



Encouraging and Managing Innovation

Examples from Metro Vancouver, Canada

Presentation to CAPAM - Feb. 15 2011

*Johnny Carline
Commissioner / CAO
Metro Vancouver*

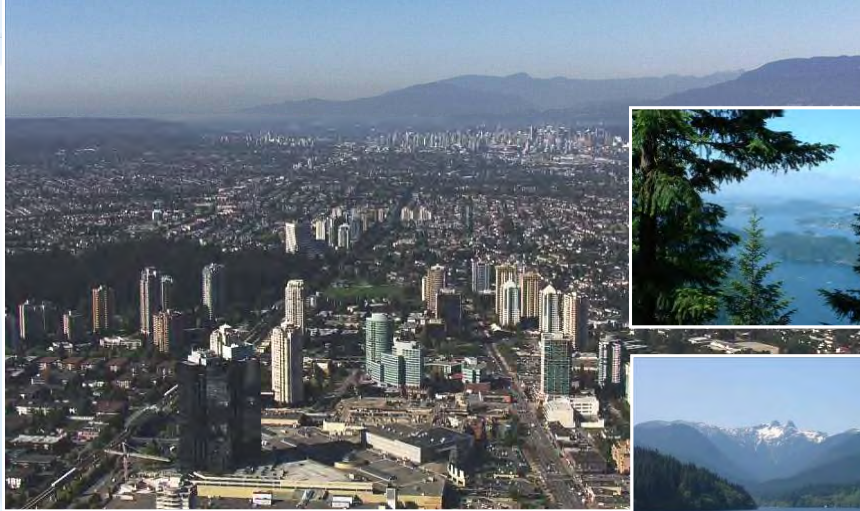


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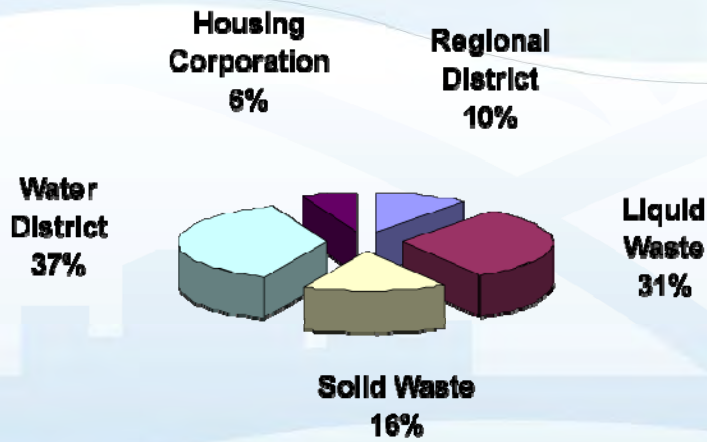
Putting Trepidation and Reluctance in their place

Examples of managing innovation from Metro Vancouver

Metro Vancouver



2010 Total Expenditures



Total Expenditures \$603.4



The Challenge of the Nature of Utilities



Consequences of Failure

Topic spans: 2000 - 2001

Death on Tap: The Poisoning of Walkerton

In May 2000, bacteria seeped into Walkerton's town well. The deadly E. coli then slipped quietly through a maze of pipes to Walkerton, Ont. Unsuspecting residents largely drank the polluted water and lapsed in their bacteria-ridden after they began experiencing common symptoms of infection: bloody diarrhea and abdominal cramps. Seven people die and another 1286 would fall ill; the investigation which followed exposed an alarmingly undetectable waterborne strain government cuts.

Disaster in Milwaukee
Complacency was the root cause

by Melissa Smith

Richmond News
Katy sewage dumped into Fraser River
by wagsp5 aswvets from Metro Vancouver

Feds to loosen rules for sewage treatment

'Crypto' And Controversy In Milwaukee Water Debate

Innocent compromised hit hardest: 4 deaths possibly linked to contamination

By Ron Geisman

Toxic spill left unreported

Richmond Review
March 19 2010
Page 7
56-57 News
Byline: Martin van den Broek

E. COLI PLEASE GO AWAY

'A nightmare that v end'

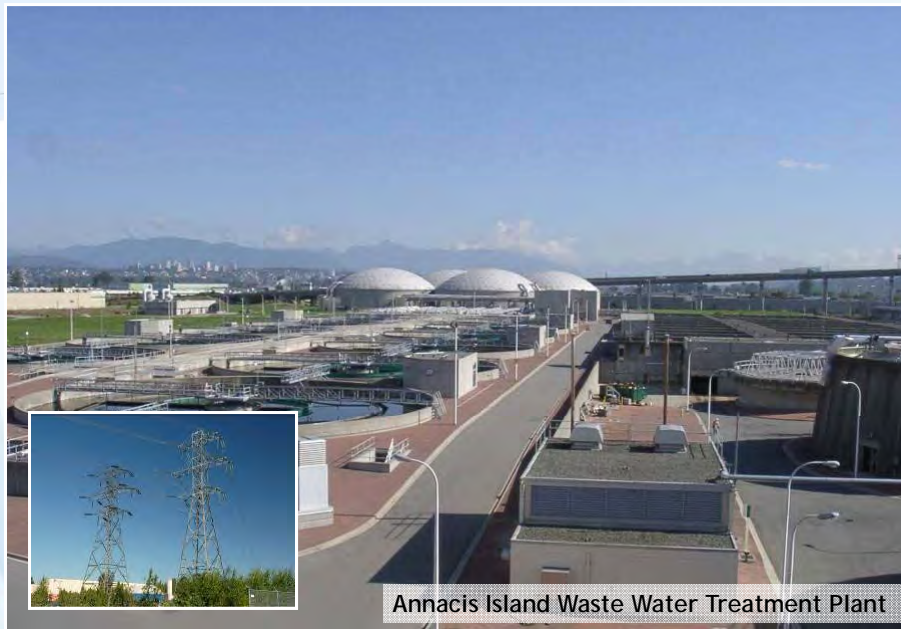
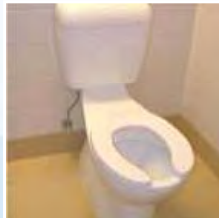
Breakfast Date: MAY 26, 2000

This is a very scary time we're going through right now," says Chris Trushinski, the owner of Peeli's Pub and Deli Bar in Walkerton, Ont. Trushinski describes an anxious and angry community, frustrated for sure, in a small town. Premier Mike Harris budgetary cuts. He believes the reduced Ministry of the Environment has left the water supply vulnerable.

Residents are leaving town temporarily those who stay behind are under extra duress. Trushinski says that he holds the

Operational Realities

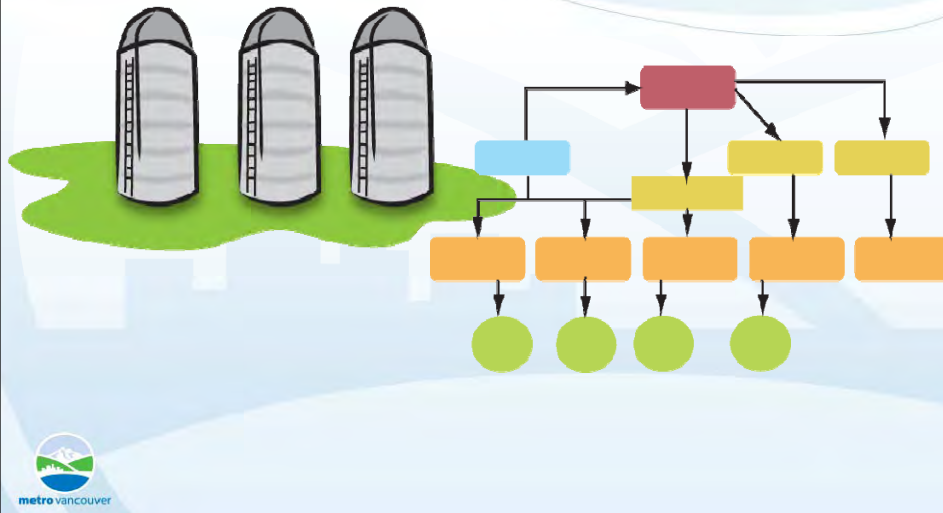
- Impossible to stop water demand and flows of liquid and solid waste
- Difficult to test contingencies



Annacis Island Waste Water Treatment Plant

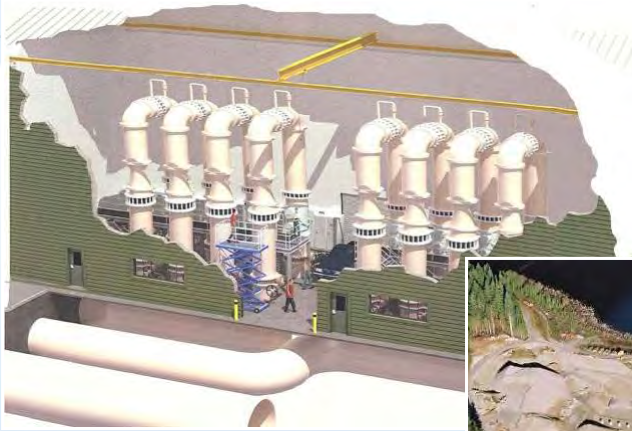


Management Challenges of Rigidity

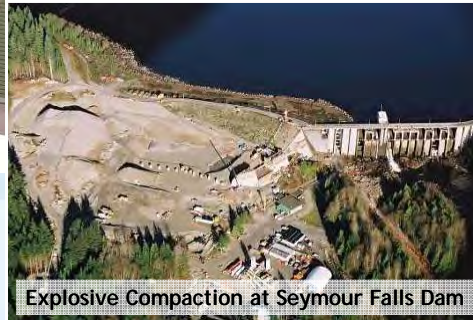


**Creative problem solving
still occurs in context of
prime goals**

Award-winning Innovation



Vertical U.V. system at Coquitlam Dam



Explosive Compaction at Seymour Falls Dam

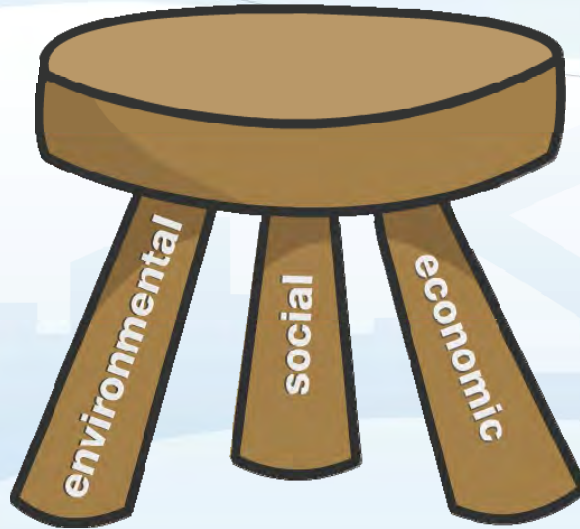


Main Constraint

Reliable services, minimum cost, health and environment regulations were only goals



The Sustainable Region Initiative



Corporate Culture Change

Four Keys to Success:

1. Relate to staff values
2. Make it practical
3. Engage staff
4. Top level commitment



2008 Sustainability Framework



Origins of Technological Innovation

1. Purpose-driven
2. Technology-driven
3. Externally-driven

Management Objective

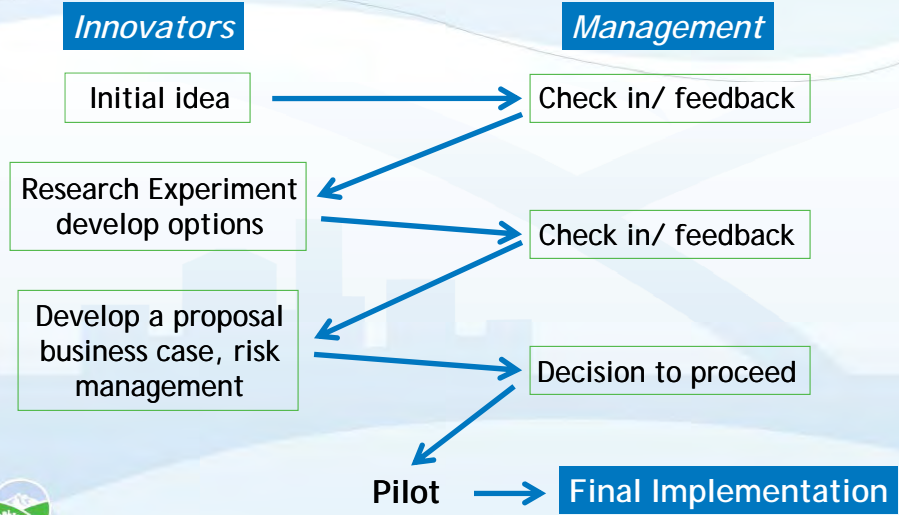
- Encourage exploration
- Ensure final decisions achieve goals and minimize risks
- Ensure communication process maintains enthusiasm *and* appropriate caution



Level 1 - Encouraging Skunkworks



The Check-in Process



Level 2 - Close Examination



Examples

SUSTAINABLE REGION INITIATIVE . . .

TURNING IDEAS INTO ACTION

Purpose-Driven Innovation



Burnaby WTEF Turbo Generator



The image shows a large, complex industrial component, identified as a Burnaby WTEF Turbo Generator, in a factory setting. The component is made of polished metal and features a series of curved, ribbed sections. A worker is visible on the left side of the frame. The background shows the industrial environment with blue structural elements and overhead lighting.

Purpose-Driven Innovation



Cloverdale CSO Storage Facility



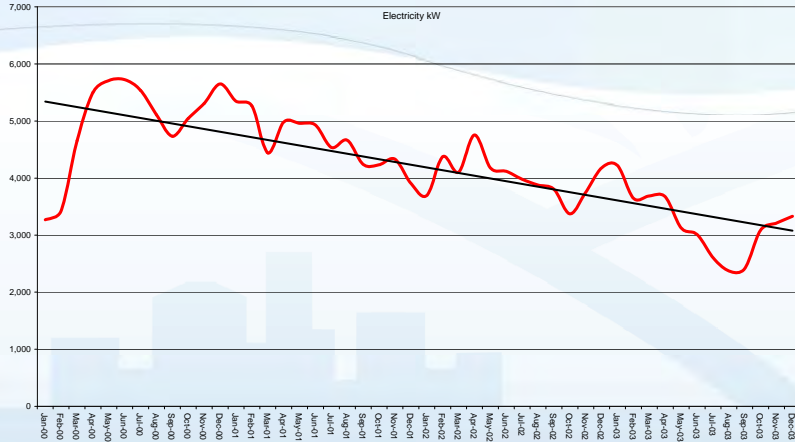
Technology-Driven Innovation



Annacis Cogeneration System



Electrical Import

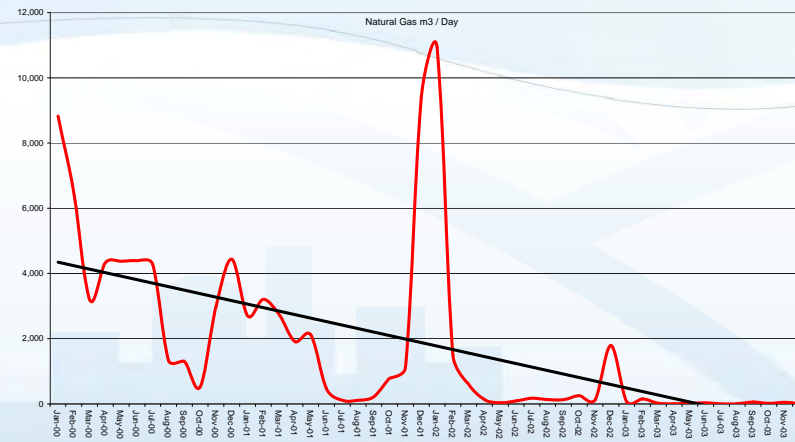


Electrical import was reduced from 5,300 kW in 2000 to 3,100 kW at the end of 2003, a difference of 2,300 kW

\$560,000 / year



Natural Gas Consumption

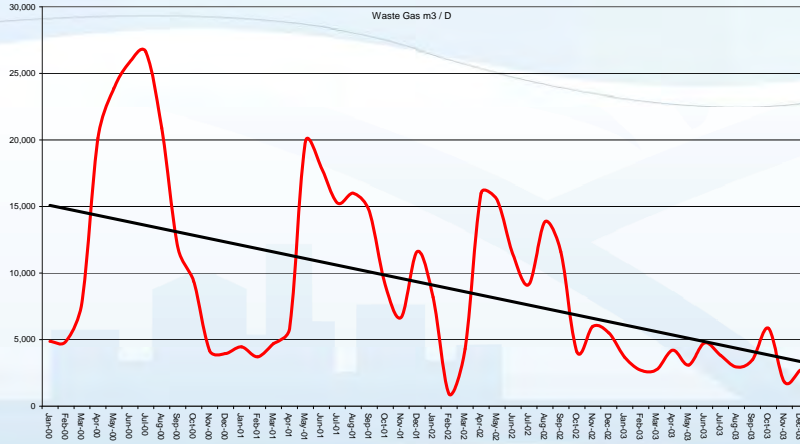


Natural Gas consumption was reduced from 4,300 m3/day in 2000 to 0 m3/day at the end of 2003, a difference of 4,300 m3/day

\$360,000 / year



Wasted Digester Gas



Digester Gas wasted was reduced from 15,000 m3/day in 2000 to 4,000 m3/day at the end of 2003

\$600,000 / year



Total Savings \$1,520,000 / year

Won 2002 Federation of Canadian Municipalities Sustainable Community Award for Excellence in Municipal Service Delivery



Externally-Driven Innovation

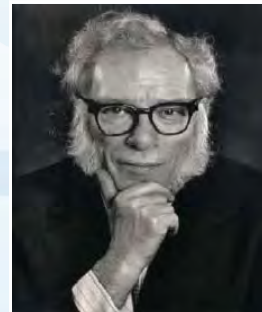
Phosphorus Recovery Partnership



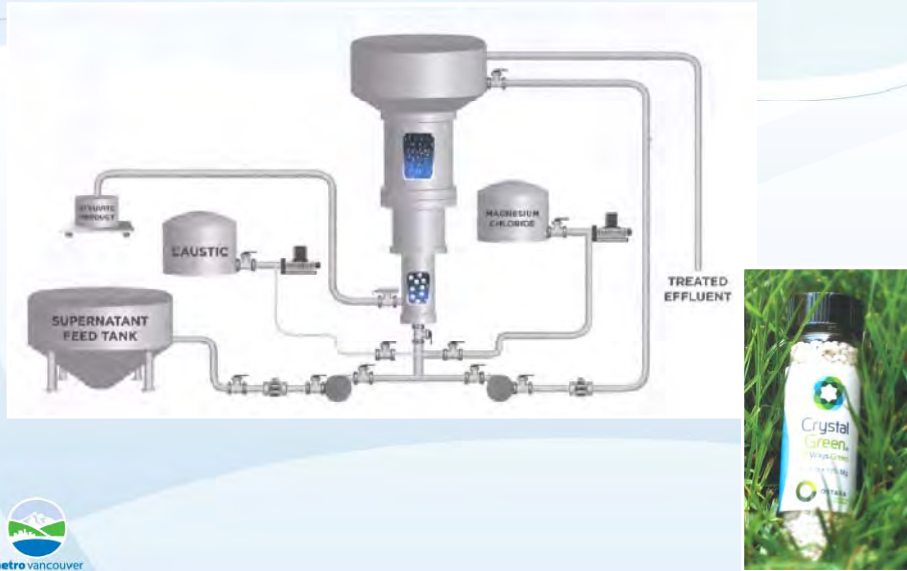
Isaac Asimov on Phosphorus

"We may be able to substitute nuclear power for coal, and plastics for wood, and yeast for meat, and friendliness for isolation, and friendliness for isolation -- but for phosphorus there is neither substitute nor replacement."

Isaac Asimov



Ostara Phosphorus Recovery System



2010 Synergy Award for Innovation



Annacis Academy



Conclusion

- Nature of major utilities justifies conservative risk management
- Broadening goals demand innovation
- Two phase management projects encourage innovation while minimizing risk



Further examples and background
can be found at

www.metrovancouver.org

click *Sustainable Region Initiative* under 'About Us'