




## **Attracting and Harnessing Infrastructure FDI to Secure Lasting Economic Growth**







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## Executive Summary

From efficient and reliable road, rail, water and air transport and communications networks to affordable energy and clean water, infrastructure development is vital to support the economic growth and greater connectivity of the 21 APEC economies. Whether it is fixing aging infrastructure systems or creating new systems to address the needs of growing populations and industries, governments are increasingly seeking new sources of investment, domestic and foreign, to advance their economy's immediate and longer-term growth objectives and to achieve greater global connectivity, including through global supply and production chains that are increasingly characterizing international production and trade flows.

With an estimated \$8 trillion needed for infrastructure development in the Asia Pacific by 2020 according to the Asian Development Bank, attracting and retaining investment is a top priority. Yet, worldwide flows of investment are bumpy at best and economies around the world are in a race to attract private investment capital. While APEC economies have been growing their share of global investment, more growth is needed to meet current and expected needs.

This report, and the companion Enablers of Infrastructure Investment Checklist, are important contributions to the already significant work stream that APEC, the APEC Business Advisory Council (ABAC) and others have developed on both infrastructure and foreign investment. Looking at five key areas, both this report and the Checklist seek to advance understanding of

the most important factors that will attract and retain infrastructure investment and produce cost-effective and well-managed projects that will provide important benefits to local citizens and governments. The Checklist provides a quick overview of the key factors that a government should consider in improving its attractiveness to infrastructure investment, with measureable indices for each factor. This report seeks to provide greater context and understanding of many of those factors, explaining in more depth why they are important and how economies can improve their infrastructure planning, implementation, and financing to better attract investment flows. The five factors identified are:

- ◆ Augmenting government planning and implementation of infrastructure projects;
- ◆ Embracing financial market prerequisites for infrastructure finance;
- ◆ Developing robust Public-Private Partnerships (PPP), mechanisms and frameworks;
- ◆ Creating and maintaining a strong investment climate to attract Foreign Direct Investment (FDI); and
- ◆ The future of infrastructure and technology.





To advance government and private sector support for advancing a robust improvement in infrastructure investment throughout the APEC region, we recommend that:

1. APEC Leaders endorse and adopt the Enablers of Infrastructure Investment Checklist as an important tool for economies to improve their ability to attract needed infrastructure investment through self-assessments that engage agencies and policymakers responsible for finance and investment.
2. APEC officials integrate the Checklist and the key factors identified in this report into their Multi-Year Plan on Infrastructure Development and Investment (MYPIDI) to ensure that it reflects and leverages input from government agencies, international institutions and private sector representatives.
3. APEC develop a regional platform that can help bridge information asymmetries and assist economies in building transactional and planning capacity, involving the private sector especially through the Asia-Pacific Infrastructure Partnership (APIP). The establishment of a regional advisory panel to support the development of a pilot PPP Center is an important step that will help facilitate financing and implementation of much needed infrastructure projects across the region.



# Introduction

*By Hon. Cesar V. Purisima, Secretary of Finance, Republic of the Philippines*

It is said often that economies operate in cycles – of boom and bust, of prosperities and crises. Thinking in terms of cycles lends economics the appearance of convenience, but for the fiscal managers of governments, predicting the future is not always easy. To those, such as myself, who are tasked with making growth sustainable and inclusive, we must constantly be in search of measures that prove resilient no matter in what time in the cycle we happen to be.<sup>1</sup> From across the business and government spectrum, investment in infrastructure is highlighted as a robust growth driver that should be more widely adopted.

Dr. Masahiro Kawai, Dean of the ADB Institute, identifies infrastructure investment as “desirable” particularly during this period of uncertainty as some economies take on stimulus measures to accelerate growth at home.<sup>2</sup> Wishnu Wardhana, Chairman of the APEC Business Advisory, reiterates the need for such investment (around \$750 billion a year in the Asia-Pacific), particularly in economies heavily dependent on private consumption, to more “easily” attain target GDP growth rates.<sup>3</sup>

Researchers from global consulting firm McKinsey support Kawai’s and Wardhana’s statements; they estimate that deterioration in infrastructure has been suppressing GDP growth rates by 3 to 4 percent every year.<sup>4</sup> Given these strong arguments, infrastructure development appears to be a crucial priority best pursued not only in times of unpredictability in the world market but in the long term as well. The reason being the opportunity quality infrastructure brings not just to increasing and sustaining growth rates but also to enhancing human and social capital, reducing poverty, and stimulating globalization.

Singapore provides an important example of this potential brought forth to economic development. In the ‘60s, high unemployment rates, overcrowding, low standards of living, and other problems associated with poor infrastructure beset the nation. To address these pressing concerns, Prime Minister Lee Kuan Yew’s government executed three Concept Plans that involved the development of expressways, transit systems, and other infrastructure that were formed and implemented in a span of around thirty years.<sup>5</sup> Since then Singapore, a country with scarcely any natural resources of her own, has evolved into one of the world’s most highly advanced economies, with its GDP per capita increasing by an astounding fiftyfold and its unemployment rate decreasing to a third of its original value in just forty years.<sup>6</sup>

Similarly, in the ‘50s and ‘60s, Hong Kong was plagued with housing problems after a population boom brought on by an influx of immigrants from China. Since then, the government established organizations and departments authorized to build low-cost housing targeted for middle- and low-income families. Improvements in other forms of infrastructure, such as in transportation, utility, and sewerage, eventually followed suit.<sup>7</sup> Just as it was in Singapore, this investment in infrastructure has led to dramatic changes in standards of living, with GDP per capita increasing by thirty-seven times in a span of forty years.

Development in infrastructure, although in varying levels of progress, manifests itself in other parts of the Asia-Pacific region as well. APEC member economies’ total investment in gross fixed capital formation, i.e. land improvements, equipment purchases, and construction of transportation systems and buildings, was \$3.4 trillion in 1991, \$4.8 trillion in 2001, and \$6.5 trillion in

<sup>1</sup> Pacific Economic Cooperation Council, APEC needs to move beyond Bogor goals (February 2013), <http://www.pecc.org/frontpage-section/issues/494-pecc-singapore-conference-2013-asia-pacific-economic-integration-and-connectivity-pathways-for-resilient-and-inclusive-growth-singapore-february-22-23-2013>.

<sup>2</sup> Ibid.

<sup>3</sup> Himaya Quasem, *Asia ‘needs more infrastructure,’* **The Straits Times** (April 2013), <http://www.apec2013ceosummit.com/coverage/asia-needs-more-infrastructure.html>.

<sup>4</sup> N. Tahilyani, T. Tamhane, and Jessica Tan, *Asia’s \$1 trillion infrastructure opportunity*, **McKinsey Insights and Publications** (March 2011), [http://www.mckinsey.com/insights/financial\\_services/asias\\_1\\_trillion\\_infrastructure\\_opportunity](http://www.mckinsey.com/insights/financial_services/asias_1_trillion_infrastructure_opportunity).

<sup>5</sup> Urban Redevelopment Authority, *Our History*, <http://www.uragov.sg/about/ura-history.htm>

<sup>6</sup> World Bank World Development Indicators and CIA, World Factbook

<sup>7</sup> Fung Ping Yan of the Chartered Institute of Housing, *Public Housing in Hong Kong: Past, Present, and Future*, [http://www.cih.org.hk/event\\_speaker\\_download/events2006100801/Public%20Housing%20in%20Hong%20Kong-%20Presentation%2024-9-06\(insert%20photo\).pdf](http://www.cih.org.hk/event_speaker_download/events2006100801/Public%20Housing%20in%20Hong%20Kong-%20Presentation%2024-9-06(insert%20photo).pdf).

2011. Such investment in infrastructure contributed to an increase in employment opportunities as shown by average unemployment rates across APEC decreasing to 5 percent in 2011 after nearly breaching the 6 percent mark following the Asian financial crisis in 1997.

As illustrated by this decline in unemployment rates in the Asia-Pacific (more notably the drop in Singapore's joblessness), one of the effects of proper infrastructure development is generation of employment. Infrastructure directly creates jobs through thousands of workers immediately employed to construct and maintain these new structures. Moreover, such development also affects employment indirectly over time. Newly established hospitals, schools, plants, etc. require more doctors, teachers, technicians, and other personnel to ensure that such structures facilitate the effective delivery of social services.

Investment in infrastructure development can be an investment in human and social capital as well. Through the skills and techniques acquired in newly constructed schools, plants, research centers, etc., people can find better employment opportunities, significantly alleviating poverty and raising living conditions in a nation. Through new technologies obtained, economies also adopt methods to increase their total factor productivity. With a greater capacity to produce, nations reap sustainably higher GDP growth rates, which serve as the window for domestic and global economic development.

The potential benefits of quality infrastructure are not limited to a certain class or nation. With well-built roads and telecommunications towers, among other things, people living in less prosperous groups within economies will also feel the positive effects of thriving growth. With an effective network of ports and airports across nations, all economies should be able to seamlessly share with each other both the tangible (e.g., goods and services) and the intangible (e.g., techniques and ideas). Through properly developed infrastructure, economies and producers become better engaged in global supply and production networks that are increasingly characterizing trade flows in the 21st century. Ultimately, benefits of each individual nation should spill over to the others, enabling all interconnected economies to partake

in the tremendous economic growth brought on by infrastructure.

Figures on total trade in APEC member economies indicate an expansion in this sharing of goods and information. Additionally, through the APEC economies' persistent efforts to improve transportation systems and boost tourism, total receipts from international tourists have risen by 70 percent in the last 10 years.

The relationship between infrastructure and a nation's competitiveness and attractiveness as an investment destination appears to be cyclical. Quality infrastructure along with a sound business environment sends positive signals to investors, who bring in funds that further contribute to more improved infrastructure. Singapore again serves as an important model – aside from being the ASEAN nation with the highest infrastructure quality rating,<sup>8</sup> it is also one of only two Asian economies granted the highest credit rating from Standard & Poor's

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— Data from World Bank and United Nations Conference on Trade and Development (UNCTAD) Indicators

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(the other being Hong Kong which, not surprisingly, has the second highest infrastructure quality rating).

Billions of dollars in foreign direct investments flow across nations every year. Within APEC alone, \$697 billion in FDI net inflows was recorded in 2012, a little less than half of which were inflows to the United States and China<sup>9</sup> leaving the remaining \$408 billion divided among the nineteen other APEC members. Total trade, a strong signal for increased competitiveness, has risen in the region as well making it more challenging for individual APEC members to draw in FDI. Developing and emerging nations in the Asia-Pacific now face a difficult task: with seventeen out of the twenty-one members given investment-grade ratings by Standard & Poor's, how does one become more attractive to foreign investors?

<sup>8</sup> World Bank and Turku School of Economics, Finland, **Logistics Perception Index** (2012), <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/TRADE/0,,contentMDK:23188613~pagePK:210058~piPK:210062~theSitePK:239071,00.html>.

<sup>9</sup> Data from World Bank and United Nations Conference on Trade and Development (UNCTAD) Indicators





In its *Master Plan on ASEAN Connectivity*, ASEAN highlights Public Private Partnerships (PPP) as a productive tool in delivering effective infrastructure. In the Philippines, we have already established a pipeline of PPP projects and are continuing to improve the mechanisms surrounding such partnerships. Indonesia and Vietnam have also recently amended their PPP regulations with more robust mechanisms. Through enhanced framework, PPPs not only will contribute to more completed infrastructure but also will increase competitiveness as an investment destination. When streamlined PPP systems are coupled with enhanced government infrastructure planning, coordination, and implementation, governments can harness the advantages offered by private sector partnerships.

The principle that good governance is good economics has consistently guided the current Philippine administration's work in this area. Earlier this year, two major credit agencies granted the Philippines investment grade ratings for the first time, recognizing the importance of this approach to positively affect fiscal strength. Our government now works on solidifying the gains of good governance in laws that guide future

administrations, and in infrastructure that builds lasting strength in our economy. This will be crucial going forward as we approach the so-called demographic window – with the median age of our country currently at twenty-three years old, we will have to build a country that promotes a competitive business environment, and a level and highly accessible playing field. Hence, we target raising infrastructure investment from the current 2.5 percent of GDP to 5 percent by the end of President Aquino's term in 2016.

Fostering a strong, predictable, and transparent environment in public and private financing; planning and building infrastructure with clear and internationally respected rules; ensuring political and economic stability; and capitalizing on benefits produced by new technologies are main factors on which economies should concentrate. These and more, as discussed in the sections that follow, are essential to creating and maintaining an investment environment desirable to encourage infrastructure development.



# I. Augmenting Government Infrastructure Planning and Coordination Mechanisms

High-level government commitment, planning and implementation of long-term infrastructure projects are vital both to attract and to develop quality infrastructure investment that will meet the current and future needs of the APEC economies.

Infrastructure planning for a nation, region or city is an important function of government. Jurisdictions around the world have responded to their unique infrastructure challenges with varying degree of success. The success of infrastructure planning regimes in terms

of timely, efficient and effective interventions has been difficult for many jurisdictions.

The challenge for government with infrastructure planning is to balance short-term urgency with longer-term imperatives. Shifting focus to the longer term and taking a more holistic and integrated view of infrastructure requirements is examined in the following section along with the challenges for governments to organize themselves appropriately to build stakeholder confidence and predictability.

## Connectivity – The Newest Essential of the Infrastructure Equation

High-speed connectivity is increasingly viewed by governments and societies as an essential part of the infrastructure equation, alongside electricity and energy, transportation and potable water. The availability of high-quality broadband networks and related services are essential to provide internet and other connectivity to governments, businesses and individuals.

Developing safe, reliable and continuous high-speed connectivity requires a thorough understanding of the challenges facing broadband deployment, as well as attention to the key factors identified in this report and the related infrastructure checklist.

## The Necessary Mind-Set

### Long-Term Planning

For policymakers, balancing short and long term infrastructure pressures is brought into sharp contrast owing to the very long economic life of these assets compared with most other categories of economic activity. As a result, policymakers must organize the machinery of government to integrate longer term planning practices. Good planning should initially focus much more extensively on augmenting underlying drivers of economic and social development for the area and/or sector that is under consideration, and focus less on the proposed immediate attributes of the physical asset.

In the case of shorter life cycle assets (e.g., schools, health facilities) these need to be procured and designed to be more adaptable to the changing requirements of society, such as an aging population. For example, governments in the near future may never procure and build another school, as we traditionally know it. That is because of enhanced multi-use capabilities where switching from a school to emergency shelter, an aged care home or a work anywhere facility is possible at minimum cost.

### Clear Roles for Policymakers and Technical Experts

It is critical that there is a clear separation of roles and responsibilities between political and technical input in the infrastructure planning process.

Policymakers should set vision, objectives and performance criteria for infrastructure and express them through a social and economic framework. Governments oftentimes fail in setting vision/objectives and mistakenly assume a list of projects will suffice as a holistic and purposeful strategy for infrastructure. To be successful, governments instead need to set the overarching parameters that will govern the behaviors of people and institutions within the system. Examples include national productivity led growth, well-being indicators, resilience to natural and human events and adaptation to economic, social and technological change. In so doing, governments at the national level must coordinate with local governments to share information and priorities and ensure outcomes.

The technical input from expert teams for infrastructure planning includes design, funding, procurement construction and management of assets

post commissioning. All technical input is directed to the achievement of the key parameters set by policymakers. Governments need to take seriously the need to augment such institutional capacity to plan, deliver, operate and monitor infrastructure projects. Trained and professional government officials must implement such processes with expertise in infrastructure planning and procurement, coordination of large projects, financing and other disciplines. Where such skills are lacking, training is vital to put into place a cadre of trained, professional experts to ensure the success of infrastructure projects.

### Evidence-Based Next Generation Infrastructure Planning

The planning of national infrastructure systems is extremely challenging because policymakers seek to navigate the future requirements of a jurisdiction based on very limited information. This is not unfamiliar territory. For example, the completion of the transcontinental railway in the United States triggered unexpected challenges and benefits. Railroad managers had to deal with mass confusion for passengers and rail operators alike as there was no standardized measure of time across the US; with towns and cities setting their clocks to local sunrise and sunset. By necessity the railways developed the current nationwide time system with four distinct time zones to allow for a uniform schedule for arrivals and departures. The benefit of this innovation enabled the nation to function as a single system. In doing so, it unleashed investment, productivity and new aspirations that enabled more of the population to contribute and benefit from the national economy.

Just as the transcontinental railway was a very important new physical transport network, a fundamental test of success for an economy is the ability to adapt legislative and regulatory frameworks to the new infrastructure. This adaptation ensures the second round effects of the investment such as innovation can be quickly translated into productive growth and new opportunities.

Next generation infrastructure planning will need to be more evidence based. That is, to achieve city-wide/regional benefits from infrastructure, policymakers will need to be better equipped to understand the impact of their decisions, and nuance them to achieve their objectives under complex and challenging environments.

Data from cities, regions, government agencies, private sector and the community itself will support deeper insight about the way infrastructure impacts productivity, well-being of constituents and resilience of systems (water, energy, transport and social infrastructures).

Effective infrastructure planning must be informed about the way suburbs and precincts change over time and the implications of that change on physical infrastructure. Land-use within cities and regions, demographics and behaviors of the population are important. For example, transport modal choice, access to employment, building size, income levels and density all represent key drivers of change.<sup>10</sup>

If these drivers are not accounted for in a dynamic and rigorous way in the planning process, there is an increased risk of not achieving the intended social and economic outcomes.

Land-use activity has a particularly important impact on transport assets and there is a need to ensure they are aligned in the planning process. When they are not, new suburbs are without adequate public transport; highway expansion occurs without coordination with local rail systems, and ports and airports are expanded without solving bottlenecks on connecting roads and rail networks.

Beyond transport, other infrastructure has also suffered with silo-type planning – like for example, the location of electricity generation assets and the long-term availability of water.

## Key Propositions for Infrastructure Policymakers

### *Government as a Market Maker*

Markets are very effective mechanisms, because they provide an efficient matching service between those that demand a good/service and those best able to supply it. Regularly overlooked in market discussions is how the infrastructure market could be shaped to better serve the needs of government and in turn the community.

Governments typically approach infrastructure procurement on a project-by-project basis and as a result their interactions with the market are often uncoordinated and fragmented. When demand from government is lumpy and ‘stop-go’ in nature, it can

A market maker in infrastructure is concerned with the efficiency of the price discovery process within the market, ensuring there is good deal flow so information is exchanged to match existing buyers and sellers, as well as signaling future capability requirements from the market.

increase the cost of infrastructure and lower the quality of market responses. This approach has direct implications for the way that the infrastructure market configures itself and its ability to evolve and mature to ensure that the best possible services and innovation can be delivered from bidders to procurers.

Infrastructure planning is a much more sophisticated and nuanced activity than simply publishing a list of infrastructure projects. Government as a market maker is concerned with the long-term development of the infrastructure market so that it, as a major purchaser, is assured of global best practices from its suppliers at the best possible price. To do so requires a transparent and



<sup>10</sup> SMART has built a prototype large-scale agent based model to integrate land use and transport planning for Sydney. The model created in partnership with Transport for New South Wales enables rigorous scenario development of future dynamic changes in economic and social drivers within cities and its impact on infrastructure.



predictable framework that establishes market behaviors and a culture that is conducive to the long-term asset life cycles of infrastructure and the government's objectives.

Such a market framework should transcend individual projects and integrate the overall market so that supply chains can be organized and adapt as required. Central to this outcome is the ability for the market to innovate in physical design, construction, funding and governance (business models) without intrusive and prescriptive interventions from government.

Governments may have a series of projects that are complementary in the construction process and have the capacity to produce significant savings provided the market is orchestrated to make such outcomes possible. For example, a tunneling project produces 'spoil' and its removal will drive-up costs; while a nearby surface road construction project could benefit from the 'in-fill' with significant net savings in terms of dollars and possibly broader impact.

Market making is multi-dimensional and involves the development of asset standards and supporting protocols for design, operation and management of the infrastructure network. It also values tacit knowledge of expert teams that successfully delivered previous projects. Helping bidders to retain their successful teams between major projects can help yield considerable productivity benefits for future project delivery. Hence procurers and bidders should understand the procurement framework to a very high standard and market making should make that as easy as possible.



### ***Informed Buyers Get Better Infrastructure***

Technical solutions for infrastructure can only be effective when the procurer has provided clearly articulated objectives describing what the intervention is meant to do, the problem at hand and how success is to be measured. Governments find this very difficult to do, particularly as institutional arrangements can prevent holistic and interdisciplinary perspectives being developed and used.

There are a number of biases in infrastructure planning that distort quality decision-making. For example:

- ◆ Infrastructure often moves very quickly from project inception to engineering blue prints. While there is value in moving projects forward a pace, difficulties can arise if project design is too rushed without proper consideration of the problem it is intended to address.
- ◆ Infrastructure is treated as a static-physical asset and is designed and procured without consideration of the possibility it will deliver a service, require a value proposition and be relevant to customers.
- ◆ Build new infrastructure first as opposed to renovating and seeking better use of existing infrastructure.
- ◆ Under investment in spare capacity so bottlenecks emerge soon after project completion.
- ◆ Finally, infrastructure procurement expertise is often siloed in purchasing departments and lacks whole-of-government coordination. Teams can be poorly trained for dealing with non-traditional procurement techniques such as public private partnerships.

At the core of good governance for infrastructure planning is the commitment to transparent, rigorous, evidence-based and coordinated use of resources. This commitment includes a strong culture to review past projects, and their supporting analytical tools in order to understand why under and over performance occurred. Dedicated whole-of-government central infrastructure agencies that provide a center of excellence for procurement and management of infrastructure can be effective, especially dealing efficiently with private sector.<sup>11</sup>

<sup>11</sup> Partnerships Victoria in Australia is a good example of this approach.

**Project selection** needs to be undertaken as part of a portfolio approach that reflects the broader consideration of the infrastructure system that is being developed around it. For example, road congestion could be addressed in many different ways including regulatory practices, pricing and deploying different assets such as public transport alternatives.

Evaluation of a project in isolation of the connected infrastructure network around it could lead to inefficient use of capital and underperformance to community expectations. For example, international gateways, such as ports, rely on the quality of the connecting transport corridors. These assets can be further compromised through poor land use planning. Urban encroachment around ports can curtail operating hours, result in restrictive noise regulations that impact on productivity.

Sweden and Australia for example have in place institutional processes that are agnostic towards greenfield projects. Both regimes attempt to incentivize policymakers and the market to consider behavioral change/better-use measures including demand management. This is important in signaling to the market about innovation for non-capital intensive solutions.

**Procuring for outcomes** is an essential feature for better infrastructure planning. It is important because the physical infrastructure should be designed to satisfy the needs of customers, through the delivery of services that meet certain pricing and quality considerations. Outcomes-based contracting ensures maximum transfer of benefits to the bidding process without the rigid procurement formats of traditional models (where design, inputs and processes have already been specified in detail by the procuring authority, which has the potential to strangle innovation from bidders).

**Market structures, competitive pricing and contestable ownership** must occur within well-developed frameworks without political interference. As government subsidies are often involved in infrastructure procurements to assist with service delivery to certain groups (i.e. excessive cost recovery may make it prohibitively expensive) complete transparency is necessary to help drive efficiency.

Governments that are clear minded on market structures and pricing will find it much easier to consider financing options for infrastructure. It is essential that Governments have clear principles about whether they want private capital involved, and to what end. Innovation, efficiency and risk transfer are often motivating factors, but these factors need to be tested to determine whether the market structures are appropriate to achieve the best result against the stated objectives.





### ***Building Community Confidence and Trust***

Infrastructure assets and services have a very privileged and intimate role to play in our society, because they provide the platform for conducting modern life. For example water for living, energy for growth and employment and technology for connection and coordination. The reality is that while infrastructure development can be undertaken in partnership with the private sector, when there is a failure or breakdown the community will always turn, as a last resort, to the government to fix it. Hence the partnership between the government and the private sector must be strong and both have roles to build community confidence.

Within cities and regions, major infrastructure projects can have differential impacts on a community. An inevitable role of government, therefore, is to have in place mechanisms to gather relevant information in a timely manner, including potential community objections, and promote fair, reasonable, and transparent outcomes.

The increasing reliance on private investors to fund public infrastructure also places an even greater imperative on governments to have the ability to interact, negotiate and secure outcomes in the best interest of the community. This requires strong institutional architecture, including anti-corruption agencies. In addition, given that private sector engagement in the provision of infrastructure can generate concern on the part of the general public, there should be routine processes

developed in the planning phase that encourage public input and discussion about the proposed infrastructure. Governments need to be open and transparent about the relationship with private sector participants and the value such participants provide to overall infrastructure development.

Jurisdictions also need to be frank about success and failure; and to demonstrate that they are capable of learning lessons from the past and to transfer best practices from other jurisdictions. Public trust and confidence within a jurisdiction should improve when there is demonstrable success of a previous project(s). Jurisdictions should recognize that public trust and confidence is cumulative, and that every project successfully delivered builds trust one-step at a time. Therefore, infrastructure planning must ensure a very high level of competence in delivery, and provide that genuine and in-depth consultation occurs to produce fair and reasonable outcomes for the community.

Public infrastructure, in the eyes of the community, warrants a very high level of accountability and transparency. And they are entitled to this view. Of course, government must ensure that legitimate commercial-in-confidence considerations are protected, but this should not be used as a means of impeding the ability of the community to have an appropriate degree of scrutiny and understanding of the project.



## II. Embracing Financial Market Prerequisites for Infrastructure Finance

The creation of a receptive environment for the operation of financial markets is essential to achieving sustainable finance for infrastructure. That is, if “host governments” are interested in attracting private capital (equity, commercial bank lending and debt) for infrastructure projects, they must show a determined commitment toward the “prerequisites for financial market participation.” The prerequisites include creating a relatively stable macroeconomic environment, developing a legal framework for contractual transactions and their enforcement, ensuring a relatively stable regulatory framework, developing a domestic debt market and establishing a credit culture.

The first bit of good news is that the financial markets do not need to wait for the prerequisites to be fully developed. They can begin financial transactions if they perceive that the host government is fully committed to their eventual development. Thus, financial market prerequisites are purposefully described in the present tense (“as a state of becoming”). The second bit of good news is that many governments across the Asia-Pacific have already made considerable progress in some of these areas, particularly with respect to their macroeconomic environment. Across the Asia-Pacific, however, few economies have committed to meeting all the financial market prerequisites, which partially explains the shallowness of current investment – the relative absence of debt and the “high-tide, low-tide” mentality of equity throughout the region.

The prerequisites for incentivizing financial market participation in the financing of infrastructure are as follows:

- ◆ Creating a relatively stable macroeconomic environment;
- ◆ Developing a legal framework for contractual transactions and their enforcement;
- ◆ Ensuring a relatively stable regulatory framework;
- ◆ Developing a domestic debt market; and
- ◆ Establishing a credit culture.



### Creating a Relatively Stable Macroeconomic Environment

Economies that have undertaken proactive public policy steps to control inflation and external debt, promote trading partnerships, and increase official reserves often provide a fertile ground for all types of domestic and foreign private investment, including for infrastructure. For an infrastructure project, an economic or financial crisis creates not only a financial risk (i.e., the project’s ability to generate sufficient revenues to cover operating and debt service costs), but also adds uncertainty as to the range of political responses that might affect its operations during a crisis. While all economies are vulnerable to economic and financial cycles, a government’s coordinated economic and financial policies can act to reduce the severity, duration and frequency of these cycles – in other words, their effects can be partially mitigated.

The strong and long-term projected economic growth prospects for many Asia-Pacific economies provides an excellent backdrop for institutional investors to consider investments in infrastructure projects, but this positive macroeconomic backdrop is not always enough. Governments also need to focus on perceptions by international institutions, investors and others stakeholders about the pace and direction of other reforms with respect to foreign direct investment, the freedom of trade, the enforceability of contracts and the incidence of corruption which also affect investment intentions.

## **Developing a Legal Framework for Contractual Transactions and Their Enforcement**

A country's legal framework provides “institutional gravity” to its public policies that otherwise encourage private sector participation in infrastructure finance. Laws provide the ground rules for the enforceability of contractual relationships, concessions and/or privatizations, as well as a process for dispute resolution and for lender remedies under bankruptcy and insolvency. Ground rules that are enforceable under the law and, in some cases, through international treaties, alert investors as to their obligations and protections when entering into a transaction. As discussed in more depth below, this promotes investor confidence in fair treatment should difficulties arise, and acts as an encouragement to the sustainability of finance for infrastructure. While some economies can rightly point to the successful financing of projects under “cultural relationships” outside of a legal framework, this type of financing prevents outside capital from participating, and it is neither scalable nor sustainable relative to the current infrastructure financing needs of that country.

A number of APEC economies, such as Chile and the Republic of Korea, have developed comprehensive and transparent concession frameworks or laws, where public sector goals and objectives for private sector participation in infrastructure projects are clear. The legal architecture in these examples is internationally recognizable and acceptable; for the remaining economies in the region, there are important role models from a variety of different regions from which to choose.

## **Ensuring a Relatively Stable Regulatory Framework**

A base set of administrative regulations should be developed in tandem with the legal framework for infrastructure projects, across different forms of publicly acceptable project-ownership structures both public and private. This will take time, but it will allow the government to achieve an appropriate balance between access to private capital and the dilution of its own sovereignty. This trade-off is an inherent characteristic of the PPP market, discussed below, where the public sector

is granting the private sector access to project revenues for a fixed period of time in exchange for the delivery of certain facilities and services.

It can be an advantageous arrangement to both sides if the country attracts private investment while protecting its interests under a predictable regulatory mantle. The private-sector investor or operator can make the upfront choice to adapt its expectations of an infrastructure project's performance to an onerous regulatory environment (it gets to vote on this by either making an investment or not). Rarely, however, do project economics allow the financial flexibility to adapt to a rapidly shifting regulatory environment. This is not to suggest that the regulatory umbrella will remain static. It will and must fluctuate as the portfolio of PPP and other infrastructure projects grows, as the government develops experience with those projects, and as the country undergoes significant political, economic and social cycles. Sustainability of finance, however, requires that the regulations remain predictable and transparent.

Regulations should also focus on the project's lifecycle (its design, construction, operation and eventual return to the public sector). The policy agendas of a country's regulatory agencies can differ at each stage of a project. For this reason, it is important to designate a common governmental cross-ministry or cross-departmental team in the selection and monitoring of infrastructure projects. The Republic of Korea provides an excellent Asian role model for this. The central government's primary administrative entity for interface with the private sector on infrastructure projects is the Public and Private Infrastructure Investment Management Center (PIMAC). PIMAC reviews both solicited and unsolicited project proposals, helps to negotiate concession contracts and mediates disputes. While this may in some ways create conflicting regulatory roles, its administrative premise of having representatives from each of the ministries that will interact with the project over its life cycle is innovative. This mitigates much of the regulatory risk upfront, since the resulting concession agreement can reflect the concerns and agendas of the various government ministries whose regulatory activities will touch the project over its concession or regulated lifespan.

## Developing a Domestic Debt Market

The development of a domestic debt market requires commitment to a variety of financial sector reforms. These include the ability to invest funds outside of direct government debt, the creation of institutions for the trading of securities, a national savings plan (such as through pension funds) and the gradual establishment of a government debt yield curve. Most economies in the Asia-Pacific region still have shallow markets, with investments limited to central government bonds and to a handful of other government owned or privatized entities; and in some cases to a few structured real estate transactions. Investments are also limited to short- and medium-term maturities, and there are few viable alternatives to commercial bank lending in most Asian economies.

Some economies limit the investment options of their pension funds and life insurance companies. This can take the form of a direct restriction, such as when regulations specify what percentage of investments can be in certain asset classes, or an indirect restriction, such as mandatory investment in debt instruments of a certain rating level. Government regulations usually struggle to keep up with the growth of their domestic pension and life insurance funds. Having these critical pools of domestic capital sitting on the sidelines as infrastructure needs to grow is unfortunate, since these pools oftentimes represent the best source of domestic long term funding.

Existing financial regulatory frameworks in a number of Asian economies are also in need of harmonization and consistency, as they are often created because of differences in the regulatory approach and philosophy between different governmental regulatory agencies. These regulatory inconsistencies can create impediments to greater investment in infrastructure for both domestic and international investors. The rules for investor entry, the regulatory and taxation treatment for domestic versus foreign capital, the difficulty of migrating debt from the banking sector to the fixed income sector, the absence in many cases of an electronic exchange for secondary market fixed income activity, and the intercreditor issues surrounding how different forms of infrastructure investment and lending can co-exist on a pari-passu basis, are all areas where additional clarity is needed in order to make the financial markets work more efficiently.

The equity markets across the Asia Pacific also have their work cut out for them, as they search for long-term investors to supplement and gradually supplant the project-by-project mentality of the construction contractors who currently dominate the equity side of infrastructure investment. The frenzy to win a construction contract often seems to supersede the rationality of a project's economics or of its contractual structure as determinants for long-term investment. For this reason, contractors do not always make the best infrastructure equity investors. In the current phase of volatile global financial markets, whose herd-like movements are driven by short-term decision making, it will be hard for Asia-Pacific economies to find long-term equity investors; but this quest only highlights the importance of sticking to the financial market prerequisites mentioned in this report.

Finally, the commercial banks also have their work cut out for them. They will and should continue to dominate project construction lending, since the fixed income markets are shy to take on construction risk. Banks understand construction risk. Nevertheless, beyond the construction period, their inherent asset-liability mismatches and their growing exposure limits under Basel III requirements, make them an inefficient long-term source of debt for operating infrastructure projects. In some Asia-Pacific economies, banks have tried to offset these mismatches by using interest reset clauses in the project loan documents to upwardly adjust interest rates, or by trying to maintain high deposit rates. Nevertheless, the gradual development of deeper and broader domestic debt markets for the recycling of commercial bank loans once infrastructure projects become operational is in the long-term interest of the commercial banks.

## Establishing a Credit Culture

The Asia-Pacific markets' presently relaxed attitude toward risk (even after the global financial crisis) reflects the undeveloped credit culture across the region. Project finance often features stand-alone, non-recourse and sometimes single-asset financing. It relies on the economic value of its projects, the integrity and conditionality of its contracts, and the ability and willingness of its counterparties to honor the provisions of those contracts. It also relies on the availability and depth of risk-mitigation provisions such as reserves, liquidity



facilities and insurance coverage. Infrastructure finance has layers of risk, even if the eventual off-taker is a highly rated government entity.

Present lending practices in the Asia-Pacific rarely take these risks into account, preferring instead to base lending upon corporate, governmental and personal relationships. Some economies, such as Mexico, have promoted the use of ratings to make more efficient the development of domestic bank lending and of eventual bond transactions, but they remain the exception. Even in some of these cases, however, the request for ratings is to meet a regulatory requirement rather than to price risk. These changes, even when regulated, take time to

be embraced by markets that are more accustomed to relationship lending than to credit fundamentals.

In the quest for domestic capital, a developing credit culture can inform local investors whether a project debt transaction achieves their regulatory investment requirements, and if it does what risk premium to charge. In the quest for international capital, a developing credit culture can encourage potential investors to look at the credit fundamentals of a project debt transaction, and avoid the practice of applying a broad and often negative brush to “anything from there.”

### III. Developing Robust PPP Mechanisms and Frameworks

Improved government use of Public-Private Partnership (PPP) mechanisms to develop sustainable and bankable infrastructure projects is increasingly being examined by governments and investors alike as a promising way forward. Clarity and transparency in project design, contracting, division of responsibilities, performance measures, risk apportionment as well as neutral and objective mechanisms to prevent and resolve disputes are all qualities that will advance the effective use of these partnerships.

#### **When implemented well, PPPs can improve infrastructure services:**

- ◆ PPPs can help improve project selection, subjecting assumptions to the market test of attracting private finance.
- ◆ PPPs can help manage construction better than traditional procurement, with projects coming in on time and on budget more often.
- ◆ PPPs can mobilize additional sources of funding and financing for infrastructure. Currently, 20 percent of Asia’s infrastructure investments are being met by the private sector. With Asia’s growing infrastructure investment needs, countries in the region are looking to expand private sector investment. PPPs have also helped to ensure adequate maintenance keeping assets in a serviceable condition. The World Bank estimates that when a publicly maintained road is allowed to deteriorate from good to poor condition, each dollar not spent on road maintenance increases vehicle operating costs by between US\$2 to 3 dollars<sup>12</sup>

#### **When not implemented well, PPPs can have pitfalls that undermine their value:**

- ◆ Poorly selected projects, including non-economically viable projects, do not make successful PPPs. For example, consider the proposed construction of a new international airport for a major city, where the airport is 70 kilometers away, would handle only 500,000 passengers and 4,300 tons of cargo, but requires an investment of nearly \$150 million. With this traffic, the investment in the new airport is not economically justified and a PPP cannot improve the economics of this project.
- ◆ PPPs awarded without competition or a transparent procurement process could miss out on benefits from private sector efficiencies. Guasch’s comprehensive review of PPP experience in Latin America highlights the challenge of achieving the efficiency benefits of competition. Of a sample of over 1,000 concessions granted in Latin America and the Caribbean between 1985 and 2000, Guasch found that 55 percent

<sup>12</sup> Commercial Management and Financing of Roads, Heggie, Ian; Vickers, Piers, The World Bank Technical Paper No. 409, 1998.

of transport concessions and 75 percent of water concessions were renegotiated on average 2.2 years after the concessions were awarded. Guasch suggests that this high incidence of renegotiation soon after concession awards may reflect flaws in the procurement process—that is, lack of competition and transparency.

- ◆ Poorly structured PPP contracts can weaken incentives to deliver improved services. For example consider a long-term contract for a mass rapid transit system that ensures a guaranteed return on equity to the investor—that is, equity investors are not bearing any project risk—but does not provide any incentives for expanding the network. The private operator has, therefore, not invested in expanding the system capacity to meet rapidly growing demand. With the system operating at maximum capacity for years, the quality of service to passengers has been adversely affected.

There are also numerous examples of contracts with weak incentives to maintain assets. One recent example is the concession contract for a South American airport. The contract was awarded in 1997 to a special purpose company (SPC) owned by local and international investors. As of 2005 the SPC had earned nearly \$18 million in revenue and invested less than \$0.25 million in rehabilitation and maintenance of the runway and terminal. The government, unsatisfied with the outcome of this poorly structured contract, decided to terminate the contract and is currently procuring a new and improved concession contract that includes stronger incentives for investing in rehabilitation and maintenance of the airport's key assets.

- ◆ The absence of effective and efficient dispute resolution contractual provisions can also diminish the value of PPPs. Poorly managed disputes can be time consuming and distracting, result in project delays, be costly to resolve, negatively impact working relationships, or lead to contract termination. For example, in 2005, a private water supply provider in Africa requested a tariff revision one year into its 10-year lease contract with the water authority. The company was experiencing major financial difficulties due to its poorly structured bid that had greatly underestimated the level of investment needed to rehabilitate the water system. There were no contractual provisions for adjusting the tariff given insufficient revenues, so there were no set rules for addressing the problem. After attempting an unsuccessful negotiation, the parties hired a mediator, which was also unsuccessful. The dispute ended with the cancellation of the PPP contract, and later in arbitration.<sup>13</sup>

Despite potential pitfalls, governments in APEC economies are keenly interested in using PPPs to develop much needed infrastructure. For example, during the last five years the governments of Indonesia, Mexico, New Zealand, the Philippines, Thailand and Vietnam have created or restructured their PPP programs. In Thailand for example, a new PPP law to establish a national PPP Committee was enacted in April 2013. The PPP Center in the Philippines, created in 2010, is currently overseeing the preparation of eight transactions.

<sup>13</sup> Biwater Gauff (Tanzania) Ltd. v. United Republic of Tanzania. Minutes of the first session of the Arbitral Tribunal March 23, 2006. Retrieved from [http://www.iisd.org/pdf/2006/itn\\_minutes\\_first\\_session\\_paris.pdf](http://www.iisd.org/pdf/2006/itn_minutes_first_session_paris.pdf) on June 6, 2013. Available at: [http://www.iisd.org/pdf/2006/itn\\_minutes\\_first\\_session\\_paris.pdf](http://www.iisd.org/pdf/2006/itn_minutes_first_session_paris.pdf).

## Key Factors to Maximize PPP Infrastructure Benefits

Whilst creating or revitalizing a PPP program is a good start, the road ahead is often steep and winding. In order to maximize benefits from the program, PPP units need to focus their efforts on the following factors:

- ◆ **Select the right projects as their pilot PPPs.** When selecting projects, PPP units need to consider whether the project: is economically viable, financially viable (or estimate the level of government support needed to make it financially viable), achieves value for money if developed as a PPP, has political support and could be attractive to private investors. Some of the APEC economies with more advanced PPP programs like Australia and Canada have developed methodologies and tools that can assist PPP units in other APEC economies to screen and prioritize PPP projects using such criteria.
- ◆ **Develop clear processes and procedures.** Setting a clear and efficient process for project structuring and approval is also essential to the success of PPP programs. Some economies have created inter-ministerial committees that are responsible for project approval – like the Investment Coordination Committee (ICC) in the Philippines, or the recently created PPP Steering Committee in Thailand. In common law economies like Australia, processes and procedures have been established in PPP procedure manuals that explain step-by-step the process for preparing and procuring PPP transactions. In civil law economies, for example, Mexico, these processes and procedures are set in decrees that explain in detail how the PPP law would be implemented. Critical to the planning process is the consideration of life-cycle costs of the project.
- ◆ **Structure and procure high-quality PPP transactions.** Even when the process for preparing and procuring PPPs is set in manuals or decrees, PPP units often need assistance from transactions advisors that can assist in the due diligence, transaction structuring, contract drafting, procurement and negotiations. These are complex tasks that require competencies and skills that are generally not available in-house in PPP units. To avoid delays

in procuring advisors for each transaction, some economies like New Zealand and Philippines have created a panel of advisors that is engaged under a long-term framework advisory contract and deployed as needed to work on specific transactions.

- ◆ **Develop effective and efficient dispute resolution mechanisms.** International best practice on dispute resolution mechanisms usually follows a process in which the parties to the contract first attempt an informal and inexpensive resolution mechanism, such as negotiation, when a dispute arises. If no agreement is reached, the case could be escalated to a mediation, and if necessary, a judicial process or arbitration. Adopting this type of a transparent and established process and being a member of the International Centre for Settlement for International Disputes is an important step in addressing private sector apprehensions on dispute resolution and will, in turn, will help attract private capital and achieve value for money.
- ◆ **Be open to improvements.** With interest around the world in developing efficient and productive PPP mechanisms, including groups like the B-20 that seek to develop a “PPP toolbox,” it is important for economies to also consider new developments, innovations and global best practices.

In summary, PPPs have the potential to greatly improve infrastructure services. PPPs are a useful tool for improving project selection, timely construction, mobilizing private finance, and maintaining infrastructure assets if done right. To avoid all too common pitfalls, however, governments should ensure that the project is economically viable, awarded competitively, structured properly and for the long-term, and contains contract provisions for foreseeable future issues, including the resolution of potential disputes. Addressing these factors is vital for governments to maximize the potential benefits of the PPP.

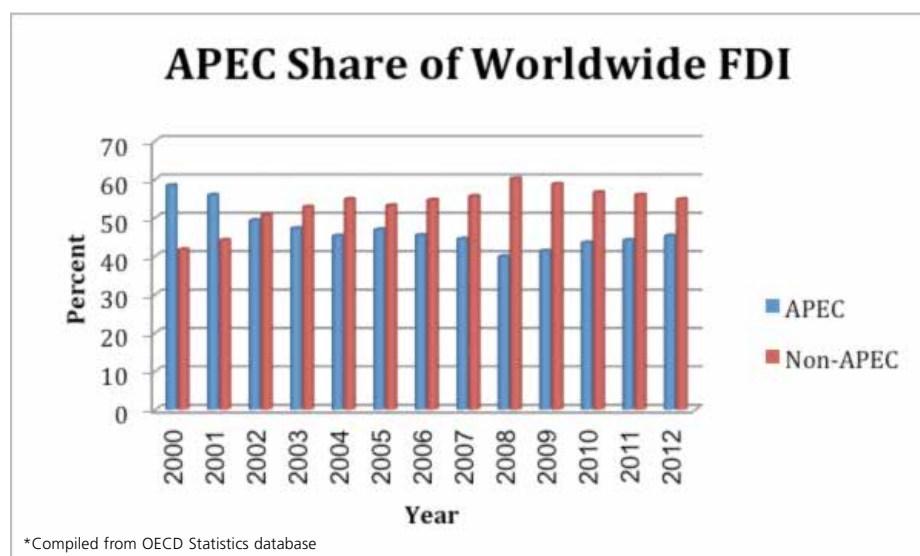


## IV. Creating and Maintaining a Strong Investment Environment to Attract FDI

Also critical to driving infrastructure development in the Asia-Pacific are the private capital investments that increasingly fund that development. While the foregoing chapters examined factors that are important for domestic and foreign investors alike, attracting FDI requires additional areas of focus given the substantial demand worldwide for increased FDI. The investment competitiveness of APEC economies has been improving since 2008, but has not yet regained its peak share that characterized inward investment in APEC economies in 1999/2000.

Investment competitiveness of APEC economies is particularly critical in the face of global reports that “the road ahead for . . . FDI . . . recovery is bumpy” and the global drop in FDI by 18% in 2012.<sup>12</sup>

As summarized in the 2011 ABAC-NCAPEC report *Investing for Growth: Spurring Infrastructure Development and Economic Growth through Foreign Direct Investment*: “APEC economies need to enhance their investment competitiveness in order to attract even greater long-term and growth-producing FDI in the years and decades ahead.” While all of the factors identified in that report are relevant to infrastructure investment, several are more important than others given the long-term nature of infrastructure investment, the substantial levels of capital required, and the greater uncertainty on the risk-reward ratio. This last difference is particularly important when considering FDI in infrastructure. Unlike traditional commercial infrastructure where most of the decisions, choices and future direction are decided solely by the investor, infrastructure development requires collaboration and participation by government policymakers in these decisions. As discussed below, these differences highlight the need for greater



government attention to issues related to the creation and maintenance of:

- ◆ A domestic regulatory environment that is characterized by certainty and predictability;
- ◆ A domestic legal system that provides fair and timely resolution of civil disputes;
- ◆ Transparency and anti-corruption standards; and
- ◆ International rules and investment agreements that provide transparent standards and international dispute settlement mechanisms.

### Promoting Domestic Certainty and Predictability

While project guidelines and contracts specific to individual infrastructure projects, as discussed above, are important considerations by prospective investors, so too is the broader legal and regulatory framework of the economy in which the project is to be developed. Domestic economies that are open, stable, have strong institutions and are based on predictable legal frameworks are ones that are better able to attract the long-term commitments that infrastructure investment requires.

An economy's overall environment of legal and regulatory predictability is a prime factor for infrastructure investors. Predictable, fair and consistently applied

<sup>14</sup> UNCTAD, World Investment Report 2013: Global Value Chains: Investment and Trade for Development at ix (2013) (WIR 2013).

regulations, including rules related to taxation, are highly important to infrastructure investors who are seeking long-term investments and overall stability. Well-defined private property rights and protections, including for intellectual property and contracts/concession agreements, are also critical.

Beyond the overall domestic framework, infrastructure investors also require government systems that provide for objective and timely government permitting of projects, registration of property, and import procedures, among other basic government regulatory activities that need to favor full implementation of infrastructure projects and not unnecessarily delay them. Sluggish government permitting activity, for example, may not only slow down an infrastructure project, it may result in significant cost-overruns adversely affecting the government, the investor and the public seeking to benefit from the project.

The World Bank's *Doing Business Report* and the *World Economic Forum's Global Competitiveness Index* both provide important snapshots of each country's activity on several of these factors.

### **Fair and Timely Resolution of Civil Disputes**

Another factor particularly important to foreign investors is an economy's overall legal system and whether it provides for the fair, equitable and timely resolution of civil disputes, including contract matters. In complex infrastructure projects, prime contractors can enter into dozens if not hundreds of contracts for the supply of goods and services. Domestic legal systems on which investors can rely for objective and timely resolution of disputes in a non-politicized fashion are, therefore, highly important, as recognized by the World Economic Forum and World Bank. Key factors in this regard including having a strong and independent judicial system, with professional judges, a strong civil code with clear rules of evidence and impartiality and a system that is considered efficient, fair and equitable.

### **Transparency and Anti-Corruption Standards**

As APEC economies have long-recognized, transparency and non-corruption are at the heart of successful governance and long-term economic growth,

including both the *Santiago Commitment to Fight Corruption and Ensure Transparency* and the *APEC Course of Action on Fighting Corruption and Ensuring Transparency* in 2004. The work of APEC's Anti-Corruption and Transparency Experts' Task Force (ACT), which was recently upgraded to a working group, is a vital part of promoting cooperation and activity to address these concerns.

For infrastructure projects, corruption and lack of transparency are particularly corrosive, wasting scarce financial resources, slowing down project implementation and completion and jeopardizing the final outcome of projects through the use of sub-standard materials and inadequate supervision. For governments and investors alike, corruption undermines the creation and value from infrastructure investment.

Strong domestic supervisory systems and acceptance of international norms and instruments on anti-corruption are key indicators of the problems that economies face on corruption. Transparency International's *Corruptions Perceptions Index* is the most widely regarded corruption index and one in which investors take great confidence. In 2013, Transparency International ranked ten of the 21 APEC economies in the top 50 of its Index.

### **High-Quality International Investment Agreements Increasingly Relevant**

Another mechanism to reduce risk and spur greater investor confidence is the adoption of strong international agreements to protect investment and to recognize international arbitral awards. Nearly 3,200 international investment agreements (IIAs), also called Bilateral Investment Treaties (BITs) and Foreign Investment Promotion Agreements (FIPAs), have been negotiated worldwide,<sup>15</sup> hundreds of which include APEC economies.<sup>16</sup> Similar investment provisions are also included in broader free trade agreements that have been concluded worldwide, including the North American Free Trade Agreement and the Agreement establishing the AANZFTA among several APEC economies. Investment rules are also one of the key chapters being negotiated as part of the TPP negotiations among 12 APEC economies – Australia, Brunei Darussalam, Canada, Chile, Japan,

<sup>15</sup> WIR 2013 at x.

<sup>16</sup> *Investing for Growth* at 9.

Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam and the United States.

Most of the instruments concluded by APEC economies contain many of the same “core elements,” as the May 2009 report of the APEC-UNCTAD Core Elements Project found, many of which can be traced back to APEC’s *Non-Binding Investment Principles*, adopted in Jakarta in November 1994. These core elements include:

- ◆ Basic rules that govern foreign investment, including non-discrimination obligations; requirements to accord compensation for expropriation, fair and equitable treatment and full protection and security for investments; allow for the free transfer of proceeds and other investment-related assets into and out of a State. These provisions are particularly valuable to infrastructure investors that seek certainty and predictability from government action and to move capital in and out of an economy.
- ◆ Dispute settlement provisions, including provisions authorizing investors to bring cases against governments before international arbitration tribunals. These investor-state provisions, to which every APEC economy has agreed in some or all of their instruments, are vital to ensure investors that disputes will be resolved in a neutral forum under objective rules.
- ◆ Other provisions, depending on the instrument, to open up an economy to greater foreign investment and to regulate government efforts to mandate content, employment or other attributes of an investment. These provisions are, as well, important to infrastructure investors to expand investment and to provide greater control and bring greater efficiency to infrastructure investments.

Decisions of arbitral panels established by these instruments, as well as others, are enforced multilaterally through the Convention on the Recognition and Enforcement of Foreign Arbitral Awards, also known as the “New York Convention.” The New York Convention has been ratified by almost all APEC economies and signals to investors that decisions reached will be enforced.

An issue of particular importance to infrastructure investors are provisions that provide more than just

the general protections, but also provide protections for the types of contracts and concession agreements typically entered into for infrastructure and similar projects. Sometimes called an “umbrella clause” or, in the case of the United States, protections for “investment authorizations” and “investment agreements,” these provisions provide that governments commit to enforce provisions of such contracts through the same dispute settlement provisions as apply to the rest of the IIA. These provisions provide confidence to investors and signal a government’s agreement to resolve all disputes fairly and in a neutral forum.

Moving forward on each of these factors will provide important incentives to foreign investors as they choose whether and where to invest, enhancing the competitiveness of APEC economies in an increasingly competitive international investment climate. More broadly, while such improvements in government structures, regulatory environments and adherence to international norms are particularly important to spurring greater FDI, they also enhance the ability and interest of domestic investors in keeping capital local and investing in infrastructure at home. In both cases, progress on these factors can help attract the capital needed to develop infrastructure.





## V. The Future of Infrastructure and Technology

For the most part, government, industry, and academic commentators view the pace of progress in the infrastructure sector as slow moving—some would say glacial. While this perspective may be true historically, we may now be witnessing an emerging set of technologies serving the infrastructure sector that could cause change to happen much faster. New technologies coupled with new business models could completely redefine the contours of the built environment. Looking forward at these innovative developments reveals many of the changes and opportunities that policymakers will need to consider within the infrastructure sector over the coming decade.

### New Infrastructure Technologies

A lesson from history is that when a new infrastructure technology is proven to be viable the market roll-out cycle is typically 10 to 20 years in duration. This was true for railroads, hydroelectric dams, fiber optic cables, mobile networks, and most recently wind farms. Currently, the solar energy and corporate data center segments are at peak deployment stage. Each of these sectors has attracted hundreds of billions of capital investment. What will be the next “big trend” in infrastructure with similar 10-to-20 year market penetration and capital aggregation dynamics? Three potential contenders are discussed below:

### Smart City Public-Private Partnerships

Mobile telephones, flat-screen displays, solid-state lighting, web-cameras, wireless networks, big data and similar technologies are changing the world in many ways. Cities too have an opportunity to embrace these new and innovative technology solutions to help solve the problems of the day, from congestion and crime to air quality. Mayors globally have embraced the concept of “Smart Cities” and are eager to find new ways to make their cities more livable and competitive. Yet, financial restrictions limit many municipalities to a focus only on providing basic core services.

In the United States, there is a growing movement – *Smart City Public-Private Partnerships* – where public-private partnership structures are being used to help cities quickly adopt, fund, integrate, and maintain a range of innovative technology services. For example, all of the old newspaper boxes and pay phone booths can be replaced with modern fixtures. Several of the new solutions can result in revenue sharing opportunities that will provide expanded services to municipalities and their citizens.

Private operators can provide the technological expertise to install, maintain and operate a wide range of infrastructure systems, from bus and toll services to smart

grids to distribute electricity more efficiently.

Unlike some traditional privatizations of parking or escalations in transit fares, the broad interests in society are aligned to accept this model and the benefits of having a more connected, technologically-sophisticated urban living environment.

### Internet of Things

Over the next decade, the physical world will increasingly be connected to the internet. This includes all machines, appliances, equipment, assets, vehicles, furniture, and even ourselves. The internet of things consists of sensors attached to “things” and the sensors can provide information via a RFID tag or wireless radio. The impact of the “internet of things” – or Machine to Machine (M2M) connections – is already growing and will be enormous. We will be able to connect with “things” and find “things” from our mobile phones in an unprecedented way, and send control instructions back to “things”. The internet of things could become a powerful tool for companies managing infrastructure assets and governments running “Smart Cities.” For example, if operators know where all of the buses are, they can better manage public transit. If energy producers know better where and how much energy is being used, they can better optimize renewable energy resources. If sensors can monitor and communicate toxin levels in manholes, engineers can more effectively prevent explosions. With the internet-of-things, there is the ability to connect everything from utility meters, railroad cars, street lights and oil and gas wells to the internet. This technology will soon provide an unprecedented opportunity to optimize performance and improve the operations of the existing bricks-and-mortar infrastructure systems built up over the past decade. The applications could be endless.

## Wastewater Treatment Technology

Another idea that is a little bit more futuristic and maybe five-to-seven years away from commercial viability involves shifting our concept of wastewater to not be viewed as a “waste,” but as a “resource.” Currently wastewater treatment technology is expensive and creates a “net cost” for each municipality. Pumping water is extremely energy intensive. For example, approximately one-third of all energy usage in California is used for various water-pumping applications.

In the future, this could all change with a new generation of wastewater treatment technology that is able to capture “organics” in the waste water for conversion into energy. A major multi-year research program at Stanford University, for example, has shown that the useful energy contained in wastewater is approximately three times the amount of energy needed to treat and recycle the wastewater. If early pilot studies can be replicated at scale, such technology could eventually convert the function of wastewater treatment from a net “expense” to a net “profit center” for municipalities. This would be a big game changer.

## New Technology Platforms for Infrastructure

Today, many of the most successful and scalable global enterprises are being built on top of sophisticated internet-based technology platforms. Across travel, logistics, finance, insurance, retail, and education, leading organizations are making substantial investments in internet-technology engines to power core business processes. With this trend gathering critical momentum, the worlds’ leading governments have an opportunity to apply modern Internet technologies to improve the “end to end” delivery cycle for infrastructure.

One Internet innovation on the cusp of transforming the infrastructure sector would use portals to promote projects and provide online tendering. So-called “Project Promotion and e-Tender Portals” are becoming more common for governments to aggregate their pipeline of upcoming infrastructure projects onto a transparent, online platform for promotional purposes. Doing so increases transparency and competition and also enhances internal information sharing and cooperation across and amongst different government agencies that have more ready access to information. Running e-Tender processes for PPPs, privatizations, and construction contracts is also

becoming more common, with standardized workflows for project announcement, bidder pre-registration, bid solicitation, document sharing, and bid collection. The benefits of such process standardization include reduced transaction costs, increased asset pricing, and an improved trail for audit purposes.

Another exciting development, which potentially could be replicated in other jurisdictions, is a “bottleneck reporting platform” to provide a neutral interface for firms to self-report bottlenecks in project approval and implementation. Such systems could be useful to help quickly resolve any number of regulatory, legal, permitting, environmental, engineering, construction, and financing challenges. By providing the opportunity for self-reporting, such systems should support the build-up of a statistically significant database of “bottleneck reports,” and enable targeted policy interventions.

To manage the adoption and integration of these types of new technologies, municipal offices will need to change perspectives and seek to consider and incorporate technology to grow efficiencies and oversight. Similarly, staff changes will be required, with “innovation officers” that will become increasingly required to help manage new infrastructure development.

Technology continues to develop at a lightning-fast speed and many of the infrastructure systems wrought in the 20th Century will be transformed by technology in new ways over the coming decade. Procurement promotion and processes too are changing with technology, as are the economics of certain types of infrastructure from waste water treatment to electricity generation with the efficiencies and innovations that technology brings. Governments that excel at preparing for the integration of new technologies into their infrastructure promotion and development systems will gain an edge in creating more sophisticated infrastructure that will be better able to meet the needs of governments and their citizens in the 21st century.

## Recommendations

APEC economies are increasingly recognizing that infrastructure development is a key driver of economic growth that enables economies to meet their own productivity and development goals and grow their engagement with the global economy. From transportation, buildings, energy and electricity to new connectivity technologies, investing in infrastructure produces short- and longer-term opportunities for economies big and small.

There are major social and economic challenges associated with the planning and delivery of infrastructure across the APEC region. Creating government structures and systems that will attract needed capital, including FDI, requires attention to a broad list of key factors from project planning, credit markets and PPPs to strong domestic and international systems that create stability and certainty in legal systems to the embrace of newer technologies.

Closely associated with this report is the Enablers of Infrastructure Investment Checklist that provides a clear tool for governments to evaluate how they are addressing the key factors that can attract or disincentivize investment in infrastructure and spur the development and implementation of projects that are efficient and effective in delivering needed services. The Checklist includes as well “key performance indicators” that provide as many objective measures as possible for governments to examine and evaluate their own systems and structures.

Given the importance of infrastructure development throughout the Asia Pacific and for all the reasons

explained in this report, we believe that the Infrastructure Investment Checklist should be a key tool for APEC economies to grow their infrastructure investment in a competitive global economy for years to come. We strongly recommend, therefore, that:

1. APEC Leaders endorse and adopt the Enablers of Infrastructure Investment Checklist as an important tool for economies to improve their ability to attract needed infrastructure investment through self-assessments that engage agencies and policymakers responsible for finance and investment.
2. APEC officials integrate the Checklist and the key factors identified in this report into their Multi-Year Plan on Infrastructure Development and Investment (MYPIDI) to ensure that it reflects and leverages input from government agencies, international institutions and private sector representatives.
3. APEC develop a regional platform that can help bridge information asymmetries and assist economies in building transactional and planning capacity, involving the private sector especially through the Asia-Pacific Infrastructure Partnership (APIP). The establishment of a regional advisory panel to support the development of a pilot PPP Center is an important step that will help facilitate financing and implementation of much needed infrastructure projects across the region.

## Key Terms Acronyms and Abbreviations

AANZFTA – the ASEAN-Australia-New Zealand Free Trade Area  
ABAC – APEC Business Advisory Council  
ADB – Asian Development Bank  
APEC – Asia Pacific Economic Cooperation  
APIP – Asia Pacific Infrastructure Partnership  
BIT – bilateral investment treaty  
FDI – foreign direct investment  
FIPA – foreign investment promotion agreement  
IEG – Investment Experts Group

IIA – international investment agreement  
MYPIDI – APEC Multi Year Plan on Infrastructure Development and Investment  
OECD – Organization for Economic Cooperation and Development  
PPP – Public-Private Partnership  
TPP – Trans-Pacific Partnership  
UNCTAD – United Nations Conference on Trade and Development





## VII. Annex A: ABAC Enablers of Infrastructure Investment Checklist

Infrastructure investment is a critical component of meeting the demands of the dynamic Asia-Pacific region and promoting sustained economic growth throughout the APEC economies. With a rapidly growing population and middle class, the APEC region is expected to need about US\$8 trillion in infrastructure investment to meet demands in energy, transportation, water and sanitation. Newer, but highly important infrastructure demands to increase connectivity through broadband and information and communication technology solutions makes this need even greater.

Infrastructure investment in the APEC region is not, however, keeping pace with the current demand. To reverse this trend and create a more competitive environment that will foster the needed growth in infrastructure investment, APEC economies – individually and as a region – must work harder to attract investment and to plan, finance and execute large scale investments in long term projects. The private sector can provide funding and expertise, but partnering with investors and utilizing financing mechanisms, including Public-Private Partnerships (PPPs) requires deep institutional capacity, an effective regulatory and judicial system which ensures fair treatment and coordination across government agencies to ensure positive outcomes, adoption of international rules and principles, as well as other key factors.

To help prepare the APEC economies for this multi-disciplinary challenge, the APEC Business Advisory Council (ABAC) has created an “Enablers of Infrastructure Investment Checklist.” The Checklist is designed to serve as a self-evaluation tool that governments can use to assess the extent to which existing policies promote the participation of the private sector in infrastructure investment. Governments will be encouraged to conduct a self-assessment to determine the extent to which their own policies promote or hinder participation

of the private sector in infrastructure development. Subsequently, they will be encouraged to report their findings back to APEC stakeholders as a means of sharing lessons learned among economies.

In addition to serving to identify and prioritize for economies those policies that impact the environment for infrastructure investment, the Checklist is designed in a manner that requires inter-agency communication in order to complete the self-assessment. Policies affecting infrastructure investment necessarily transcend the jurisdiction of any single government agency. By completing the Checklist, officials from relevant agencies will be able to identify areas where policies (related to infrastructure investment) in one regulatory agency may not be aligned with policies in another agency.

This Checklist is structured under four overarching policy categories identified by ABAC. The policy categories are described below.

### 1. Augmenting Government Project Planning and Coordination Mechanisms

In deciding where to invest, there are three major factors related to governments’ planning and coordination mechanisms that investors consider. First, investors want to be sure that the government has a track record of considering projects with good fundamentals amenable to private investment or involvement. Such projects are economically and financially viable, and form part of an integrated infrastructure plan. Secondly, investors want government agencies to be well coordinated. This includes adopting consistent practices across agencies that make processes (such as enabling legislation, procurement rules, land acquisition and permitting) straightforward and predictable. Finally, investors are interested in projects with strong political support—projects with broad and deep stakeholder support tend to be the most successful.

## 2. Building a Strong Financial and Financing Environment

Strong and robust financial markets are a key incentive to attract investors in infrastructure. Investors are more likely to invest in markets where there is a relatively stable macroeconomic environment and where they can raise debt and equity to finance infrastructure projects. The development of domestic debt markets and the creation of credit cultures are also important, as is the ability to acquire debt, including potentially through local currency, in sufficiently long tenors and in the amount needed, or through other mechanisms to reduce the investor's exposure to foreign exchange risk. Likewise, investors often seek local equity partners to assume some of the project risk. Private equity providers also seek protection from the government against risk factors.

In addition to being able to secure local financing, investors are more likely to participate in markets where the currency is stable and foreign exchange rates reflect the underlying exchange rate risk in the economy. It is important, therefore, for economies to limit currency controls and capital flow constraints, which make the market more attractive to investors.

## 3. Developing Robust PPP Mechanisms and Frameworks

Robust PPP mechanisms and frameworks are critical to attracting investment in infrastructure. Governments that maintain a clear pipeline of PPP projects, and a credible timetable for executing them, are more likely to attract investors for their projects. Also, investors prefer partnering with governments that implement PPP structures following project financing norms, and use standard agreements that are recognized internationally. This minimizes project preparation time and demonstrates the government's commitment to both partnering with the most qualified private entity, and implementing high-quality projects based on global best practices. Additionally, governments that adopt clear procurement processes and project evaluation criteria are most likely to attract competitive, high-quality investors.

## 4. Creating and Maintaining a Strong Investment Environment to Attract Foreign Direct Investment (FDI)

In assessing how strong the investment environment is, investors are most concerned about the legal protections available for foreign investors. Investors want to know that there are laws that protect property rights and contractual obligations, and that these laws are well enforced through fair, neutral and timely judicial systems. Investors also expect that acquiring property, registering businesses, and other similar processes would be straightforward. Complicated land acquisition and registration requirements introduce uncertainty and costs for investors. Investors also need to know that unfounded claims will be expeditiously dismissed and that they can seek legal recourse in the event of a contractual breach. Finally, governments with effective judicial systems that adhere to high-standard international treaties and conventions protecting investments and providing for arbitration create an environment in which investors are confident in the security of their investment.

The Checklist is structured in four sub-sections, which correspond to the policy categories listed above. Each sub-section consists of a series of evaluation criteria, presented as questions; followed by a list of metrics that can be used to assess how governments are performing on the questions posed.

The second part of each sub-section provides a set of Key Performance Indicators (KPIs), which provides useful metrics for assessing the extent to which a government satisfies each checklist question. This includes objective metrics available through public data sources, such as the World Bank's *Doing Business* report and *Investing Across Borders* project, as well as the World Economic Forum's *Global Competitiveness Report*.

## I. Augmenting Government Project Planning and Coordination Mechanisms

Assessment Question	Comments
Does the government consistently offer projects that are part of an integrated infrastructure master plan?	
Does the government consistently offer projects with strong political and stakeholder support?	
Does the government consistently offer projects that are economically viable?	
Does the government consistently offer projects that provide value for money?	
Does the government consistently offer projects that are financially viable and creditworthy?	
Is seeking permits and regulatory approvals (for construction, operation, and so on) timely and predictable?	
Is the process for acquiring land timely and predictable?	
Is there a well-defined project preparation and procurement process, and are project evaluation criteria clear?	
Key Performance Indicator	Comments
If the largest five infrastructure projects commissioned in the last five years were part of a multi-year integrated infrastructure master plan	
Existence of a process to gather input from the private sector, project beneficiaries and relevant sector agencies, during project selection and implementation	
Existence of a process to evaluate whether projects are economically viable, before the government offers the projects for procurement	
Consistent use of a public sector comparator before a project is approved for PPP implementation	
Percentage of the projects bid out by the government over the last five years that achieved financial closure	
Government's ranking on the <i>Dealing with Construction Permits</i> indicator in the World Bank's <i>Doing Business</i> Report	
Average number of months it takes to secure land for an infrastructure project, from when funding for the project is secured to when land is fully acquired	
Government's ranking on the <i>Accessing Industrial Land</i> indicator in the World Bank's <i>Investing Across Borders</i> Report	
Training for government officials and private companies on anti-corruption codes, such as the APEC Hanoi Principles	
Periodic consultations between government officials and the private sector, at the regional level, through structures like the Asia Pacific Infrastructure Partnership (APIP)	

## II. Building a Strong Financial and Financing Environment

Assessment Question	Comments
Is there macroeconomic stability?	
Is the local currency suitable for foreign investment? <ul style="list-style-type: none"> <li>- Is the local currency stable?</li> <li>- Is the local currency convertible?</li> <li>- Are there capital flow controls or constraints?</li> </ul>	
Are there other mechanisms for investors to reduce currency risk?	



## II. Building a Strong Financial and Financing Environment (continued)

Assessment Question	Comments
Can investors raise debt to finance infrastructure projects? <ul style="list-style-type: none"> <li>- Is there a debt market?</li> <li>- Is local currency debt available for long tenors?</li> <li>- Is there a credit culture being developed based on risk</li> </ul>	
Are there local equity investors willing and able to invest for long-term returns?	
Key Performance Indicator	
Absence of major shocks in the exchange rate over the past ten years (a major shock could be a change in the value of the currency that is greater than 10 percent, within a seven day period <sup>1</sup> )	
Existence of a liquid, local-currency denominated, fixed-rate, medium-term (greater than five years) bond market for debt	
Government's ranking on the <i>Getting Credit</i> indicator from the World Bank's Doing Business Report.	
Government's ranking on the <i>Ease of Access to Loans</i> indicator in the World Economic Forum's Global Competitiveness Report.	
Government's ranking on the <i>Financing Through Local Equity Market</i> indicator in the World Economic Forum's Global Competitiveness Report?	

## III. Developing Robust PPP Mechanisms and Frameworks

Assessment Question	Comments
Do PPP structures match project financing norms?	
Are project risks assessed relative to appropriate risk benchmarks for similar projects?	
Do PPP contracting documents follow international best practices?	
Is there a credible plan to fulfill the government's commitment on PPP projects?	
Are there mechanisms to coordinate and gather input from ministries and other stakeholders during project preparation process?	
Do government officials know how to plan and execute PPP projects? For instance, are they competent and skilled in: <ul style="list-style-type: none"> <li>- Financial modeling</li> <li>- Negotiating contracts</li> <li>- Contract management</li> <li>- Risk management</li> </ul>	
Is there a clear pipeline of PPP projects and a timetable for executing them?	
Key Performance Indicator	Comments
Percentage of projects bid out by the government over the past five years that secured project finance debt	
Existence of a PPP process manual that explains the transaction preparation process	
Existence of a PPP policy or law that provides guidance for PPP procurement	
If PPP contracts from prior transactions contain sections that state key PPP parameters such as the rights and responsibilities of the parties involved, and the performance metrics against which the project will be evaluated	

<sup>1</sup> Based on Bloomberg rates of June 28, 2013, of the countries in the Asia-Pacific region, only two currencies (the Indian Rupee and the Japanese Yen) experienced a change greater than 10 percent over the past 52 weeks

### III. Developing Robust PPP Mechanisms and Frameworks (continued)

Key Performance Indicator	Comments
If the government made, in the past, allocations in the budget for required financial support for projects; and honored these commitments	
Existence of an inter-ministerial body that approves PPP projects	
If the government has successfully completed PPP transactions, where government officials conducted financial analysis, negotiated and managed contracts, and analyzed and managed project risks	
Existence of a clear pipeline of PPP projects and a timetable for executing them at the state or national level	

### IV. Creating and Maintaining a Strong Investment Environment to Attract Sufficient FDI

Assessment Question	Comments
Are there protections against arbitrary changes in policies or regulations?	
Are there laws, regulations and processes that deter corruption?	
Are taxes fair and consistently applied?	
Are foreign assets and contracts with foreign investors protected through international investment agreements?	
Does the government comply with international treaties and conventions on arbitration?	
Are property rights well-defined and consistently protected?	
Are foreign assets protected from expropriation without fair compensation?	
Are government officials coordinating their activities and approvals for foreign investment projects?	
Are government officials honoring the approvals granted by previous officials?	
Key Performance Indicator	Comments
Government's ranking on the <i>Efficiency of the Legal Framework in Challenging Regulations</i> indicator in the World Economic Forum's Global Competitiveness Report	
Government's ranking on Transparency International's <i>Corruptions Perception</i> Index	
Government's ranking on the <i>Diversion of Public Funds and Irregular Payments and Bribes</i> indicators in the World Economic Forum's Global Competitiveness Report.	
Government's ranking on <i>Extent and Effect of Taxation</i> indicator in the World Economic Forum's <i>Global Competitiveness Report</i>	
The number of double taxation treaties in force	
The number of international investment agreements in force	
The number of international investment agreements in force that provide broad protections for investments, including contracts between investors and the host government, all subject to neutral investor arbitration mechanisms	
Signing and implementation of the New York Convention on the Enforcement of Arbitral Awards, or comparable provisions	
Government's ranking on the <i>Arbitrating Commercial Disputes</i> indicator in the World Bank's Investing Across Borders Report.	
Government's ranking on the <i>Enforcing Contracts</i> indicator in the World Bank's Doing Business Report, and on the <i>Property Rights and Intellectual Property Protection</i> indicators in the World Economic Forum's Global Competitiveness Report	
Government's ranking on the <i>Protecting Investors</i> indicator in the World Bank's Doing Business Report and <i>Strength of Investor Protection</i> indicators in the World Economic Forum's Global Competitiveness Report	



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