Modeling Bioenergy for the Clean Power Sector

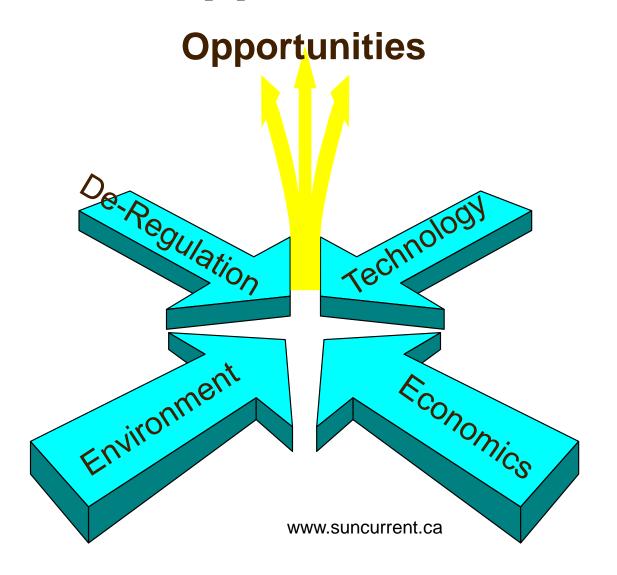
Coastal Silviculture Committee Workshop

Presented by Paul Liddy
Managing Director
Cedar Road LFG Inc.

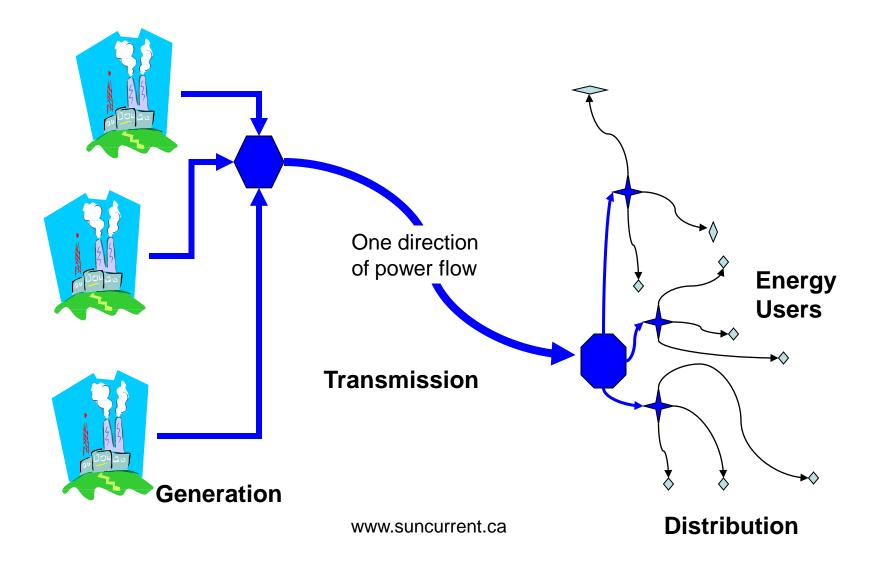


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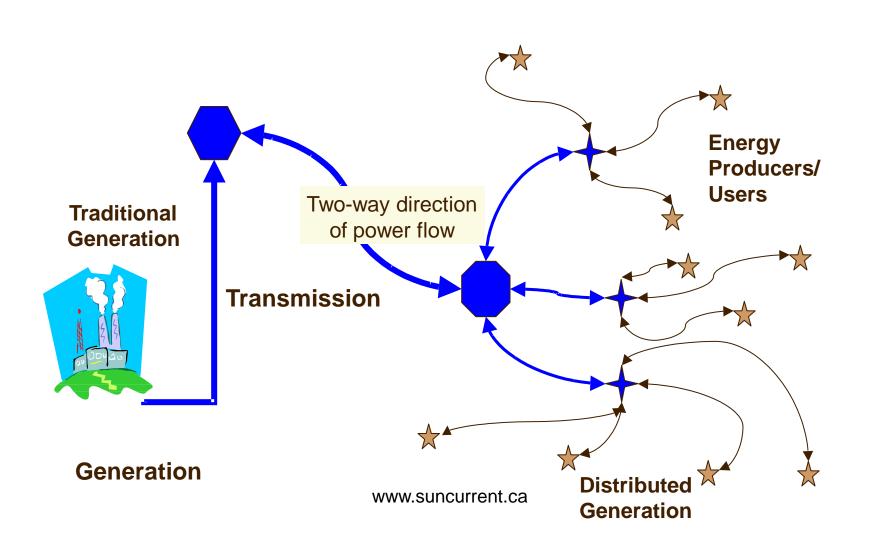
Converging Trends Create New Opportunities



Traditional Centralized Power



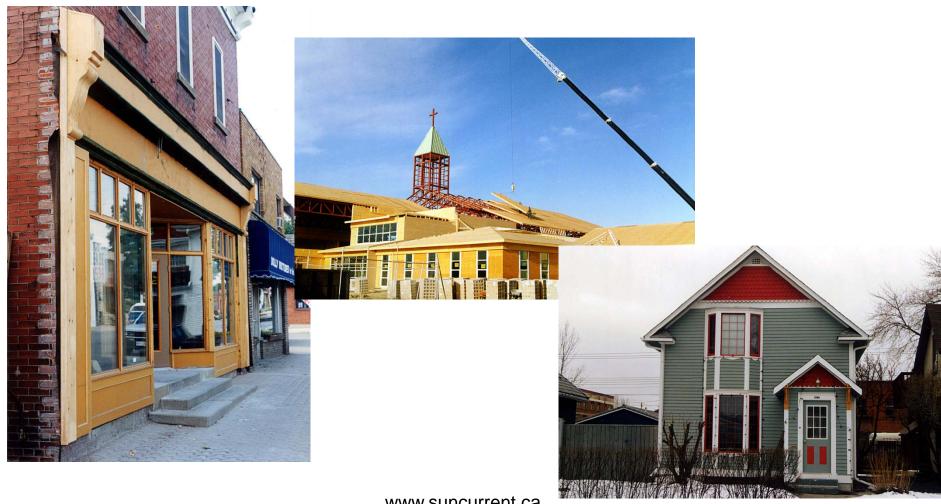
The Paradigm Shift



1978 - Design/build passive solar home initiation by fire (or lack there of)

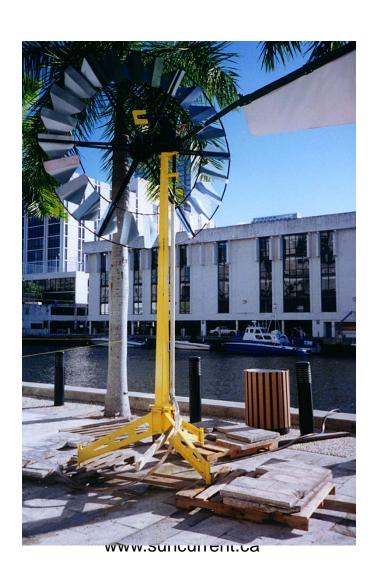


1981 - Suncurrent - Start in construction Business.



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1986 - The Black Hole: Commit free cash flow to alternatives for 20 years



1991 - Lea Block, Phase 1 and 2 design / build, above standards



1994 - Establish Renewable Energy operations in small Island countries





1998 - Start-up Distributed Micro Utility with innovative CHP plant company











2001 Eco- Efficiency Community Inititave





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Wind Water Pumpers: Improved Water Access



Walker Court 2001 Live/Work, CHP plant





2009 Commissioning Facility

- Cedar Road LFG Inc. is a clean power facility located at the Regional District of Nanaimo's landfill.
- We have a modular facility design that converts bio-gas into electricity
- The facility will build out in Phases, Phase One is in place with 1.3 MW of output for 3.6 million dollars
- Gas reserves will increase yearly, long contracts for gas supply and electrical sales assure cash flow



Government Policy

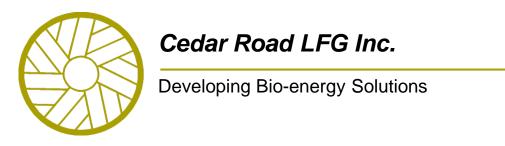
- Landfill Control and Capture requirement
 - Advanced GHG management and destruction
 - Odor and ground water control requirements
- Clean Energy Procurement, BC Energy Plan
 - BC Hydro , Standing Offer Program
 - Terasen Renewable Natural Gas program
- Carbon Tax
 - Cap and Trade timetable defined
 - Sector Program delivery, funded through tax

BC Hydro Standing Offer Program



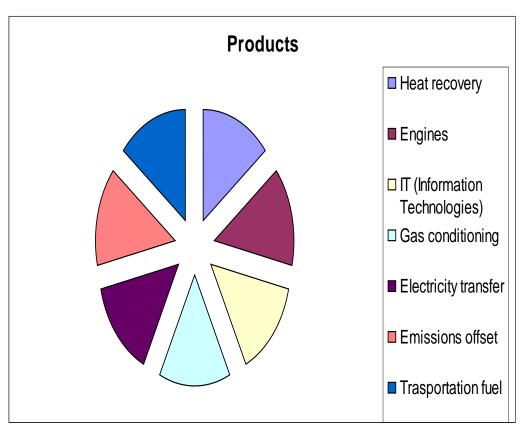
- Attractive pricing
- Long term purchase
- > 10 MW eligibility
- Industrial / Forestry compliment to existing uses
- Diversifies feed stock and wood waste output, value stream
- Patients and perseverance required
- Cap. Cost. Approx \$3 per KW nameplate output





Sector Demonstration.

- Heat recovery.
- Power plant.
- IT modular interface
- Gas conditioning.
- Electricity transfer.
- Emissions offset.
- Transportation fuel.



Modeling Bioenergy for the Clean Power Sector

- Feedstock, source, reliability,
- Transportation costs
- Output monetization
- Technology risk
- Operational lifecycle costs
- Complimentary Uses

A Biomass Option

Turboden, ORC technology for distributed energy generation



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Thank you for the opportunity to present to the Coastal Silviculture Workshop

Regards, pliddy@suncurrent.ca

