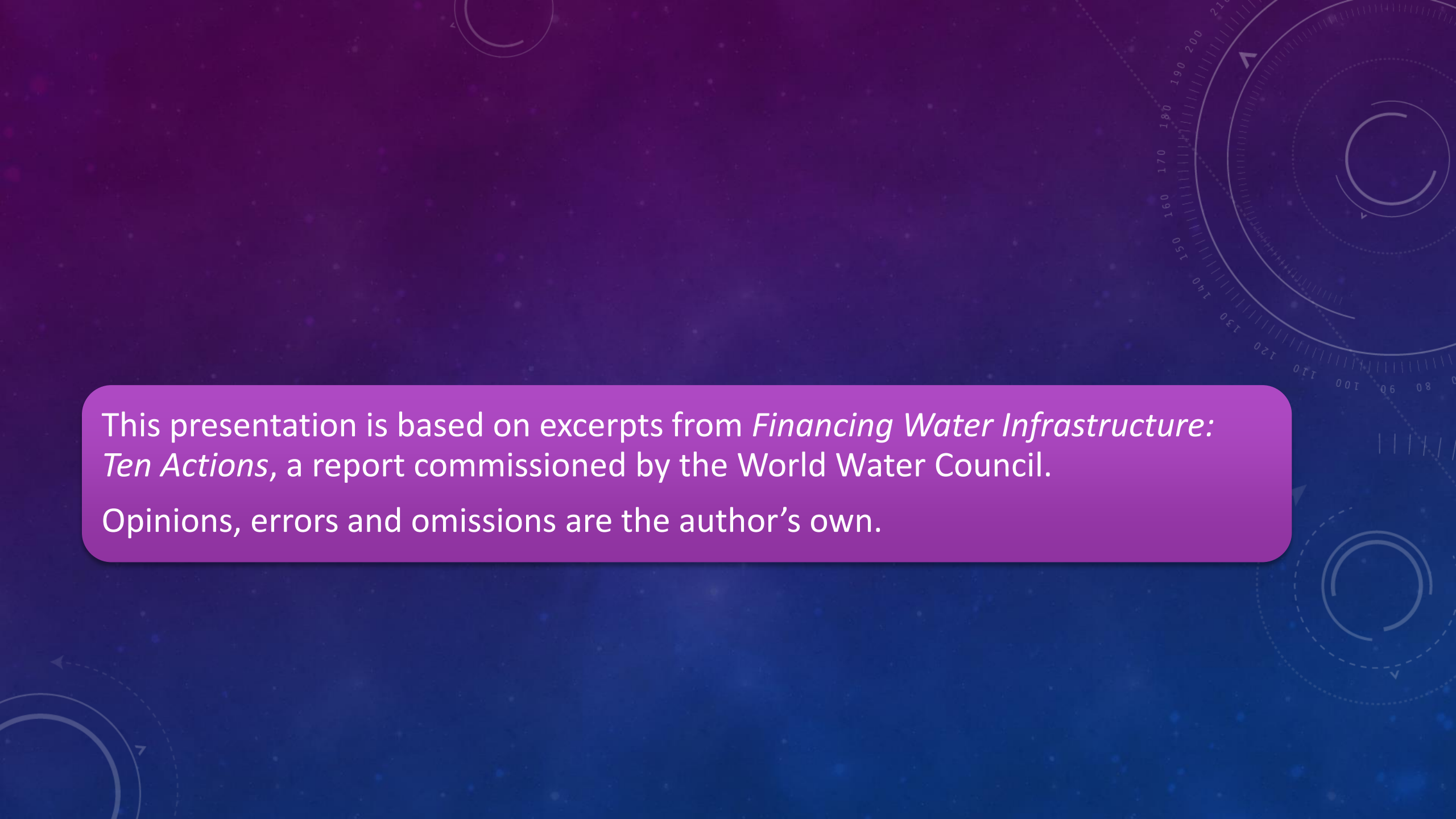




NAVIGATING WATER INFRASTRUCTURE

PROJECTS, INVESTORS,
RISKS AND RETURNS

The background features a dark blue gradient with a subtle pattern of white stars and faint technical diagrams. On the right side, there is a large, semi-transparent circular diagram with concentric rings and radial lines, resembling a gauge or a complex chart. The text is centered in a white rounded rectangle.

This presentation is based on excerpts from *Financing Water Infrastructure: Ten Actions*, a report commissioned by the World Water Council.

Opinions, errors and omissions are the author's own.

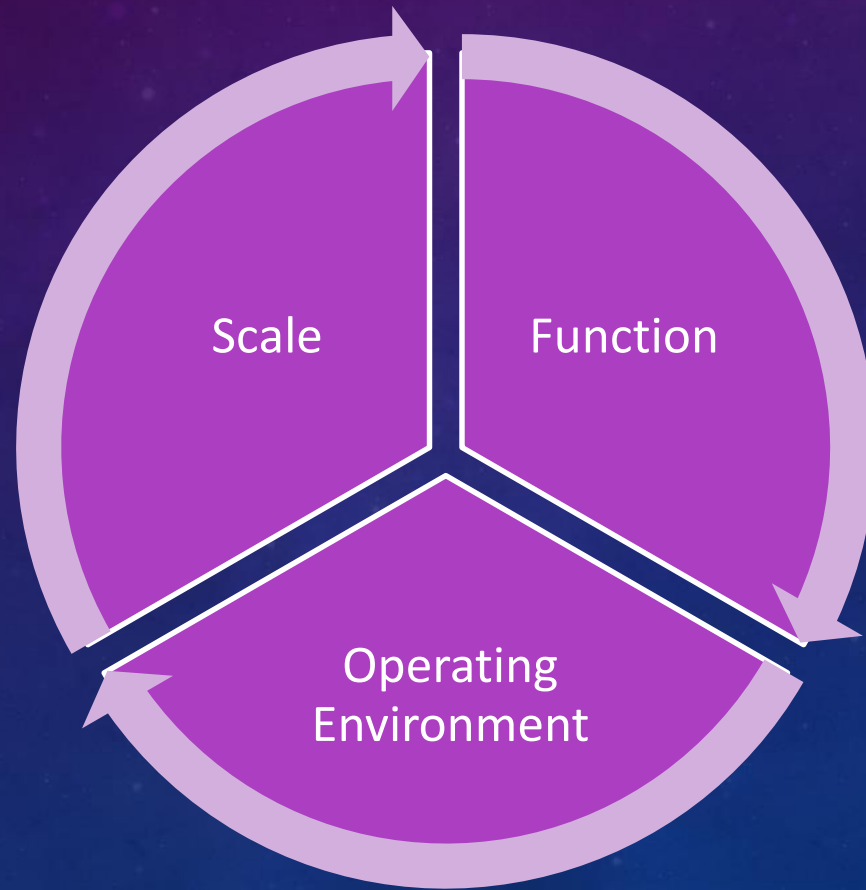
SETTING THE COURSE

Typology of water infrastructure projects

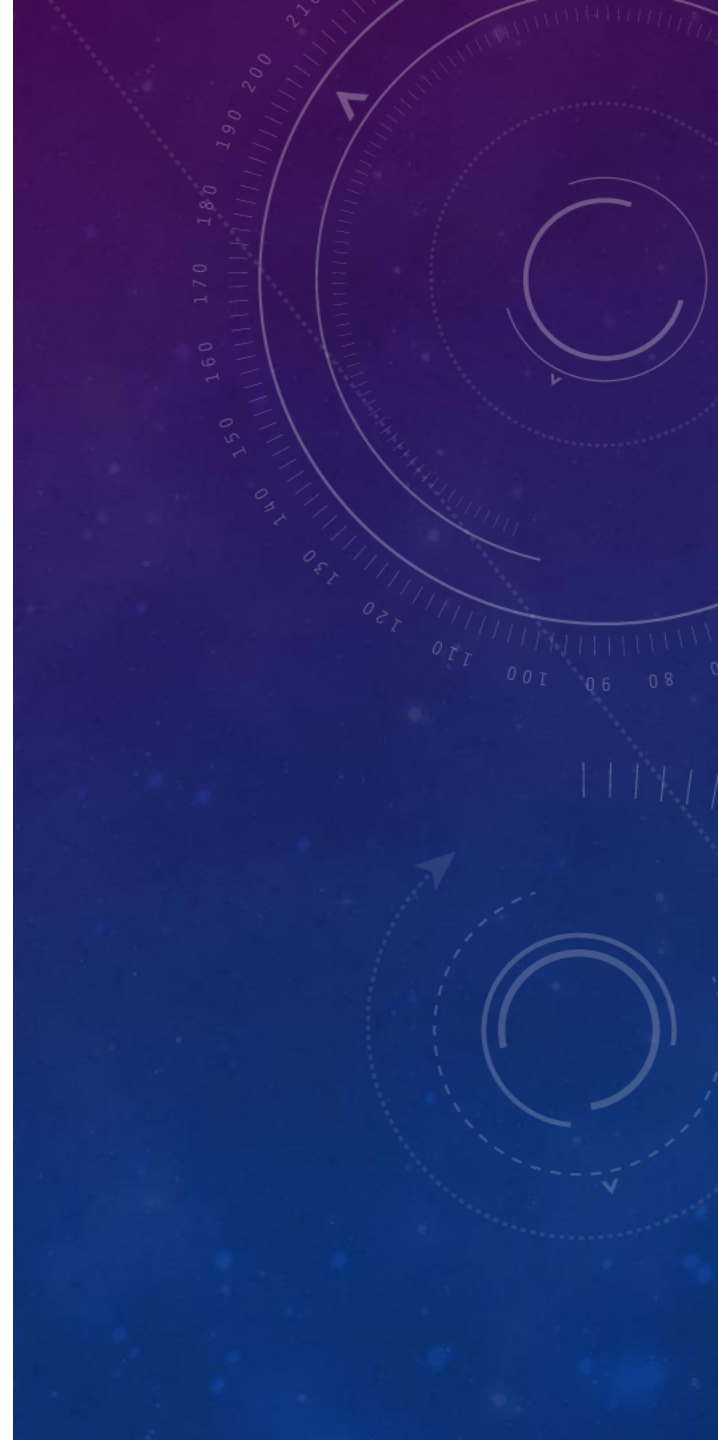
Typology of water infrastructure investors

Broader attribution of risk and return

TYOLOGY OF INFRASTRUCTURE PROJECTS



downstream
developed
construction
BLT
BOT
distribution
transportation
DBFO
BOT
credit
sanitation
supply
upstream
legal
latam
sewerage
ownership
household
regulation
services
pumping
BOO
protection
water
return
river
operating
storage
catchment
market
asia
sustainable
cost
buried
commercial
economic
financial
DCMF
environment
governance
DBOT
BOO
water
return
repayment
basin
scale
natural
model
social
tap
reservoir
operating
storage
catchment
market
asia
sustainable
cost
buried
commercial
economic
financial
DCMF
environment



TYOLOGY OF INFRASTRUCTURE PROJECTS

- Agree a codified typology using multiple layers
- Develop an open-source framework for self-classifying water infrastructure projects
- Apply external validation and scrutiny

Private Participation in Infrastructure Database



PPI Visualization Dashboard

The PPI Visualization Dashboard is a tool which allows users to visualize the data in several ways by selecting certain filters, such as regions, countries, sectors, and project status. A list of associated projects is also displayed at the bottom of the page.

Apply Your Filters: [Reset](#) [Share](#) [PDF](#) [Excel](#) [Tour New](#)

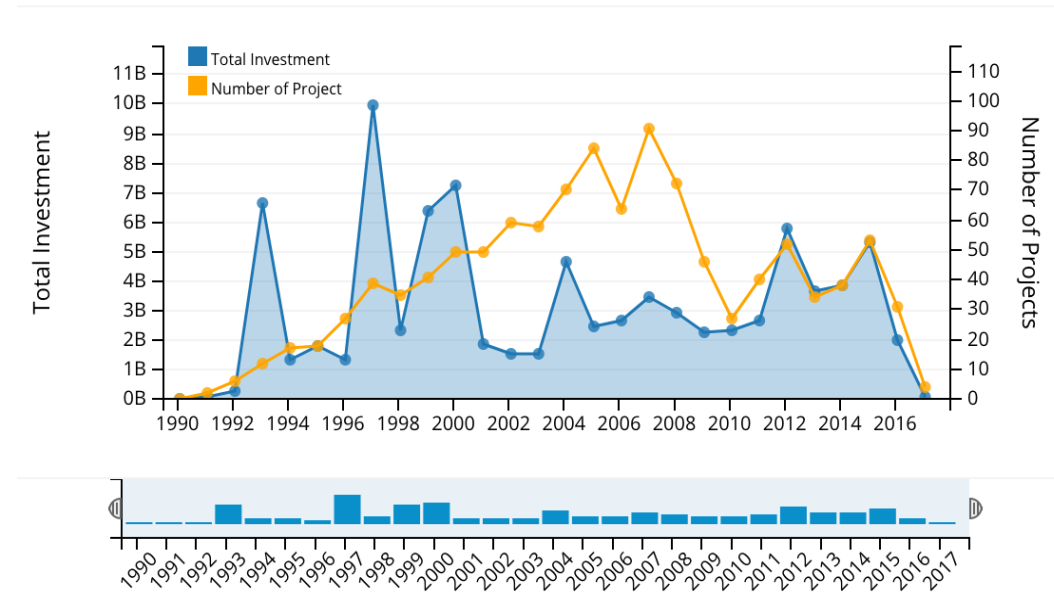
993
Total Projects

\$86.325 Billion
Total Investment

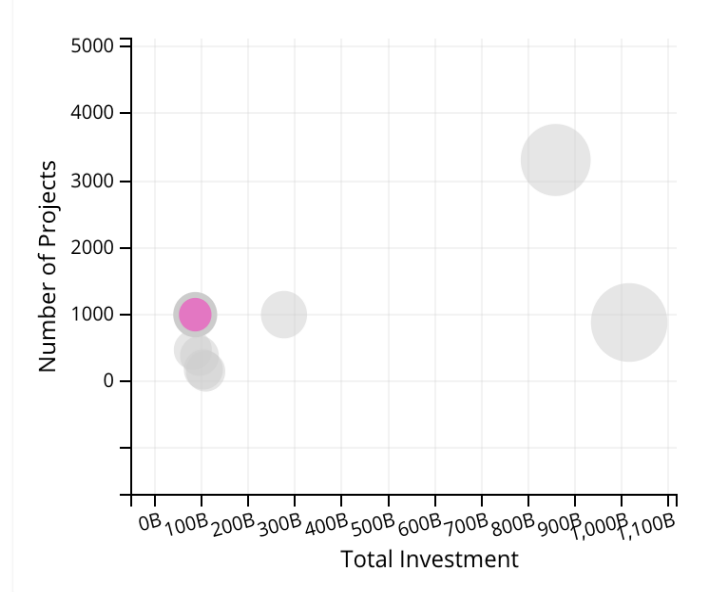
Water and sewerage
Sector with highest investment

0.91%
Projects from low income countries

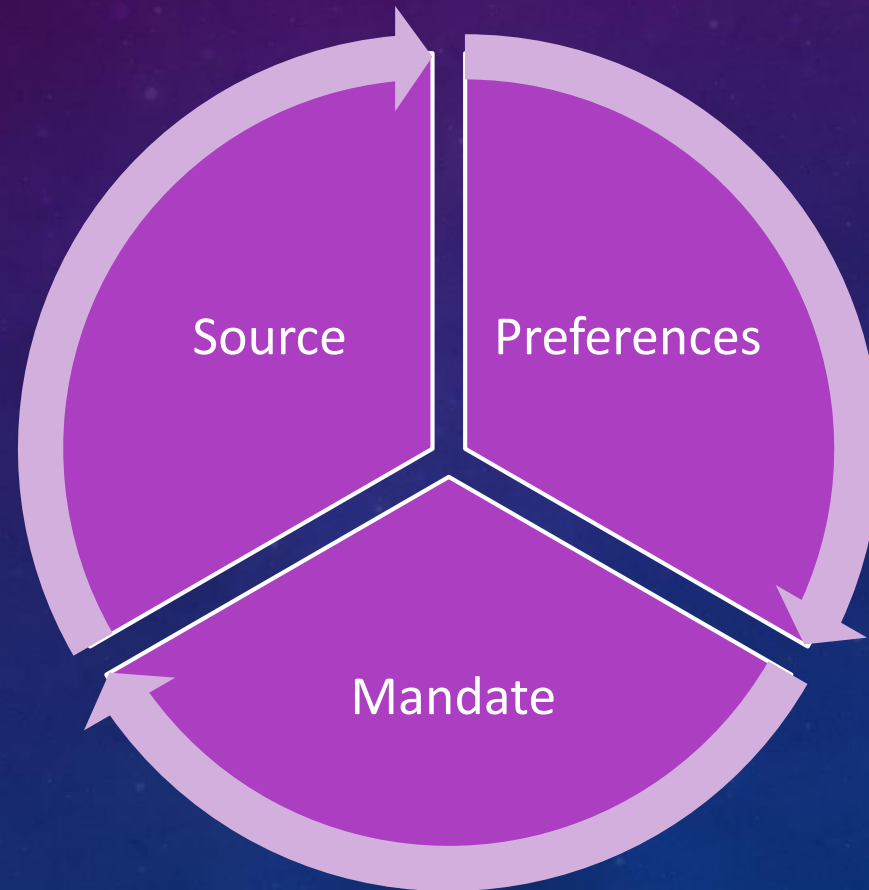
Project Timeseries [Play](#) [Line](#) [Bubble](#) [Download](#)



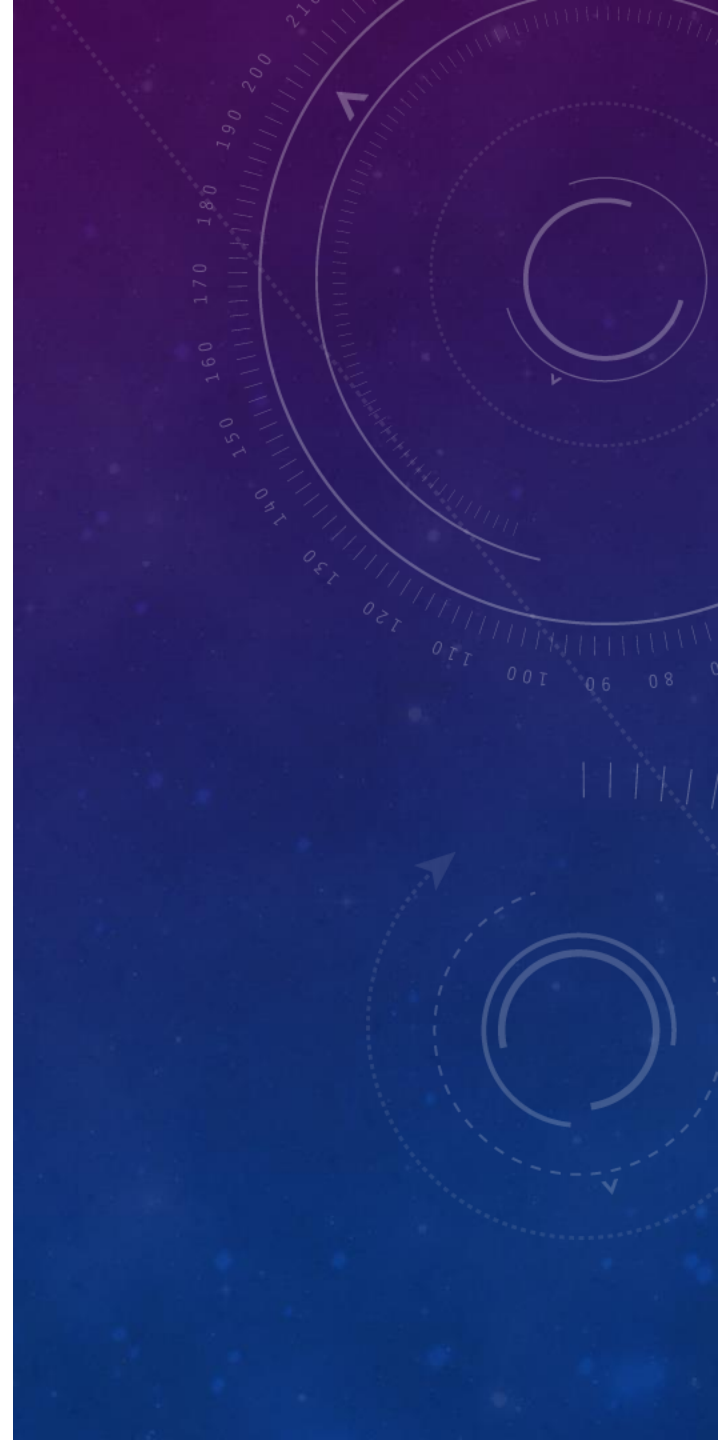
Sectors [Download](#)



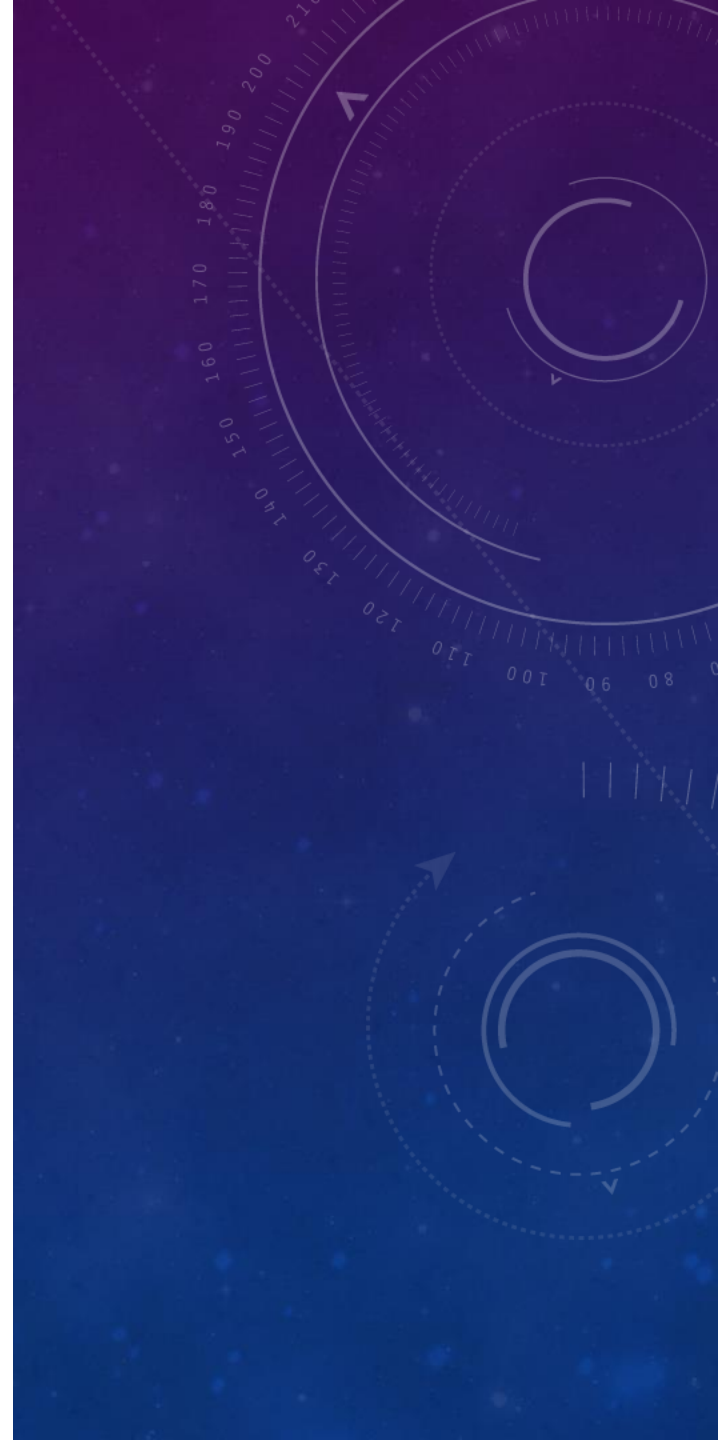
TYOLOGY OF INFRASTRUCTURE INVESTORS



investors insurance
companies
government
development
institutional
insurers mutual
funds
wealth
concessionary
Commercial banks
commercial
hedge sovereign
pension
lenders



income
resources
tolerances
information
time
risk
horizons
performance
knowledge
sector
objectives



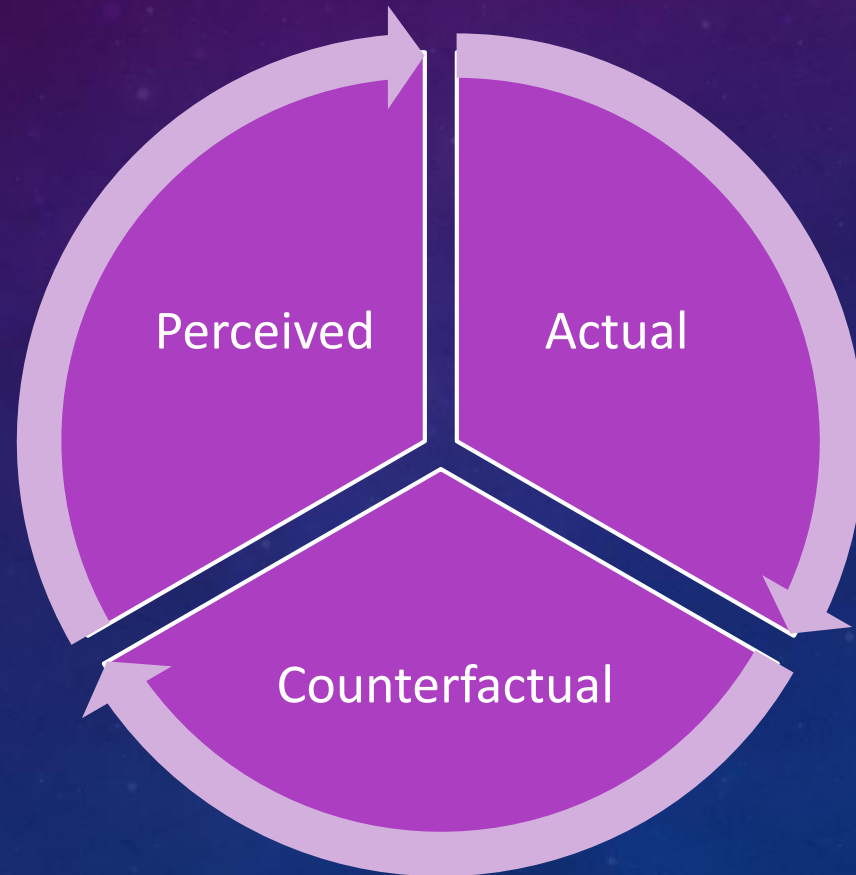
TYOLOGY OF INFRASTRUCTURE INVESTORS

- Agree a codified typology using multiple layers
- Develop an open-source a framework for self-documenting mandates and preferences
- Validate based on actual investments made

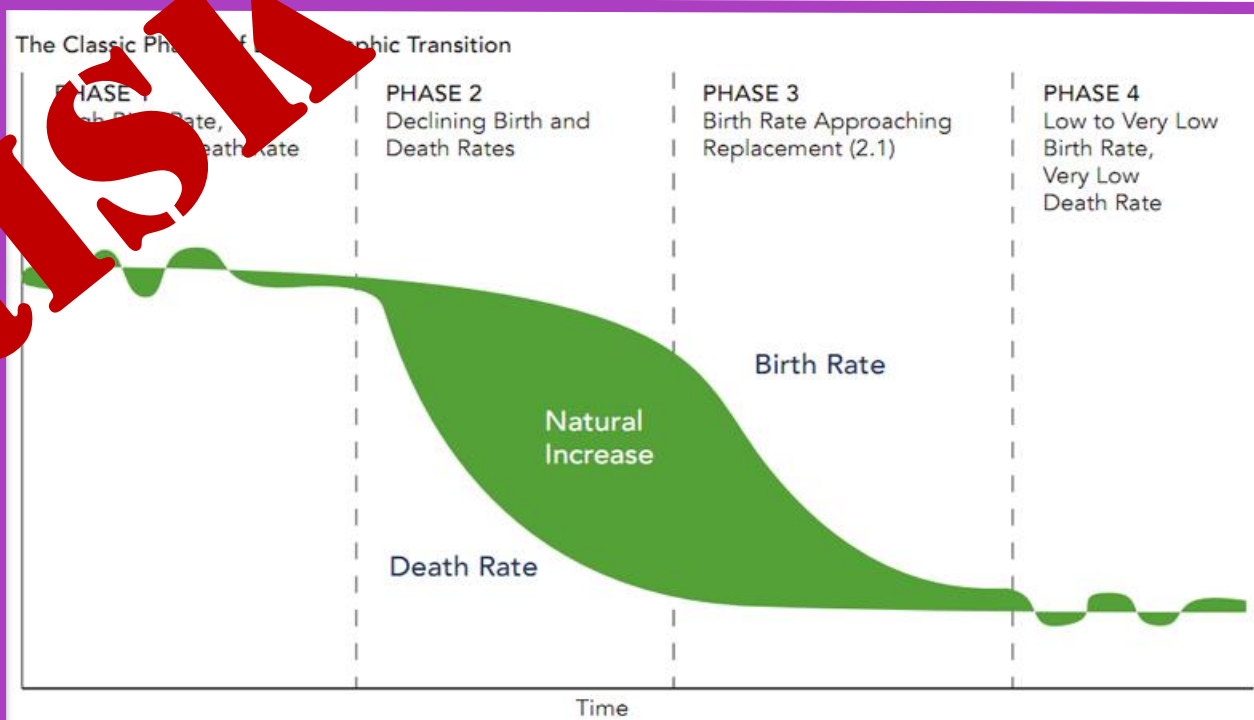
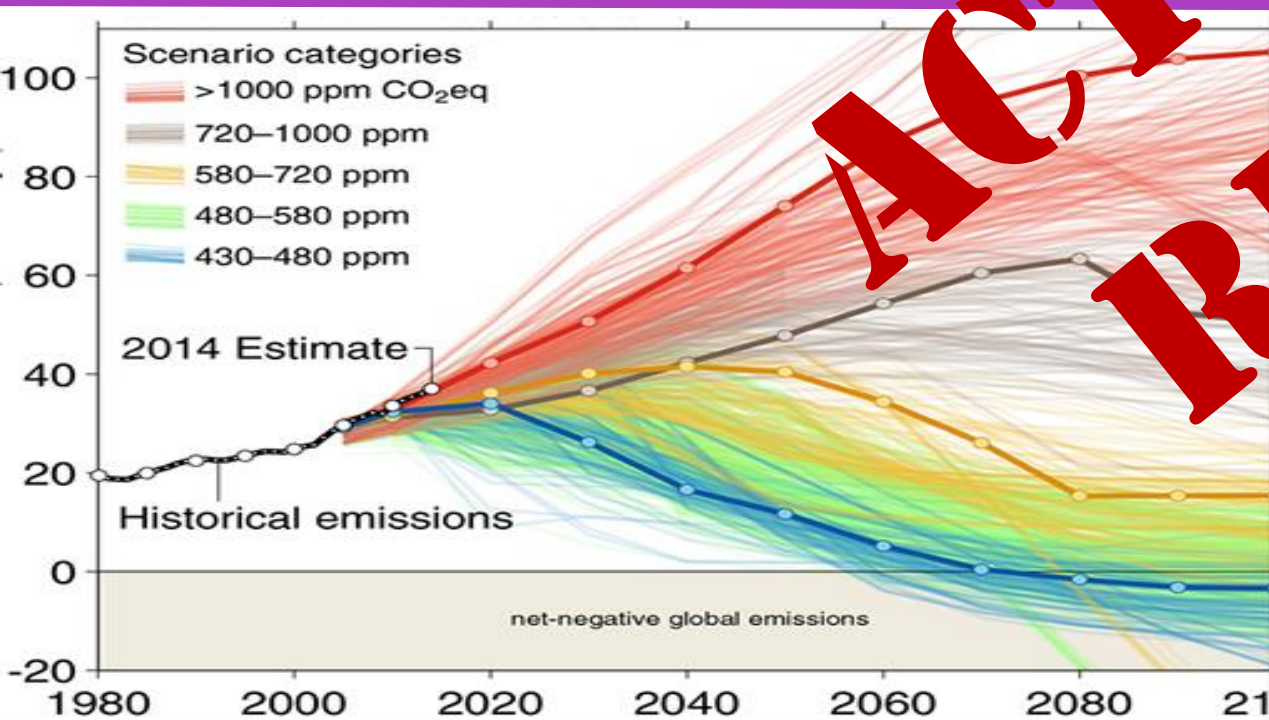
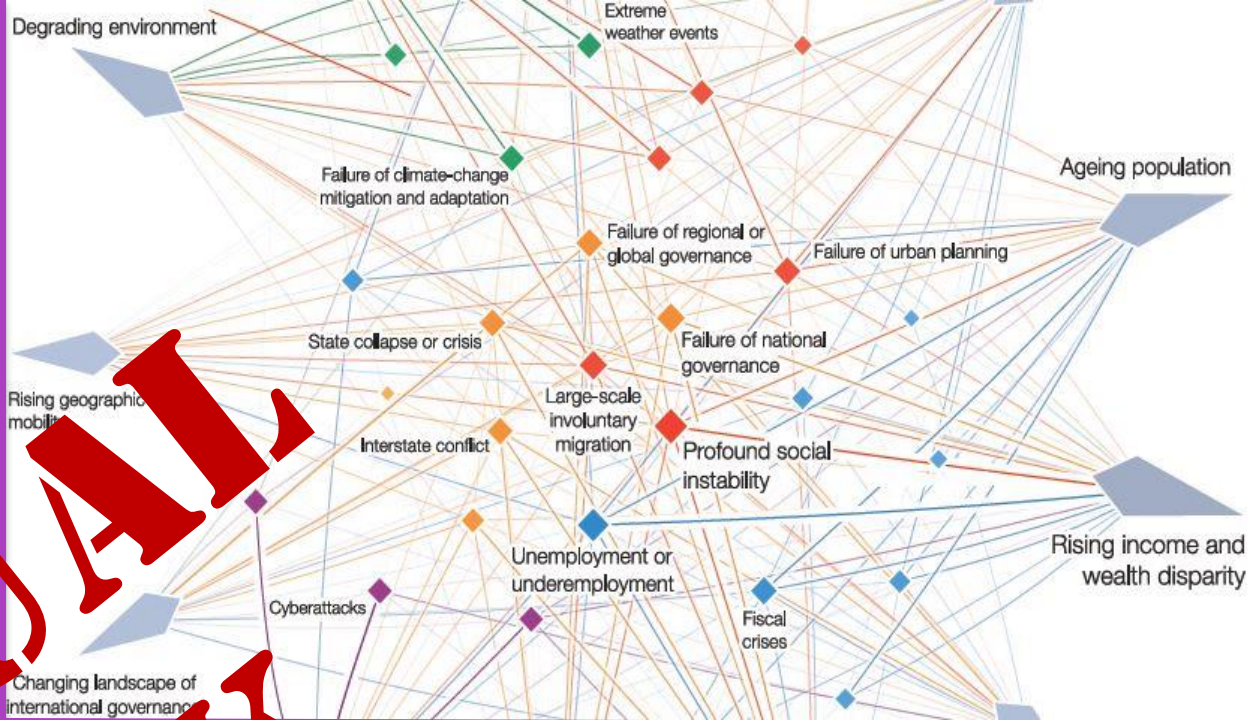
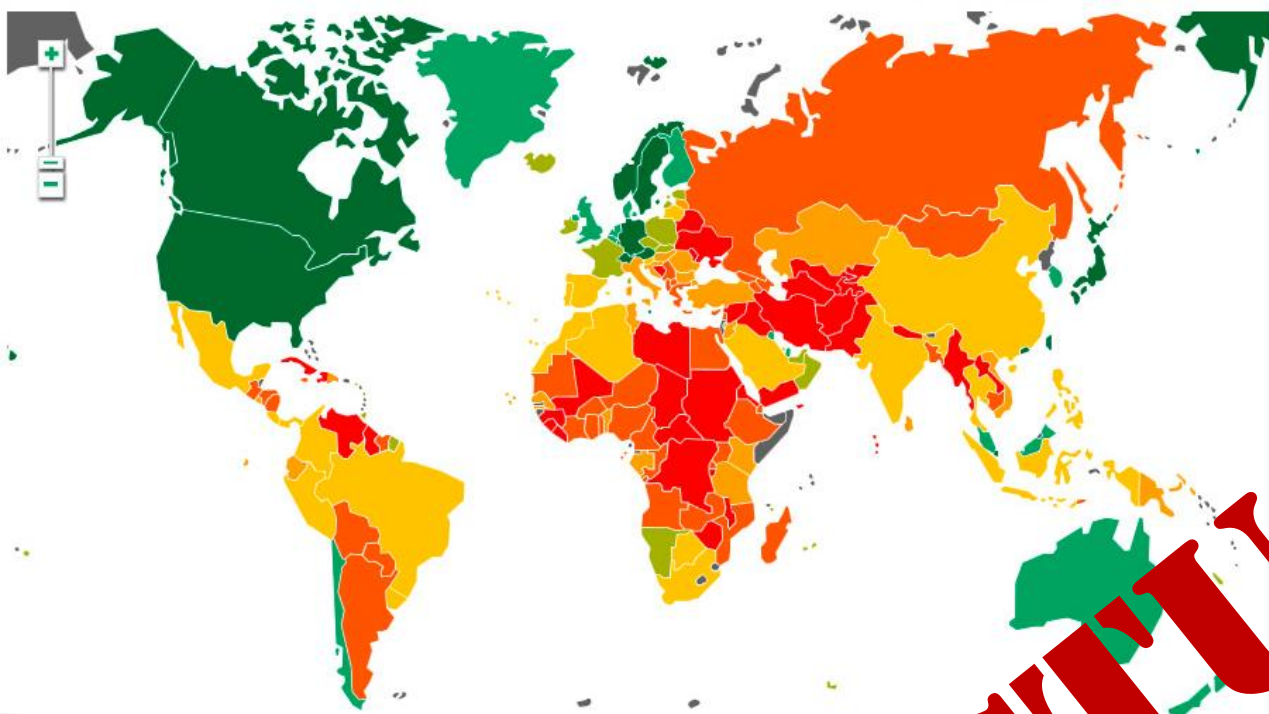
Modes		Infrastructure Finance Instruments		Market Vehicles
Asset Category	Instrument	Infrastructure Project	Corporate Balance Sheet / Other Entities	Capital Pool
Fixed Income	Bonds	Project Bonds	Corporate Bonds, Green Bonds	Bond Indices, Bond Funds, ETFs
		Municipal, Sub-sovereign bonds		
		Green Bonds, Sukuk	Subordinated Bonds	
	Loans	Direct/Co-Investment lending to Infrastructure project, Syndicated Project Loans	Direct/Co-investment lending to infrastructure corporate	Debt Funds (GPs)
Syndicated Loans, Securitized Loans (ABS), CLOs			Loan Indices, Loan Funds	
Mixed	Hybrid	Subordinated Loans/Bonds, Mezzanine Finance	Subordinated Bonds, Convertible Bonds, Preferred Stock	Mezzanine Debt Funds (GPs), Hybrid Debt Funds
Equity	Listed	YieldCos	Listed infrastructure & utilities stocks, Closed-end Funds, REITs, IITs, MLPs	Listed Infrastructure Equity Funds, Indices, trusts, ETFs
	Unlisted	Direct/Co-Investment in infrastructure project equity, PPP	Direct/Co-Investment in infrastructure corporate equity	Unlisted Infrastructure Funds

Source: OECD analysis drawing on OECD (2015b)

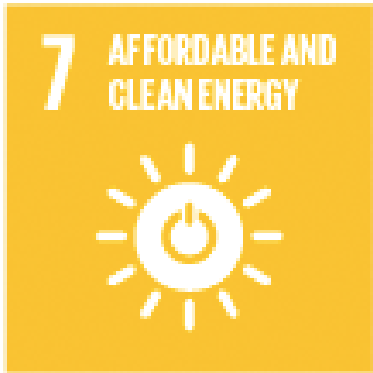
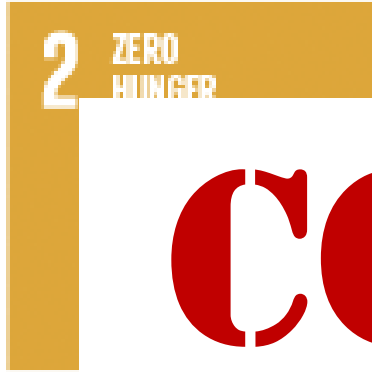
ATTRIBUTION OF RISK AND RETURN



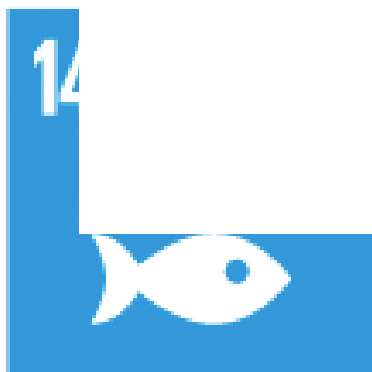
Risk Categories	Development Phase	Construction Phase	Operation Phase	Termination Phase
Political and regulatory	Environmental review	Cancellation of permits	Change in tariff regulation	Contract duration
	Rise in pre-construction costs (longer permitting process)	Contract renegotiation		Decommission
				Asset transfer
			Currency convertibility	
		Change in taxation		
		Change in social acceptance		
		Change in regulatory or legal environment		
Macroeconomic and business	Prefunding		Default of counterparty	
			Refinancing risk	
	Financial viability		Liquidity	
			Volatility of demand/market risk	
			Real interest rates	
		Exchange rate fluctuation		
Technical	Governance and management of the project			Termination value different from expected
	Environmental			
	Project feasibility	Construction delays and cost overruns	Qualitative deficit of the physical structure/ service	
	Archaeological			
	Technology and obsolescence			
Force majeure				



ACTUAL RISK



COUNTER-FACTUAL RISK



ATTRIBUTION OF RISK AND RETURN

- Risk analyses should seek to understand the economic, social and environmental impact of non-delivery
- This insight should be aligned with the returns on investment derived from improved water security

THANK YOU

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