 80.2 percent. Of the 80.2 percent with access to water from formal providers, only 44 percent are connected to Level III waterworks systems with piped distribution systems which are subject to national quality standards. The rest of the population get their water from Level II – communal faucets or standpipes, or Level I – protected wells without a distribution system of the population. The local government units (LGUs) and community-based organizations (CBOs) provide water service to 55 percent of those with access to water. While the Level III coverage for the country as a whole is 42 to 48 percent, there are wide disparities between the urban areas outside of the National Capital Region (NCR) and rural areas.

Estimated Level III Coverage, Philippines

	Population (2010 Census) (millions)	Est. % of Total Population	Est. Level II Coverage	Water Supply Providers
Urban - NCR	11.9	13%	88% (1)	Manila Water, Maynilad
Urban - Outside NCR	33.0	36%	50%-65%	Water Districts LGUs Private operators
Rural	47.4	51%	25% (2)	Coops, BWSAs, RWSAs
Total	**92.3**	**100%**	**42%-48%**	

Notes: 1. BWSA: barangay water and sanitation association, 2. Est: estimated, 3. LGU: local government unit, 4. NCR: National Capital Region, 5. RWSA: rural waterworks association
Source: Asian Development Bank report on Philippine Water Supply and Sanitation Sector Assessment, Strategy and Road Map January 2013; (1) MWSS; (2) JPM March 2012 Report

The MWSS reports Level III service coverage of 88 percent for Metro Manila and 11 percent for total households in the country. The Asian Development Bank (ADB) notes:

> "At the end of 2011, the Local Water Utilities Administration (LWUA) reported that the 502 operational water districts serviced about 3.5 million households. This is roughly 53 percent of urban households outside the NCR, or 19 percent of total households nationally. Assuming 350 LGUs run water utilities with approximately 900 service connections on average, these utilities supply Level III water to about five percent of the country's total number of households. Looking specifically at urban areas outside the NCR, water districts (WDs) are estimated to account for about 80 percent of Level III connections, compared to about seven percent for LGU-run water utilities."

This information indicates that 60 to 71 percent is a rough estimate for Level III water service coverage in all urban areas in the country (broadly in line with the Joint Monitoring Programme's (JMP) March 2012 estimate of 61 percent in 2010). The estimated 50 to 65 percent Level III coverage in urban areas outside NCR is much lower than the 88 percent already achieved in Metro Manila. While coverage appears to be increasing, a report prepared for the World Bank in November 2009,[1] which evaluated the performance of water utilities outside Metro Manila, found that many of the performance targets for water service (including access to safe water, hours of service, compliance with national drinking water standards, and cost recovery) are not being met, particularly in the case of LGU-run utilities.

[1] The Water and Sanitation Program (WSP) Field Note (2009), "Prospects and Pitfalls in Integrated Water Services in the Philipines: an analysis of 35 Water Districts", WSP Field Note August 2009. World Bank. Available at http://www.wsp.org.

Other sector studies have found that water districts provide better water service, citing the corporatized nature of water districts and the benefits of the LWUA credit and institutional development support.

In the revalidated results matrix for the midterm review of the National Economic and Development Authority (NEDA) Philippine Development Plan, the government target is 100 percent Level III coverage by 2016.

Another dimension targeted in the government plan is the demand-supply situation. The performance indicator for sufficiency of supply versus demand projects a deterioration from 116 percent in 2011 to only 92 percent by the end of the plan period. Improvements in the demand-supply ratio are projected in Metro Cebu, Bulacan, Cagayan de Oro and Davao, although the improvement in Cebu is from 38 percent to 52 percent only. The improving ratios are weighed down by the significant drop for Metro Manila from 122 to 113 percent. The NEDA notes that by 2017, there will be a water deficit in the Metro Manila area. While overall supply (including for irrigation) is close to sufficiency for the country as a whole, there are seasonal and geographic shortages. There are major water constraints in Metro Manila and Cebu which pose a serious problem to the further development of these major urban areas. (See Appendix G)

The physical challenges of the Philippine water situation include: localized raw water shortages, flooding, water pollution, overexploitation of groundwater particularly in major cities, and overuse of surface water. There is increasing pollution of groundwater and surface water in many localities while marginal agricultural activities have resulted in deforestation and degradation of watersheds and upper catchments, resulting in major flooding problems. There are also few facilities for storage infrastructure, specifically reservoirs and tanks, which is a reflection of their high cost.

The ADB cites the database of the World Resources Institute which reports that the Philippines compares favorably with other Asian countries in terms of the annual renewable water resources, with an annual per capita availability of about 6,100 m3 (cubic meter) from groundwater and surface sources, which is twice the level of Asia and six times the global scarcity threshold of 1,000 m3.[2]

The Philippine Development Plan highlights the issues behind the serious deficit in investment levels to develop water resources to meet the rising demand. A main hindrance is the low tariffs which do not allow for cost recovery. Another factor is the absence of a coherent financing framework for investments in water infrastructure. There has also been a bias for Metro Manila and other urban areas,

[2] ADB (2013), Philippines: Water Supply and Sanitation Sector Assessment, Strategy, and Road Map. January 2013., p. 2.

The institutional stakeholders in the water sector include:

National Water Resources Board (NWRB)	Responsible for administration and enforcement of the 1976 Water Code, the framework for water resource management
Department of Energy and Natural Resources (DENR)	Watershed management
National Irrigation Administration (NIA) under the Department of Agriculture (DA)	Construction and management of irrigation systems
Local government units (LGUs)	With significant powers to invest and fund projects under the LGU code
Irrigation Associations	Operations and development of irrigation systems
Local Water Utilities Administration (LWUA)	Finance and oversee autonomous Water Districts (WDs)
Metropolitan Waterworks and Sewerage System (MWSS)	Serves and regulates Metro Manila water supply and sanitation services
Private providers	Metro Manila concessionaires: Manila Water and Maynilad; Subic Bay, LGU sponsored private firms, and housing subdivisions
Department of Public Works and Highways (DPWH)	Construction of flood control
Bureau of Fisheries and Aquatic Resources (BFAR)	Inland fisheries
National Power Corporation (NPC)	Hydropower development and operations
National Economic and Development Authority (NEDA)	Highest policy-making body

Source: NEDA 2010 The Philippine Water Supply Sector Roadmap 2nd Edition. p. 19-25

including spending for water supply, sewerage and septage management. The lack of a monitoring system makes it difficult to assess and address the sustainability of developed infrastructure.[3]

The World Bank observed that, "Water Code (1976) has been weakly enforced and the National Water Resources Board (NWRB) has been unable to mediate conflicts in water demand, and provide sufficient planning and coordination of Water Resource Management (WRM). NWRB's original location under the Department of Public Works and Highways (DPWH) created a conflict of interest between its water resources planning, management and regulation roles, and the development function of a public works ministry. The original NWRB was governed by water-users such as LWUA, National Irrigation Administration (NIA), Metropolitan Waterworks and Sewerage System (MWSS), National Power Corporation (NPC) and was chaired by the DPWH."[4]

In 2002, the NWRB was transferred to the Office of the President and reconstituted to include agencies which are not claimants to water resources, specifically the Department of Environment and Natural Resources (DENR) as chair and NEDA as co-chair.

In terms of water service providers, there is a wide variety of institutional arrangements and capabilities. In the Metro Manila franchise area, water services are provided by MWSS and two private concessionaires: Manila Water Company, Inc. (MWCI), serving Manila's east zone, and Maynilad Water Services, Inc. (MWSI), serving Manila's west zone. Outside Metro Manila, front line water services are provided by LGUs. The LWUA Water District concept was created in 1973 under the Local Water Utilities Act. LGUs were encouraged to transfer their water supply systems to water districts, which are corporatized stand-alone entities supplying water in a franchise area. As the government-owned specialized lender to water districts, LWUA has the dual role of tariff regulator and institutional development advisor.

As summarized by the ADB:

> "At present, the major utilities operating Level III systems in urban areas are (i) water districts, which are local corporate entities formed at the option of the LGU; (ii) LGU-owned and

[3] NEDA Philippine Development Plan 2010-2016. Chapter 5: Accelerating infrastructure Development. p. 134.
[4] World Bank (2003), Philippines: Country Water Resources Assistance Strategy 2003" East Asia Pacific Region p. 7

Water Supply Providers Outside NCR

Urban Outside NCR: Est. Level III Coverage	WSP	Est. Number of WSPs	Est. Average Connections per WSP		Est. % of Level III Connections in Urban - outside NCR	Est. % of Urban Outside NCR Population
50-65%	Water Districts	502	7,011	(1)	82	53
	LGUs	350	900	(2)	7	5
	Private operators				11	7

Source: Asian Development Bank report on Philippine Water Supply and Sanitation Sector Assessment, Strategy and Road Map January 2013; (1) Local Water Utilities Administration as of 31 December 2011; (2) Department of Interior and Local Government estimate
Notes: 1. Est: estimated, 2. LGU: local government unit, 3. NCR: National Capital Region, 4. WSP: water service provider

operated water utilities; and (iii) a few private sector operators that have been given a franchise or authority to operate within the geographical jurisdiction of an LGU or an industrial zone."

According to the LWUA, as of the end of 2011, 861 water districts had been established, of which 502 were operational, their number of service connections ranging from 500 to 200,000 (with an average of 7,011 connections each).

> "It is estimated that about 1,000 LGU-run water utilities operate in urban and rural areas throughout the country. According to the Project Management Unit of the Department of the Interior and Local Government (DILG), there are about 350 LGU-operated Level III systems, with an average of about 900 connections each. These utilities are part of the LGU concerned, with budgetary allotments coming directly from the LGUs. These systems are basically self-regulated by the LGU's executive and legislative units. LGU-run water utilities face strong political pressure to keep water tariffs low, often below cost recovery levels, and the absence of commercial practices such as 'ring-fencing'[5] likely masks the indirect material subsidies they receive for water supply."[6]

The institutional fragmentation of the water sector in terms of stakeholders and their roles, and the variety of water service providers has prompted the NEDA in the Philippine Development Plan to prioritize the creation of a lead agency for the water sector and for capacity building among the WSPs:

> "Work towards a lead agency for the water sector.
> A lead agency for the entire water sector should ultimately be developed. The lead agency should be able to assume the functions of policy making, coordination, and resource regulation for the sector. It shall be provided with sufficient capacity and authority to implement key policies, plans and projects in the water resources sector. In the meantime, NWRB should be strengthened so it can continue its function as the sector's overall economic and resource regulator."
>
> "Develop capacities of national government agencies (NGAs), LGUs, and WSPs for the sustainable management of infrastructure and better service provision.
> The capacities of planning and implementing institutions must be developed to improve the performance of various structural and nonstructural infrastructures for the water sector. NGAs and LGUs should enhance their capacities in effective water governance, sustainable use of water resources, and planning for climate change adaptation (CCA), among others. LGUs and WSPs should be assisted in developing relevant, practical, and up-to-date management tools that support integrated water resources management and technologies. Service providers should likewise be capacitated in plan development, budgeting and operations, among others, in order to improve coverage, efficiency and sustainability of infrastructure."[7]

These are basic requirements for the government to be able to implement integrated water resource management practices and pursue a coherent investment and financing program for the sector.

Opportunities for the private sector

The privatization of the MWSS franchise area to two concessionaires, Manila Water and Maynilad, was the largest water privatization in the world when this was executed in the 1990s.

[5] Ring-fencing of regulatory accounts is needed when a regulated public utility (e.g., water supply) financially separates itself from a parent entity that engages in non-regulated business. This is done mainly to protect consumers of essential services such as power, water, and basic telecommunications from financial instability or bankruptcy on the part of the parent corporation that might result from losses in the parent's open-market activities. Ring-fencing also keeps customer information within the public utility business private from the parent corporation's other business, Source: ADB, op. cit. p. 22.
[6] Philippine Development Plan 2011-2016 (PDP), p. 135.
[7] PDP, p. 136.

Since then, there have been increasing private sector participation and investment in urban water systems in Metro Manila as private companies were awarded congressional franchises or were granted concessions by LGUs or special economic zones. Private developers have also built water systems in private subdivisions. Medium to large-scale private WSPs include Boracay Island Water, Laguna Water, Clark Water at the Clark Freeport Economic Zone, Subic Water and Sewerage Company, Inc., Balibago Waterworks System, Mactan Rock Industries, PrimeWater Infrastructure Corporation, and Calapan Waterworks.

The next big ticket items for the private sector, however, will be in the development of new raw water sources which is also a priority in the Philippine Development Plan:

> "Develop sustainable new water sources to meet demand
> A comprehensive approach, adhering to the Integrated Water Resources Management (IWRM) framework for projecting the demand-supply gaps across the country and for planning the development of new water sources should be developed not only to support the growing population, but also economic activity in growth centers – based on a viable national land-use plan. Extended dry seasons because of climate change would further exacerbate the demand for water. Thus, new water sources must be developed in a timely manner to ensure domestic water supply. This may adopt ecoefficient [8] measures, including the reuse of excessive rainwater and recycled wastewater for non-household purposes to rationalize water distribution." [9]

Two large new water sources projects have been launched under the PPP mode:

> 1. New Centennial Water Source – Kaliwa Dam Project (NCWSP) costing US$416.1 million
> "The new dam will help gain water security for Metro Manila and its adjoining areas by increasing the supply of raw water and reducing Metro Manila's dependence on the Angat Reservoir. The private proponents will construct the 600 million liters a day (MLD) dam as well as the 2,400 MLD water conveyance tunnel, access roads, bridges and drainage to be used in building the dam. However, the project does not include the construction of the water treatment plant and its operation and maintenance. The New Centennial Water project will be undertaken through the BOT law's Build-Transfer variant. The private sector partner will recover its investments from the amortization payments during the 25 years contractual agreement. MWSS plans to publish the Invitation to Pre-qualify and Bid within June 2014, while bid submissions are expected in December 2014. The indicative timelines for the issuance

[8] Ecoeffciency is having "more value with less impact on the environment"; it emphasizes monitoring of material and energy flows of stocks and life cycle assessment. Source: NEDA op. cit. p. 139
[9] PDP, p. 139.

issuance of the notice to proceed and the signing of the contract is set for the first quarter of 2015."[10]

2. The Bulacan Bulk Water Supply Project (BBWSP) costing US$542.22 million
"The PhP 24.4 billion peso Bulacan Bulk Water System project will provide universal access to potable water specifically for the Bulacan Province, increasing the volume of potable water supplied, the service coverage and the number of households served. The project will be undertaken using the Build-Operate-Transfer (BOT) law under a 30-year contract. It will cover the financing, construction, operation and maintenance of the needed facilities for treated bulk water supply. Bidding for the Bulacan Bulk Water project will be conducted using a performance or output-based specification approach and bulk water charge as its bidding parameter. The MWSS hopes to publish its Invitation to Pre-Qualify and Bid within June 2014."[11]

The government will also tender, under the PPP mode, the transmission improvement project for the Angat Dam worth US$131.35 million.

Resolving the issues of water supply has significant short term and long term implications for country's economic development and sustainability. A major task involves the rationalization of the institutional and regulatory framework for the water sector, given the interests of different social sectors, and the multiple economic uses of water. The parallel major task is the development of physical infrastructure in terms of new raw water sources and production and distribution water in which includes specific projects initially identified opportunities for private investors such as the Kaliwa dam and the Bulacan Bulk Water projects, and other projects down the road.

For further information, please contact:

Jerome Andrew H. Garcia
Advisory Principal
KPMG in the Philippines
T: +63 2 885 7000 ext. 208
E: jhgarcia@kpmg.com

[10] MWSS, Presentation on New Centennial Water Source – Kaliwa Dam Project (NCWSP) - June 2014
[11] MWSS, Presentation on Bulacan Bulk Water Supply Project (BBWSP) - June 2014

Developing Energy Resources

Henry D. Antonio, Head of Advisory, KPMG in the Philippines

Power generation is one sector where investments are crucially dependent on the private sector. Under the current regulatory framework, additional generation capacity, particularly for baseload plants, can only be undertaken by private investors. New power plants have to be built as merchant power plants, with no government guarantees on market demand risk and no guaranteed offtaker.

Today, the tight demand-supply balance is being felt in the Visayas and Mindanao regions, and episodically in Luzon. Given the lead time for construction before plants can be commissioned, the immediate period and the next two to three years will be a test of whether the current power industry framework can engender a sufficient response from private investors so that adequate new capacity can be installed in a timely manner to meet the projected demand.

Peak demand according to the Philippine Development Plan is expected to increase at 4.5 percent annually from 2009 to 2030. For the period 2010 to 2016, this translates to a total of 11,900MW capacity required for the Luzon grid; 2,150MW for the Visayas grid; and 2,500MW for the Mindanao grid. The revalidated results matrix in the midterm update of the plan calls for power demand up to 2016 to be met – defined as maintaining above 100 percent the ratio of dependable capacity to total peak demand plus required reserves. For the country as a whole, the ratio is projected to go down from 108.14 percent as of the 2010 baseline to 104.39 percent by 2016. The decrease in the ratio is weighed down by the decline in Luzon from the 113.4 percent baseline in 2010 to 107.86 percent by 2016, and the decline in Mindanao from 107.7 percent in 2010 to 100 percent by 2016. Only the Visayas will show a slight increase in the ratio from 103 percent to 105 percent for the same period. Nevertheless, the government expects to meet the target of 100 percent in all the regions by 2016. (See Appendix H)

Target capacity of committed and indicate private sector-initiated power plant projects, 2013-2016

Particulars	Grid		
	Luzon	Visayas	Mindanao
Capacity of committed power plant projects (2013-2016), in MW	767.4	429.6	515.0
Capacity of indicative power plant projects (2013-2016), in MW	9,702.5	718.0	1,928.0
Ratio of dependable capacity to peak demand and required reserve (2016)	107.86%	105.32%	100.00%

Source: Philippine Development Plan 2011-2016
http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

These targets are to be met through new power projects totalling 10,469MW in Luzon, of which 767.4MW are committed. The remaining 9,702MW of indicative power plants are expected to come mostly from brownfield expansions of existing plants. In the Visayas, total capacity through 2016 is projected to reach 1,147MW, of which 429.6MW are committed.

For a more in-depth look on the Philippine electric energy industry, you can refer to R.G. Manabat & Co.'s 2013-2014 annual investment guide entitled ***The Energy Report: Growth and Opportunities in the Philippine Electric Power Sector*** available for download at www.kpmg.com.ph.

The government has also set the target of increasing the country's energy self-sufficiency (ratio of indigenous energy sources such as geothermal energy and natural gas from Malampaya) from 58.3 percent in 2010 to 60 percent by 2016.

The liberalized and market-based power industry put in place by the Electric Power Industry Reform Act (EPIRA) relies on the private sector to construct generation plants to meet demand. Private sector investments in power generation, however, have been lower than expected vis-à-vis projected energy demand.

The current regulatory configuration of the power sector stems from the outcome of the Investment Priority Plan (IPP) program used by the country to resolve the power crisis in the early 1990s and the consequences of the program in the aftermath of the Asian Financial Crisis. It is worth noting that increasing private sector participation in the power sector and more market-based regulatory regimes has been the global trend during the same period both in industrial as well as emerging countries. Many countries are more or less in the same situation as the Philippines with new capacity to be mandated as merchant power plants assume market demand risk.

In fact, the earlier phases of the electric power industry in the country have been managed by the private enterprise. When, starting in 1901, Manila Electric Light and Railroad Company (MERALCO) was awarded the franchise to sell electricity to Manila and 52 municipalities around the city.[1]

The National Power Corporation (NPC), created in the 1930s through Commonwealth Act 120, was originally intended to develop the country's hydroelectric resources.

> In 1939, NPC constructed its first project, the 8MW Caliraya Storage Hydro Power Station in Lumban, Laguna. NPC continued to build other hydropower facilities, and by 1956, NPC generation accounted for about one-third of the country's total generation capacity. The remaining two-thirds was in the hands of 336 private and municipally-owned electric utilities, of which Meralco was the largest, accounting for 990MW of 1,745.5MW total demand. Most of this private generating capacity was thermal plant. NPC acquired Meralco's generation and distribution systems outside Manila in 1953 when Meralco decided to concentrate its electricity business in the Manila area.[2]

Outside Manila, the electricity services were provided by private companies or rural cooperatives, either buying power from private generators or from NPC. Fast forward to 1972 when under martial law, the government nationalized the generation and transmission phases and regulated the privately-owned distribution sector.

[1] Cham Rowena M, The Philippine power sector: issues and solutions. The Philippine Review of Economics. Vol XLIV No 1 June 2007 p. 33-63ic Studies. 25 March 2014.
[2] Cham, op. cit.

The power sector was viewed as a strategic asset, requiring large amounts of capital which the public sector could provide. NPC embarked on an aggressive development program of the power system with significant support from official development assistance (ODA) financing.

The deep political, economic, and external debt crisis which marked the culmination of the martial law regime in 1986 aggravated the weak operational and financial performance of NPC and resulted in undercapacity in generation and transmission capacity in the country.

> No new generating capacity was added to the system in the Luzon grid at the time because of the expectation that the Bataan Nuclear Power Plant would begin operation in 1984. NPC was also in a poor financial position as tariffs were not adjusted to keep in step with costs. Thus, internally generated resources were insufficient to finance new capacity. The existing generating plant was unable to meet the power requirements because it was nearing its maximum life. Installed generating capacities in the two major grids, Luzon and Mindanao, were operated at less than their nameplate ratings because of age. For example, in the Luzon grid, availability ranged from 2,300MW to 3,100MW against an installed capacity of 4,321MW. Several older oil-fired thermal plants, used as base load, also broke down. With no new plant to supplement existing capacity, NPC ran its remaining plant to the maximum, which led to further breakdowns. Since NPC was in a weak financial position, rehabilitation and maintenance were on a piecemeal basis.
>
> The power crisis precipitated an economic crisis. In 1990, there were 103 days of blackouts for an annual duration of 1,273 hours, resulting in 251GWh of lost energy sales. Daily 8 to 12-hour-long blackouts severely crippled the economy as factories were forced to close or reduce operations. Productivity fell and unemployment rate increased.[3]

To solve the crisis, the government resorted to the build-operate-transfer (BOT) format for involving the private sector in the design, construction, financing, and operation of the new generation capacity. Given the urgency of resolving the economic crisis caused by the power crisis and the weak negotiating position due to its weak macroeconomic position and credit rating, the government provided take-or-pay contracts which transferred market demand risk to the government, and guaranteed NPC's obligations through performance undertakings by the national government. (In contrast, it has been pointed out that Thailand bidded out its independent power producer [IPP] contracts at a time when its economic performance was attractive to foreign investors such that they submitted competitive proposals including assuming foreign exchange risks and offering 10 times the power being contracted for by the Electricity Generating Authority of Thailand [EGAT], the Thai power company.)

The NPC contracted 9,085MW of power from IPP plants which at one point, accounted for half of total energy sales in the Philippines. The IPP program succeeded in drawing sufficient response from the private sector. The provisions in the IPP contracts, however, turned out to be fiscally burdensome particularly in the aftermath of the Asian Financial Crisis which resulted in economic recession (weak demand for electricity on which the government was paying whether or not the plants were dispatched) and major peso devaluation which impacted NPC's dollar denominated take-or-pay contracts and capitalized lease payments. The financial impact were stranded costs of US$1.7 billion from payments to IPPs not recovered from power sales, and US$6 billion in stranded debt incurred to cover NPC's deficits and accumulated subsidies to consumers with generation charges not fully reflected in the electricity bill but absorbed by NPC.

Republic Act 9136, or the EPIRA, was passed in June 2001 to restructure the power industry and privatize NPC. The Power Sector Asset Liability Management Corporation (PSALM) was created to assume the generation assets of the NPC for eventual privatization and to manage its liabilities. The restructuring centered on:

1. unbundling the generation and distribution sectors from the transmission function
2. introduction of competition in generation with the open market to be triggered by the privatization of 70 percent of NPC's generating capacity. As of June 2010, the government was able to privatize 26 of its generating or operating plants and four decommissioned assets. 20 of these assets comprise 91.7 percent of PSALM-owned capacities in the Luzon and Visayas.

[3] Cham op. cit. p. 38

3. access to the transmission and distribution network, privatized as a long term concession. This took place in 15 January 2009 when the transmission company formally turned over the 25-year concession of the National Transmission Corporation (TransCo) to the National Grid Corporation of the Philippines (NGCP), which is responsible for the development, upgrading, and rehabilitation of the electricity grid.
4. unbundling of tariffs into generation, transmission, distribution, systems losses, and stranded costs, and
5. provisions for resolving the stranded costs and stranded debts through universal levies. The government would no longer offer to guarantee market risks through take-or-pay contracts, and would not engage in power generation.

Suppliers were encouraged to enter into long-term bilateral contracts with users, with the power to be delivered through the transmission grid which would be paid through wheeling charges. The Wholesale Electricity Spot Market (WESM) was created consisting of IPPs, privatized NPC generators, and generating plants not yet privatized on the supply side, while distribution companies, large commercial and industrial users, and aggregators would participate on the demand side. WESM started commercial operations on 26 June 2006. Currently participating in the WESM are 13 generating companies with 11 distribution utilities (DUs) and five registered direct suppliers.

PSALM is also required to privatize 70 percent of the total energy output of power plants under contract with NPC to independent power producer administrators (IPPAs) prior to the start of an open access market. To-date, PSALM was able to bid out 68.22 percent of NPC contracts to IPPAs.

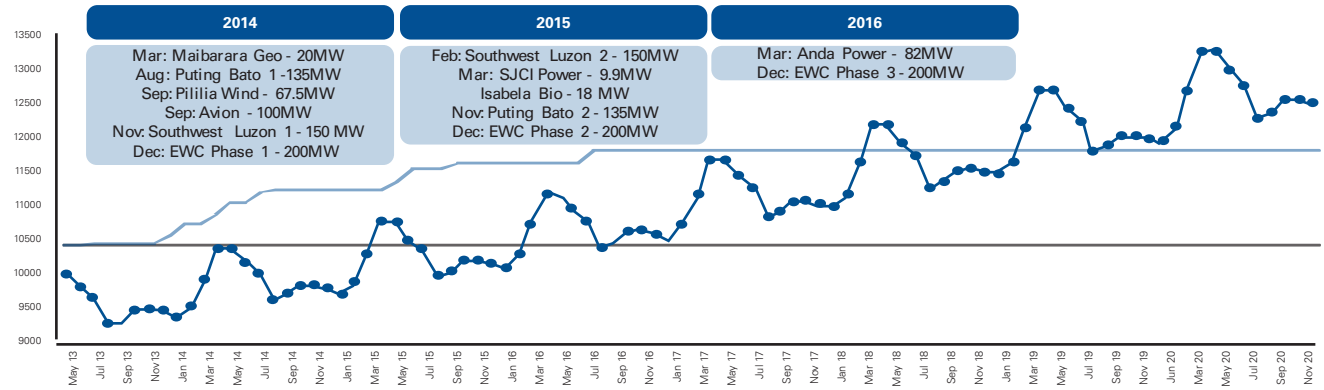
The Department of Energy (DOE), in its assessment of the demand-supply situation, has identified critical periods in the Luzon, Visayas and Mindanao grids. The largest deficits will occur in Luzon of up to 635MW by March to July 2016, and up to 940MW in the March to December 2018 period. The deficits in the Visayas and Mindanao will not be as large but will be more frequent.

In Mindanao, the years 2013 to 2015 are expected to be critical periods based on available supply, prior to the plants committed in the pipeline.

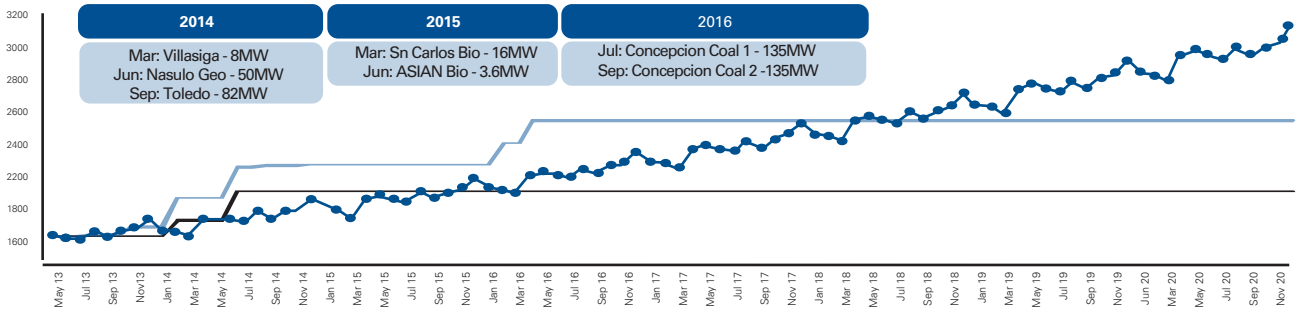
Critical Periods	
On Available Capacity	**On Available Capacity + Committed**
Luzon	
April - May 2015: Projected Deficit of 184 MW	April - June 2017: Projected Deficit of 200 to 450MW
March - July 2016: Projected Deficit of 240 to 635MW	March - December 2018: Projected Deficit of 270 to 940 MW
Visayas	
November - December 2014: Projected Deficit of 30 to 90MW	December 2015: Projected Deficit of 60MW
April - December 2015: Projected Deficit of 80MW to Max 220MW	April - June 2016: Projected Deficit of 70 to 100MW
	December 2017 - December 2018: Projected Deficit of 120 to 305MW
Mindanao	
2013: Projected Deficit of 50 to 110MW	January - February 2015: Projected Deficit of 100 to 130MW
2014: Projected Deficit of 50 to 190MW	November - December 2017: Projected Deficit of 20 to 50MW
2015: Projected Deficit of 120 to 280MW	2018: Projected Deficit of 50 to 200MW

Source: Department of Energy presentation on 2013 to 2020 Supply-Demand Outlook and Updates on Mindanao Power Situation August 2013

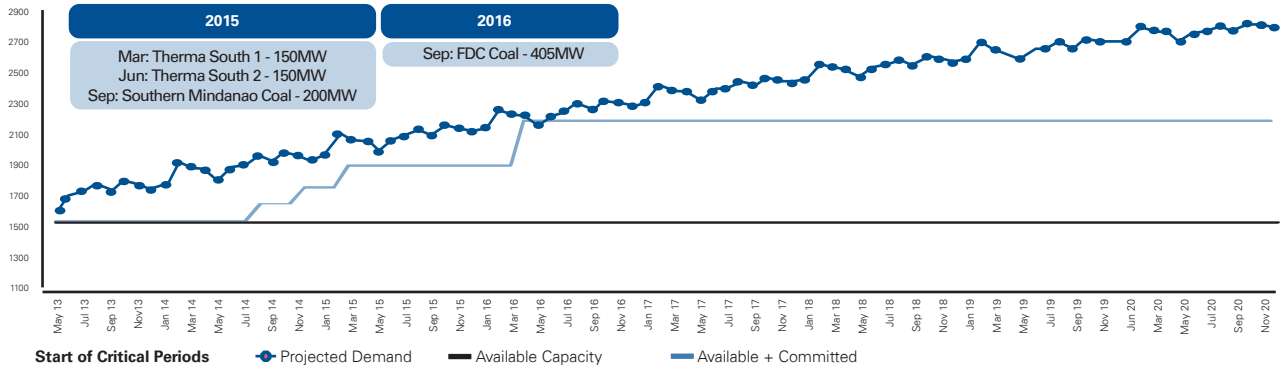
Luzon Supply-Demand Outlook 2013-2020



Visayas Supply-Demand Outlook 2013-2020



Mindanao Supply-Demand Outlook 2013-2020



Source: Department of Energy presentation on 2013 to 2020 Supply-Demand Outlook and Updates on Mindanao Power Situation August 2013

What is significant in the pipeline of indicative power projects is that most of them are expansion projects of existing power plants. This would be an indication that power plants, which have been operating in the country with a connectivity to and a track record of supplying to the grid, are in a position to expand capacity and obtain financing support to take advantage of the expected increases in demand. For those with existing take-or-pay contracts, this is also a sign that as they look at the expected critical periods in the demand-supply balance, they will be able to take market demand risks under a merchant contract and/or expect to sell into the WESM at market-based pricing.

There have been recent discussions, however, on revising the EPIRA framework, prompted by a spike in prices and a seeming lack of coordination between PSALM, DOE, and the Energy Regulatory Commission (ERC). Such uncertainty in the regulatory framework may affect investment decisions and execution of capacity expansions. It would be useful to take a page from the experience of other countries with merchant power. In the Organisation for Economic Co-operation and Development (OECD) countries and emerging markets, merchant power projects are becoming more common. In OECD countries, it is shown that merchant power investor response has been adequate to match the capacity requirements, as long as wholesale prices for base load and for peaking plants are allowed to accurately signal emerging demand situations. Investors are able to plan on base load demand given

the expectation that consumers put value and are willing to pay for security of supply.

The International Energy Agency (IEA) has the following recommendations: [4]

- **Define clearly the government's role in electricity market reform and the terms of its involvement as precisely as possible.**
  Attracting investment in power generation requires a clear market design, with predictable changes and no interference into the market or into the operation of the independent institutions established to implement the market reform. The government's role must be clearly set out both as the agent of the reforms and in its energy policy involvement once the market opens.

- **Recognize that electricity price fluctuations are intrinsic to well-functioning electricity markets.**
  Allowing markets to signal the need for new investment in generation means that prices will go high on occasion. Governments need to anticipate that such fluctuations will occur and ensure that consumers are aware of price risks and have options to mitigate these risks.

- **Develop demand response within electricity markets.**
  Fluctuating spot electricity prices offer rewards as well as risks. The low price elasticity of electricity demand, especially for small customers, is at least partly due to the inability to reward consumers for adjusting their consumption when prices are high. Greater demand response in electricity markets is needed to help ensure that electricity markets are always able to clear, i.e. by rationing electricity supply according to price rather than through brownouts or blackouts. A stronger demand response will help mitigate market power in electricity markets and provide potential investors with more predictable energy (and ancillary service) prices and therefore decrease investment risks.

- **Be prepared to detect and to act upon wholesale electricity market manipulation.**
  In order to address concerns about wholesale electricity market manipulation, governments must ensure that electricity markets have monitoring mechanisms that cannot only detect manipulation as it is occurring but also take prompt action to mitigate its impacts. This will reduce pressure on the government to respond, e.g. through direct price caps which could drive away needed investment.

- **Monitor adequacy of gas markets and investments.**
  The preference of investors in some markets for Combined Cycle Gas Turbine (CCGT) for building new power generating capacity means that gas markets assume a greater importance than ever for power generation development. For governments, this means moving forward on liberalization of both the gas market and the electricity market, and monitoring the adequacy of investment in both gas and electric infrastructure.

For emerging markets, similar prescriptions and observations have been made on the policy and regulatory merchant power environment to draw sufficient response from investors. A key recommendation is to have a rational tariff regulations, a strong independent regulator, and viable and financially stable distribution utilities.[5]

Although the government is reportedly considering invoking the emergency powers of the President under the existing EPIRA law in order to contract for additional power during possible low power reserve situations in 2015, the basic industry structure that has been put in place under the EPIRA law: open access competitive merchant power plants in the generation sector, a monopoly in the national grid operated by a private concessionaire, and a regulated distribution utilities will continue to be the regulatory framework under which the power sector will develop and expand to meet electricity demand in the future. This framework has been proven in other countries to work in attracting sufficient investments in merchant power capacity as long as there is an independent tariff regulator and transparent market based pricing.

For further information, please contact:

Henry D. Antonio
Head of Advisory
KPMG in the Philippines
T: +63 2 885 7000 ext. 387
E: hantonio@kpmg.com

[4] International Energy Agency, Power Generation Investment in Electricity Markets
[5] Anoop Singh, Private Investment in Power Sector in Developing Countries: Lessons from Reforms in Asian and Latin American Countries

Taxation of Infrastructure Projects

Mary Karen Quizon-Sakkam, Tax Director, KPMG in the Philippines

Infrastructure projects are granted fiscal and non-fiscal incentives under the Omnibus Investments Code. To qualify, the project must be registered with the Board of Investments (BOI). Registration requires that the minimum equity of the operating company must at least be twenty five percent (25%) of the project cost unless exempted under any of the following:

1. Projects of applicants with good track record in implementing registered projects;
2. Projects of publicly-listed companies; or
3. Projects not entitled to Income Tax Holiday (ITH)

Infusion of equity capital through subscription of shares of stocks attracts stamp duty tax of 0.5 percent, based on the total par value of the originally issued shares. Should a foreign investor opt to buy the shares of an existing operating company, the stamp duty tax rate is 0.375 percent based on the total par value of the acquired shares.

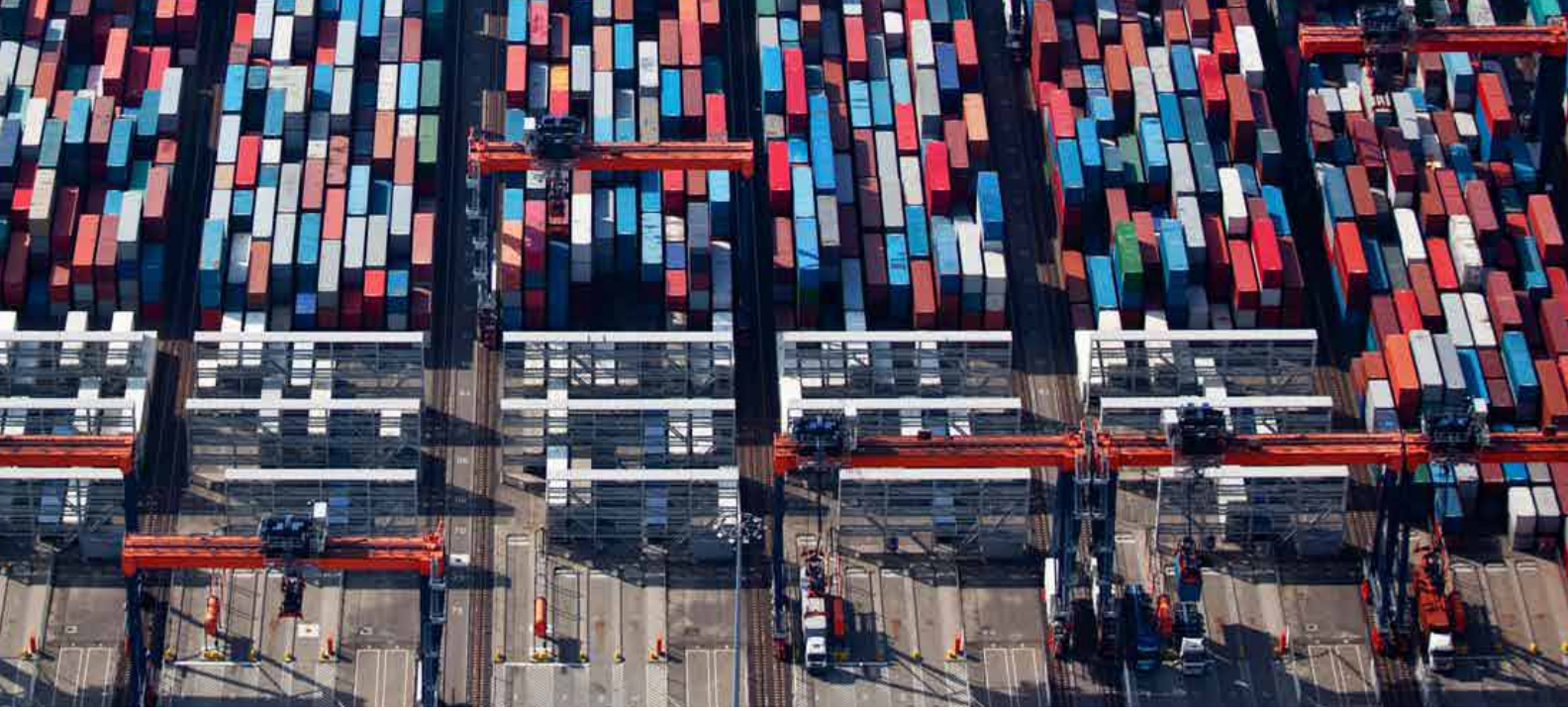
In many instances, debt financing is part of the pre-project activities. Local tax rules and regulations allow the deduction of interest payments on loans for purposes of Philippine income tax subject to the tax arbitrage rule wherein the amount of allowable deduction for interest expense shall be reduced by thirty three percent (33%) of the interest income subjected to final tax. Similarly, documentary stamp tax (DST) paid on debt instruments (rate is 0.5 percent), whose object is located or used in the Philippines, is tax deductible.

Interest payments, however, may be subject to withholding taxes and the law designates the operating company is designated to act as the withholding agent. The rates of withholding tax vary. Thus, for loans obtained from local banks, interest payments thereto are subject to two percent (2%) creditable withholding tax if the operating company is classified and notified as a top twenty thousand (20,000) corporation by the tax authorities. On the other hand, loans obtained by the operating company from Offshore Banking Units (OBUs) or from the Foreign Currency Deposit Units (FCDU) of banks in the Philippines are generally subject to ten percent (10%) final withholding tax.

In case of foreign loans, interest payments to the offshore lenders are subject to twenty percent (20%) final withholding tax. The withholding tax rate may be reduced if there is an applicable tax treaty between the Philippines and the home country of the lender.

There are also certain lenders that enjoy preferential tax treatment in the Philippines such as the Asian Development Bank (ADB) and the International Finance Corporation (IFC). Since these entities are exempt from Philippine income tax, interest payments to these organizations are consequently exempt from withholding tax.

A similar preferential tax treatment is accorded to infrastructure projects funded by the official development assistance (ODA), International Finance Institutions (IFI), and international aid through a Development Cooperation Agreement with the Philippines, such as the Canadian International



Development Agency (CIDA), United States Agency for International Development (USAID), Japan International Cooperation Agency (JICA), and World Bank's International Bank for Reconstruction and Development.

Project Operations

An operating company in the Philippines is subject to the regular corporate income tax (RCIT) of thirty percent (30%) based on net income. However, beginning the fourth taxable year immediately following the year in which the operating company commenced its business operations, the corporate income tax shall be the higher of the 30 percent RCIT or the two percent (2%) minimum corporate income tax (MCIT) which is based on gross income. Value Added Tax (VAT) at the rate of twelve percent (12%) is generally imposed on sale of goods and services in, and on importation of goods to the Philippines.

Operating losses incurred in a tax year may be carried over as a deduction from gross income for three consecutive years immediately following the year of such loss, provided that there is no substantial change in the ownership of the business or enterprise. Such losses, however, shall not be allowed as a deduction in a taxable year during which the operating company was exempt from income tax.

The Philippines has no controlled foreign corporation (CFC) rules. Neither does it have formal thin capitalization rules although for BOI-registered enterprises, a debt-to-equity ratio of 3:1 must be maintained. Tax consolidation is also not allowed as each company within a corporate group is taxed as a separate entity.

Transfer pricing guidelines were issued by the Philippine tax authorities early in 2013 and are largely based on the arm's length methodologies as set out under the Organisation for Economic Cooperation and Development (OECD) Transfer Pricing Guidelines. Although the implementing rules and regulations have not been issued as of the time of writing, the Philippine tax authority is empowered by law to allocate income and expenses between or among related parties, in order to prevent the evasion of taxes or to clearly reflect the income among related parties.

Project Incentives

Infrastructure projects (transport, water, logistics, waste management facilities, tollways, railways, telecommunication facilities, Public-Private Partnership [PPP] projects, and disaster prevention, mitigation and recovery projects), as well as projects on ecological solid waste management and renewable energy (RE) development, are included in the 2013 Investment Priority Plan (IPP) as preferred or mandatory investment areas. As such, these projects, when registered with the BOI, can enjoy the tax incentives provided for under the Omnibus Investment Code of the Philippines.

The tax incentives under the Omnibus Investment Code are as follows:

1. ITH of six (6) years for projects with pioneer status and for projects located in a Less Developed Area (LDA); four (4) years for new projects with non-pioneer status; and three (3) years for expansion/modernization projects;
2. Duty exemption on imported capital equipment, spare parts and accessories;

3. Exemption from wharfage dues and any export tax, duty, impost and fees;
4. Tax exemption on breeding stocks and genetic materials;
5. Tax credits on imported raw materials;
6. Tax and duty-fee importation of consigned equipment;
7. Additional deduction for labor expense;
8. Employment of foreign nationals;
9. Simplification of customs procedures; and
10. Access to bonded manufacturing warehouse.

For entities engaged in RE development projects, they have the option to elect the incentives granted by the Omnibus Incentive Code or the incentives under the Renewable Energy Act of 2008 which are as follows:

1. ITH of seven (7) years
2. Duty-free importation of RE machinery, equipment and materials;
3. Net Operating Loss Carry-Over (NOLCO);
4. Corporate tax rate of (10%) after ITH;
5. Accelerated depreciation;
6. VAT-zero rate on sale of fuel or power generated;
7. Cash incentive for missionary electrification;
8. Tax exemption of carbon credits; and
9. Tax credit on domestic capital equipment and services.

Tax and duty exemptions are also provided for infrastructure projects funded by Development Cooperation Agreements (e.g. AusAid). Exemptions commonly provided are for:

1. Taxes on income received by the personnel of the cooperating foreign country for activities performed in the Philippines;
2. Taxes and duties on project supplies and for professional and technical materials imported into the Philippines; and
3. Taxes and duties on personal and household effects, and motor vehicles for personal use imported and exported into the Philippines by the personnel of the cooperating foreign country.

Note that the details of the Development Cooperation Agreement should be carefully and thoroughly analyzed to determine the coverage and duration of the tax exemption. Further, there must

be compliance with the formalities or reportorial obligations imposed on BOI-registered entities to ensure the continued availment of tax incentives.

Repatriation

Dividends paid by a domestic corporation to non-resident corporate shareholders are subject to thirty percent (30%) final withholding tax. The tax rate may be reduced when there is an applicable tax treaty between the Philippines and the home country of the shareholder, or when the home country of the shareholder allows a credit for taxes paid in the Philippines.

For repatriation of capital, foreign investors can either sell the assets or sell the shares of the operating company.

Gains derived from sale of assets are subject to thirty percent (30%) RCIT or two percent (2%) MCIT, whichever is applicable. In case the asset sold is real property and treated as a capital asset, there is capital gains tax (CGT) at the rate of six percent (6%). Sale of real property also triggers DST at the rate of 1.5 percent, regardless of whether the real property is treated as an ordinary asset or a capital asset.

On the other hand, gains realized from sale of shares are subject to CGT at the rate of five percent (5%)/ten percent(10%). There is also DST implication of 0.375 percent, based on the total par value of the shares sold. Lastly, the selling price of the shares must not be lower than its book value, otherwise, a donor's tax of thirty percent (30%) shall be imposed on the difference.

For further information, please contact:

Mary Karen Quizon-Sakkam
Tax Director
KPMG in the Philippines
T: +63 2 885 7000 ext. 351
E: mquizon@kpmg.com

Funding of Infrastructure Projects

Sharad Somani, Partner and ASPAC Head for Power & Utilities, KPMG Singapore

The world today is faced with multitude challenges pursuant to population growth (global population to reach 9 billion by 2050), urbanization (more than 50 percent of the world population lives in urban centers), ageing infrastructure, low carbon imperatives and need for poverty alleviation. The need is to develop infrastructure at a pace that can support strong economic growth to not only cater to the growing population but also to help lift masses of people now below the poverty line. Of the about 945 million people below poverty line globally, close to 21 percent lives in Southeast Asia.[1]

The challenge today is not the lack of infrastructure projects or financing. It is the availability of funding to the projects being made available to the market. The quality of the regulatory framework, market attractiveness, commercial sustainability and transparency as well as lack of successful precedence for smooth implementation of the infrastructure projects in various developing countries pose major impediments. A few commendable steps have been taken by the governments in the region including –

1. Setting up of Public-Private Partnership (PPP) Center – The Philippines reorganized the Build-Operate-Transfer Center into the PPP Center in 2010 to facilitate the implementation PPP programs and projects
2. PPP regulatory and contractual framework – State Enterprise Policy Office (SEPO) in Thailand has set up comprehensive framework for PPPs
3. Supporting Institutional framework – Indonesia has set up IIF [2] and IIGF [3]
4. Pipeline of pilot projects – Philippines has launched multiple social and economic infrastructure projects, Indonesia has a list of key PPP projects to be implemented as PPPs
5. Financing Institutions – Clifford capital has been set up in Singapore to fund infrastructure projects in the region
6. Project preparation support – Asian Development Bank (ADB) and International Enterprise (IE) Singapore have set up a center of excellence in Singapore to help identify and prepare infrastructure opportunities for potential PPP

Given the need of infrastructure investments in the region (US$60 billion is needed per year until 2022 to meet infrastructure needs in ASEAN[4]) and the current private financing quantum (US$18 billion worth of financing was arranged by the top 10 banks in ASEAN between 2009-2013[5]), we are surely looking at a huge gap. The private participation is very low compared to the target of at least 50 percent of infrastructure projects to be implemented as PPPs in the region. So the question is what is required for us

1 Source: UNESCAP Statistical Yearbook for Asia and the Pacific 2011
2 Indonesia Infrastructure Fund
3 Indonesia Infrastructure Guarantee Fund
4 World Economic Outlook, S&P, and KPMG Analysis
5 Infrastructure Journal and KPMG Analysis

to make the ASEAN infrastructure PPP financing a US$30 billion per annum market?

While the regulatory and institutional constraints are well understood and are also being addressed comprehensively through intervention by multilateral agencies like the World Bank and the Asian Development Bank, perhaps we need further innovation and out of the box thinking by the industry stakeholders to realise the vision. Also some simple course correction measures by the government and tapping on the most underused source of public capital may be a solution.

Monetization of government infrastructure assets

One alternative worth considering is to bolster the ability of states to raise financing through monetization of the infrastructure assets and reinvest in greenfield infrastructure development. Privatization of government assets has been undertaken by various countries in the region.

The Philippines, for example, has carried out privatization of assets across sectors – oil and gas (O&G), water, power, airports, etc. The aggregate infrastructure spend in Philippines has been between 2.0 percent to 2.5 percent of the gross domestic product (GDP) over the last few years leading to a strong infrastructure asset ownership.

Given the size of Philippine GDP (~US$250 billion+), if the government can target to divest assets worth 1 percent of the GDP per year, that not only means a ready pipeline of US$2.5 billion per year of operating infrastructure assets that could benefit from better technology and management practices brought in by the private sector, but also a source of capital for government to reinvest in new greenfield infrastructure projects.

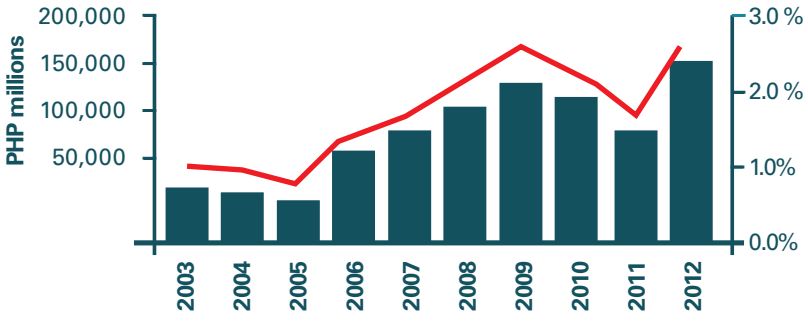
This will not only potentially increased the infrastructure spend in the country from current levels (potentially by one percent point increasing from 2.5 percent to 3.5 percent for Philippines) but also provide an opportunity to set up successful precedence for infrastructure project developers and financiers. This in turn also helps strengthen institutional capability at the public sector and enhanced performance for infrastructure assets.

For the ASEAN region of over 620 million people and combined GDP of US$2.2 trillion, a one percent privatization target can generate US$22 billion of revenue per year which can go a long way in meeting the projected annual infrastructure investment requirement in ASEAN of US$60 billion. The funding raised thus could be potentially also be used to provide viability gap funding for infrastructure projects structured as PPPs. (See box in the next page for the concept)

Upfront capital contribution / Viability Gap Funding – Many infrastructure projects fail the commercial viability test although the economic rationale for the project may be very strong. This is mainly on account of poor payment ability, underdeveloped tariff models, regulatory constraints and political will. Until the time we are able to graduate to full cost recovery models on infrastructure utility service pricing, a good option is for government to provide upfront grant / low cost debt / zero-rated bonds to defray the high tariff expectations for making the project viable in the light of lower traffic forecasts. Indonesia has set up a VGF facility and this could be a good precedence for other ASEAN countries to follow. The challenge is, of course, availability of financing with the state exchequer in the region and the strain the state budget. Role of multilaterals (like ADB, World Bank, etc.) could be effective, wherein, they could structure a framework and a time bound roadmap for moving towards cost reflective model for utility services to make this more sustainable while state governments find avenues for raising funding.

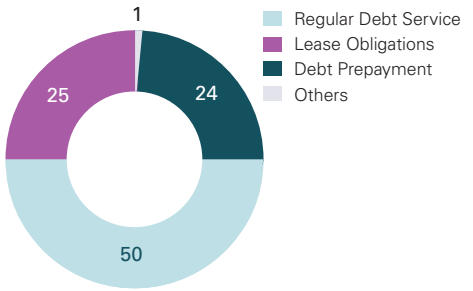
Governments must, however, carefully evaluate assets most attractive to private investors, and consider regulatory oversight to ensure service affordability and consumer protection, since these assets are primarily public utilities. Understanding sovereign cash flows would also help establish a practical timeline for greenfield development. Learning from the Philippines, power privatization has to be reflected so that the end customer also feels the benefits of privatization by way of improved performance of the utility and competitive tariffs. We also need to see how to effectively use the proceeds for the development of greenfield projects rather than only extinguishing the debt obligations and leases. (Power sector privatization proceeds in the Philippines were largely used to service debt and lease obligations.)

Infrastructure and Other Capital Outlay



Source: Department of Budget and Management

PSALM: Use of Privatization Proceeds



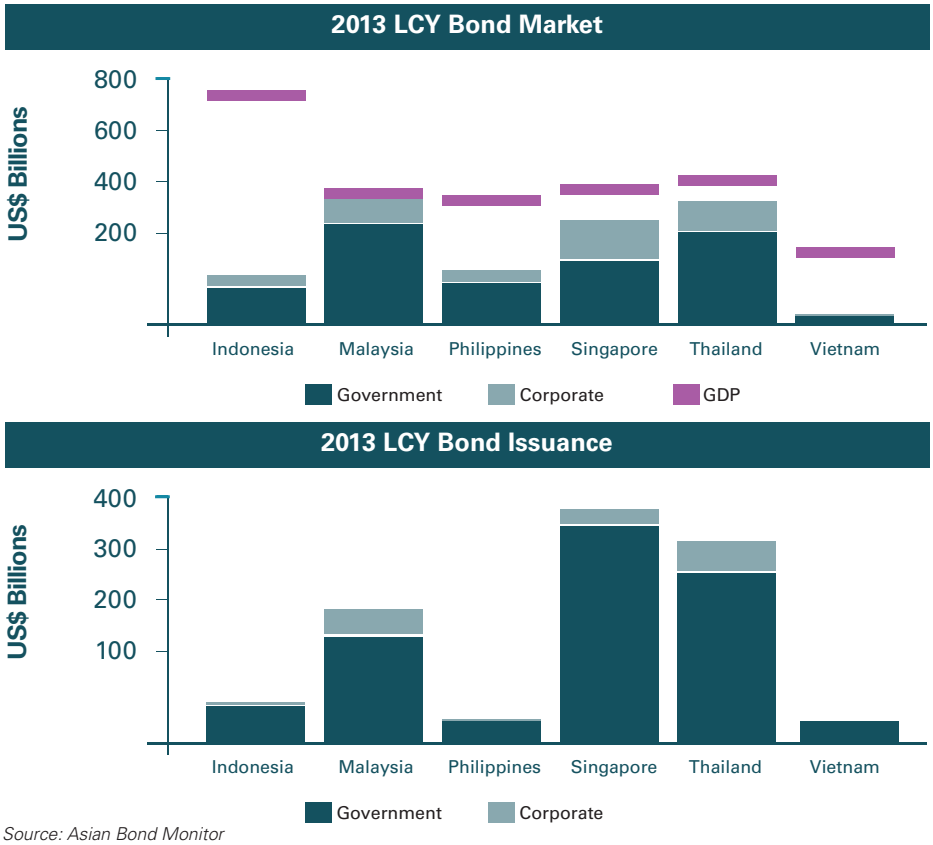
Source: Power Sector Assets and Liabilities Management

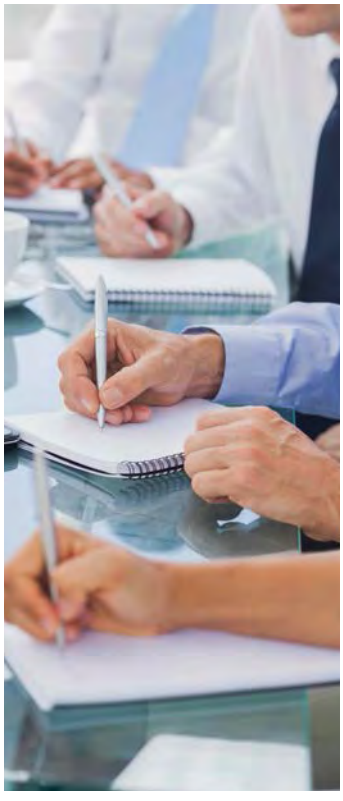
Capital Markets Solution

Other financing source, which has largely remained untapped in Asian markets, is the local capital markets. The nominal average savings rate in Asian countries is 37.5 percent and is expected to remain constant for the next 20 years.[6] Not much of this savings go into capital markets. The ASEAN market capitalization is at US$1.1 trillion – only half of the region's GDP – in local currency bonds by end 2013.[7] Nearly 80 percent of which is from more developed Malaysia, Singapore and Thailand. Such underutilized financing, combined with the high savings rate, indicate a significant source for further infrastructure capital.

A few initiatives are being undertaken in the region to channel more of the savings into the capital markets. The Credit Guarantee and Investment Facility (CGIF) is a commendable initiative to encourage corporate sector to raise local currency bonds in their capital markets with improved credit rating. The inaugural guarantee of Thai Baht and Indonesian Rupiah bonds in 2013 bodes well for the concept and we believe it can gain momentum in the years ahead. The success, plus the pipeline of guarantee offers this year, prompted CGIF contributors to raise the guarantee capacity to US$1.75 billion.[8] This paves the way to guaranteeing project bonds, thereby helping support regional infrastructure development.

6 NBER Working Paper No. 17581 (The National Bureau of Economic Research)
7 Asia Bond Monitor June 2014, ADB
8 CGIF Progress Report 2013, ASEAN





Source: Asian Bond Monitor

Others such as the ASEAN Infrastructure Fund (AIF) and Climate Investment Fund (CIF) also offer an alternative investment for country reserves and pension funds. These funds have started to have an impact on several countries – the Philippines, for instance, is drawing US$250 million from CIF's Clean Technology Fund for small, solar-powered vehicles, industrial energy efficiency, and renewable energy.

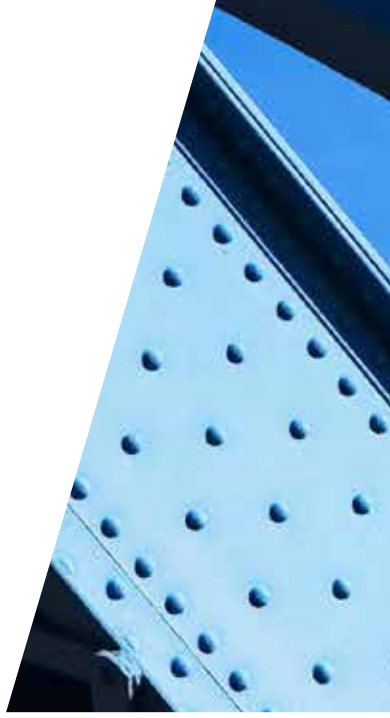
These are good initial steps and clearly much needs to be done by the central banks and regulators of each country to help develop a thriving debt capital market solution that one day could match the success achieve in Northern America and Europe. Education and comfort relating to understanding of the nature of risks in a capital market bond issuance are critical for its success. If we can get even 25 percent of savings moving to infrastructure through capital markets solution (bonds, infrastructure funds, etc.) in the short to medium term, that could make US$20 billion per annum available to infrastructure project financing in ASEAN.

Conclusion

The above two sources of financing, viz. monetization of assets and the capital markets solution, could cumulatively bring up to about US$ 40 billion per annum thereby significantly helping meet the target spend of US$60 billion per annum for whole of ASEAN in the infrastructure space.

For further information, please contact:

Sharad Somani
Partner and ASPAC Head for Power & Utilities
KPMG in Singapore
E: sharadsomani@kpmg.com.sg



Project Risk Management

Geno Armstrong, Advisory Principal, KPMG LLP (U.S.)
Reid Tucker, Advisory Director, KPMG LLP (U.S.)
Jonathan Jong, Associate Director, KPMG Services Pte. Ltd. (Singapore)

Project Risk Management is frequently overlooked yet is one of the more critical elements to successful project deliveries. Generally, delivering a project's defined scope on time and within budget are characteristics of project success. Unfortunately, these success factors are often not achieved, especially for large complex projects where both external influences and internal project requirements may change significantly over time.

Project risk management is a continuous process of identifying, analyzing, prioritizing, and mitigating risks that threaten a project's likelihood of success in terms of cost, schedule, quality, safety, and technical performance. Organizations and owners often consider project risk management activities as "nice to have" on a project rather than as a core component of project controls. Additionally, there is some confusion between organizations and project teams as to what exactly constitutes risk management activities.

Defining Project Risk Management

The objective of project risk management is to understand project and program level risks, minimize the likelihood of negative events, and maximize the likelihood of positive events on project and program outcomes. Project risk management is a continuous process that begins during the planning phase and ends once the project is successfully commissioned and turned over to operations.

Construction owners, project teams, and contractors often define and apply risk management activities differently on a project. Owners may practice informal or ad hoc practices, such as stage gate approval, that they interpret as risk management activities, contractors may define risk management as tracking potential change orders, and project teams may express the view that "everything we do is risk management." While all of these activities help to identify and manage discrete elements of project risk, they do not fully describe a comprehensive approach to project risk management. A comprehensive project risk management approach should have the following components, which should be scalable to the specific project's size and type:

1. Strategy and Planning
2. Risk Identification
3. Analysis (Quantitative & Qualitative)
4. Response Planning
5. Monitoring and Control

The power industry is one in which project risk management is particularly ill-defined. Where a utility has both a regulated and an unregulated business unit, the regulated side often focuses its risk management procedures around cost recovery. In contrast, the unregulated side typically has a more traditional risk management approach.

Strategy and Planning

Strategy and planning activities set the foundation for a risk management program and ultimately, determine whether the initiative is successful. During the strategy and planning phase, an

organization will define how risks are addressed and managed. Strategy and planning should take into consideration:

- Corporate or enterprise - wide risk management guidelines (including tolerance levels for risk)
- Available resources (staffing, budgets)
- Preferred reporting and communication protocols
- The organization's strategic objectives

Strategy and planning activities include:

1. Assigning roles and responsibilities related to risk management activities. Identifying and defining requirements for project stakeholders regarding risk management activities.
2. Establishing common risk categories for identified risks. Categories can either be based on common industry risks or on the organization's risk categories (e.g., construction, financial, operations, governance, etc.).
3. Developing a risk matrix and assigning risk ratings to identified risks. The risk matrix should define risk ratings based on probability and impact by taking into account the organization's risk tolerance.

Risk Identification

Risk identification is the identification of all possible risks that could either negatively or positively affect the project. It is important in the risk identification process to solicit input from all project stakeholders including those outside of the core project team. Potential contributors to risk identification include:

- project team members (planners, engineers, architects, contractors, etc.)
- risk management team members
- subject matter professionals (IT, Safety, Legal, etc.)
- customers (internal and external)
- end users
- organization management and leadership

Successfully capturing all project risks increases with frequent communication and feedback among project team members and stakeholders. These discussions should attempt to identify inaccuracies, inconsistencies, and assumptions regarding the project. The resulting product of these working sessions should be the initial list of identified risks.

From the initial list of identified risks, a risk register or log can be populated to ensure that all risk items are analyzed, prioritized, and monitored. Risk registers should typically include the following fields:

1. Risk Type
2. Description
3. Cost Impact
4. Probability
5. Risk Level
6. Possible Responses
7. Action Owner

Analysis

The analysis phase determines the likelihood and impact of each identified risk and prioritizes risks for management attention. Successful risk analysis requires objective thinking and input from those most familiar with the area affected by the possible risk. Analysis is typically a two-step approach: 1) qualitative analysis, and 2) quantitative analysis.

Step 1 – Qualitative Analysis

For the qualitative analysis, the project team assigns a priority level (e.g. high, medium, low) to each risk. The priority level should be aligned with the organization's risk management plan, risk tolerance level, and other organizational objectives. The priority levels can be used to rank the risks on the risk register and develop efficient response plans that focus attention on items with higher priority. It is important to identify all potential risks that will require follow-up by the project team.

Step 2 – Quantitative Analysis

For quantitative analysis, the project team assigns a most likely cost value to each identified risk. This value takes into consideration both the probability and potential impact of the risk event occurrence. Determining probability and impact can result from a variety of exercises, including:

- Interviews – gathering impact and probability data for a range of scenarios (e.g. optimistic, most likely, and pessimistic).
- Decisions Trees – comparing the probability of risks and rewards between various decisions.
- Model simulations – conducting a project simulation in order to quantify potential impacts to the project.

Quantitative risk analysis is one of the tools used by utilities to justify contingency levels to the regulatory bodies.

Response Planning

Response planning is the phase where the project team develops response actions and alternative options to reduce project risks. Project teams use response planning to decide ahead of time how they will address possible risk occurrences and how they will avoid, transfer, mitigate, or accept project risks. Response planning must take into consideration available resources and potential repercussions of the response plans. The goal of response planning is to align risks with an appropriate response based on the severity of the risk along with cost, time, and feasibility considerations. Risk response planning includes:

- Assigning responsibility for identified risks to appropriate project team members or stakeholders. It is imperative that the assignment take into consideration the individual's capability to address specific risk areas. Assigning a risk to someone who has little or no knowledge of a risk area is not an effective risk planning approach.
- Developing a response plan to address the identified risk. This process should be iterative and include all stakeholders affected by the risk. Common options for a response include:
  - Avoidance – modifying the project plan to avoid the potential condition or occurrence.
  - Transference – shifting the consequences and responsibilities associated with the risk to a third party (often accomplished by contractual agreement).
  - Mitigation – taking preventative action to reduce the probability of a risk occurrence or impact on the project.
  - Acceptance – proceeding as planned and accepting the outcome of a risk.
- Finalizing and documenting the various risk responses identified by each responsible party. The plan should clearly define the agreed upon response for a risk, the responsible party, results from both the quantitative and qualitative analysis, and a budget and timeframe for the risk responses.

Monitoring and Control

The final step of risk management is monitoring and control. This process should be set up to track potential risks, oversee the implementation of risk plans, and evaluate the effectiveness of risk management procedures. Monitoring and control should occur throughout the project lifecycle and help improve and guide the overall risk management process. This step should:

- Equip management and the project team to make informed decisions regarding risk.
- Evaluate the effectiveness of risk response actions.
- Identify risk characteristics that appear to have changed from what was documented in earlier identification and analysis stages.

Tools used for monitoring and control include:

- Project Risk Audits – a series of audits that examine the effectiveness of risk response strategies and project risk assessments. These audits can be used to stimulate process improvement and make recommendations regarding the risk management process.
- Project Risk Report – a summary report or dashboard that communicates the risk status for a project. This tool can be customized to update management on current project risks.

Monitoring and control is essential for maintaining effective and efficient risk management. It is a barometer for determining how well your risk management plan is designed. If monitoring and control reveals that certain risks are not being mitigated or avoided as planned, then an adjustment can be made to the response plan. Likewise, if monitoring and control reveals that an identified risk is unlikely to materialize, the plan can be adjusted to reprioritize the risk to a lower level.

Benefits of Risk Management

Although a well-designed and executed risk management process can significantly reduce the risk of failure, the benefit of performing a comprehensive risk analysis may be costly and burdensome for smaller projects with limited complexity. As noted earlier, risk management processes should be scalable to the size and complexity of an organization's program or project. To achieve this, an organization should consider defining a baseline set of procedures to apply to all projects along with a more rigorous set of procedures for high value, complex projects.

The value of risk management has traditionally been a difficult concept to quantify. Many organizations and project teams understand the risks as they impact their respective roles on the project. However, without a risk management process for identifying, analyzing, quantifying, and communicating project risks to all stakeholders, the ability to effectively manage project risks is greatly diminished. The two case studies below help demonstrate the value and benefit of a comprehensive risk management process.

Case Study 1

Project Description: New medical office building, US$30+ million

Risk Description: In order to commission the building at the completion of construction, the utilities need to be connected to the public utility system (gas and electric). Throughout the project the team could not get a commitment from the utility company for when they would complete the connection. This risk was never communicated beyond the project team and there was no analysis of the impact for a delay or an alternative plan developed to address the risk.

Risk Impact: The risk ultimately did occur and resulted in the need for temporary generators, an increase in the contractor's general conditions, and several months of delay to the project completion.

Case Study 2

Project Description: New bridge construction, US$600 million

Risk Description: During the design and planning stages of the project, a decision was made to rely on a geotechnical report that was 30+ years old and in a different location than the planned bridge foundations. The engineers designing the bridge understood this as a risk, however, there was no process in place to capture this risk and quantify or communicate the risk to project leadership or to the team responsible for managing the construction phase of the project.

Risk Impact: The bedrock in the actual location of the bridge foundations was substantially different than the geotechnical report indicated. This resulted in a complete redesign of the foundations and several months delay on the project. The financial impacts were greater than US$30 million.

In both the case studies, the risks were well-known to the project teams and could have likely been avoided or the mitigated if a risk management process would have been in place. Having a risk management process would have allowed the organizations to track, quantify, plan and communicate the risks to individuals with the capability to help mitigate or avoid the risk.

Embedding Risk Management into Day-to-Day Activities

Effective risk management is typically achieved when an organization undertakes an active commitment to integrating risk management into their project protocols and controls. Primary considerations for an organization to establish an effective plan include:

- Allotting appropriate resources to perform risk management activities.
- Creating an environment that embraces and promotes risk management and actively encourages and pursues risk management at all levels of the organization.
- Clearly defining and training personnel on risk management controls.

Developing a risk management process

The first step to integrating risk management into your project activities is to determine who is best suited to manage/control risk. Should risk management be the responsibility of a central organization specializing in risk (such as a project controls group) or should it be controlled by the project team? Items to consider when determining control of risk management functions include:

- Capacity of project team - do they have the time/resource to effectively manage the risk process?
- Expertise - who has the most knowledge and experience in risk management?
- Potential conflicts of interest – would there be a potential incentive for risks not to be accurately reported by the project team; is an independent evaluation more appropriate?

Many energy companies, especially power & utility companies, set up separate project management organizations (PMOs) to manage the unique risk of major capital programs. This assists the organization in aligning dedicated resources with the specific skill sets team structure to manage major construction projects.

Once the ownership of this process is determined, risk management activities are typically most effective (and adhered to) when they are embedded throughout the project lifecycle and project control activities. By integrating risk management steps into the approval process, stage gates and project reporting, the importance of risk management is emphasized and it becomes a mandatory element of the project control environment.

Monitoring adherence to risk management procedures

An organization should perform regular monitoring and auditing of their risk management process. As previously mentioned, this can be accomplished

through the use of a risk report/dashboard and risk audits.

Risk Reporting – reporting should be evaluated by management on a regular basis to ensure risks are being identified, tracked, and accounted for in project planning. Management should be diligent in reviewing risk reports and question reports that appear stagnant. It is imperative for management to actively participate in risk management to reinforce the importance of the risk management process.

Risk Audits – Organizations should self perform or procure an independent audit of their risk management practices on an annual or semi-annual basis (independent risk audits should also be considered for projects that pose a significant risk to an organizations objectives or financial stability). The intent of the audit should be to:

- Validate compliance with risk management process.
- Review accuracy and thoroughness of data being entered into process.
- Identify any process improvement opportunities.
- Identify any trends in overall program risk.

Developing risk management training

Training is the keystone to any risk management plan. Without a formal training effort, a risk management approach will most likely not be embraced or followed. Not only should training occur at the inception of the policy, it should include:

- On-boarding for new hires.
- Regular "brown bag" or informational sessions to review any lessons learned, updates to the policy, or identified leading practices.
- Required refresher sessions to maintain staff awareness of the risk management policies and procedures and to emphasize the organizations commitment to risk management.

Training is often a forgotten aspect of policy implementation; however, this is a particularly critical function to establish an effective risk management approach. Often overlooked, training is crucial for informing employees about the importance of risk management and its various elements.

Conclusion

A well-defined risk management process can greatly increase project and program success. However, risk management has traditionally been overlooked and is considered by many one of the more fuzzy areas of project management. At a minimum, organizations with significant capital expenditures should clearly define their procedures and expectations for risk management, communicate its importance, adequately train its personnel, and monitor high-risk projects for compliance with risk management procedures.

For further information, please contact:

Geno Armstrong
Principal, Advisory
KPMG LLP (U.S.)
E: garmstrong@kpmg.com

Reid Tucker
Director, Advisory
KPMG LLP (U.S.)
E: reidtucker@kpmg.com

Jonathan Jong
Associate Director
KPMG Services Pte. Ltd. (Singapore)
E: jonathanjong@kpmg.com.sg

Appendix

Appendix A Annual target indicator matrix on accelerating infrastructure development, 2013-2016

Indicators	Annual Plan targets (in %) 2013	2014	2015	2016	Means of verification	Agency responsible
Intermediate outcome A: Competitiveness enhanced and productivity increased in the industry, services and agriculture sectors						
Strategy 1: Improve connectivity and efficiency among urban centers, regional growth hubs						
Metro Manila	20.46	20.31	20.15	20.03	Actual survey data	MMDA
Transfer time in MRT/LRT decreased (in min)	9	9	5	5	Actual Operation date of MRT/LRT	DOTC
Platform to platform	8	8	4	4		
Concourse to platform	10	10	5	5		
Optimal capacity (train's standing with allowance to consider passengers' comfort/space) in train systems achieved (per sqm.)	4-8	4-8	4-8	4-7	Actual Operation data	DOTC, PNR, LRTA
PNR-Metro Commuter (Optimal capacity = 6 passengers per sqm.)	7	6	6	6	Actual passenger/sqm.	DOTC, PNR
LRT 1 (Optimal capacity = 6 passengers per sqm.)	7-8	7-8	5-7	5-7	Project status report, operations-related report, accomplishment report	DOTC, LRTA
LRT 2 (Optimal capacity = 4-5 passengers per sqm.)	4-5	4-5	4-5	4-5		DOTC, LRTA
MRT 3 (Optimal capacity = 6 passengers per sqm.)	8	8	8	6		DOTC
Load transported via the Central RORO Spine increased (in tons per ship-hour)	202	221	232	251	Annual / actual survey / monitoring / verification on port operation and performance	DOTC, PPA, MARINA, DPWH and TRB
Davao	137	153	161	179	Monthly statistical reports	PPA
Cagayan de Oro	43	45	47	47		
Batangas	22	23	24	25		
Passengers transported via air increased per annum	46,340,236	49,334,076	53,153,098	56,084,528	Actual operation data, DOTC report	DOTC
Coverage of cellular mobile telephone service with broadband coverage increased (in % of total number of cities/municipalities)	99	100	100	100	NTC annual report, NTC monitoring / evaluation of private sector	ICTO, NTC
Cities and municipalities with broadband coverage increased (in % total number of cities/municipalities	60	70	80	100		

Source: Philippine Development Plan 2011-2016
http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

Appendix B Revalidated results matrix (RM) on improving connectivity and efficiency among urban centers, regional growth hubs

Indicators	Baseline (2010)	End-of-Plan target (2016)	Assumptions and risks
Travel time via road in key corridors and key urban corridors decreased (in min)	20.59 (2012)	20.03	▪ Satisfactory traffic management system in place by LGUs ▪ Implementation of other infra projects (e.g. communications, water system) systematically coordinated for smooth traffic
Transfer time in MRT/LRT decreased	9	5	▪ Contactless Automatic Fare Collection System to be implemented in 2015
Platform to platform	8	4	
Concourse to platform	10	5	
Optimal capacity (train's standing capacity with allowance to consider passengers' comfort/space) in train systems achieved (per sqm.)	4-8	4-7	▪ Rolling stocks/materials are available and sufficient
PNR-Metro Commuter (Optimal capacity = 6 passengers per sqm.)	6	6	
LRT 1 (Optimal capacity = 6 passengers per sqm.)	6	5-7	
LRT 2 (Optimal capacity = 4-5 passengers per sqm.)	4	4-5	
MRT 3 (Optimal capacity = 6 passengers per sqm.)	8	6	
Load transported via the Central RORO Spine increased (in tons per ship-hour)	189 (2012)	251	▪ Efficiency indicator affected by: o Economic factors (e.g. demand and supply affecting cargo throughput); o Physical and operational condition of ports
Davao	126 (2012)	179	▪ Does not consider government policy on diversion from Manila port to Batangas port
Cagayan de Oro	42 (2012)	47	
Batangas	21 (2012)	25	
Passengers transported via air increased per annum	37,960,765	56,084,528	▪ Projects to be completed as scheduled
Coverage of cellular mobile telephone service (CMTS) in cities and municipalities increased (in % of total number of cities/municipalities)	95	100	▪ Enabling policies / regulations on increasing coverage to be issued by government (DOST-ICTO, NTC, etc.) ▪ There are services requiring broadband (e.g. e-Government) ▪ Return of investment is good/attractive for private sector
Cities and municipalities with broadband coverage increased (in % of total number of cities/municipalities)	47	100	

Source: Philippine Development Plan 2011-2016
http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

Appendix C Intermediate outcome A: Competitiveness enhanced and productivity increased in the industry, services and agriculture sectors

Indicators	Annual Plan targets (in %) 2013	2014	2015	2016	Means of verification	Agency responsible
Strategy 2: Support agricultural production						
Irrigation service coverage increased (in % of total potential irrigable area)	67.44	69.01	70.91	73.80	NIA / DA report, actual inventory data	NIA, DA, DAR
NIA	59.39	60.74	62.63	65.27		NIA
DA-BSWM and DA-RFUs	8.05	8.26	8.29	8.53		DA-BSWM, DA-RFUs
Strategy 3: Pursue energy and water security						
Power demand met (i.e. ratio of dependable capacity to total peak demand with required reserve is maintained above 100%) (in %)	106.52	103.86	108.06	104.39	Phil. Energy Plan 2012-2030 Power Outlook	DOE
Luzon	113.07	109.28	110.37	107.86		
Visayas	109.14	109.54	103.95	105.32		
Mindanao	97.35	92.78	109.86	100.00		
Target energy self-sufficiency (at 60%) met (in % of total energy)	59.04	59.28	60.22	60.00		
Water demand in water critical areas met (in % ratio of water supplied in million liters per day [MLD] to water demanded in MLD)	89	90	90	92	Actual inventory data / report	MWSS concessionaires, LWUA, WDs, DENR-RBCO and NWRB
MWSS Concession Areas	*119*	*117*	*116*	*113*		
Metro Cebu	*43*	*46*	*49*	*52*		
Bulacan	*83*	*86*	*89*	*89*		
Cagayan de Oro City	*109*	*115*	*119*	*121*		
Davao City	*89*	*87*	*79*	*86*		
Coverage of 24/7 water supply (WS) services in cities increased (in %)	86.98	88.62	89.34	90.12		MWSS concessionaires, LWUA, WDs, LGUs and NWRB
Level III WS service coverage increased (in %)	98	99	99	100		MWSS concessionaires, LWUA, WDs and NWRB
Non-revenue water decreased (in % total water volume produced)	26	25	24	23		MWSS concessionaires, LWUA, WDs
Tourist Destination Areas (TDAs) with improved water system increased (in % of TDAs identified as waterless)	4	100	100	100	Actual inventory data / report	DPWH, DOT, LWUA, WDs

Source: Philippine Development Plan 2011-2016
http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

Appendix D Revalidated results matrix (RM) on pursuing energy and water security

Indicators	Baseline (2010)	End-of-Plan target (2016)	Assumptions and risks
Power demand met (i.e. ratio of dependable capacity to total peak demand with required reserve is maintained above 100%) (in %)	108.14	104.39	▪ Projections based on 7.0% GDP growth ▪ Actual commercial operation dependent on private sector decision ▪ Private sector investment in the subsector increased ▪ Management of the service is efficient and effective.
Luzon	113.42	107.86	
Visayas	103.29	105.32	
Mindanao	107.70	100.00	
Target energy self-sufficiency (at 60%) met (in % of total energy)	58.31	60.00	▪ Energy savings targets under the National Energy Efficiency and Conservation met ▪ RE committed projects implemented as scheduled ▪ Mandated biofuels blending implemented as scheduled
Water demand in water critical areas met (in % ratio of water supplied in million liters per day [MLD] to water demanded in MLD)	116.06 (2011)	92	▪ Scheduled projects are implemented without delay ▪ Sector investment increased and management for the water system by LGU / private sector are satisfactory.
MWSS Concession Areas	122 (2011)	113	▪ Deficit MWSS Concession Area by 2017
Metro Cebu	38 (2011)	52	
Bulacan	88 (2011)	89	▪ Projections only for the Balagtas, Bocaue, Bulacan, Calumpit, Plaridel and Malolos WDs
Cagayan de Oro City	109 (2011)	121	
Davao City	86 (2011)	86	
Coverage of 24/7 water supply (WS) services in cities increased (in %)	77.59	90.12	▪ Average of 559 WDs and 2 MWSS concessionaires ▪ Sector investment increased and management for the water system by LGU / private sector are satisfactory.
Level III WS service coverage increased (in %)	82	100	
Non-revenue water decreased (in % of total water volume produced)	36	23	▪ Average of 559 WDs and 2 MWSS concessionaires ▪ Management for the water system by LGU / private sector are satisfactory.
Tourist Destination Areas (TDAs) with improved water system increased (in % of TDAs identified as waterless)	NA	100	▪ Covers only 26 TDAs that are identified as waterless areas ▪ Private sector investments in tourist areas increased and management are efficient and effective.

Source: Philippine Development Plan 2011-2016
http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

Appendix E Projects of Dream Plan (1)

Suburban/Urban Rail Projects

Project			Length (km)	Cost (PhP mil.)	Status
Mega Manila North-South Commuter Railway (Malolos - Calamba, *Elevated*)			91.3	195,520	Proposed
Malolos-Tarlac & Calamba-Batangas			128.8	47,680	Proposed
Main Lines	Lines 1-3	Upgrade Existing Lines	47.2	62,040	Proposed
	LRT 1	North (to Malabon)	2.7	9,960	Proposed
		South (to Dasmariñas)*	30.2	111,640	Committed/ Proposed
	LRT 2	East (to Antipolo)*	13.2	61,640	Committed/ Proposed
		West (to MM North Harbor)	4.7	30,840	Proposed
	MRT 3	Ext. (to Malabon & MoA)	9.4	68,600	Proposed
	MRT-7 (Recto-Comm.Av.-Banaba)		26.1	128,360	Committed
	N-S Subway (Dasmariñas East-San Jose Delmonte)		68.6	514,160	Proposed
	Total Primary (Incl. Upgrade)		**202.1**	**987,240**	
Total Main			**422.2**	**1,230,440**	
Secondary Lines	Ortigas - Angono		13.7	31,720	Proposed
	Paco - Pateros		11.3	33,800	Proposed
	Marikina - Katipunan		16.8	31,480	Proposed
	Alabang - Zapote		9.3	13,400	Proposed
	Zapote - Cavite - Gen. Trias		20.6	25,560	Proposed
	Total Secondary		**71.1**	**135,960**	
Total Metro Rail			**493.9**	**1,366,400**	

Road/Expressway Projects

Project		Length (km)	Cost (PhP mil.)	Status
Road	C3 Missing Link (Sanjuan - Makati)*	5.9	24,000	Proposed
	C5 Missing Link	6.9	680	Committed/ Proposed
	Pasig River Bridge (BGC - Ortigas)*	1.2	8,120	Proposed
	Skyway-FTI-C5 Connector*	3.0	17,880	Committed
	Other Interchanges/Flyovers	6.7	8,040	Committed
	Other Urban Roads	32.9	2,400	Committed
	NCR (Secondary Roads Package)	208.4	145,670	Proposed
	BRCL (Secondary Roads Package)	432.2	82,360	Proposed
	Region III (Sec Roads - Approx.)	200.0	16,000	Proposed
	Region IV-A (Sec Roads - Approx.)	400.0	32,000	Proposed
	Road Total	**1,297**	**337,240**	
Expressway	SEG 9 & 10 / connection to R10*	8	8,600	Committed
	NLEx-SLEx Connector*	13.3	18,800	Committed
	Skyway Stage 3*	13.3	9,000	Committed
	NAIA Expressway Phase 2*	7.1	15,000	Committed
	Pasay - Makati - BGC	9.3	24,200	Proposed
	Sta. Mesa - Pasig (Shaw Boulevard)	7.1	23,440	Proposed
	CALA Exp. (Bacoor - Sta. Rosa)*	47.2	30,200	Committed
	Other Expressways	388.3	221,840	Committed/ Proposed
	Expressways Upgrade	208.4	33,040	Proposed
	Expressway Total	**702**	**384,120**	
Roads & Expressway Total		**1,999**	**721,360**	

*Note: *Short term project*
Source: Japan International Cooperation Agency Presentation on Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A) Summary of the Outputs September 2013

Appendix F Projects of Dream Plan (2)

A. Airports

Name of Project		Amount (PhP million)	Status
1. NAIA	a. NAIA improvements - airside package*	4,240	Committed
	b. NAIA improvements - landside package*		Committed
2. Clark	a. Clark improvement - airside package*	6,800	Committed
	b. Clark improvement - landside package*		Committed
	c. Clark Future Development	40,000	Proposed
3. New NAIA		140,500	Proposed
Airport Infrastructure Total		191,040	-

B. Ports

Name of Project	Amount (PhP million)	Status
1. Replacement of North Harbor	40,000	Proposed
2. Other regional ports	2,000	Proposed
3. Other Port Programs*	12,080	Proposed
Port Project Total	54,080	-

C. Traffic Management Projects

Name of Project	Amount (PhP million)	Status
1. Modernization of traffic signaling system*	5,000	Committed
2. ITS and other road safety interventions	2,800	Proposed
3. Pedestrian Facilities	2,000	Proposed
Traffic Management / Capacity Expansion Total	9,800	-

D. Road-based Public Transport

Name of Project	Amount (PhP million)	Status
1. ITS (3 Provincial Bus Terminals)*	6,320	Committed
2. 2-BRT Lines *	7,000	Proposed
3. Jeepney Fleet Modernization	30,000	Proposed
4. Urban Bus Modernization	25,000	Proposed
Road-based Public Transport Total	68,320	-

Notes:
**Short term project*
Sub-total (A-D) PhP323 billion (=US$8.1 billion)
Total Investment Program for Transport: PhP2,411 billion (=US$60.3 billion)
Source: Japan International Cooperation Agency Presentation on Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A) Summary of the Outputs September 2013

Appendix G Revalidated results matrix (RM) on pursuing water security

Indicators	Baseline (2010)	End-of-Plan target (2016)	Assumptions and risks
Water demand in water critical areas met (in % ratio of water supplied in million liters per day [MLD] to water demanded in MLD)	116.06 (2011)	92	▪ Scheduled projects are implemented without delay ▪ Sector investment increased and management for the water system by LGU / private sector are satisfactory.
MWSS Concession Areas	*122 (2011)*	*113*	▪ *Deficit MWSS Concession Area by 2017*
Metro Cebu	38 (2011)	52	
Bulacan	88 (2011)	89	▪ Projections only for the Balagtas, Bocaue, Bulacan, Calumpit, Plaridel and Malolos WDs
Cagayan de Oro City	109 (2011)	121	
Davao City	86 (2011)	86	
Coverage of 24/7 water supply (WS) services in cities increased (in %)	77.59	90.12	▪ Average of 559 WDs and 2 MWSS concessionaires ▪ Sector investment increased and management for the water system by LGU / private sector are satisfactory.
Level III WS service coverage increased (in %)	*82*	*100*	
Non-revenue water decreased (in % of total water volume produced)	36	23	▪ Average of 559 WDs and 2 MWSS concessionaires ▪ Management for the water system by LGU / private sector are satisfactory.
Tourist Destination Areas (TDAs) with improved water system increased (in % of TDAs identified as waterless)	NA	100	▪ Covers only 26 TDAs that are identified as waterless areas ▪ Private sector investments in tourist areas increased and management are efficient and effective.

Source: Philippine Development Plan 2011-2016
http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

Appendix H Revalidated results matrix (RM) on pursuing energy

Indicators	Baseline (2010)	End-of-Plan target (2016)	Assumptions and risks
Power demand met (i.e. ratio of dependable capacity to total peak demand with required reserve is maintained above 100%) (in %)	108.14	104.39	▪ Projections based on 7.0% GDP growth ▪ Actual commercial operation dependent on private sector decision ▪ Private sector investment in the subsector increased ▪ Management of the service is efficient and effective.
Luzon	113.42	107.86	
Visayas	103.29	105.32	
Mindanao	107.70	100.00	
Target energy self-sufficiency (at 60%) met (in % of total energy)	58.31	60.00	▪ Energy savings targets under the National Energy Efficiency and Conservation met ▪ RE committed projects implemented as scheduled ▪ Mandated biofuels blending implemented as scheduled

Source: Philippine Development Plan 2011-2016
http://plans.neda.gov.ph/pdp/chapter-10-accelerating-infrastructure-development/

Glossary

ABC	Approved Budget for the Contract
ADB	Asian Development Bank
ADR	alternative dispute resolution
AIF	ASEAN Infrastructure Fund
ASEAN	Association of Southeast Asian Nations
BBWSP	Bulacan Bulk Water Supply Project
BLT	build-lease-transfer
BFAR	Bureau of Fisheries and Aquatic Resources
BOP	balance of payments
BOT	build-operate-transfer
BPO	Business Process Outsourcing
BRICs	Brazil, Russia, India, China
BRLC	Bulacan, Rizal, Cavite, Laguna
CAAP	Civil Aviation Authority of the Philippines
CAVITEx	Manila-Cavite Expressway
CALABARZON	Cavite, Laguna, Batangas, Rizal, Quezon
CBO	community-based organizations
CCA	climate change adaptation
CCGT	Combined Cycle Gas Turbine
CGIF	Credit Guarantee and Investment Facility
CIF	Climate Investment Fund
CL	contingent liabilities
CLB	Calamba – Los Baños Toll Expressway
CLEx	Central Luzon Expressway
CSC	Civil Service Commission
CSO	civil society organizations
DA	Department of Agriculture
DAP	Development Academy of the Philippines
DBM	Department of Budget and Management
DEO	District Engineering Office
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DILG	Department of Interior and Local Government
DOE	Department of Energy
DOF	Department of Finance
DOT	Department of Tourism
DOTC	Department of Transportation and Communications
DPWH	Department of Public Works and Highways
DTI	Department of Trade and Industry
DU	distribution utility
EGAT	Electricity Generating Authority of Thailand
EPIRA	Electric Power Industry Reform Act
ERC	Energy Regulatory Commission
FAP	foreign assisted project
GCR	Greater Capital Region
GDP	gross domestic product
GGG	Global Growth Generators
GOCC	government-owned and controlled corporations
GVW	gross vehicle weight
GWh	gigawatt-hour
HSH	High Standard Highways
IA	implementing agency
ICC-CC	Investment Coordination Committee – Cabinet Committee
ICC-TWG	Investment Coordination Committee – Technical Working Group
ICT	information and communications technology
IEA	International Energy Agency
IE Singapore	International Enterprise Singapore
IPP	Investment Priority Plan
IPPA	independent power producer administrators
IRR	Implementing Rules and Regulations
ITS	Integrated Transport System
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency
JMP	Joint Monitoring Programme
KWH	kilowatt-hour
LCBI	Local Capacity Building Institutions
LGU	local government unit
LLED	Laguna Lakeshore Expressway Dike
LRT	Light Rail Transit
LRTA	Light Rail Transit Authority
LWUA	Local Water Utilities Administration
MDG	Millennium Development Goal
MERALCO	Manila Electric Light and Railroad Company
MLD	million liters per day
MRT	Metro Rail Transit
MW	megawatt
MWCI	Manila Water Company, Inc.
MWSI	Maynilad Water Services, Inc.
MWSS	Metropolitan Waterworks and Sewerage System
m3	cubic meter
NAIA	Ninoy Aquino International Airport
NCR	National Capital Region
NCWSP	New Centennial Water Source - Kaliwa Dam Project
NEDA	National Economic and Development Authority
NEDA-ICC	National Economic and Development Authority – Investment Coordination Committee
NGA	national government agencies
NGCP	National Grid Corporation of the Philippines
NGO	non-government organization
NIA	National Irrigation Administration
NLEx	North Luzon Expressway
NPC	National Power Corporation
NSCB	National Statistical Coordination Board
NSO	National Statistics Office
NTDP	National Tourism Development Plan
NWRB	National Water Resources Board
N-11	Next Eleven
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
O&G	oil and gas
O&M	Operation and Maintenance
PAP	projects and programs
PCA	Philippine Contractors Association
PDMF	Project Development and Management Facility
PINE	Philippines, Indonesia, Nigeria, Ethiopia
PIP	Public Investment Program
PPICS	Peru, Philippines, Indonesia, Colombia, Sri Lanka
PPP	public-private partnership
PSALM	Power Sector Asset Liability Management Corporation
RA	Republic Act
REID Foundation	Research, Education and Institutional Development Foundation
RORO	Roll-On/Roll-Off
RM	Results Matrix
SCMB	Subic-Clark-Manila-Batangas
SCP	Strategic Convergence Program
SEPO	State Enterprise Policy Office
SLEx	South Luzon Expressway
SWS	Social Weather Stations
S&P	Standard & Poor's
TEU	twenty-foot equivalent unit
TOR	Terms of Reference
TransCo	National Transmission Corporation
VAT	Value-Added Tax
VfM	Value for Money
VGF	Viability Gap Financing
WB	World Bank
WEF	World Economic Forum
WESM	Wholesale Electricity Spot Market
WRM	Water Resource Management
WSP	water service providers

About the Philippines

- The Philippines officially became a republic in 1946.
- Benigno Aquino III is the current President of the Republic of the Philippines. His main platform is good governance and the elimination of corrupt practices in the government. Under his administration, the overall financial strength of the government has improved, owing to a more efficient tax administration and responsible government spending.
- The current Aquino regime posted a GDP growth of 7.6 percent in 2010 and slowed down to 3.6 percent in 2011. It then grew by 6.8 percent in 2012 and exceeded the government's expectations when the Philippine economy expanded to 7.2 percent in 2013. The country still remains as one of the strongest economies in the Asian region with infrastructure development encouraged to continue in the next administration.
- Different rating agencies have also consistently upgraded the credit ratings of the Philippines. Fitch affirmed the country's long-term foreign and local currency issuer default ratings at 'BBB-' and 'BBB,' respectively, in March 2014, followed by Standard & Poor's stable outlook of BBB in May 2014. Another vote of confidence was also seen from Moody's positive outlook of Baa3 in September 2014.

Languages

- Over 87 languages and dialects belonging to the Malayo-Polynesian linguistic family
- Three principal languages: Cebuano, Tagalog, and Ilocano.
- Filipino is the official language.
- English is the language of business and government. GlobalEnglish, an independent research group, ranked the Philippines number 1 in the world in terms of proficiency in business English for its 2012 study.

Geography

- Located in Southeast Asia
- Area: 300,000 sq. km. (117,187 square miles)
- Three major geographical areas: Luzon, Visayas, Mindanao
- Major cities (2010 estimate): Capital - Manila (pop. 11.85 million in the metropolitan area)
- Other cities - Cebu City (0.87 million); Davao City (1.45 million)
- Terrain: Archipelago composed of 7,107 islands, 65 percent mountainous, with narrow coastal lowlands

Climate

- Tropical, sitting astride a typhoon belt
- Three seasons: Rainy (June to October); Cool and Dry (November to February); Hot and Dry (March-May)

- Average temperature: 27 degrees Celsius (81 degrees Fahrenheit); Average Humidity: 78 percent
- Year-round average temperature range: 23-32 degrees Celsius

Population

- 92.34 million (National Statistics Office, May 2010 estimate)
- Population growth rate of 1.81 percent per year (2014 estimate)
- Literacy Rate: 97.5 percent of total population

Education

- K-12: universal kindergarten, six years of elementary education (Grades 1-6), four years of junior high school (Grades 7-10) with additional two years for senior high school (Grades 11 to 12)
- Public Elementary and High School education subsidized by the government
- English is part of the curriculum and is the medium of instruction for most subjects

Political

- Type: Republic
- Independence: 1946
- Current constitution: Ratified on 11 February 1987
- Branches: Executive; Legislative - Bicameral legislature; Judiciary
- Administrative Subdivisions: 17 regions including Metro Manila (National Capital Region), 80 provinces, 138 cities
- Suffrage: Universal, but not compulsory, at age 18

Sources: National Statistics Office, CIA World Factbook, www.gov.ph, www.nscb.gov.ph

Directory of Government Agencies

Department of Agriculture
Elliptical Road, Diliman, Quezon City
Tel. No.: +63 2 928 8756 to 65
Website: da.gov.ph

Department of Budget and Management
General Solano St., San Miguel, Manila
Tel. No.: +63 2 490 1000
Website: dbm.gov.ph

Department of Environment and Natural Resources
DENR Bldg., Visayas Avenue, Diliman, Quezon City
Tel. No.: +63 2 929 6626 / 988 3367
Website: denr.gov.ph

Department of Education
DepEd Complex, Meralco Avenue, Pasig City
Tel. No.: +63 2 633 7208 / 633 7228
Website: deped.gov.ph

Department of Energy
Energy Center, Rizal Drive, Bonifacio Global City
Taguig City
Tel. No.: +63 2 840 1401 to 21
Website: doe.gov.ph

Department of Interior and Local Government
DILG-NAPOLCOM CENTER, EDSA cor. Quezon Avenue
Quezon City
Tel. No.: +63 2 925 0330 / 925 0331
Website: dilg.gov.ph

Department of Finance
6/F DOF Bldg., Roxas Blvd. cor. Pablo Ocampo St.,
Manila
Tel. No.: +63 2 523 9911 to 14
Website: dof.gov.ph

Department of Tourism
DOT Bldg., T.M. Kalaw St., Agrifina Circle, Rizal Park,
Manila
Tel. No.: +63 2 523 8411
Website: tourism.gov.ph /
itsmorefuninthephilippines.com

Department of Trade and Industry
361 Trade and Industry Building, Sen. Gil J. Puyat
Avenue, Makati City
Tel. No.: +63 2 751 0384
Website: dti.gov.ph

Department of Transportation and Communications
The Columbia Tower, Ortigas Avenue, Mandaluyong City
Tel. No.: +63 2 727 7960
Website: dotc.gov.ph

Department of Public Works and Highways
Bonifacio Drive, Port Area, Manila
Tel. No.: +63 2 304 3000
Website: dpwh.gov.ph

Energy Regulatory Commission
Pacific Center Building, San Miguel Avenue
Ortigas Center, Pasig City
Tel. No.: +63 2 689 5372
Website: erc.gov.ph

National Economic and Development Authority
12 St., Josemaria Escriva Drive, Ortigas Center
Pasig City
Tel. No.: + 63 2 631 0945 to 56
Website: neda.gov.ph

National Power Corporation
Agham Road corner Quezon Avenue, Diliman
Quezon City
Tel. No.: + 63 2 921 3541
Website: napocor.gov.ph

National Statistics Office
Solicarel Building, Ramon Magsaysay Boulevard
Sta. Mesa, Manila
Tel. No.: + 63 2 716 0807 / 713 7074
Website: census.gov.ph

National Transmission Corporation
Power Center, Quezon Avenue corner BIR Road
Diliman, Quezon City
Tel. No.: + 63 2 902 1500
Website: transco.ph

Public-Private Partnership Center
NEDA sa QC, EDSA, Diliman, Quezon City
Tel. No.: + 63 2 990 0721
Website: ppp.gov.ph

Power Sector Assets and Liabilities Management Corporation
7th Floor Bankmer Building 6756 Ayala Avenue
Makati City
Tel. No.: + 63 2 893 8202
Website: psalm.gov.ph

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*Business World Top 1000 Corporations 2013 edition
** International Tax Review's World Tax 2015 Guide
*** International Tax Review 2014

Directory of Partners and Principals

Roberto G. Manabat
Chairman & Chief Executive Officer
rgmanabat@kpmg.com

Emmanuel P. Bonoan
Vice Chairman & Head of Tax
ebonoan@kpmg.com

Sharon G. Dayoan
Head of Audit
sdayoan@kpmg.com

Henry D. Antonio
Head of Advisory
hantonio@kpmg.com

Emerald Anne C. Bagnes
ebagnes@kpmg.com

Noel A. Baladiang
nbaladiang@kpmg.com

Carmel Lynne M. Balde
cbalde@kpmg.com

Enrico E. Baluyut
ebaluyut@kpmg.com

Oliver C. Bucao
obucao@kpmg.com

Joan S. Cariño
jcarino@kpmg.com

Pacifico Castañeda
pcastaneda@kpmg.com

Alicia S. Columbres
acolumbres@kpmg.com

Imelda H. Corros
icorros@kpmg.com

Dindo Marco M. Dioso
ddioso@kpmg.com

Yoshiaki Endo
yendo1@kpmg.com

Jerome Andrew H. Garcia
jhgarcia@kpmg.com

Michael Arcatomy H. Guarin
mguarin@kpmg.com

Dennis I. Ilan
dilan@kpmg.com

Jose P. Javier, Jr.
jpjavier@kpmg.com

Tireso Randy F. Lapidez
tlapidez@kpmg.com

Ricardo G. Manabat
rmanabat@kpmg.com

Virgilio L. Manguilimotan
vmanguilimotan@kpmg.com

Maria Myla S. Maralit
mmaralit@kpmg.com

Ador C. Mejia
acmejia@kpmg.com

John Molina
johnmolina@kpmg.com

Herminigildo G. Murakami
hmurakami@kpmg.com

Aline A. Novilla
anovilla@kpmg.com

Wilfredo Z. Palad
wpalad@kpmg.com

Ma. Carmela M. Peralta
mperalta@kpmg.com

Kathleen L. Saga
ksaga@kpmg.com

Manuel P. Salvador III
msalvadoriii@kpmg.com

Ma. Georgina J. Soberano
gjsoberano@kpmg.com

Darwin P. Virocel
dvirocel@kpmg.com

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Paul Patrick R. Afable
Henry D. Antonio
Emmanuel P. Bonoan
Jerome Andrew H. Garcia
Michael Arcatomy H. Guarin
Ma. Cynthia C. Hernandez
Mary Karen Quizon-Sakkam
Sharad Somani
Geno Armstrong
Reid Tucker
Jonathan Jong
Writers

Emmanuel P. Bonoan
Editor-in-Chief

Vaughn F. Montes, PhD
Editorial Consultant

Mariel D. Javier
Ma. Cristina Isabel L. Roxas
Editorial Coordinators

John Ernest T. Tandoc
Art Direction and Layout

kpmg.com.ph

For more information, please contact:

R.G. Manabat & Co.

Roberto G. Manabat
Chairman & Chief Executive Officer

Emmanuel P. Bonoan
Vice Chairman & Head of Tax

Sharon G. Dayoan
Head of Audit

Henry D. Antonio
Head of Advisory

Manila - Head Office
9/F KPMG Center
6787 Ayala Ave.
Makati City 1226, Metro Manila

Telephone +63 (2) 885 7000
Fax +63 (2) 894 1985
E-mail manila@kpmg.com.ph

Subic Office
GT Solar Building B
Unit 204, 2/F Sub 14-A
Sta. Rita cor. Canal Road CBD area
Subic Bay Freeport Zone 2222

Telephone +63 (47) 252 2825
Telefax +63 (47) 252 2826
E-mail subic@kpmg.com.ph

Iloilo Office
3/F, ATM Business Center
Cor. Jalandoni - Ledesma St.
Iloilo City 5000

Telephone +63 (33) 338 0849
Telefax +63 (33) 321 3823
E-mail iloilo@kpmg.com.ph

Cebu Office
Unit 502, 5/F Keppel Center
Samar Loop cor. Cardinal Rosales Ave.
Cebu Business Park
Cebu City 6000

Telephone +63 (32) 233 9339
Telefax +63 (32) 233 9327
E-mail cebu@kpmg.com.ph

Bacolod Office
Room 203, Doll Building
6th Lacson Street, Bacolod City 6100

Telephone +63 (34) 434 9225
Telefax +63 (34) 434 8015
E-mail bacolod@kpmg.com.ph

Infrastructure In-depth: Philippines 2015 Investment Guide by KPMG in the Philippines is available for download at
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