Who are we? Resourcing the World

VEOLIA

World's leading environmental services company
$38.8 billion in annual global revenue
220,000 employees
NYSE: VE and Euronext: VIE
North America
$2.6 billion in annual revenue
10,000 employees
Engineering News Record rankings:
Largest All-Environmental Firm
Public Works Financing
No. 1 in water partnerships

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Water Reuse- The tipping point

VEOLIA

It comes down to this-

Water reuse has to be seen as the logical and prudent path forward

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Enablers

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- *Technology*
- *Infrastructure*
- *Education and awareness*
- *Policy and incentives*
- *Public acceptance (and demand?)*
- *Private sector drivers*

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The Catalyst

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- *Recognize the ROLE and VALUE of water*
  - *Role and value in society*
  - *Role and value in ecosystem*
  - *Role and value in culture*
  - *Role and value in history*
  - *Role and value in the economy*
  - *Role and value in security*
  - *Role and value in resilience*

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Value

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- *It is more than price*
- *It is more than direct costs*
- *It is even more than indirect costs*
- *Value includes all of the above, PLUS, recognizing the risks and impacts of its absence*

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Pivoting to Business Considerations around Water Reuse

- *The Business Case- Return on investment, payback timeframes*
- *Risk Management*
- *Regulatory Issues*
- *Social License to Operate*
- *Brand Management*

The Business Case Challenges

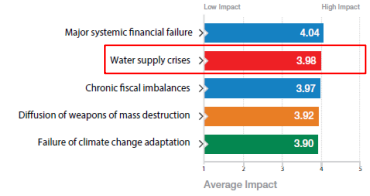
- *Water is too cheap, makes for long paybacks*
- *Difficult to compete for investment dollars compared to energy and climate investment*
- *Risks not well understood, rarely monetized, focused on quality impacts, not availability, especially if not natural and predicted*
- *Until recently, did not figure into cost of capital, insurance rating, investment risk rating*

Top 5 Global risks for business

Insight Report

Global Risks 2013
Eighth Edition

Impact

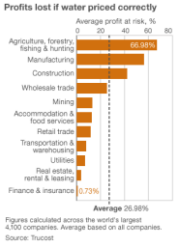


Source: World Economic Forum

Business water risk

Resource depletion: Opportunity or looming catastrophe?

"Water is a case in point. Despite being the world's most precious and increasingly scarce resource, it is incredibly cheap, and in many parts of the world, free. Correcting this price anomaly would have huge consequences for businesses. Trucost has calculated that more than **a quarter of profits of the world's biggest companies would be wiped out if water was priced to reflect its value**, as it must be."



Most water risks known, but need monetization for long term decision-making

Beyond risks come big opportunities

- *Sustainable water management*
- *Competiveness*
- *Co-creation of Shared Value*
- *License to growth*
- *Optimization of insurance fees*
- *Improvement of cost of capital*
- *Better rating from agencies*

Case Study 1- Making the Business Case

VEOLIA

- *Idea being field tested around the world in various sectors*
- *Case study- Alberta Oil Sands*
- *Why? Much reuse already……*
- *Risks are all coming to fruition at one time*
  - *Potential scarcity*
  - *Regulatory pressure*
  - *Public perception*
  - *Cost of operations*
  - *Reaching limitations of options*
- *Shows that investing in risk reducing, business supportive approaches makes sense, and that water reuse is one of them!*

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Application of the True Cost of Water in Alberta

- Water Valuation workshops with Oil sands companies in Alberta

SUNCOR ENERGY · Shell · cosia CANADA'S OIL SANDS INNOVATION ALLIANCE · Canadian Natural · ALBERTA watersMART Water Management Solutions · ConocoPhillips Canada · Statoil

- http://business.financialpost.com/2013/08/29/the-price-of-a-barrel-of-water/?__lsa=49f9-96fa

FINANCIAL POST

How to price a barrel of water in the oil sands

Claudia Cattaneo | August 29, 2013 8:00 AM ET

More from Claudia Cattaneo

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Business Case for Water Valuation- Oil Sands

- Improved financial evaluation of water-related operating decisions
- Improved ability to assess environmental net effects
  - Water vs. energy and emissions vs. land footprint vs. waste
- Improved long-term water decision making for factors including
  - Environmental
  - Social
  - Supply
  - Disposal

How It was Done

- Specific gap identified among COSIA companies
  - *Tool to understand components and to estimate notional value/ costs of long-term water management risks for oil sands producers*
  - *We know CAPEX and OPEX*
  - *We do not know financial implications of common oil sands water-related risks*
- Objective: Applying water valuation concepts for oil sands

■ 2012 Project initiation ■ 2013 Project completion

OSLI · ALBERTA watersMART Water Management Solutions · cosia

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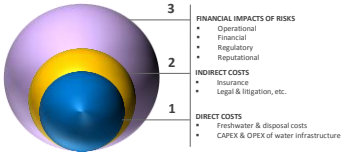
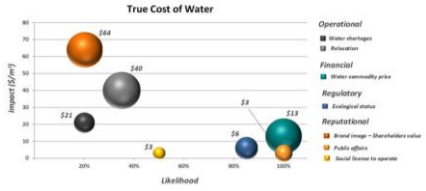
Monetizing water risks to better justify investments



1 + 2 + 3 = TRUE COST OF WATER



For the public sector- And why business should care

VEOLIA

- *Similar drivers*
  - *Risk management*
  - *Ensuring future supplies*
  - *Societal expectations*
  - *Cost management*
- *Often tapping into same resource*

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Case Study 3- Fulton County, Georgia

- *Waste water reclamation facility with 6 miles of distribution pipes*
- *Used for irrigation of community facilities (churches, golf courses, etc.)*
- *Not for drinking*
- *Not for private residents*

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Case Study 4- Singapore

- *Driven by necessity- not enough water to support the country*
- *Supply from Malaysia only 30% of current needs*
- *Technology already exists*
- *National strategy to leverage from a crisis to a leadership position*
- *Currently supplies 33% of total water demand, and 5% of tap water*
- *Public accepts it…..and is proud of it!!!!!!!*

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So where does that leave business?

- *Recognize not only the price and cost of water, but the value of water*
- *Recognize your place in the big picture*
- *Develop workable solutions that make business sense*
- *Consider reuse as a viable option*

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So where does that leave all of us?

- *Need to approach the issue in a multifaceted way- policy; awareness/education, technology, infrastructure*
- *Deal with the potable vs. non-potable issue*
- *Build towards full scale reuse, accept "the next best thing"*
  - *Reuse for irrigation/agriculture, fire control, etc.*
  - *Recharging aquifers*
  - *Saves more raw water for potable use*
- *Identify monitoring and tertiary treatment options to get us towards potable reuse*
- *Recognize logistical challenges*

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Thank You!

Resourcing the world VEOLIA

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