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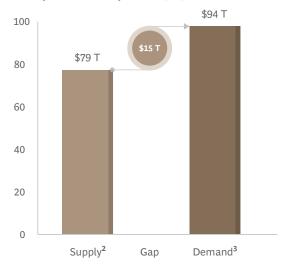
The world is facing a global infrastructure investment shortfall

Economies are sustained by an intricate global network of infrastructure spanning energy generation, manufacturing, education, healthcare, and transportation via roads, railways, and ports. Infrastructure is a fundamental catalyst for productivity and economic growth. A 2022 World Bank study highlights the multiplier effect of infrastructure investment, finding that every dollar invested by the public sector generates an additional \$1.50 in economic activity¹.

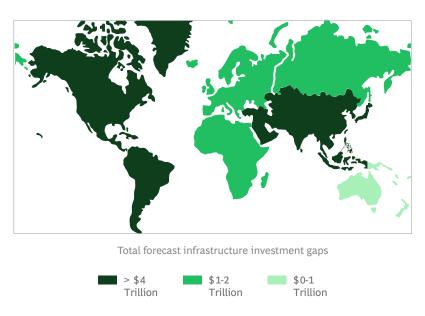
Despite the existing stock of infrastructure, the Global Infrastructure Outlook reveals a substantial shortfall in investment, projecting a cumulative gap of approximately \$15 trillion by 2040² (Exhibit 1), in both emerging and developed markets. However, the need for investment is even more pressing for developing nations striving to achieve their ambitious development, diversification, and carbon reduction targets.

Exhibit 1: The cumulative gap between infrastructure supply and demand is forecasted at \$15 Trillion by 2040³

Cumulative investment supply and demand in key countries by 2040¹ (\$T)



Total forecast infrastructure gaps across five regions (\$T)⁴



1. 2007 to 2040 cumulatively estimated investment supply and demand. 2. Baseline forecasts of infrastructure investment under the assumption that countries continue to invest in line with current trends, with growth occurring only in response to changes in each country's economic and demographic fundamentals. 3. The investment that would occur if countries were to match the performance of their best performing peers, after controlling for differences in the characteristics of each country. 4. Five regions include: Americas, Europe, Africa, Oceania and Asia.

Historically, large-scale infrastructure projects have been funded mainly by governments. However, the magnitude of the required global investment, compounded by already overstretched public budgets, highlights a crucial emerging role for the private sector. Governments worldwide are

increasingly formulating plans to bolster Private Sector Partnerships (PSPs), collaborative ventures where private players provide capital and expertise to develop public infrastructure, partnering with the government to deliver and maintain these projects.

- 1. The effectiveness of infrastructure investment as a fiscal stimulus: What we've learned, World Bank Blogs, 2022.
- 2. Infrastructure Outlook, AG20 Initiative, Global Infrastructure Outlook, 2024.
- Source: Infrastructure Outlook, A G20 Initiative, Global Infrastructure Outlook, includes data from 56 countries across 7 sectors and 5 regions

A \$2.5 trillion PSP infrastructure opportunity in the GCC

Despite efforts to diversify, the GCC region remains heavily reliant on oil which accounts for over ~35% of government revenues⁴. This demonstrates the urgent need for continued diversification. By leveraging PSPs, the GCC can build infrastructure to strengthen and grow other sectors from transportation and logistics to communications, tourism, and healthcare.

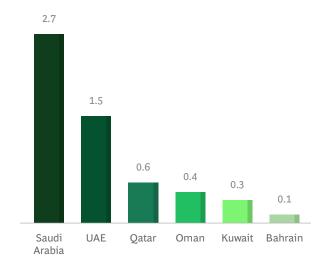
At a recent PPP MENA Forum, economic leaders revealed that an impressive \$4.1 trillion worth of PSP projects are planned for the region. Notably, 65% of these initiatives, representing a ~\$2.5 trillion, are set to take place in GCC countries⁵. This underscores the Gulf's

dynamic commitment to infrastructure development and the vast potential for private sector involvement in the coming years.

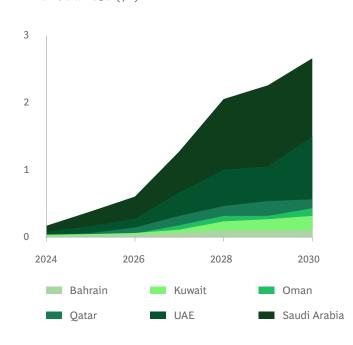
Saudi Arabia leads the GCC in the value of total projects planned from 2024 to 2030 (Exhibit 2). UAE and Qatar also show significant potential, with substantial investments to enhance infrastructure and diversify their economies. Exhibit 2 highlights the steady rise in project value across the leading GCC countries, reflecting a regional commitment to infrastructure enhancement and economic diversification. While Saudi Arabia commands the largest share, the UAE and Qatar also present strong opportunities for PSPs, making them attractive markets for private sector investment.

Exhibit 2: Awarded and planned projects in the GCC from 2024 till 2030 (\$T)⁶

Awarded & planned projects within the GCC from 2024 till 2030 (\$T)¹



Awarded & planned projects in the GCC from 2024 till 2030 (\$T)²



1. Annual values represents projects' completion year. 2. Cumulative from 2024 to 2030.

The balanced path of PSPs: seizing opportunities and managing challenges

Many of governments' biggest economic goals will not be solved by public funding alone. Complex issues like large-scale infrastructure development, efficient public service delivery, and sustainable urban growth can often be tackled most effectively through PSP. In this scenario, everyone wins—both governments and the private sector. And the win could be substantial: PSPs bring a host of advantages, including improved project selection, accelerated timelines, cost optimization, and enhanced service quality (Exhibit 3). By leveraging these benefits, governments can significantly improve their infrastructure, boosting economic growth and delivering better community outcomes.

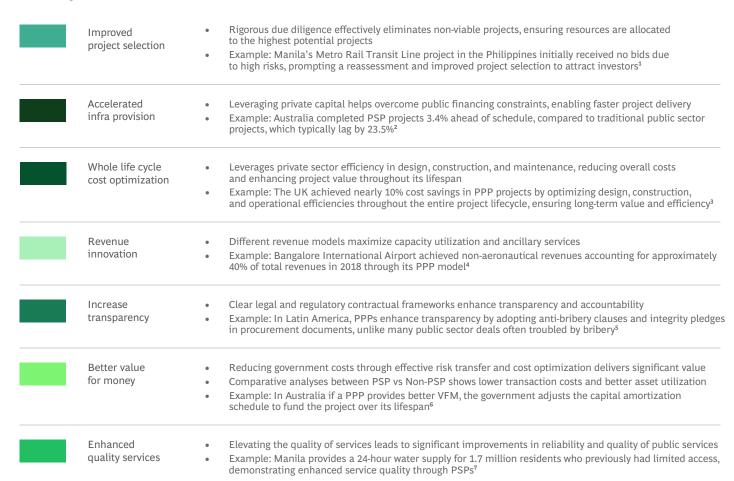
- 4. GCC-STAT, 2022.
- 5. Financing the Gulf Infrastructure Boom, Financial Times, 2024.

6. Source: MEED

Exhibit 3: Seizing the advantages of PSPs



Advantages



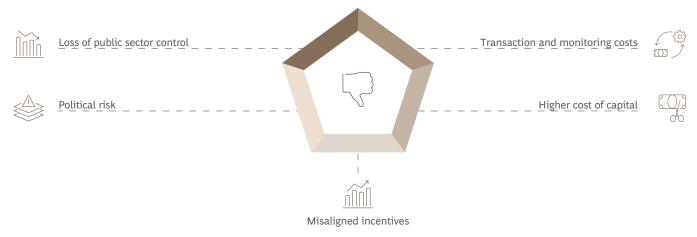
Source:

1. The World Bank, A tale of three cities report, 2004. 2. Infrastructure Partnerships Australia. 3. OECD-Working Party of Senior Budget Officials, PPP: Affordability, Value for Money and the PPP process. 4. PPIAF Global Infrastructure, The World Bank, Kempegowda International Airport Bengaluru Case Study, May 2020. 5. Page 7, public-private partnerships to promote transparency, Inter-American development bank. 6. Page 8, Value for money in public-private partnerships an infrastructure governance approach, Asian Development Bank. 7. Water Privatization in Manila. Philippines should water be privatized, INSEAD.

While Public-Private Partnerships (PSPs) offer significant benefits, they also present several challenges. The first is overcoming regulatory and institutional inertia—being willing to adapt existing frameworks to accommodate new partnerships. The second challenge involves resources—ensuring adequate transaction

& monitoring funding and expertise to implement these ambitious projects. Additionally, governments must navigate practical challenges such as loss of control, misaligned incentives, to successfully integrate PSPs into their infrastructure plans (Exhibit 4).

Exhibit 4: PSPs also come with several challenges that must be managed carefully



Challenges



Source:

1. Bechtel March 2005 Press Release. 2. Weak Management, The World Bank, 2022. 3. The Private Financing Component In Public-Private Partnerships, International Institute For Sustainable Development, Wim Verdouw, Aug 2015. 4. Lessons Learned From Failed PPP Projects: Case Studies From Different Countries, UNECE, 2014. 5. PFI projects 'poor value for money', BBC, 2011.

To fully harness the potential of private sector participation in infrastructure, governments need a clear, strategic vision and a comprehensive framework for execution. With these in place, challenges can be effectively managed through robust collaboration between governments and the private sector. Establishing clear legal and regulatory frameworks that define roles, responsibilities, and risk-sharing mechanisms is essential. This fosters transparency, accountability, and public trust. Building capacity

within the public sector to manage and oversee complex PSP projects is also crucial. Engaging stakeholders through comprehensive public consultations ensures the alignment of interests and secures the necessary support for projects. By learning from successful case studies and adapting best practices, governments can unlock PSPs' full potential, driving economic growth and significantly improving public infrastructure and services.

Pulling it all together: a model of successful PSP



Bengaluru (Bangalore) International Airport is a standout success story of what a well-executed Private Sector Partnership can achieve. As the country's first greenfield airport developed under a PSP model, it set a new benchmark for airport privatizations and demonstrated the great potential of such partnerships⁷. Potential PSP players worldwide can learn from the following contributors to Bengaluru International Airport's success:

- **1 Bankability and Financial Backing** The Indian government played a pivotal role by providing an ~\$40 Mn 20-year interest-free loan⁸. This financial backing was essential in reducing the initial burden on the private sector, making the project more attractive to investors and ensuring long-term viability.
- 2 Supportive regulations and flexible contracts
 Regulatory measures, such as maintaining a single-till system (pools all airport revenue, aeronautical and non-aeronautical, to keep charges lower for airlines and passengers) for revenue initially and transitioning to a hybrid system later, provided stability and predictability for investors. This single-till system boosted airport traffic and profitability. The flexible contracts, including a 30-year concession with a 30-year extension option, and exclusivity within a 150 km radius⁹, guaranteed a secure and extended period for returns on investment, enhancing investor confidence.
- Revenue sharing and BOT agreement A deferred revenue share to the government for 10 years¹⁰ allowed the private operator to reinvest initial earnings into improving the airport's infrastructure and services without the immediate pressure of sharing profits. The Build-Operate-Transfer (BOT) agreement, which included comprehensive design, finance, construction, maintenance, and operation responsibilities, ensured streamlined and efficient project execution, leveraging private sector expertise and efficiency.
- 7. AERA: Consultation paper No.14/2013-14 BIAL-MYTP, 2013.
- 8. India Ratings and Research website.
- Business Today- Where will Bengaluru's second airport come up?, 2024.

▲ Land development for commercial use

The contract allowed Bengaluru (Bangalore)
International Airport to develop the surrounding
land for commercial purposes, including hotels, theme
parks, golf courses, and business centers. This not only
provided additional revenue streams but also created
a vibrant ecosystem around the airport, driving further
economic growth and making the airport a central
business hub.

5 Efficient operation and management
With private players holding a 74% stake in the
venture¹¹, the project benefited from their expertise
and efficiency in managing large-scale infrastructure
projects. This private sector involvement ensured high
standards in development and operation, leading
to rapid growth and significant improvements

The BLR Airport project has had a transformative impact, evidenced by several key achievements:

in service quality.

- Since its opening in 2008, BLR Airport has served over 38 million¹² passengers and become one of the world's fastest-growing airports.
- The airport has facilitated economic growth in Bengaluru and positioned the city as a critical aviation hub in South India.
- In the financial year 2017-18, the airport posted a net profit of ~\$100 Mn, a 33% increase from the previous year. This impressive profitability was driven by passenger growth, increased rental income, and higher revenue collections from the user development fee.
- 10. Consultation Paper No 10/2021-22 response, Aera.gov, 2021.
- 11. PPI Annual Report, World Bank, 2023.
- 12. Association Of Private Airport Operators India website.

A broad range of PSP models exist, and governments are continuously innovating to mobilize their full potential

PSPs encompass a dynamic range of models, distinguished by the level of private sector involvement in financing and operations (Exhibit 5). At the low end of private sector involvement, the private sector primarily manages operational tasks without substantial financial investment or ownership. This ensures efficient service delivery while minimizing financial risk and maintaining long-term control within the public sector.

In the mid-range, the private sector takes on the responsibility of financing and constructing projects. They operate these projects for a specified period to recoup their investments before transferring ownership

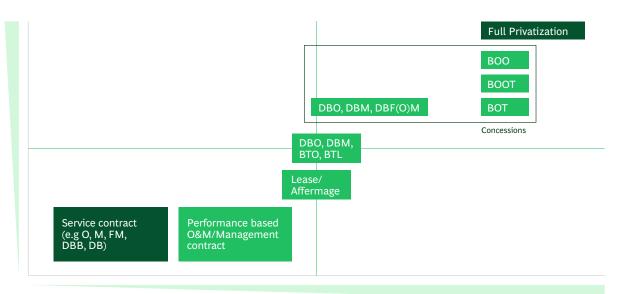
back to the public sector. In this model, the private sector typically assumes cost risk but not revenue or demand risk. This approach strikes a balance between risk and reward, leveraging private sector efficiency and investment while ultimately returning the asset to public hands.

At the upper end of the spectrum, the private sector adopts a comprehensive approach, encompassing financing, construction, operation, and long-term ownership. This model represents full privatization, where the private entity assumes complete control and bears both cost risk and revenue/demand risk, driven by the potential for significant returns. Along this spectrum, stakeholders can tailor PSP models to harness the strengths of both sectors, paving the way for successful and sustainable infrastructure projects.

Exhibit 5: Public-Private Partnership (PPP)

Contract Type	Design-Build- Finance-Operate (DBFO)	Build-Transfer- Operate (BTO)	Build-Operate- Transfer (BOT)	Build-Own- Operate-Transfer (BOOT)	Build-Own- Operate (BOO)
Construction	Private sector	Private sector	Private sector	Private sector	Private sector
Operation	Private sector	Private sector	Private sector	Private sector	Private sector
Ownership	Public sector	Private sector during construction then public sector	Private sector during contract then public sector	Private sector during contract then public sector	Private sector
Who pays?	Users or offtaker	Users or offtaker	Users or offtaker	Users or offtaker	Users or offtaker
Who is paid?	Private sector	Private sector	Private sector	Private sector	Private sector

Level of involvement of private sector in financing /capex responsibilities



Level of involvement of private sector on operational matters

New PSP models continue to be developed, to overcome specific challenges. The Hybrid Annuity Model (HAM), for example, shares risk more equitably between the public and private sectors. Under HAM, a government typically bears ~40% of the project cost during construction, while the private sector is responsible for the remaining ~60%. This cost-sharing mechanism mitigates financial risks for private players, making it especially attractive for large-scale infrastructure projects. India has pioneered the HAM approach to catalyze road investments. The model was introduced to address declining interest in the traditional BOT (Build-Operate-Transfer) model, which often faced challenges related to toll revenue versus cost. Since its introduction, HAM has proven to be immensely popular in India, with 235 projects totaling 10,000 kilometers of highway awarded between FY16 and FY2213. The model has been instrumental in reducing upfront capital expenditure risk and eliminating traffic risk for private sector participants.

The model has been so successful that it is now starting to be applied in other areas of transportation, for example in India's Eastern Dedicated Freight Corridor rail project. This project involves the construction of an 1,856-kilometer freight corridor for the more efficient transportation of goods across the country¹⁴. It leverages the HAM model to split the financial burden and operational risks between the government and private developers. The government contributes ~40% of the capital during construction, while the private sector funds the remaining ~60% in addition to the operations and maintenance of the project asset. This model ensures continuity and sustainability, with the government making availability payments to the private developer based on performance.

Harnessing sustainability: the future of private sector participation

The global shift towards sustainable infrastructure is gaining momentum as countries aim to combat climate change and foster environmental stewardship. Infrastructure plays a pivotal role in addressing climate challenges and meeting diverse societal needs. The choices communities make in what to build and how to build it significantly influence progress toward lower carbon footprints and more inclusive societies. Investments in sustainable infrastructure are on the rise, with projects such as electrified public transport leading the way towards cleaner energy sources. Green infrastructure, including efficient public transport and essential utilities, elevates people's quality of life and underscores the private sector's crucial role in driving green development.

A comprehensive approach to incorporating sustainability into PSPs is exemplified by the Rizal Wind Farm Project in the Philippines. Developed through a PSP model, this project generated 54 MW of renewable energy with 27 wind turbines, significantly reducing carbon emissions and creating jobs¹⁵. The wind farm avoids approximately 70,000 tons of CO2 emissions annually and provides stable electricity to over 66,000 households in Manila¹⁶. Attracting \$105 million in investments and receiving the IFC Sustainable Energy Finance Award, the Rizal Wind Farm highlights the impact of integrating sustainability into PSP models¹⁷.

The project's success is due to innovative solutions and a strategic approach to meeting challenges. Financial hurdles were addressed through partnerships with private investors, the Asian Development Bank, and local banks. Logistical difficulties of transporting turbines to the mountainous area were mitigated by involving local government units (LGUs) and officials from the pre-development stage. Public consultations and meetings with local officials fostered social acceptance and trust. LGUs supported land mapping and negotiations, facilitating site acquisition and addressing landowner concerns. These elements, combined with local engagement, private sector participation, and policy integration, created a conducive environment for success, setting a precedent for future sustainable PSP initiatives.

The Rizal Wind Farm's success illustrates the potential for sustainability-focused PSP projects to attract significant investment. Future investments driven by sustainability developments are projected to rise dramatically.

Private sector participation to drive Saudi Arabia's transformation

Saudi Arabia stands on the cusp of a monumental economic transformation. As the largest GCC economy, with non-oil GDP projected to reach approximately \$1.3 trillion by 2030¹⁸, Saudi Arabia boasts unparalleled potential for growth and development. Driven by Vision 2030, the Kingdom aims to diversify its economy and reduce its dependence on oil, necessitating unprecedented investment and creating fertile ground for leveraging PSPs to meet these ambitious goals.

The Kingdom is planning multiple major projects, collectively estimated to reach \$2.7 trillion by 2030¹⁹. To achieve its Vision 2030 targets, Saudi Arabia is increasing private sector involvement.

- 13. CareEdge Ratings India Road Sector, 2023.
- 14. Dedicated Freight Corridor Corporation of India Limited publication, 2022.
- 15. Alternergy, Pililla Wind Farm website.
- 16. Energy Evaluation Asia Pacific: The case of the Rizal Wind Farm, 2019.
- 17. Alternergy, Pililla Wind Farm website.
- 18. Based on 2030 Vision non-oil GDP of SAR 4,970 billion-65% PPP-eligible, Saudi Press Agency, 2024.
- 19. MEED database, 2024.

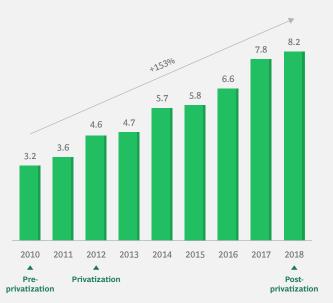
Expanding its use of PSPs will significantly boost private sector employment, in line with the country's goal to create 3 million private sector jobs in the next decade²⁰. PSP initiatives will support the flourishing of the private

sector, building technical expertise and management capacity. These efforts will not only generate employment but also foster a more skilled workforce capable of driving innovation and sustaining long-term economic growth.

Deep dive

Medina Airport stands as a testament to the successful implementation of PSPs in Saudi Arabia. It is the first and only privatized airport in the Kingdom, and has achieved remarkable milestones since its privatization in 2012. Operated by Tibah, a consortium led by TAV Airports with local partners Al Rajhi and Saudi Oger, the airport has experienced substantial growth (Exhibit 6).

Exhibit 6: Medina airport experienced a 153%²¹ growth in traffic post privatization



Passenger traffic (M)

Note: 2015 to 2018 analysis represents Pre-Covid growth. **Source**: Medina Airport Marketing Team.



- 20. Based on the UN's World Population Prospects' population projections for Saudi Arabia's working age population (15+), an increase in Saudi female labor force participation from 36% to 40% by 2030, and an increase in the share
- of public sector employment from around 70% to 80% by 2030, Arab News, July 2024.
- 21. Medinah Airport website (marketing brochure)

Among its many successes, Medina Airport PSP:

- Expanded airport size by over 50%
- Increased the number of destinations by 20% post-privatization²²
- Grew the number of airlines serving the airport by 16% from 2012 to 2016²³
- Reduced aeronautical revenues as a proportion of total operating revenues from 92% in 2014 to 83% in 2016²⁴
- Mobilized \$1.4 billion in private investment²⁵
- Introduced global best practices in energy efficiency, recycling, greenhouse gas emissions, and water use (it is now targeting LEED Silver Certification, which would be a first in the region)²⁶

 Provided direct employment through construction and airport operations, and indirect employment through increases in tourism and the development of knowledge-based industries in the area²⁷

The airport was also rated as the best airport in the Middle East region in the 10-15 million passengers per year category by the widely recognized ACI Airport Service Quality award program in 2018. Its financial success is evident in its impressive 54.5% revenue share to the General Authority of Civil Aviation (GACA)²⁸, showcasing the potential of well-structured PSPs to deliver significant economic benefits.

The argument for expanding PSPs in Saudi Arabia is compelling. Vision 2030 outlines ambitious goals that require an unprecedented level of investment and expertise, which the private sector can provide. By integrating private sector efficiencies and innovations, the Kingdom can address its mega projects' financial and operational challenges. PSPs also offer a pragmatic solution to the pressing need for infrastructure modernization, which is critical for sustaining economic growth and improving the quality of life for Saudi citizens.

Saudi Arabia has made progress in this direction with the recent enactment of the Private Sector Participation Law and the formation of the National Center for Privatization (NCP). Prior to the introduction of the law, the regulatory environment in the country was not conducive to attracting private sector funding.

Countries like Türkiye and several others in the MENA region provide excellent examples of how robust legal and regulatory frameworks can drive PSP success. Türkiye, renowned for its best-in-class PSP regulations, has developed comprehensive legal schemes that promote transparency, competitiveness, and reliability, attracting substantial private investment across various sectors²⁹. Kuwait has made significant advancements with its comprehensive PSP law and the establishment of a technical bureau in 2014, facilitating progress in sectors like power and clean fuel³⁰.

In 2022, the National Center for Privatization in Saudi Arabia introduced new Implementing Regulations that streamline the PSP process in the country. These regulations align with international best practices and local experiences, ensuring fairness, transparency, and efficiency in PSP projects. By replacing outdated guidelines, the NCP has created a more robust and transparent process, from initial studies to contract management. The approval of these regulations marks a significant step forward, positioning Saudi Arabia to attract more investors, mitigate risks, and increase private sector contributions to the Kingdom's GDP.

To truly excel and lead in the global arena, Saudi Arabia must continue to evolve beyond traditional PSP models and embrace innovative approaches. While the new regulations provide a solid foundation, more creative solutions are necessary to meet the dynamic needs of the Kingdom's economic landscape. Drawing on global best practices, it is evident that innovation in PSPs can drive efficiency, reduce costs, and maximize value. By fostering a culture of innovation, Saudi Arabia can enhance its competitiveness and position itself as a leader in infrastructure development. The Kingdom's commitment to innovation will be crucial in attracting substantial private investment and successfully meeting Vision 2030 goals.

- 22. Chaouk et al., 2019.
- 23. Chaouk et al., 2019.
- 24. Chaouk et al., 2019.
- 25. International Finance Corporation, World Bank, PPP Stories: Madinah Airport, 2012.
- 26. International Finance Corporation, World Bank, PPP Stories: Madinah Airport, 2012.

- 27. International Finance Corporation, World Bank, PPP Stories: Madinah Airport, 2012.
- 28. Chaouk et al., 2019, p.10.
- 29. Infrastructure Law Bulletin PPP in Turkey, 2011.
- 30. The new Kuwait PPP Law Al Tamimi & Company, 2014.

Recipe for successful PSPs



Favorable regulatory environment: Establishing a robust legal and institutional framework with an independent regulatory function and trusted disputeresolution process is essential. This framework ensures PSPs operate within clear, predictable rules, reducing uncertainties for investors and fostering a stable environment. Key components include a comprehensive PSP policy, necessary legal modifications, and an institutional setup that clearly defines and allocates authority for managing PSPs.



Strong government and political support for PSPs:

Government commitment to PSP programs is crucial. This includes not only policy support but also the establishment of dedicated PSP units that possess the skills and talent to manage these partnerships effectively. Political stability and consistent support across different government administrations further strengthen the confidence of private investors.



Pipeline of bankable projects: Developing a continuous and well communicated pipeline of projects derived from comprehensive infrastructure plans is vital. Each project should be selected based on rigorous value-for-money analysis to ensure that PSPs provide better value for taxpayers than traditional government procurement. This approach attracts companies to the market and signals the government's commitment to the PSP program.



Early and systematic private sector consultation:

Early engagement with the private sector helps identify challenges, align objectives with market realities, and incorporate their expertise, fostering collaboration and enhancing PSP success and sustainability.



Transparency and fairness: Transparency in the PSP program is essential to gain broad buy-in from both the private sector and the public. Transparent processes build trust and ensure that all stakeholders have confidence in the fairness of the system.



Efficient, streamlined procurement processes:

Standardizing the project preparation and procurement process can significantly reduce transaction costs and improve predictability. This includes establishing a clear approval process, a standardized process for land acquisition, institutionalized funding mechanisms for project preparation costs, and model documents for the tendering process.

Increased private-sector participation through PSPs is one of the key solutions the world needs for driving global infrastructure development. By forging robust alliances between governments and private entities, countries can effectively bridge the glaring infrastructure investment gap, fueling sustainable economic growth and elevating the quality of life for millions. Unleashing the private sector's potential can not only ease fiscal pressures but can also help to cultivate a highly skilled workforce and diversify

the economic landscape. This approach mitigates the risks of economic volatility and sets the stage for resilient, dynamic growth. Traditional financing methods are simply inadequate for future infrastructure demands; public budgets are stretched too thin to support the necessary investment levels. It is time to embrace innovative PSP models to tap into new streams of private finance and revolutionize project delivery, ensuring infrastructure that meets the needs of an evolving world.

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