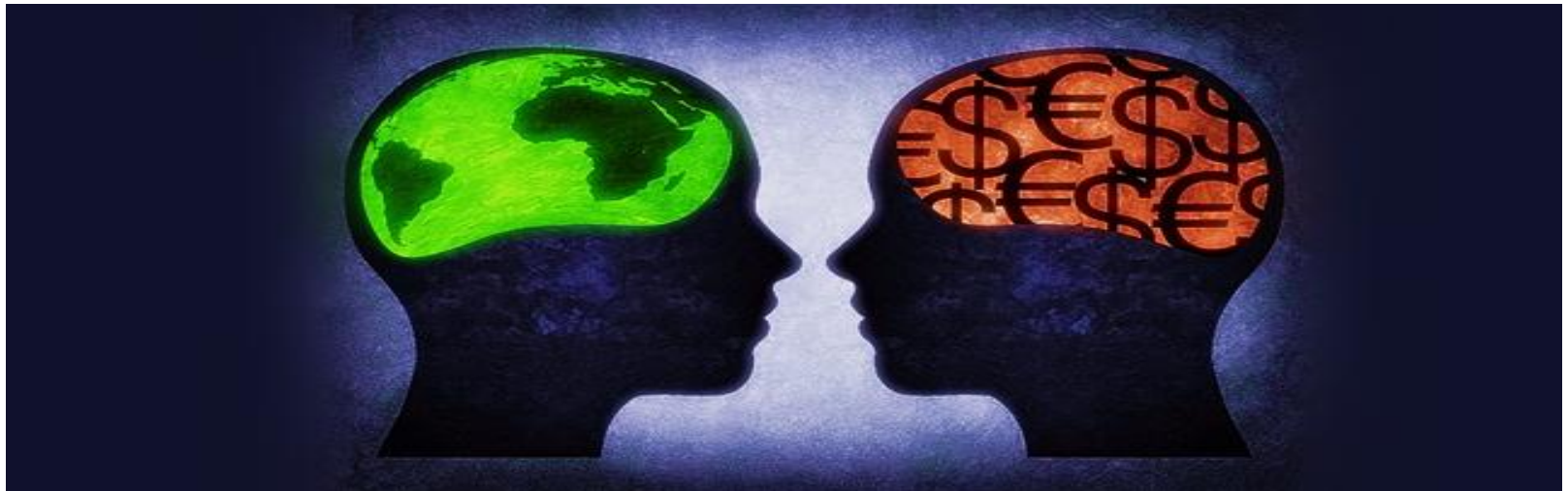


Simone Dettling

Expert, Green Finance, German International
Corporation

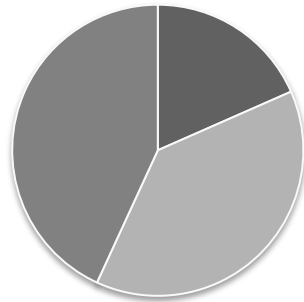
Integrating Environmental Indicators in Financial Decision-Making

Simone Dettling, 24th November 2015



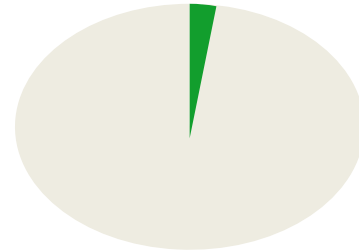
Financing Climate/Eco-Investments

Global Financial Markets
255 billion USD



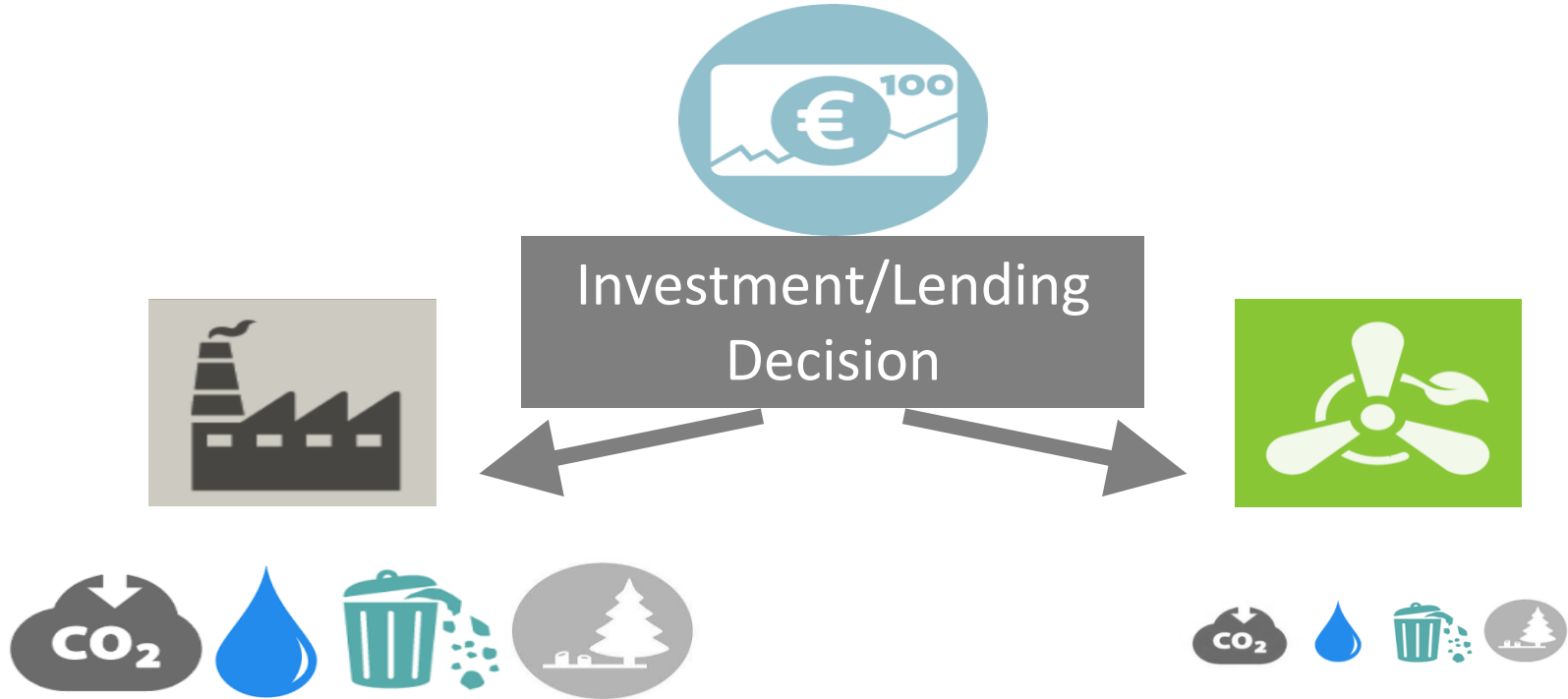
- Stocks
- Bonds
- Lending

Annual need for additional Climate
Investments ca. 1.5 billion USD (IEA)



Source: IMF 2013

The Challenge



Emerging Markets Dialogue on Green Finance

Objective: redirect capital flows away from assets that deplete natural capital towards climate- and eco-friendly investments.

EMERGING
MARKETS
DIALOGUE
ON FINANCE



Approach:

Work with financial institutions from G20 economies to integrate environmental indicators in lending and investment decisions, product development and risk management

Participating Financial Institutions



UBS



ROBECOSAM
Sustainability Investing



J. SAFRA SARASIN



Sustainable Swiss Private Banking since 1841



Pax World Investments



an Ameritas company



ICBC



中国农业银行

AGRICULTURAL BANK OF CHINA



Banamex



Santander

Bancolombia



Total Assets:
10 trillion USD

Integrating Water Risk in Corporate Bond Valuation



Bundesministerium für
wirtschaftliche Zusammenarbeit
und Entwicklung



Natural
Capital
Declaration
Financial sector leadership
on natural capital

Secretariat:



GCP
GLOBAL CANOPY PROGRAMME



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EMERGING
MARKETS
DIALOGUE
ON FINANCE



WU

Approach

Combine Three Sources of Data

Global data on
water stress
(WRI)

Data on location of
operations
(Bloomberg)

Corporate credit
Information

**WATER
VALUE**



Calculate shadow
prices

**COSTS
FOR WATER**



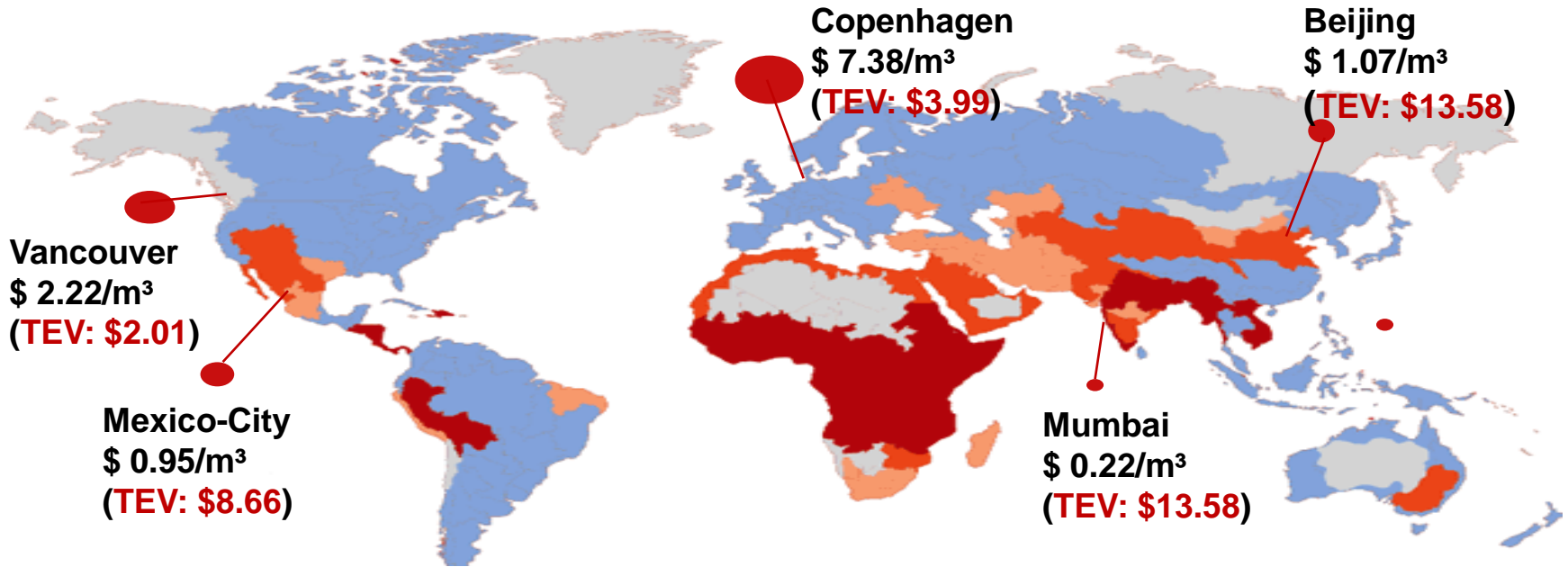
Combine company data
with location-specific
price

COMPANY FINANCIAL SPREADSHEET

P&L, US \$ DOLLARS MILLION	2014
REVENUES	30,222
OPERATING COSTS	-27,474
ADDITIONAL WATER OPEX	-298
NON OPERATING SPECIAL ITEMS	-469
SHARE OF NET INCOME FROM ASSOCS AND JVs	168
OTHER SPECIAL ITEMS	4,514
EBIT UNDERLYING	6663

adjust credit ratios

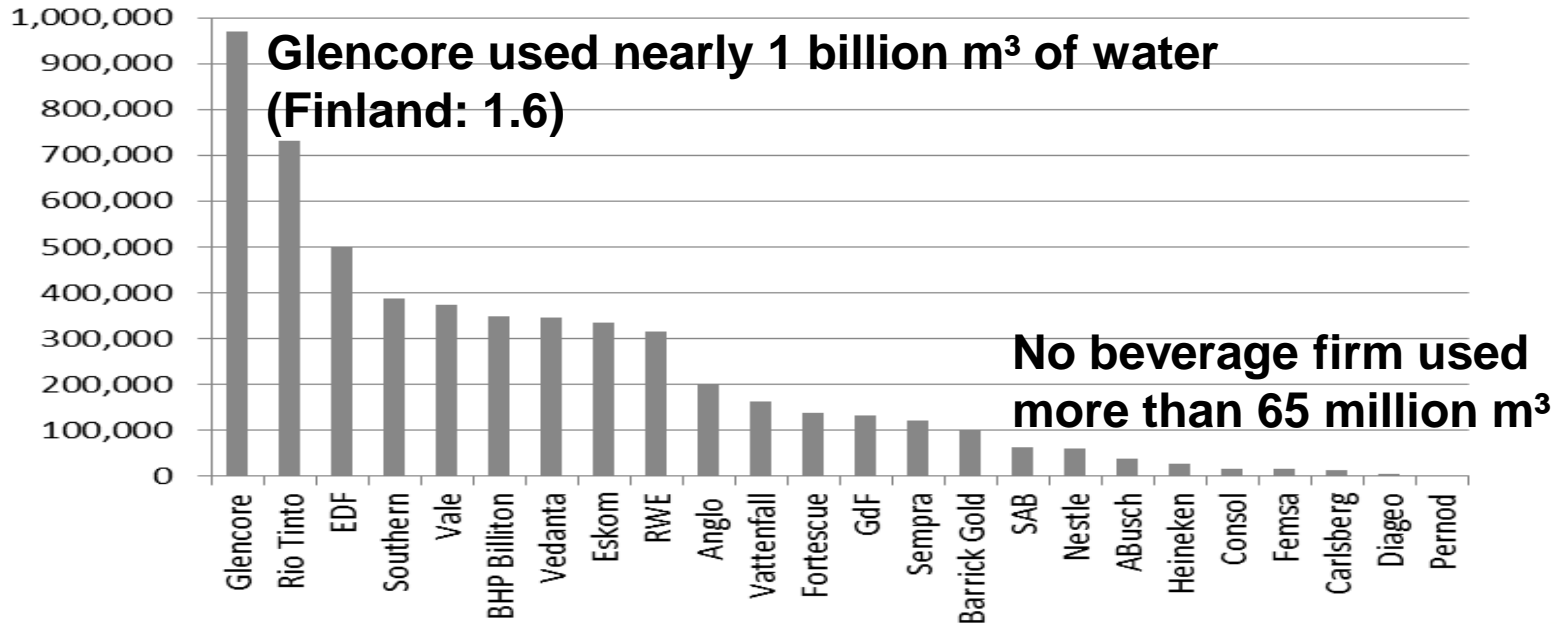
Water Stress vs. Water Prices



→ Gap between shadow price and current cost as measure for risk

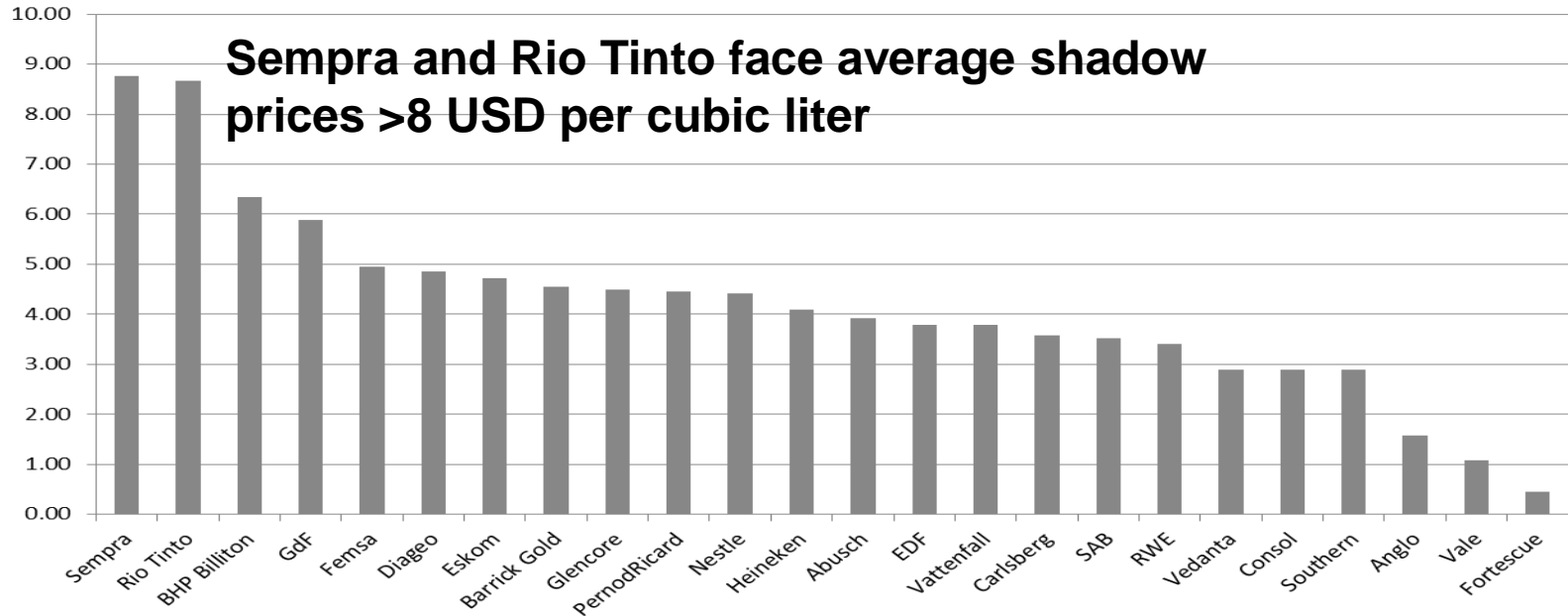
Annual Water Use

In thousand cubic meters; for 24 companies in three sectors

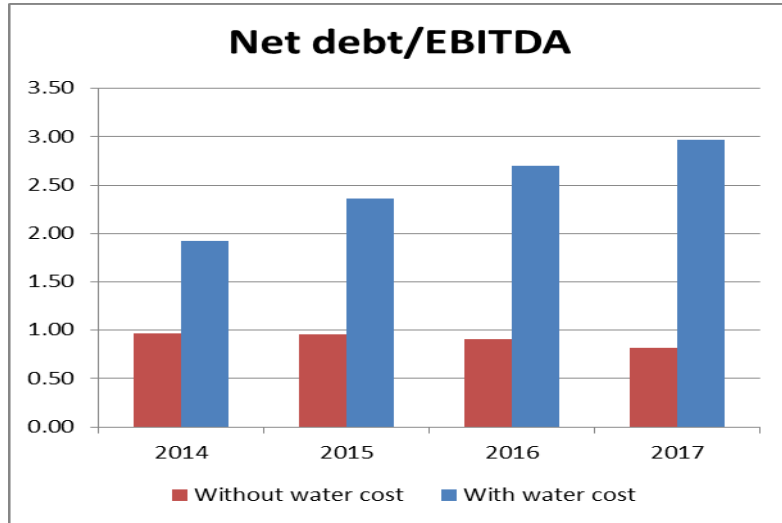


Blended Shadow Prices of Water

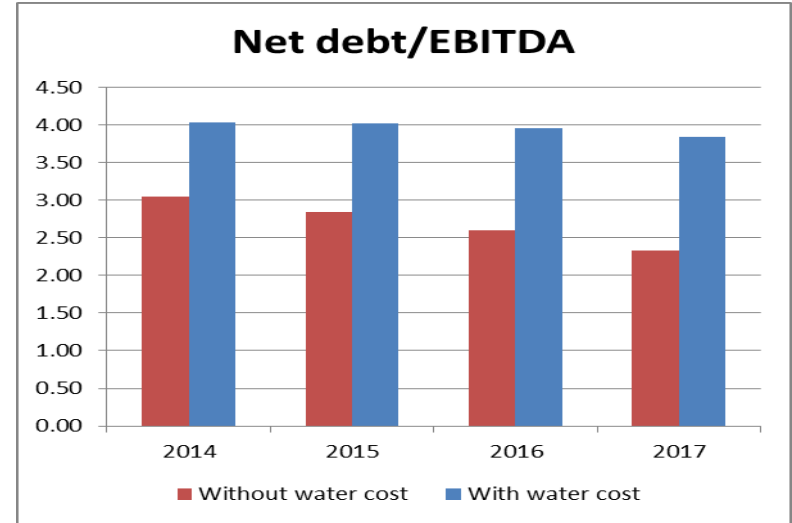
USD per cubic meter



Highlighted Results: Mining



Rio Tinto: ratio rises by 200% to 2.96x in 2017



Vedanta: ratio rises to 4 in 2014
→ non-investment grade?

Application by Financial Institutions



**Corporate Due
Diligence**



Portfolio Review



Engagement



**Product
Development**

Environmental Stress Testing



Bundesministerium für
wirtschaftliche Zusammenarbeit
und Entwicklung



Natural
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EMERGING
MARKETS
DIALOGUE
ON FINANCE



Project Outline

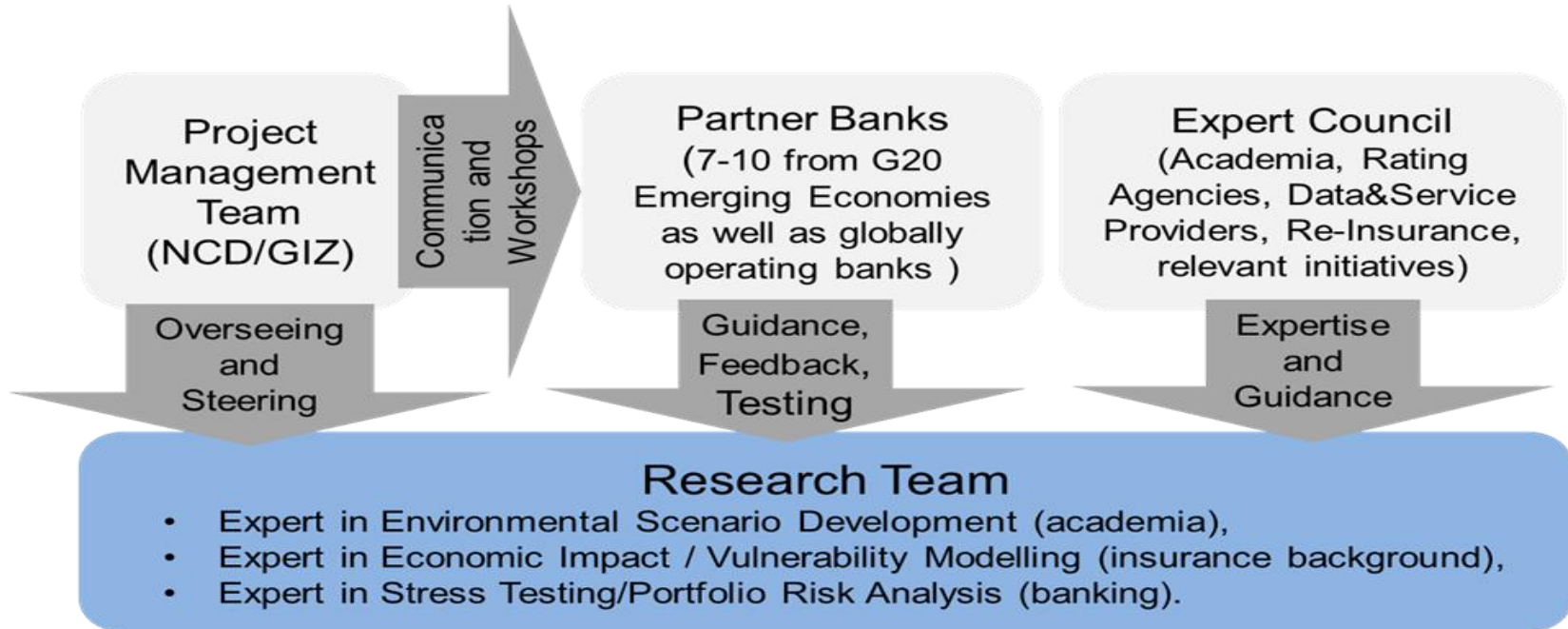
Objective: develop and test an analytical framework and model that allows banks to assess the potential impact of environmental shocks on the performance of their corporate loan portfolio.

- 1) Science-based drought scenarios** for 4-5 focus countries/regions (Brazil, Mexico, China, India plus potentially a European/US region)
- 2) Vulnerability modelling** for 10-15 industries per country, reflecting direct and indirect impacts as well as macro-economic feedbacks.
- 3) Model that links drought impacts to drivers of corporate credit quality** (such as profitability, leverage) and can be plugged into or inform banks' internal stress testing models.

Academia

(Re-)Insurance
Industry

Project Structure



Thank you
for your kind attention.

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