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INFRASTRUCTURE  
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# **Climate-Smart Public- Private Partnerships (PPPs)**

**NCP Ramadan 2024 PPP Webinars**

**Riyadh**

**27 March 2024**

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# Outline of the Presentation



## Five main topics

- I. What Are Climate-Smart PPPs**
- II. Why Do We Need Climate-Smart PPPs**
- III. Key Characteristics – The Need for Flexibility**
- IV. Brief Case Study: Canada’s Tlichó All-Season Road**
- V. Resource Materials on Climate-Smart PPPs**
- VI. Concluding Observations**

# I. What Are Climate-Smart PPPs



- climate change is having an increasing impact on how infrastructure projects are planned, prepared, procured and managed
- **the concept of climate-smart infrastructure encompasses both:**
  - climate-change **mitigation** (i.e., infrastructure that promotes decarbonization); and
  - climate-change **adaptation** (i.e., infrastructure that is resilient to climate-change events)

## I. What Are Climate-Smart PPPs (cont.)

**Climate-smart PPP  
process improvements  
exist during each  
Phase of the PPP  
Project Cycle**

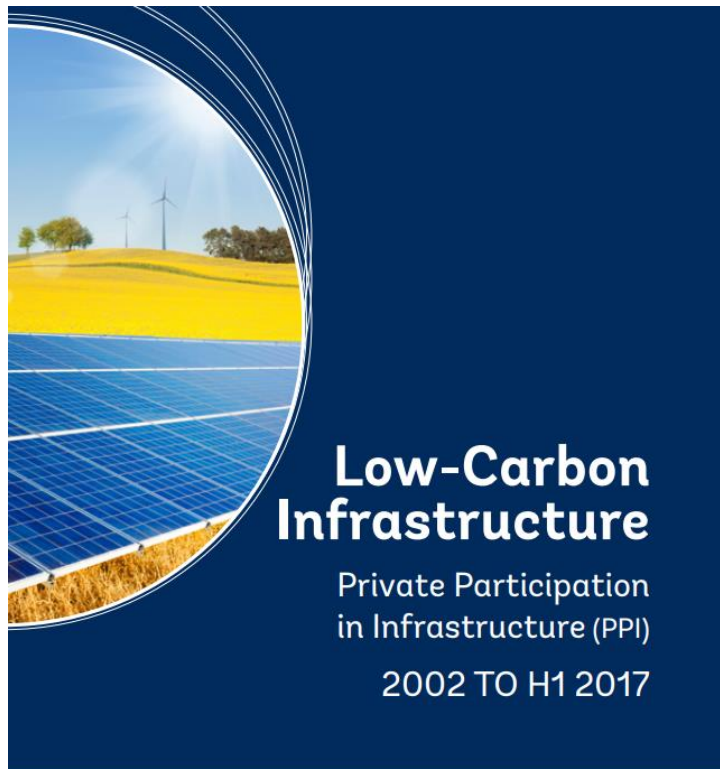
**I.**  
The project  
identification  
phase

**II.**  
The project  
assessment and  
preparation phase

**III.**  
The project  
procurement  
phase

**IV.**  
The project  
implementation  
phase

## II. Why Do We Need Climate-Smart PPPs



**Climate change poses a critical threat to environmental and agricultural sustainability, food security, livelihoods, and human safety. Extreme weather events, record-high global temperatures, and melting Arctic ice are a few of the potentially irreversible effects...**

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**Infrastructure investment and use have a significant impact on global greenhouse gas (including carbon) emissions, and ultimately on climate change. Approximately 70 percent of global greenhouse-gas emissions emanate from infrastructure construction and operations...**

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**Low-carbon infrastructure helps build resilience in vulnerable countries and protects against exposure to extreme climate change events. Most importantly, low-carbon infrastructure is also crucial for preventing a reversal of development gains made so far, particularly in emerging markets and developing economies that houses communities with a disproportionate exposure to climate change impacts.**

### III. Key Characteristics of Climate-Smart PPPs – The Need for Flexibility

**PPPs will need to deal with the uncertainties associated with climate change**

#### ***Dealing with climate uncertainty***

*One of the major challenges in structuring PPPs and designing projects for climate change is our inability to predict the actual evolution of climate stressors.*

*Decision-makers will often find themselves swinging between the lower-cost optimistic scenarios and their costlier, higher-risk counterparts, which call for adopting more adverse climatic projections. ...*

#### ***The need for contract flexibility to accommodate uncertainty***

*Unavoidably, inclusion of uncertainty and adaptive planning into the equation will negatively impact the long-term visibility required by investors. ...*

World Bank *Climate Toolkits for Infrastructure Umbrella Toolkit*, at <https://www.worldbank.org/en/topic/sustainableinfrastructurefinance/brief/climate-toolkits-for-infrastructure-ppps>

### III. Key Characteristics of Climate-Smart PPPs – The Need for Flexibility (cont.)

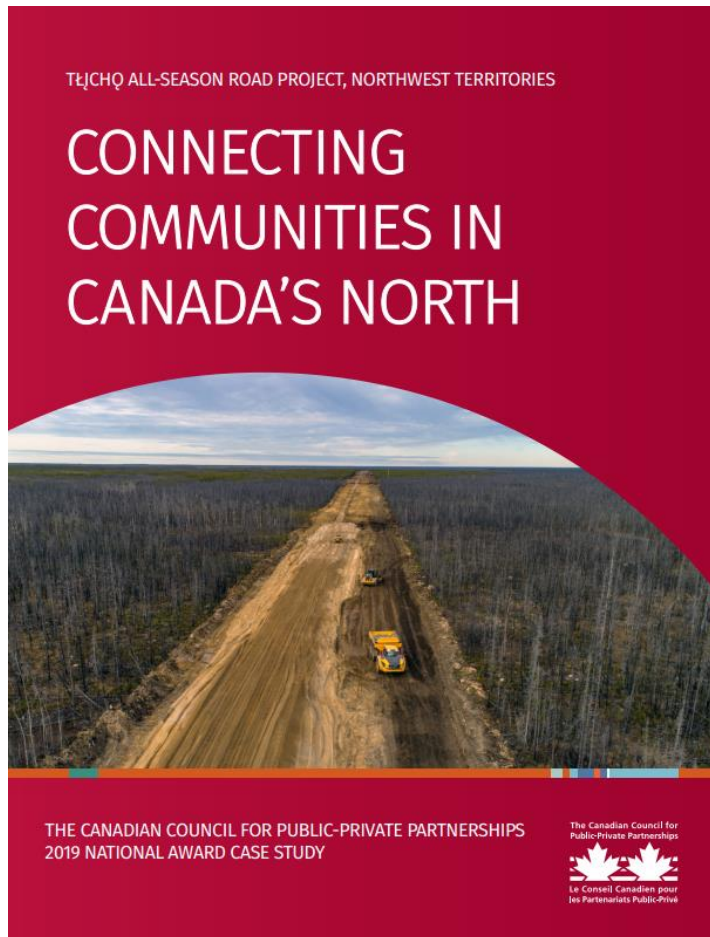


Climate-Smart PPP  
Contracts will need to  
be more collaborative

- a greater emphasis on **risk sharing**, as opposed to risk allocation – such as new approaches to force majeure
- a less adversarial approach to **dispute resolution** – such as a greater use of Dispute Resolution Boards
- a more systematic approach to **renegotiations** – such as using an expert panel to approve renegotiations in response to unforeseen risks
- a stronger commitment to **partnership**



## IV. Brief Case Study: Canada's Tlicho All-Season Road

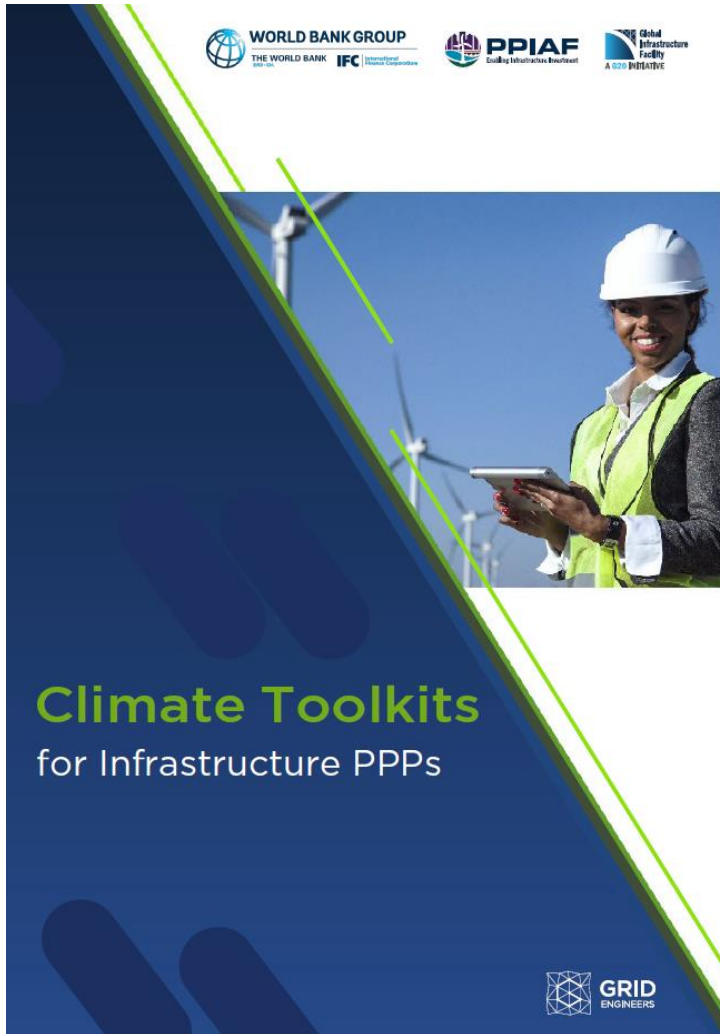


<https://www.pppcouncil.ca/getattachment/6e6b933d-721b-4983-beef-ffd799dde0e6/2019-Award-Case-Study-Tlicho-Road-final-web.pdf>

- a CAD 412 million (~USD 300 m) 97-kilometre **all-season highway in a remote area of northern Canada**, completed in 2021
- tendered by the Government of the Northwest Territory, with **the PPP Project Company jointly owned by a construction firm and the local indigenous government**
- due to the high risk of severe climate-change impacts during the 25-year O&M period, the PPP Contract ([https://www.inf.gov.nt.ca/sites/inf/files/content/tasr\\_-\\_project\\_agreement\\_final\\_redacted\\_version.pdf](https://www.inf.gov.nt.ca/sites/inf/files/content/tasr_-_project_agreement_final_redacted_version.pdf)) contains **a bespoke Climate Change Risk-Sharing Regime, whereby losses associated with defined Climate Change Events are apportioned between the parties**



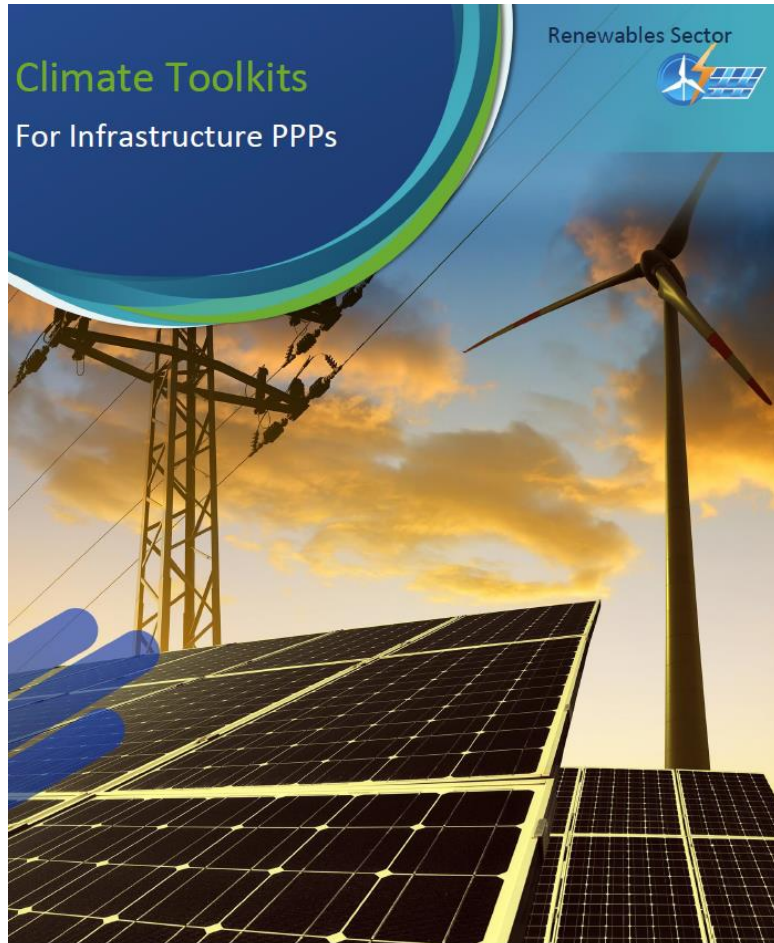
## V. Resource Materials on Climate-Smart PPPs



- the **Climate Toolkits for Infrastructure** is a series of guidance materials which the World Bank Group began publishing in April 2022\*
- there is a high-level “Umbrella Toolkit”, plus (currently) sector-specific toolkits for:
  - renewable energy projects
  - hydropower projects
  - water production and treatment projects
  - road projects
  - digital/ICT projects
- the primary focus of the *Umbrella Toolkit* is on activities during the Project Identification and Project Preparation phases, with detailed guidance on issues such as “Drafting Climate-Smart Tender Documents”

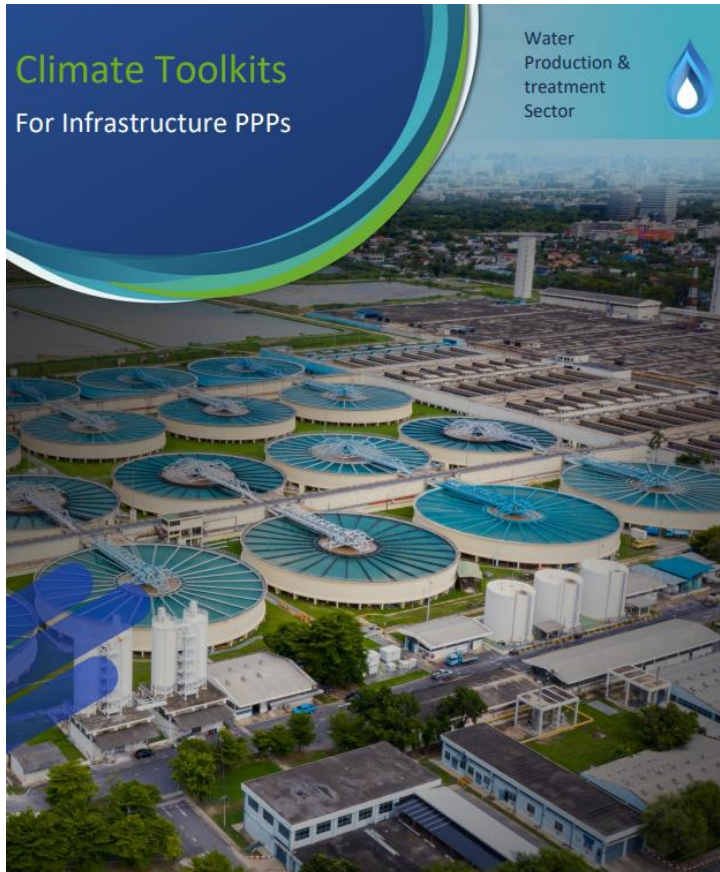
\*<https://www.worldbank.org/en/topic/sustainableinfrastructurefinance/brief/climate-toolkits-for-infrastructure-ppps>

## V. Resource Materials on Climate-Smart PPPs (cont.)



- the World Bank's **Renewable Energy Toolkit** was published in May 2023
- the toolkit deals with
  - **solar power** projects – both photovoltaic and Concentrated Solar Power (CSP) projects
  - **wind power** projects – both onshore and offshore
  - **battery electric storage system** (BESS) projects
- in this toolkit, the primary focus is, again, on the Project Identification and Project Preparation phases of the PPP Project Cycle
- it includes:
  - **advice on how to undertake Value for Money (VfM) assessments of renewable energy projects; and**
  - **a simplified methodology for a life-cycle assessment of a project's Green House Gas (GHG) emissions**

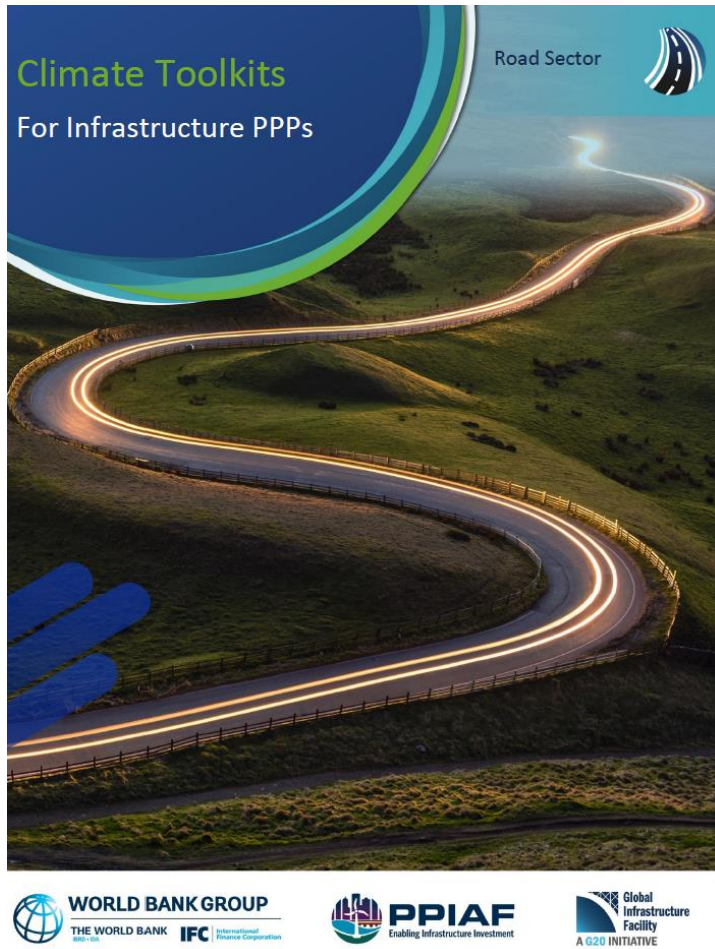
## V. Resource Materials on Climate-Smart PPPs (cont.)



- the World Bank's **Water Production and Treatment Sector Toolkit** was also published in May 2023
- the report provides guidance on climate-smart approaches for:
  - water abstraction projects (i.e., the extraction of water from a natural source);
  - water conveyance projects (i.e., the transportation of water from its source to a treatment plant or reservoir); and
  - water treatment projects (including flocculation, sedimentation and filtration)
- there is also a detailed discussion of climate-smart approaches to **desalination, including references to the Al Jubail 2 desalination project, and its associated 110 MW solar power park**

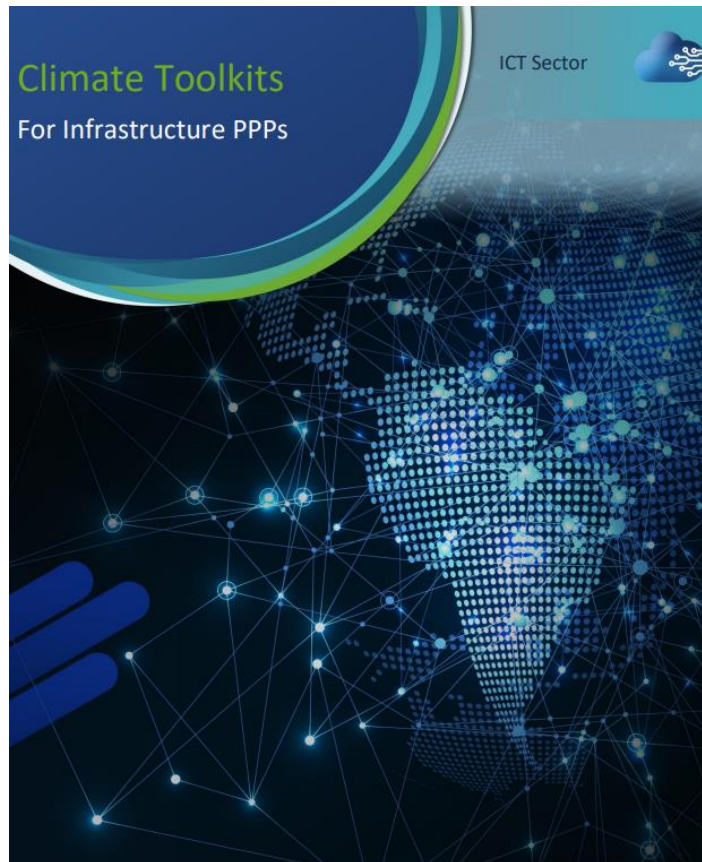


## V. Resource Materials on Climate-Smart PPPs (cont.)



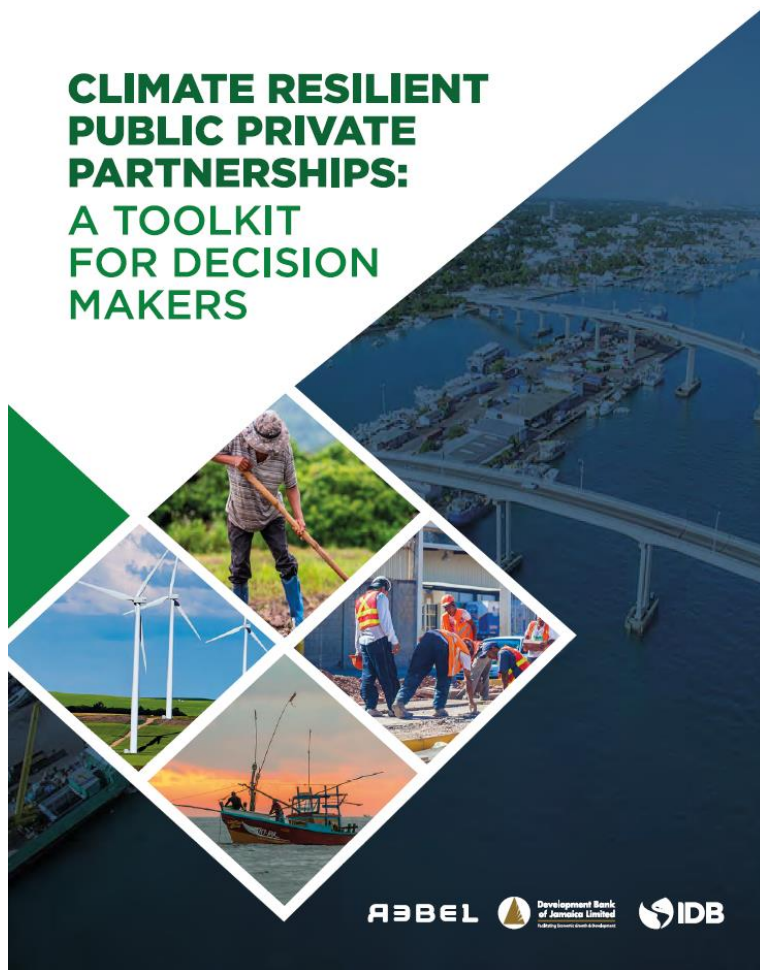
- the World Bank's **Road Sector Toolkit** was also published in May 2023
- this toolkit focuses on
  - project selection (including ensuring **conformity with national climate policies**);
  - project preparation (including **preparation of a Climate Assessment Report as part of the technical feasibility studies**); and
  - project implementation (including **climate-specific monitoring and evaluation processes**)
- the toolkit includes detailed guidance on **climate-smart KPIs** to be included in PPP Contracts

## V. Resource Materials on Climate-Smart PPPs (cont.)



- the World Bank's **Digital/ICT Sector Toolkit** was similarly published in May 2023
- the toolkit focuses on 'hard' ICT infrastructure assets:
  - **data management infrastructure**, such as data centres and servers; and
  - **data transmission infrastructure/telecommunication networks**, including both wireless networks (such as mobile communication networks and satellite networks) and fixed networks
- the toolkit includes guidance on:
  - mitigating the climate impact of **energy-intensive data centres**
  - **allocating risks associated with the impacts on ICT projects of both gradual changes in weather patterns or extreme climate events**

## V. Resource Materials on Climate-Smart PPPs (cont.)

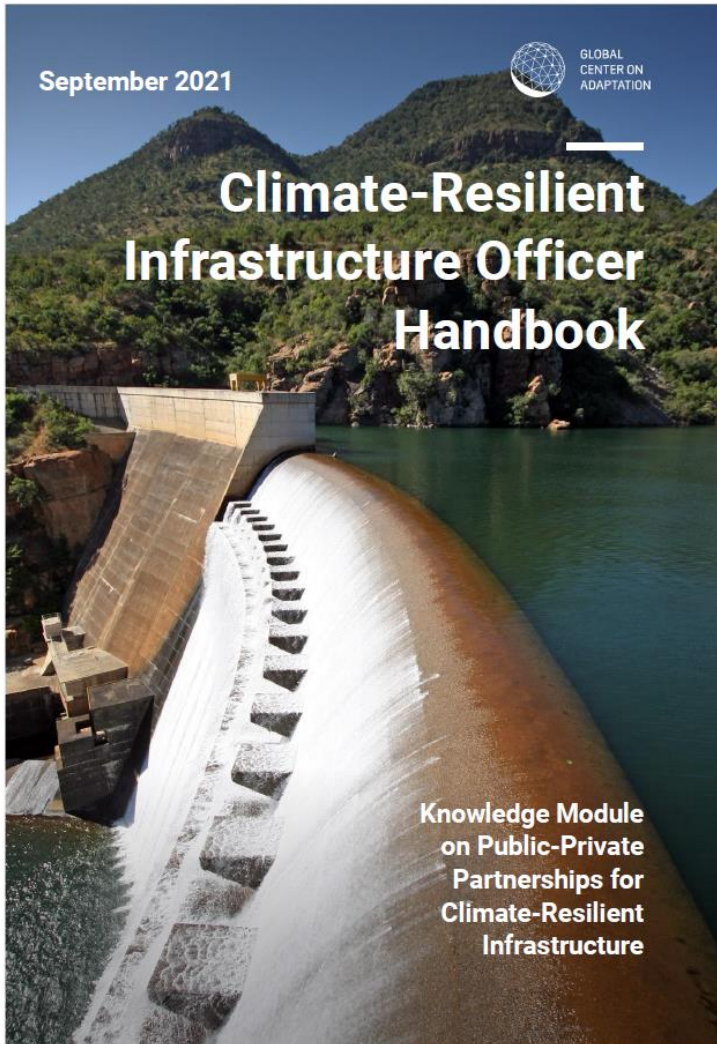


- ***Climate Resilient Public Private Partnerships: A Toolkit For Decision Makers*** is a publication of the Inter-American Development Bank (IDB), issued in May 2020\*
- the IDB document provides particularly useful guidance on dealing with climate issues during the Implementation Phase of the PPP Project Cycle
- in addition, the IDB *Toolkit* contains climate-smart recommendations relevant to a number of related topics such as, for example, the subject of appointing climate specialist advisors

\*<https://publications.iadb.org/en/climate-resilient-public-private-partnerships-a-toolkit-for-decision-makers>



## V. Resource Materials on Climate-Smart PPPs (cont.)



- the ***Climate-Resilient Infrastructure Officer Handbook*** was published by the Global Centre on Adaptation (CGA) in September 2021\*
- it is written for a global audience, reflecting inputs from many organisations, including Multilateral Development Banks and the Netherlands Ministry of Infrastructure and Water Management
- the *Handbook* recommends steps to be taken during the Project Identification and Project Preparation phases of the PPP Project Cycle, including:
  - the identification and approval of resilience options
  - the incorporation of climate impacts into the risk allocation process

\* available at <https://gca.org/reports/climate-resilient-infrastructure-officer-handbook/>.

## V. Resource Materials on Climate-Smart PPPs (cont.)

### Executive Summary



Decarbonisation of Operational PFI Projects

Handbook of recommended good practice for contracting authorities

<https://www.gov.uk/government/publications/decarbonisation-of-operational-pfi-projects>

- the United Kingdom Infrastructure and Projects Authority (IPA) published, in 2023, a series of handbooks on **operational** PPP projects, entitled ***Decarbonisation of Operational PFI Projects – Handbook of recommended good practice for contracting authorities***
  
- it includes:
  - *an Executive Summary*
  - *Part One - Developing a Decarbonisation Plan*
  - *Part Two - Delivering a Net Zero Change*

## VI. Concluding Observations

### Key 'takeaway' points

- in order to meet the UN Sustainable Development Goals and close the 'infrastructure gap', **we urgently need to develop climate-smart PPPs**
- we need to focus on both **climate-change mitigation and climate-change adaptation**
- **more collaborative and flexible PPP contracts are needed** to deal with the uncertainties associated with climate change
- **extensive and detailed new guidance materials and case studies** on the subject are now available



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