The Importance of Community Power in Nova Scotia's New Renewable Electricity Plan

Scotian WindFields Inc
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Outline

- About Scotian WindFields
- Reasons to Act on Energy Policy
- Overview of the 2010 Renewable Energy Plan
- The role of community power
  - COMFIT and Enhanced Net Metering
- Challenges for community power

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ABOUT SCOTIAN WINDFIELDS

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What we do…

- Community WindFields
  - Raise investment
  - Promote renewable energy
- Scotian WindFields Inc
  - Developer of renewable energy projects
    - Utility Scale Wind
    - Embedded wind generation
    - Small Wind
    - Solar Thermal
    - Carbon Consulting

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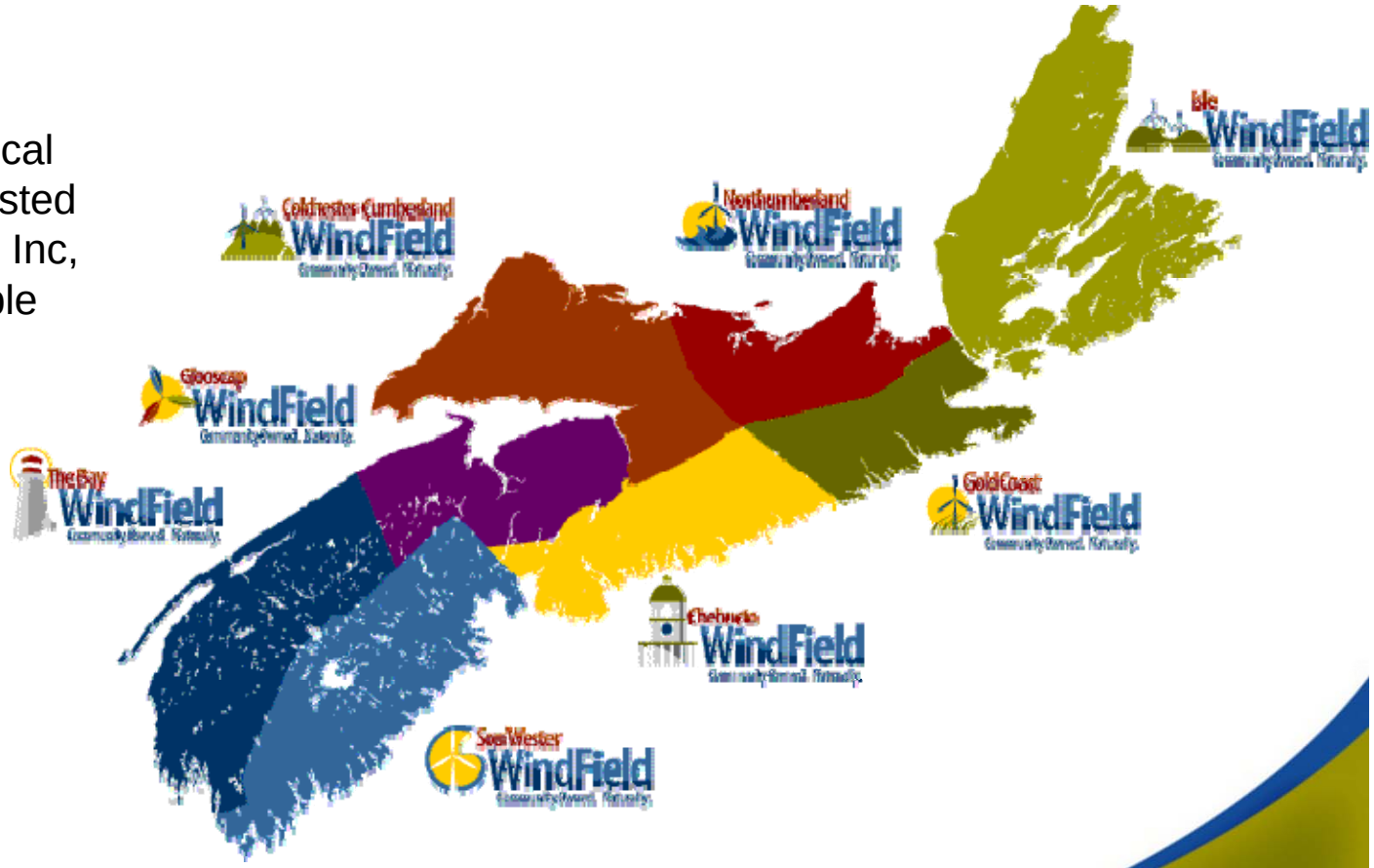
DOCTOR SOLAR

The Scotian WindFields Family

Each of the active local WindFields have invested in Scotian WindFields Inc, to develop renewable energy projects



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THE REASONS TO ACT

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3 Challenges

- 3 main challenges
  - **GHG** emission reduction commitments
    - 10% below 1990 levels by 2020 (EG&SP Act)
  - Increasing and volatile **cost** of energy (fossil fuels)
    - Scarcity of Supply
    - Instability from geopolitical and climate events
  - Energy **Security**

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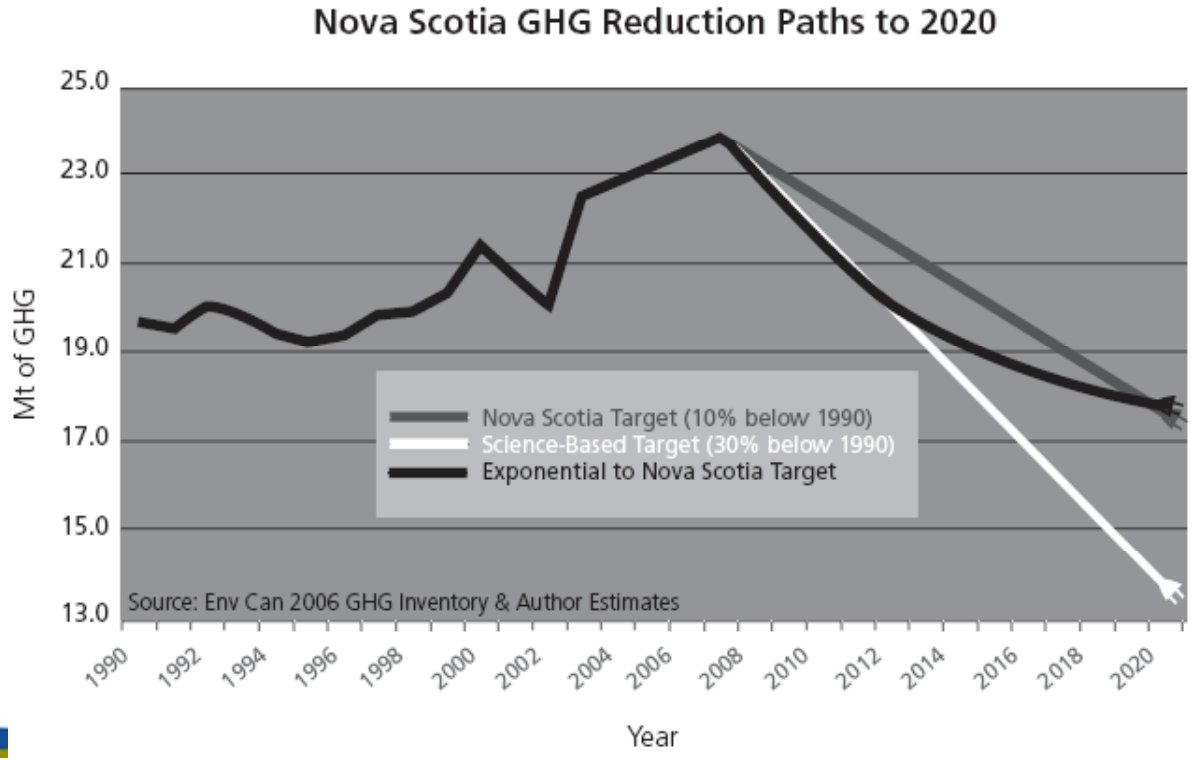
GHG Emissions – big picture

- 2005 NS GHG Emissions = 22.7Mt
- 2007 NS GHG Emissions = 20.6Mt
- 10% below 1990 Levels = 17.5 Mt
- 5.2 Mt in 12 years, or 430,000t/year!



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Energy Costs

- Electricity – 40% increase in 7 years
- Heating Oil – 100% increase in 4 years

- What will energy prices be in 2020??
- What were energy prices 14 years ago??

	1996	May-10	Total Increase	Yearly Increase
Oil (Barrel)	$ 18	$ 80	444%	13%
Natural Gas(Mbtu)	$ 2.50	$ 4.30	172%	5%
Heating Oil (L)	$ 0.35	$ 0.81	231%	7%
Unleaded Gas (L)	$ 0.475	$ 1.04	219%	7%
Coal (t)	$ 29	$ 75	259%	8%

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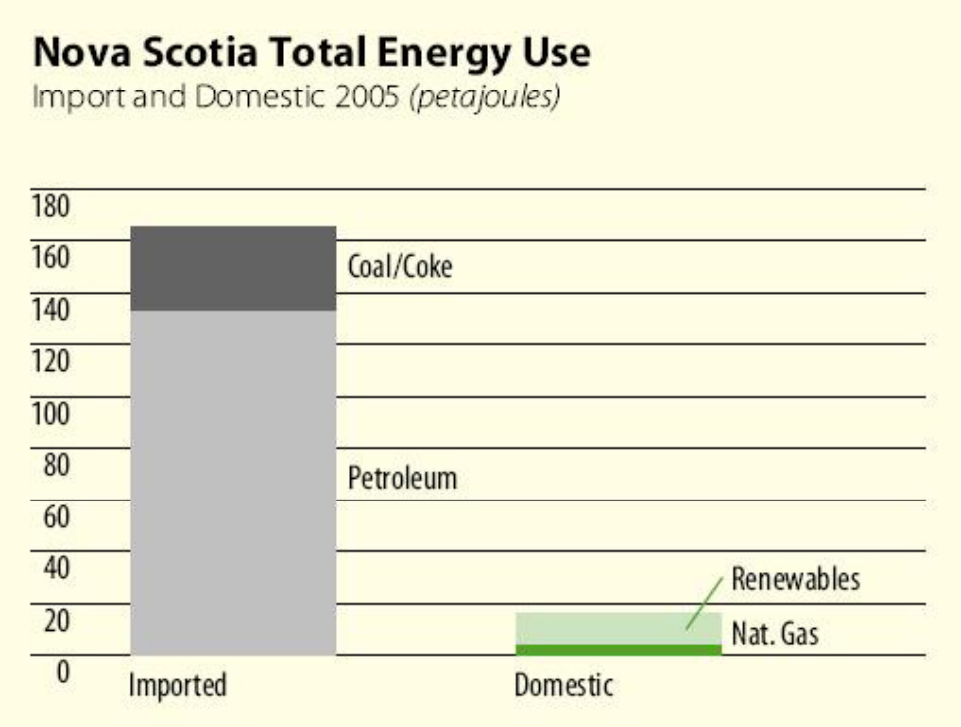
Energy Sources

- Electricity
  - Coal – Columbia, Venezuela, US
  - Natural Gas – Local (until 2018)
  - Renewables - Local
- Heating Oil
  - Venezuela, North Sea
- Gasoline
  - Venezuela, Middle East, North Sea, NFLD



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Carbon Liability

- A price on carbon emissions is inevitable
  - Exactly how is still being debated
- Coal, Natural Gas and Oil all have associated GHG emissions
  - Coal 1.05 cents/kWh per $10/tCO2
  - Natural Gas 0.55 cents/kWh per $10/tCO2
  - Oil 0.87 cents/kWh per $10/tCO2
- These factors were not included in the previous calculations
- US American Power Act – (Kerry Lieberman) calls for an average price of $26/tonne

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3 Tools to solve the puzzle

- Efficiency – Use better
- Conservation – Use Less
- Clean and sustainable energy – Use Cleaner

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THE RENEWABLE ELECTRICITY PLAN

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Highlights

- 40% Renewable Electricity by 2020
- Large Projects = Regulation and Competition
- COMFIT – Fixed Price for Community Based Projects
- Enhanced Net Metering
- Biomass

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Process

- Bill 64 Amending the Electricity Act – Royal Assent May 11th, 2010
- Regulations being drafted
- UARB in the Fall
- Net Metering Regulations expect before November

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COMFIT AND ENHANCED METERING

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The COMFIT

- Community Feed In Tariff
- Price set in advance by UARB based on cost of production
- Eligible organizations
  - Municipalities
  - CEDIFs
  - First Nations
  - Co-ops / Not for Profits
- For Wind, Co-gen, Tidal

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Enhanced Net Metering

- Onsite energy production up to 1MW
- Connected to users electrical system, “behind the meter”
- Surplus power can be stored on the grid
- Excess paid out at retail rate

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Wind Energy for Public Infrastructure

- Schools
- Hospitals
- Correctional Facilities
- Transportation Sheds
- Community Colleges
- Courthouses
- Office Buildings

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Wind Energy for Business

- Manufacturing
- Retail
- Warehousing
- Cold Storage
- Office Buildings
- Agriculture
- Forestry
- Aquaculture

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THE CHALLENGES FOR COMMUNITY POWER

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Financing

- DEBT!
- Hard to save for a down payment when no one will give you a mortgage
- Current Debt Ratios and Interests are very prohibitive

- Better financing will lead to lower energy prices

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FIT Pricing – Based on Financing

- Technical Assumptions: 2MW project, $2.6Million/MW, 30% capacity factor

Interest Rate	**8%**	**5%**
Equity Required	30%	10%
Term	20 Years	25 Years
Target ROE	15%	10%
Resulting FIT Price	15.9cents/kWh	10.8cents/kWh

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Green Bond

- NS should establish a Green Bond, specifically for Feed In Tariff eligible projects
- Fund investors would include pension funds etc, that are looking for local investment
- Rates and regulations could be set to ensure a safe investment, and secure financing

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Questions?

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