

# John te Raa

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**Solvent and Temperature Effects on Nitrogen Nuclear Spin Relaxation in  
Methyl Nitrate**

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- Biomass as a green fuel has a role in PEI's energy supply mix.
- Coherent Government energy policy towards biomass use.
- Biomass energy can and should play a role in forest renewal.

Getting off oil, while keeping the lights and heat on.

- Residential solar energy development is not sustainable.
- Net metering is increasing electricity bills by 2 percent.
- Surplus solar in the summer is of no use on a cold January day.
- Wind is intermittent, wind availability tends to drop at very low temperatures.

Getting off oil, while keeping the lights and heat on.

- Push is on to install heat pumps, creating demand on the electrical grid.
- The grid is currently overloaded at temperatures below 20 C.
- Two winters ago at -25C PEI had rolling blackouts.

Getting off oil, while keeping the lights and heat on.

- Heating with biomass reduces the strain on the electrical system.
- Heating with biomass is sustainable if sourced properly.
- Heating with biomass is carbon neutral if sourced properly.

# Coherent Government energy policy towards biomass use and the future of PEI's forests.

- Forestry Commission has pointed out weaknesses in biomass harvesting methods.
- Fiona blowdown disposal. Why not chip for biomass fuel?
- Future biomass energy supply contracts.
- KCMH went back to heating with oil. Why was that an option?

# Biomass energy can and should play a role in forest renewal.

- New community scale technologies for using biomass to produce electricity and heat.
- Returning carbon(biochar) to the forest.
- Electrical power                    1,000 kW        LF 40%
- Thermal power 90 °C        1,404 kW
- Thermal power ~50 °C        500 kW
- Fuel demand (dry)                705 kg/h        2,800                tonnes annually
- Premium charcoal                9 m<sup>3</sup>/day        1,300                m<sup>3</sup> annually