

Climate-Smart PPPs

Full Description

The majority of greenhouse gas (GHG) emissions today is associated with carbon-intense infrastructure construction and operation, particularly in the energy, public transport, water supply and sanitation sectors. At the same time, it is expected that economies will need to make significant investments over the next 10 - 15 years to build new or to rehabilitate ageing infrastructure to meet the global demand with emerging economies and developing countries accounting for roughly two thirds of global infrastructure investment.

Developing climate-smart, resilient infrastructure will be crucial to:

- Mitigate climate change, i.e. reduce GHG emissions;
- Increase the resilience of infrastructure assets to climate change, i.e., ensure that infrastructure is planned, designed, built and operated in a way that anticipates, prepares for and adapts to uncertain and potentially permanent effects of climate change (e.g. hydropower project that takes into account changes in average and extreme flows in the future, to ensure that financial models that stem from hydrological analyses are correct, or that spillways are correctly sized to avoid dam breaches);
- Ensure resilience through infrastructure, i.e. ensure that the new or improved infrastructure does not harm and delivers related benefits to wider systems, communities, households and individuals (e.g. sea barriers, flood protection).

To deliver climate-smart infrastructure solutions, private investment and expertise is essential, including sustainable infrastructure finance through public-private partnership (PPP) models.

The distinction between resilience of projects and resilience through projects is explained in more detail in:

- [World Bank Group's Action Plan on Climate Change Adaptation and Resilience](#), World Bank Group 2019
- [Climate Resilience Principles – A framework for assessing climate resilience Investments](#), Climate Bonds Initiative September 2019

Terms and Concepts:

Adaptation of climate change constitutes “The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.”

Mitigation of climate change constitutes “a human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs)”.

Resilience is “the capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation.”

The definitions above are based on Synthesis Report, Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Annex II: Glossary in Climate Change, IPCC, 2014

Climate-resilient infrastructure: Infrastructure that is planned, designed, built and operated in a way that anticipates, prepares for, and adapts to changing climate conditions. It can also withstand, respond to, and recover rapidly from disruptions caused by these climate conditions.

This section of the PPPLRC website provides links to policies, legislation, project documents and other resources that are relevant for developing, structuring and implementing climate-smart PPP projects.

Responses developed to climate change globally including the climate change regime that may apply for PPPs are changing dynamically and quickly. Many aspects highlighted throughout this section, including best practice legal and regulatory frameworks, Nationally Determined Contributions (NDCs), design standards, insurance and insurability, force majeure definitions will change continuously. Being on top of the latest developments regarding this topic is decisive for successful PPPs. The goal of the PPPLRC is to keep the information on this website timely and accurate. If you have any comments, please write to us at: ppp@worldbank.org.

[Climate-Smart PPP Legal and Regulatory Framework](#)

- [Climate-Smart PPP Policies and Legislation](#)
- [Nationally Determined Contributions \(NDCs\)](#)
- [Climate-Smart Policies, Legislation and Guidelines](#)

[Preparing, Procuring and Implementing Climate-Smart PPPs](#)

- [Developing Climate-Smart PPPs](#)
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- [Climate-Smart PPP Contracts](#)
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[?Sector-Specific Content](#)

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 - [Renewable Energy \(RE\)](#)
 - [Energy Efficient Street Lighting PPPs](#)
 - [Carbon Capture and Storage](#)
- Water
 - [Example of Climate-Smart Desalination Plant](#)
- Transport
 - [Urban Passenger Transport](#)
 - [Railways](#)

[Further Reading and Resources](#)

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[?Sector-Specific Content on Climate-Smart](#)

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