

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

WATER VALUE



Calculate shadow prices

COSTS FOR WATER

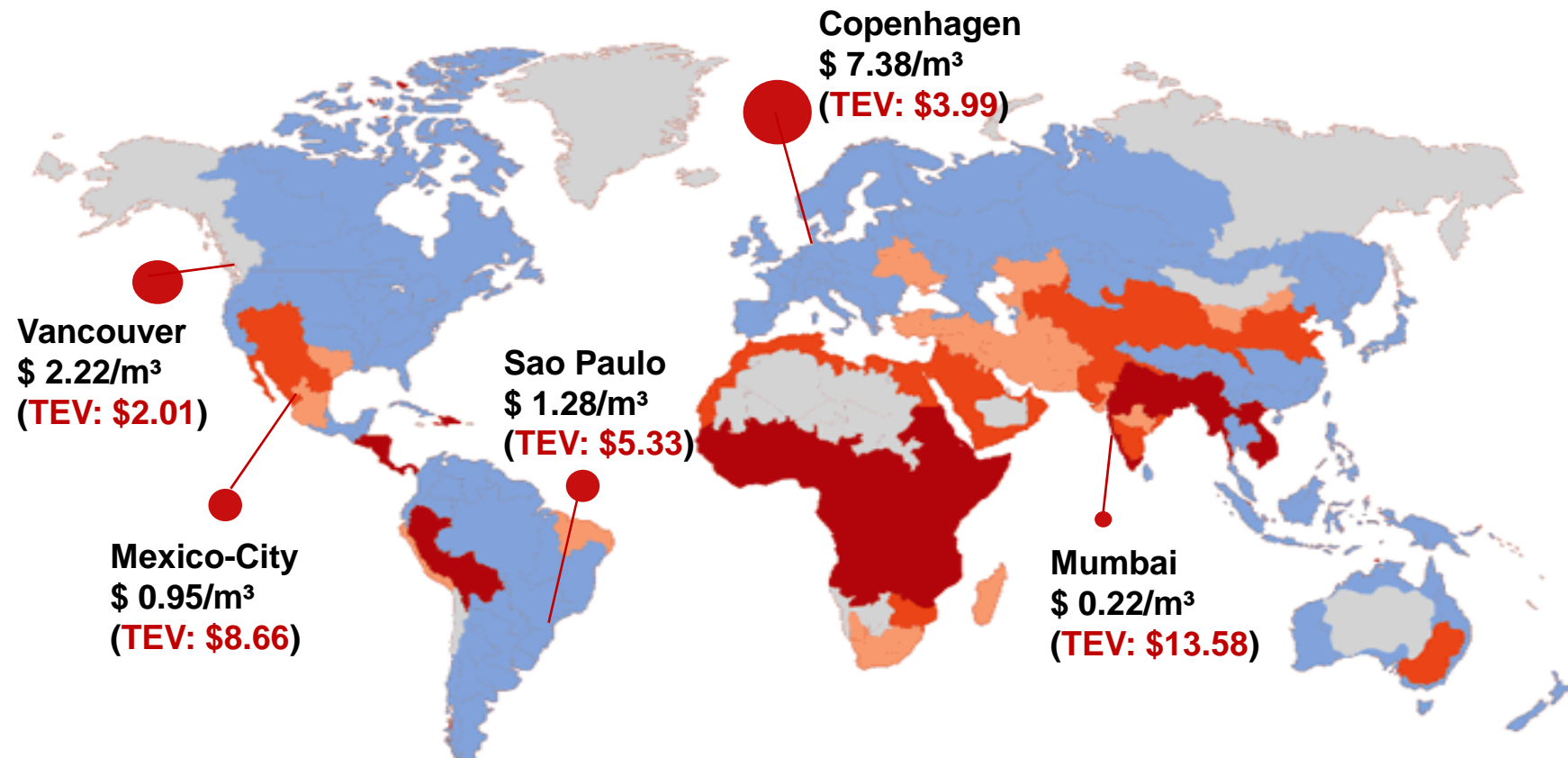


Combine company data with location-specific price

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

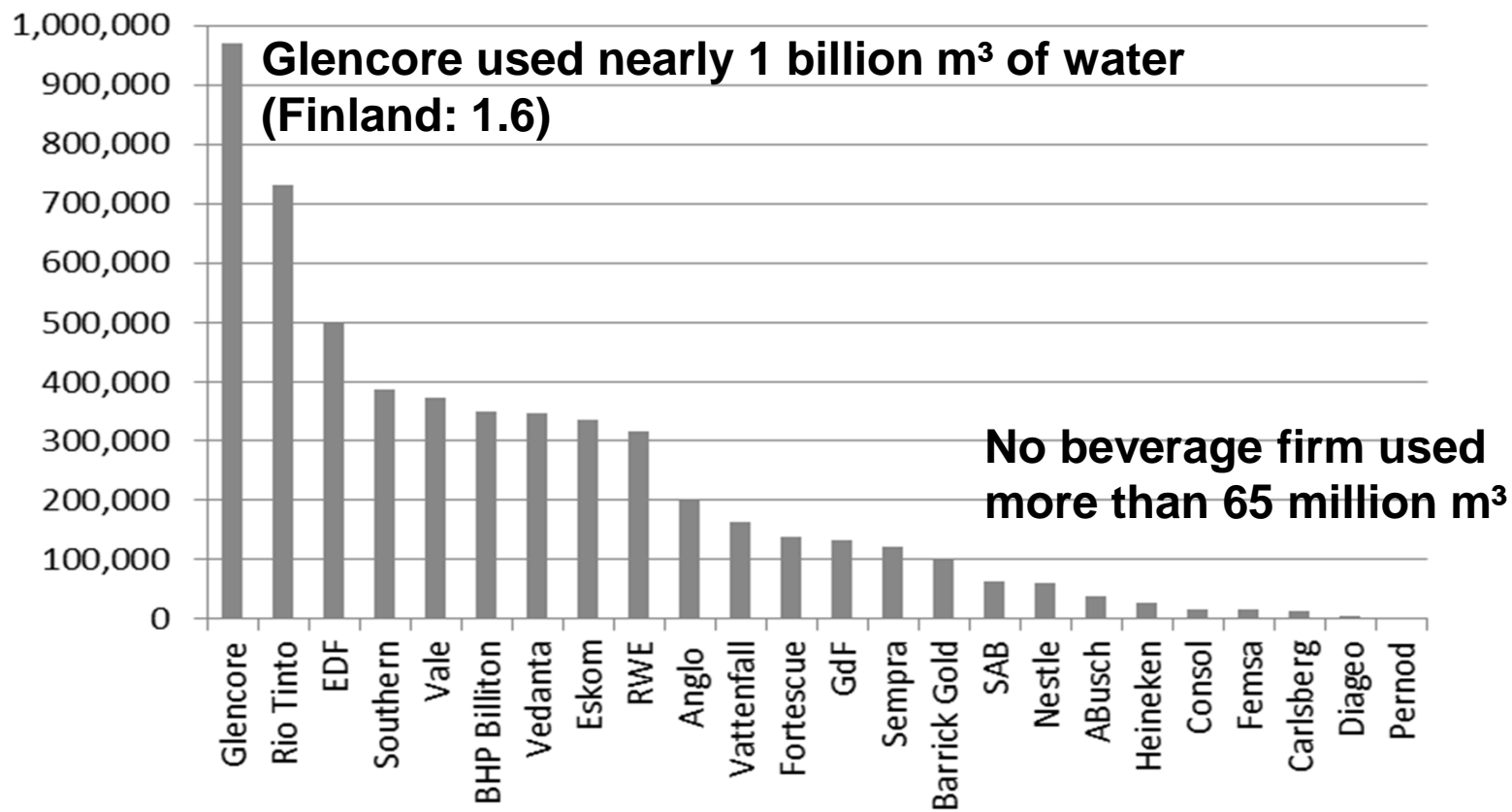
Water Stress vs. Water Prices



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

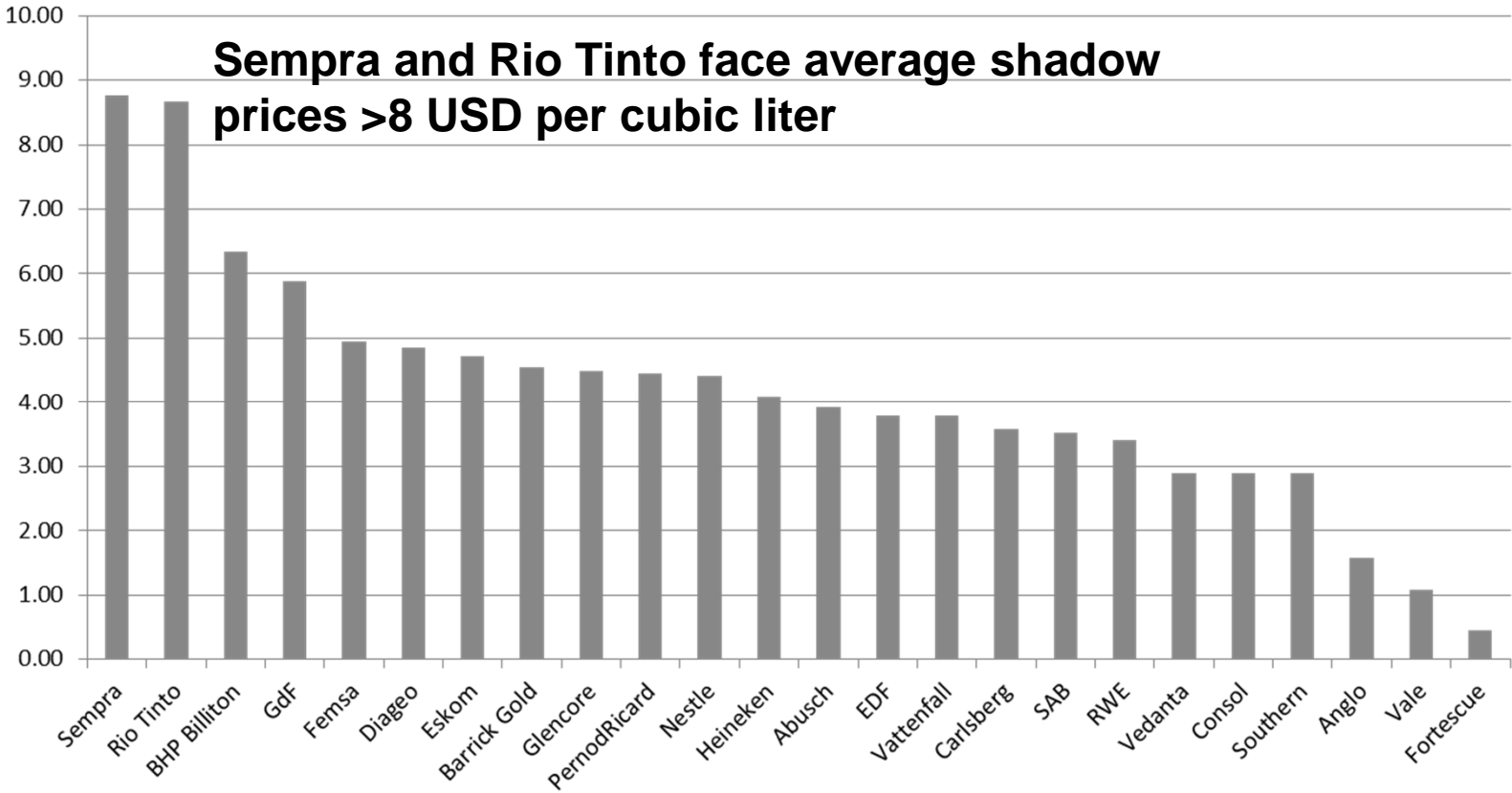
Annual Water Use

In thousand cubic meters; for 24 companies in three sectors

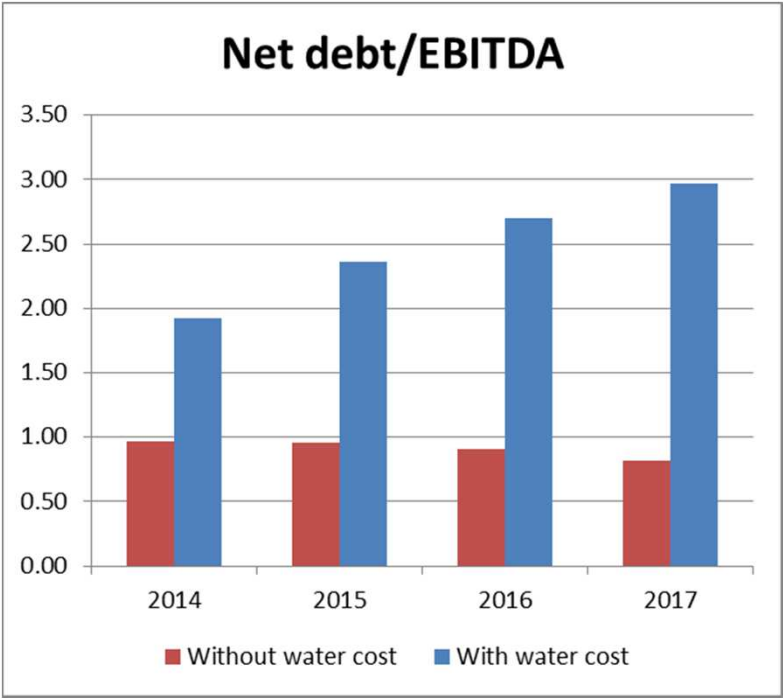


Blended Shadow Prices of Water

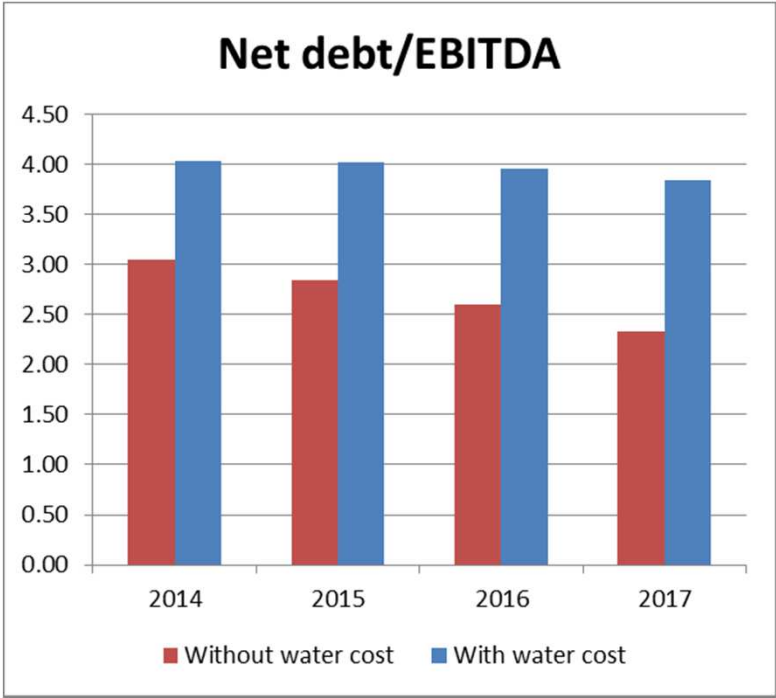
USD per cubic meter



Highlighted Results: Mining

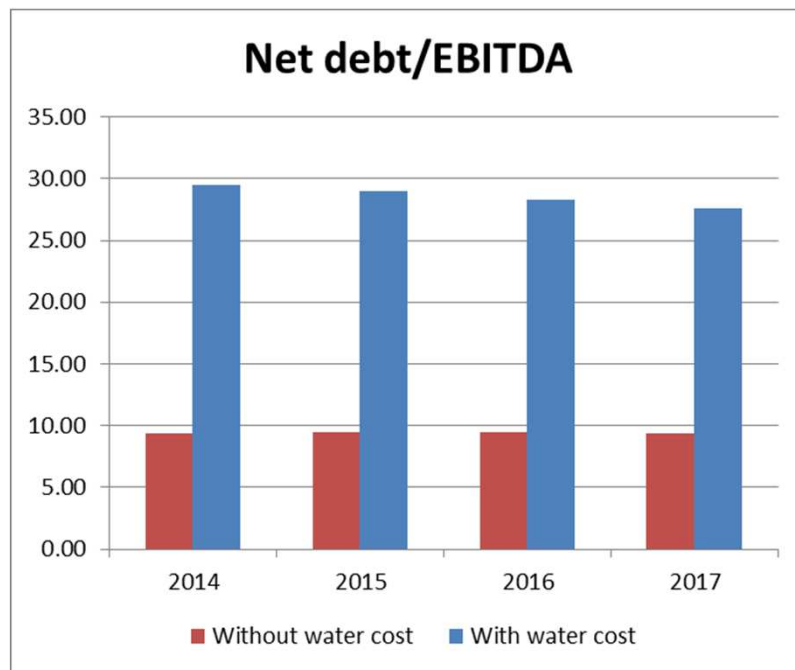


Rio Tinto: ratio rises by 200% to 2.96x in 2017

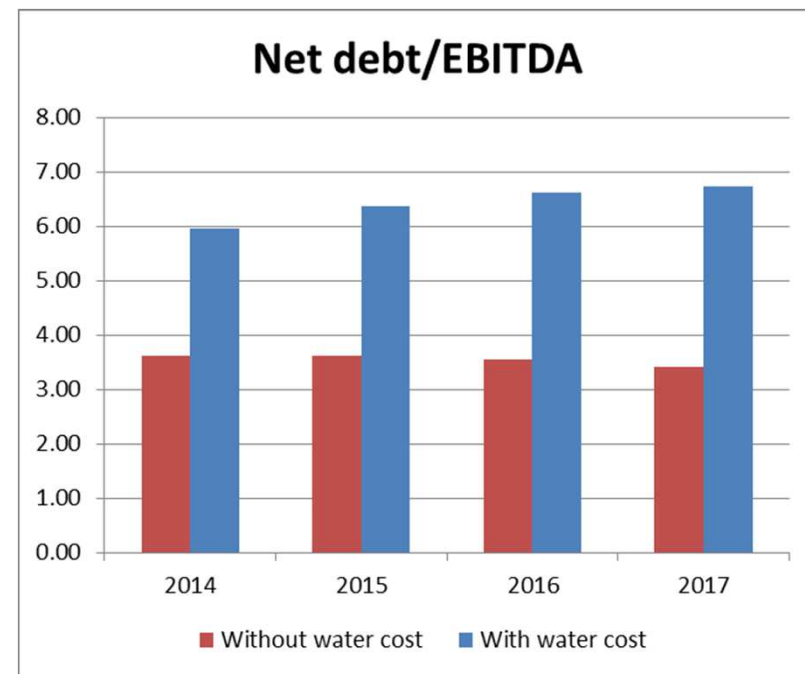


Vedanta: ratio rises to 4 in 2014 → non-investment grade?

Highlighted Results: Power Sector



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

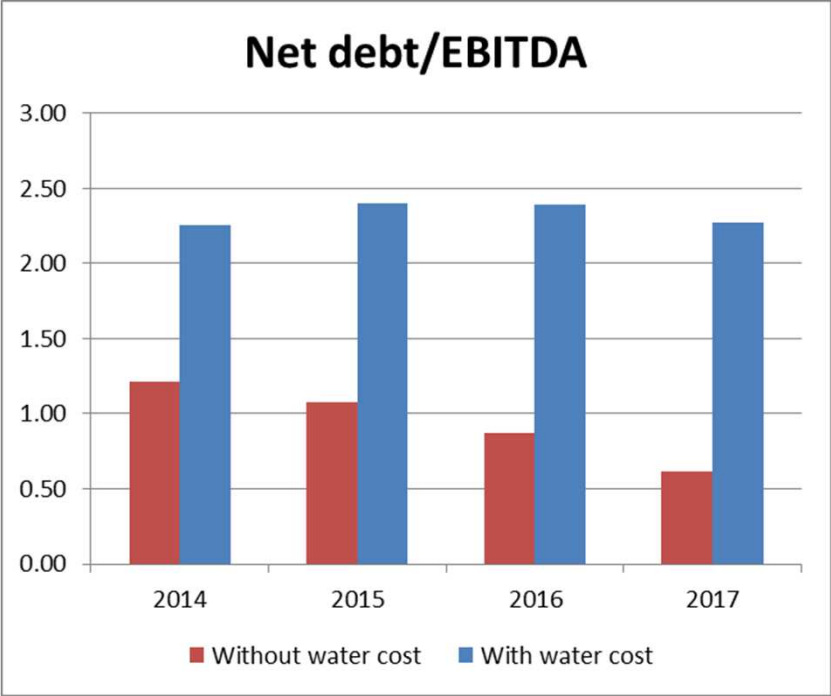


Sempra Energy: ratio of 6.7
would be high for a utility
→ non-investment grade?

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**

Academia
(Cambridge Center for
Climate Change, Stockholm
Environment Institute)

(Re-)Insurance
Industry and
service providers

Output: Model to stress-test corporate portfolios for drought scenarios

Thank you!

Download the tool and report at:

<http://www.naturalcapitaldeclaration.org/ncdtools/>