Addressing Natural Capital Risk – Water
Project Partners

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Expert Council (Examples)
Approach

Combine Three Sources of Data

- Global data on water stress (WRI)
- Data on location of operations (Bloomberg)
- Corporate credit information

Calculate shadow prices
Combine company data with location-specific price
Adjust credit ratios
Water Stress vs. Water Prices

Copenhagen $ 7.38/m³ (TEV: $3.99)
Mumbai $ 0.22/m³ (TEV: $13.58)
Mexico-City $ 0.95/m³ (TEV: $8.66)
Vancouver $ 2.22/m³ (TEV: $2.01)
Sao Paulo $ 1.28/m³ (TEV: $5.33)

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

In thousand cubic meters; for 24 companies in three sectors

Glencore used nearly 1 billion m³ of water
(Finland: 1.6)

No beverage firm used more than 65 million m³
Blended Shadow Prices of Water

USD per cubic meter

Sempra and Rio Tinto face average shadow prices >8 USD per cubic liter
Highlighted Results: Mining

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

**Vedanta:** ratio rises to 4 in 2014 → non-investment grade?
Highlighted Results: Power Sector

**Eskom:** already high leverage (>9) rises dramatically
→ Ba1/BBB-Neg rating under threat

**Sempra Energy:** ratio of 6.7 would be high for a utility
→ non-investment grade?
Highlighted Results: Beverages

Beverage firm ratios do not change greatly (geographic diversification and comparatively low water consumption)

Exception:

Femsa: leverage doubles to 2.27x
Application by Financial Institutions

- Corporate Credit Analysis
- Portfolio Construction
- Engagement
- Product Development
Environmental Stress Testing

Starting October 2015, 5-10 Partner FI from G20 Economies

1) Develop **science-based scenarios** for droughts in several G20 markets and their impacts on water availability.

2) Create **index of exposure** to water scarcity for companies in different sectors and **model** both direct economic **costs** at company level and macro-economic impacts.

3) Model impacts on **corporate credit portfolios**

**Output:** Model to stress-test corporate portfolios for drought scenarios
Thank you!

Download the tool and report at:
http://www.naturalcapitaldeclaration.org/ncdtools/