



Infrastructure Financing: the Role of Sustainability and Resilience

Session 2: Infrastructure Investment Trends
and the Investment Gap

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Content

1	Infrastructure Investment, Investment Demand and Investment Gap
2	Drivers of Infrastructure Demand
3	Supply of Finance
4	SuRe Standard and Financing of Infrastructure
5	Conclusion

Introduction

- There is no unique definition of resilience.
 - Resilience does not only involve physical but also qualitative components, which are harder to measure.
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- > **Data on resilience and climate change adaptation is limited.**
 - > **Comprehensive and efficient frameworks are required**

Infrastructure Investment Demand

Annual global infrastructure investment requirements:

- USD 5 trillion until 2020 (WEF, 2013)
- USD 5 – 7 trillion from 2015 until 2030 (Unctad, 2014)

Specific requirements for climate change adaptation:

- USD 21 – 37 billion (World Bank, 2010)



Taking climate resilience in the urban infrastructure context into account:

- Business as usual investment needs: USD 4.1 – 4.3 trillion annually
- Additional investment needs for a low emission and climate resilient path: USD 0.4 – 1.1 trillion

→ **Premium of 9 to 27 percent**

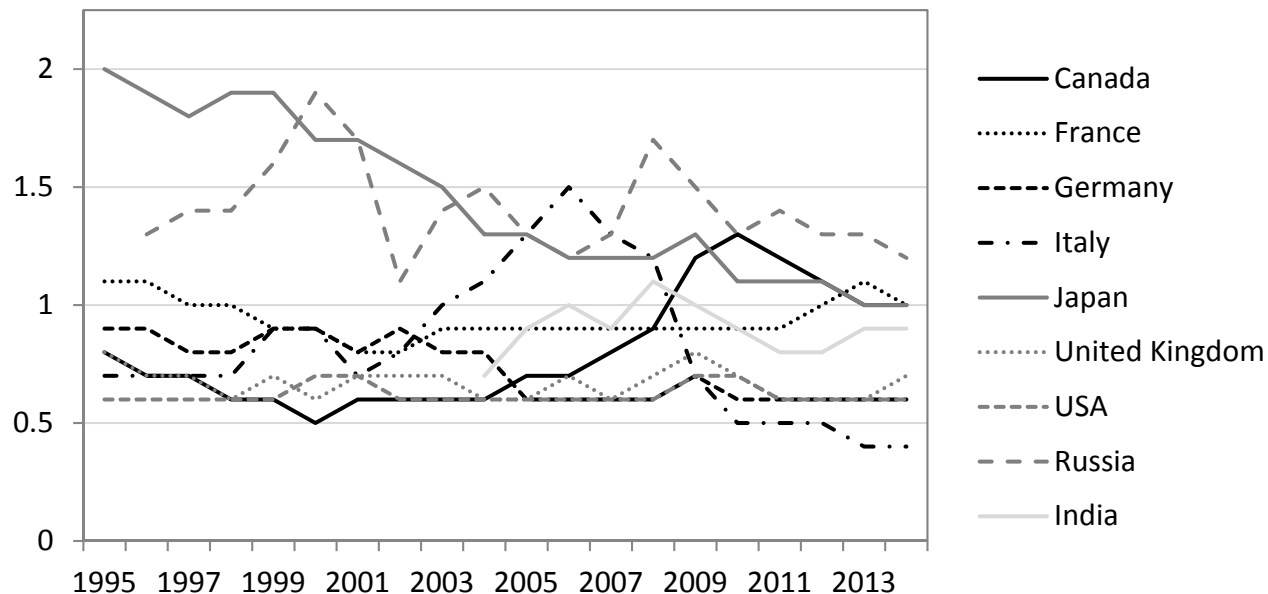
Source: (CCFLA, 2016)

Global Infrastructure Investment

Estimates of current annual infrastructure investment:

- USD 2.7 trillion (WEF, 2013)
- USD 2.5 trillion (McKinsey, 2016)

→ Global infrastructure investment is stagnating

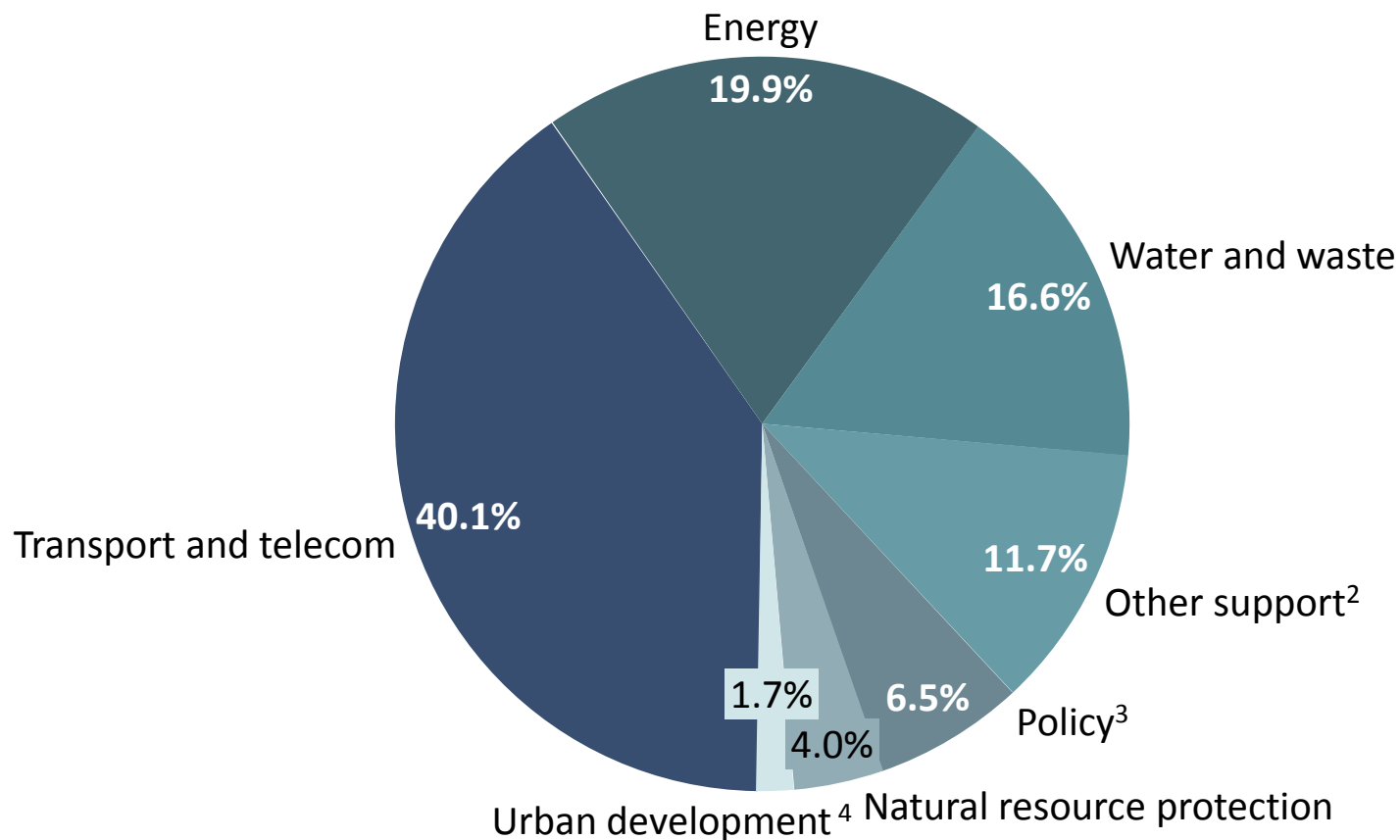


Example: total inland transport infrastructure investment as percentage of GDP, 1995–2014

Source: OECD (2017)

Urban climate finance by sector, 2014¹

Provided by CCFLA



1 Estimates based on aggregated data from ADB, AFD, CAF, IDB, JICA, KfW, AfDB, WB (IBRD and IDA only); may not add up to 100% due to rounding or differences in reporting methodologies across institutions.

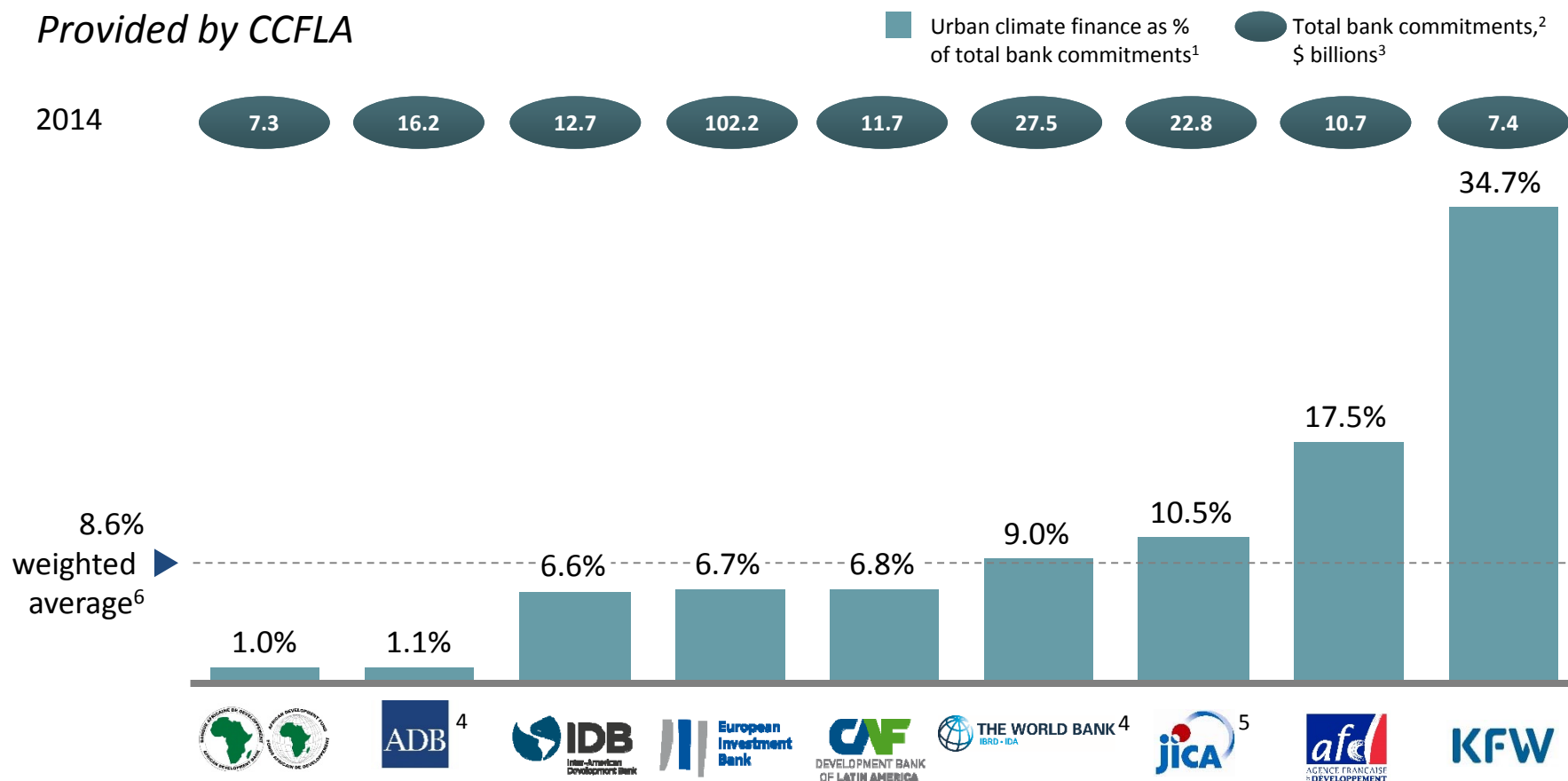
2 Includes education, technical cooperation, agriculture, non-identified items, and other items that may not directly affect infrastructure.

3 Includes democracy, civil society, and public administration.

4 includes sustainable economic development.

Share of development bank capital directed to urban climate finance

Provided by CCFLA



1 Total urban climate figures reported by each institution or calculated as a sum of reported urban mitigation and urban adaptation finance.

2 Total bank commitments sourced from 2014 annual reports; ADB provided an amended number which excludes financing not directly administered by ADB.

3 Calculations based on totals in US dollars; currency conversions made using average exchange rates for calendar year 2014.

4 ADB and WB include as “urban” only projects taking place within the geographic boundaries of urban areas.

5 JICA totals reflect total disbursements rather than approvals/commitments.

6 Weighted average of urban climate finance as % of total bank commitments across the nine DFIs.

Infrastructure Investment Gap

Global investment demand

– Global current investment level

= Global infrastructure investment gap

Estimates of the annual global investment gap:

- USD 1 trillion (WEF, 2013)
- USD 1 trillion (McKinsey, 2016)
- USD 2 trillion for developing countries to achieve the SDGs (Morgado & Casado-Asensio, 2015)
- USD 2.5 trillion for basic infrastructure (roads, rail, ports, power stations, water, sanitation, agriculture, climate change mitigation & adaptation, health, education) (Unctad, 2014)

Drivers of Infrastructure Demand

General drivers

- ➡ Population growth
- ➡ Urbanization
- ➡ Increased mobility

Resilience-specific drivers

- ➡ Disaster prevention
- ➡ Adaptation to climate change
- ➡ Sustainable development
 - Sustainable Development Goals
 - Paris Agreement 2015

“The importance of infrastructure becomes obvious by recognizing that sustainable infrastructure is the common denominator bringing the agendas of ecological sustainability and poverty reduction together. By reducing the carbon footprint, implementation of sustainable infrastructure creates employment...”

Bhattacharya et al. (2015)


Supply of Finance 1/2

Existing obstacles to mobilization of investment in low carbon and climate resilient infrastructure:


- Sustainability and resilience may be perceived as critical in the financial sector but well-defined concepts are not spread, yet (MEL CoP).
- Sustainability and resilience benefits are not always defined in monetary but rather qualitative terms.
- Reduction of climate risks involves a long-term investment horizon.
- Comprehensive and efficient measurement tools are needed to make risks and benefits transparent.



Environment



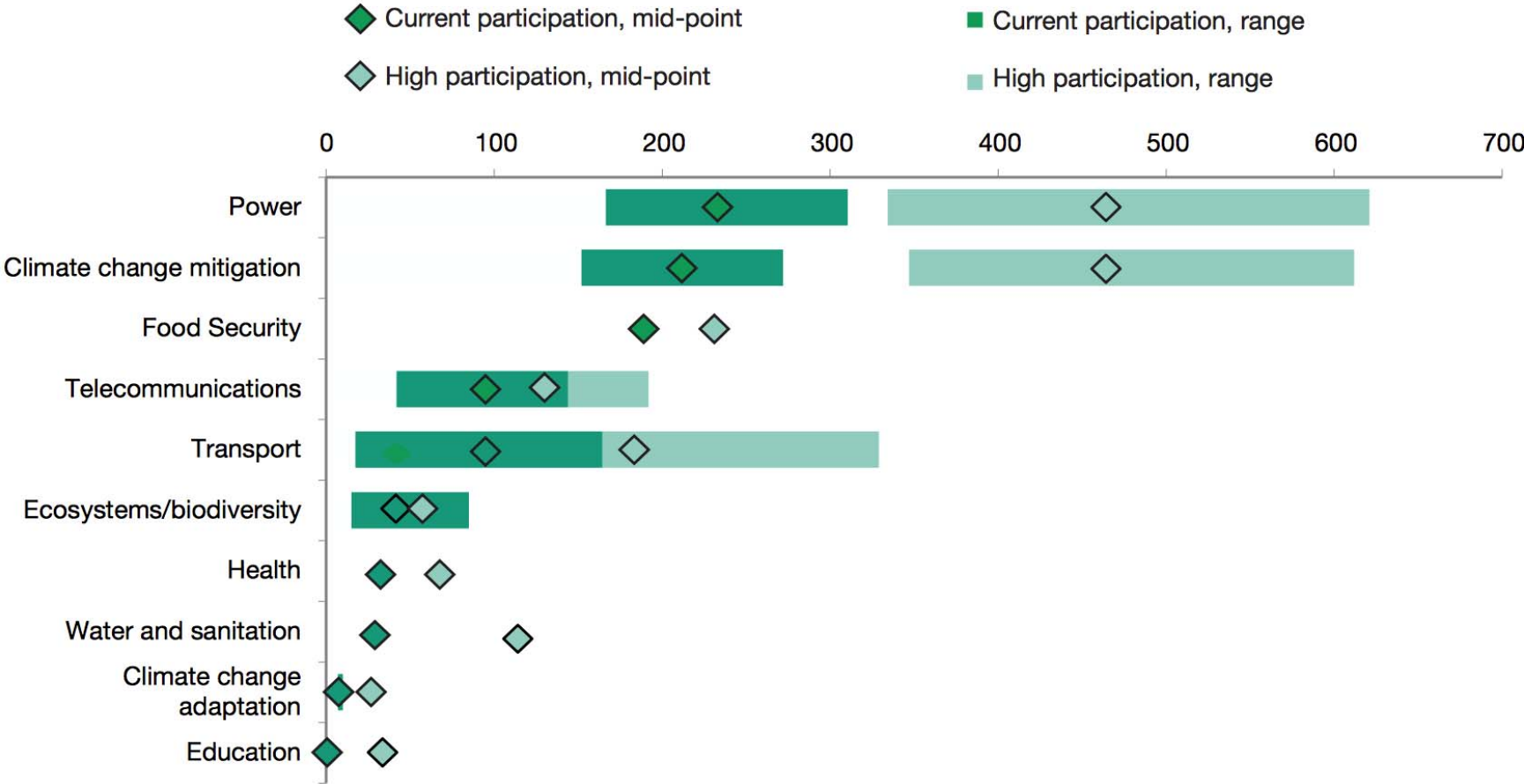
Society



Governance

Supply of Finance 2/2

Potential private sector contribution to investment gap



Source: Unctad (2015)

Financing Sustainable Infrastructure

Why should sustainability and resilience be integrated into infrastructure design and planning?

- ⇒ Sustainability and resilience are particularly effective due to the long-term, asset-heavy, localised, and relatively illiquid nature of infrastructure.
- ⇒ Sustainability and resilience de-risk infrastructure projects:
 - Lower default risk: better credit rating and lower borrowing rates
 - Lower damage risk in disaster case: lower insurance premium
 - Faster recovery after a disaster
- ⇒ Due to de-risking, sustainability and resilience increase infrastructure projects' cash flows.

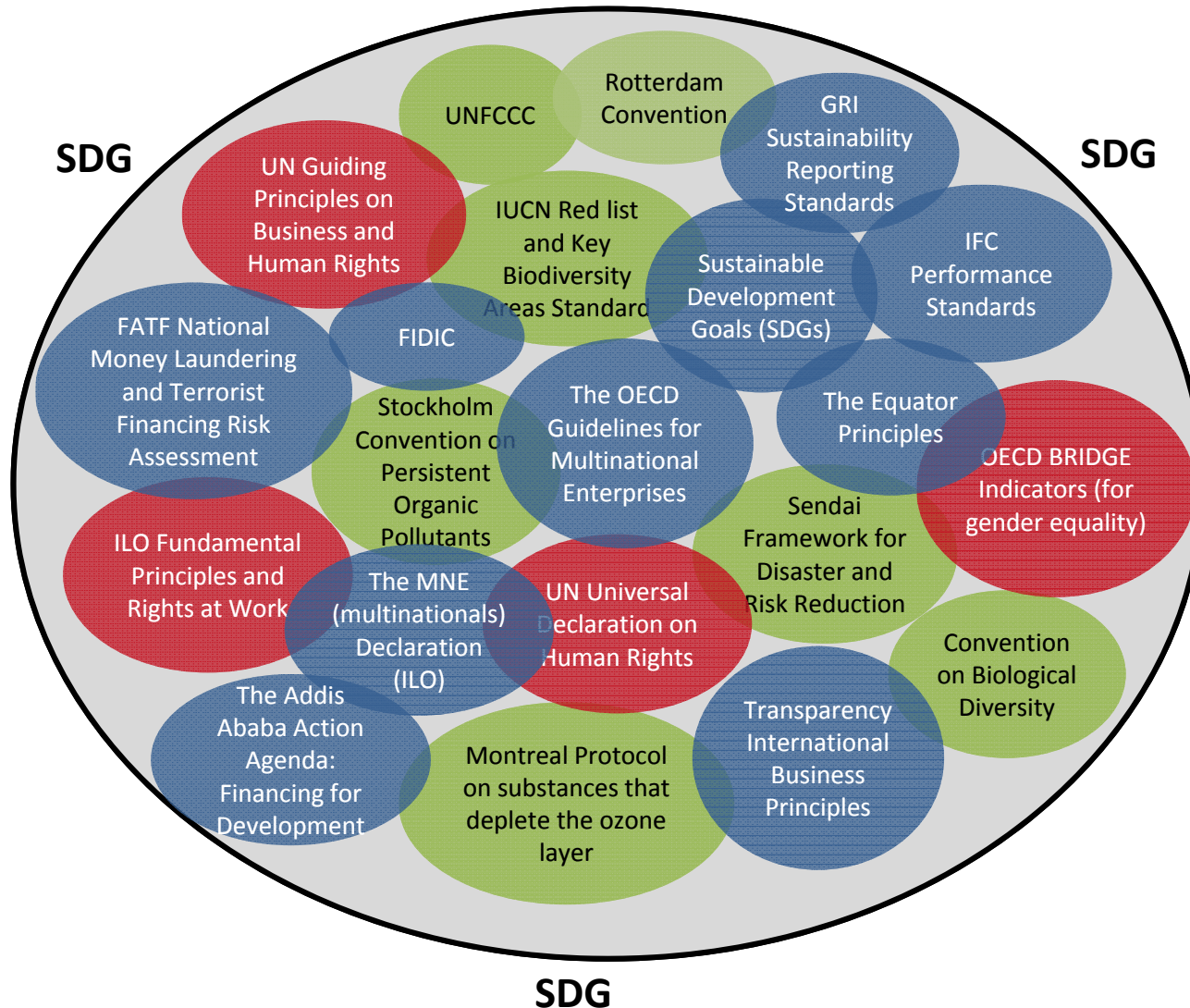
As sustainability and resilience de-risk and improve financial performance of infrastructure, they can contribute to unlock capital needed to fill the investment gap.

SuRe[®] - the Standard for Sustainable and Resilient Infrastructure

Three dimensions, 14 themes and 65 = 46 Management Criteria + 17 Performance Criteria + 2 Overarching Criteria

3 Dimensions	14 Themes	63 Criteria	+ 2	
ENVIRONMENT	Climate	19	Materiality Assessment	Reporting & Impact Assessment
	Biodiversity and Ecosystems			
	Environmental Protection			
	Natural Resources			
	Land Use and Landscape			
SOCIETY	Human Rights	25	Materiality Assessment	Reporting & Impact Assessment
	Labour Rights and Working Conditions			
	Customer Focus and Inclusiveness			
	Community Impacts			
	Socioeconomic Development			
GOVERNANCE	Management and Oversight - Financial Sustainability	19	Materiality Assessment	Reporting & Impact Assessment
	Sustainability and Resilience Management			
	Stakeholder Engagement			
	Transparency and Accountability			

SuRe[®] - the Standard for Sustainable and Resilient Infrastructure

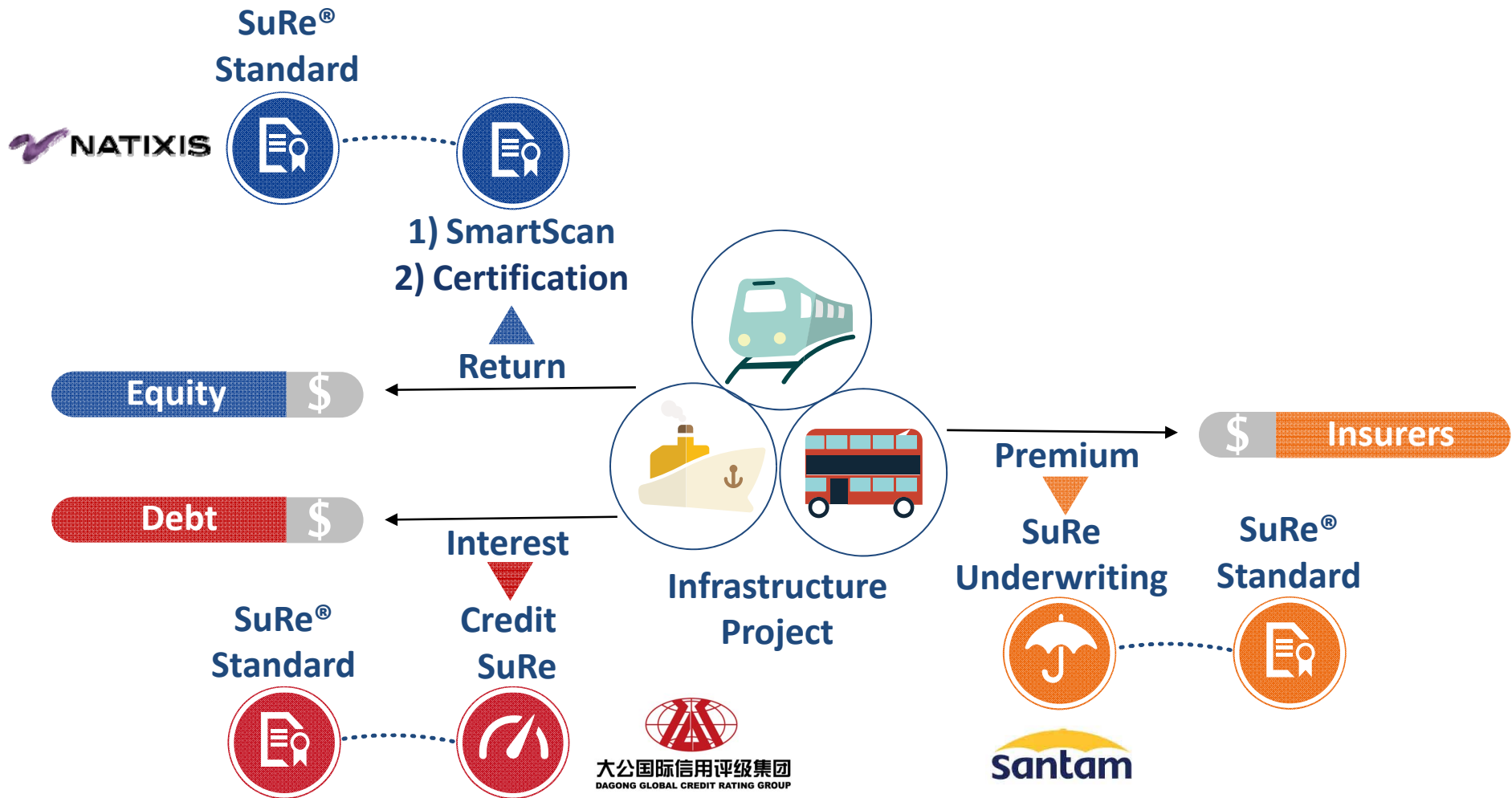


The SuRe[®] Standard brings existing international frameworks and agreements on **environmental**, **social** and **governance** topics together and is in line with them.

The SuRe[®] Standard is developed in compliance with **ISEAL**.

The SuRe[®] Standard supports the delivery of the **17 Sustainable Development Goals (SDG)** of the UN.

GIB's Concept of Infrastructure Finance



Conclusion

Sustainability and resilience frameworks and measurement tools are needed to...

- ... show the sustainability and resilience performance of an infrastructure project.
- ... indicate the benefits that can be achieved by **integrating sustainability and resilience into infrastructure planning and design.**
- ... highlight the room for improvement: optimizing sustainability and resilience **lowers default risk and damage risk.** This implies **lower borrowing rates and insurance premium** and hence increases cities' and investors' financial scope.
- ... show the themes where cities and investors should be looking at for increasing sustainability and resilience, to **save costs** and to **reduce risk.**