

INVESTING IN RESILIENT INFRASTRUCTURE PROJECTS

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Both the public and the private sectors face challenges accessing capital and financing for climate resilience projects, as well as justifying the upfront costs. The term “resilient” refers to the ability of such infrastructure systems, including their interconnected ecosystems and social systems, to absorb disturbance and still retain their basic function and structural capacity.

Infrastructure projects are often vulnerable to the impacts associated with climate change and natural hazards.¹ Climate resilient infrastructure can help safeguard and strengthen developing and emerging countries' economic growth from current and future climate impacts.²

Building resilience competes for resources with other more immediate objectives, and determining and communicating long-term benefits is challenging. Whereas resilience comes at a cost, smart infrastructure financing translates into economic advantage. Whilst the impact and therefore cost of disasters and effects of climate change continue to grow exponentially, investing in resilience for the long-term offers the best opportunity to reduce those costs and promotes stability for all concerned. However, the challenges to invest in resilient infrastructure projects are multiple:

¹ OECD (2018). Climate -Resilient Infrastructure
<http://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf>

² World Bank – PPIAF (2016). Emerging Trends in Mainstreaming Climate Resilience in Large Scale, Multi-sector Infrastructure PPPs.https://library.pppknowledgelab.org/attached_files/documents/2874/original/Mainstreaming_Climate_Resilience.pdf?1459201479

- Governments struggle to raise funds and invest in already needed repairs in infrastructure, while an expected increase of natural disasters and environmental stresses on infrastructure bring into focus a rising cost of maintaining climate-resilient facilities and infrastructure. In some cases, more resilient elements like green infrastructure and efficient energy systems) can lower maintenance and operating costs for local and state governments, but those savings are realized over time. And the long-term benefits of avoiding disaster costs are challenging to quantify.
- Identification of strategic investments and bankable projects that account properly for risk, economic opportunities and attracting private capital for resilient infrastructure investments and attractive risk-adjusted returns.
- Early-stage investment in resilience is a powerful lever which allows the private and public sectors to invest in smart sustainable infrastructure but we need how to define the appropriate level of investment, the elements involved and the analytical challenges in projecting exposure for the lifespan of an infrastructure asset.
- Financing resilient infrastructure projects is complex.³ Public-Private Partner Agreement cannot be structured in traditional ways as it is unlikely that a granting authority or private developer will be able to charge for the supply of resilient infrastructure.⁴ And typically, countries with highest needs in relation to the types of infrastructure lack the fiscal backbone to fund them via government spending. Projects with major investment needs and/or strategic importance for the country will require government “availability payments”.
- Designing finance-based incentives for resilient projects requires a thorough understanding of risks. Introduction of risk pools and insurance can improve the resilience of infrastructure and mechanisms may be adopted to enable better understanding of the acceptable or optimal level of risk, and how much could be retained, before transferring their risk to markets through insurance. The role of insurers in infrastructure ‘future proofing’ is critical in developing future mitigation methods that encourage the longevity of projects.
- Role of the International Financial Institutions and Multi-Development Banks is essential in providing a technical and operational platform for understanding risk management and

³ GFDR (2017). Resilient Infrastructure PPPs .Contracts and Procurement: The Case of Japan https://www.gfdrr.org/sites/default/files/publication/PPP_Solutions%20Brief%20Japan%20Case%20Study_20171222%20FINAL.PDF

⁴ PPIAF (2016), Climate Risks and Resilience in Infrastructure PPPs: Issues to be Considered. https://library.pppknowledge.org/attached_files/documents/2870/original/PPIAF_ClimateResilience_IssueBrief.pdf?1458848137

financial protection as an integrated approach including: identification, reduction, preparedness, protection and recovery; to support national and local governments.⁵

- Main financial instruments to be considered include: sovereign risk transfers, insurance of public assets, contingent credit lines, post disaster credits and risk funds. For instance, in Columbia with 80% of urban population and a highest population risk in urban cities, the World Bank has designed a program to support city resilience. It includes contingent credit lines; technical assistance for insurance of public assets and development of land value capture (LVC) instruments as a main financial source for resilience infrastructure.⁶ The World Bank supports the definition and implementation of a Tax increment Financial Instrument and modernizing the technical and finance regulations to implement additional LVC tools to finance urban redevelopment and infrastructure.

CONCLUSION

Governments should increase investments in new infrastructure projects and carry out proactive repairs of their aging, inefficient systems as a way to deliver fiscal savings and long-term environmental and economic benefits. They also should invest in new technologies and green infrastructure to better protect existing assets. Governments, cities and businesses around the world are leveraging innovative finance mechanisms like emissions trading systems, green bonds and climate funds to finance for necessary infrastructure projects and initiatives.

The principal obstacles to finance urban resilience are lacks of funds of municipalities to invest in resilient infrastructure, limited market development to enable flows of fund of private investors to city governments, and lack of bankable projects and pipeline investments.

As countries increase their investment in infrastructure, they need to consider different approach and mechanisms of ensuring their resilience.⁷ Designing finance-based incentives for resilient

⁵ World Bank (2016), “Emerging Trends in Mainstreaming Climate Resilience in Large Scale, Multi-sector Infrastructure PPPs”, https://library.pppknowledgelab.org/attached_files/documents/2874/original/Mainstreaming_Climate_Resilience.pdf?1459201479. Inter-American Development Bank (2014), Climate Change at the IDB: Building Resilience and Reducing Emissions, https://publications.iadb.org/bitstream/handle/11319/6692/CC_EnglishBRIK.pdf?sequence=1&isAllowed=y

⁶ World Bank, City Resilience Program. Land Value Capture Presentation <https://www.gfdrr.org/sites/default/files/publication/Land%20Value%20Capture.pdf>

⁷ Kane and Tomer (2019). Brookings. [Creating a new marketplace for resilient infrastructure investment. https://www.brookings.edu/research/creating-a-new-marketplace-for-resilient-infrastructure-investment/](https://www.brookings.edu/research/creating-a-new-marketplace-for-resilient-infrastructure-investment/)

projects requires an exhaustive understanding of risks. Governments need to improve standards⁸ and technical specifications for public financing based on risk assessment and bankable projects.⁹ The nature and frequency of hazards should guide the inclusion of hazard-resistant features in the design and implementation of infrastructure projects.

We need a new methodology to accelerate investment in infrastructure that is resilient to growing climate pressures.

⁸ Meister Consultants Group (2017), Voluntary Resilience Standards: An Assessment of the Emerging Market for Resilience in the Built Environment, www.mc-group.com/wp-content/uploads/2017/05/MCG-Voluntary-Resilience-Standards-Report_.pdf .

⁹ Meister Consultants Group (2017), Voluntary Resilience Standards: An Assessment of the Emerging Market for Resilience in the Built Environment, www.mc-group.com/wp-content/uploads/2017/05/MCG-Voluntary-Resilience-Standards-Report_.pdf .

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