**Background**

BC emissions reduction target of 40% by 2030 and 80% by 2050 from 2007 level.

Island Generation wants P11 to convert some of its CO2 emissions to value-added products.

Reduce emissions and make a profit.

CO2, EO, and MeOH to DMC, EG and EC.

**Societal Needs**

Profitable industrial application of carbon capture and utilization technology.

Emissions reduction of 20,000 t CO2 per year.

**Plant Layout**

Brownfield site on demolished pulp and paper mill.

Utility wastewater treated at nearby facility.

No direct air pollutant emissions.

**Process Overview**

Carbon Capture and Purification

EO Feed

EC Synthesis from CO2 and EO

EO Recycle

EC-EO Separation

DMC Synthesis from EC and MeOH

MeOH Feed

Product Separation and Purification

MeOH Recycle

**Environmental Assessment**

Brownfield site on demolished pulp and paper mill.

Utilitarian wastewater treated at nearby facility.

**Economic Analysis**

Plant Life 25 yrs

Payback 5 yrs

ROI 17.7%

DMC Market Analysis

30k tonne/yr DMC

21k tonne/yr EG

11k tonne/yr EC

**DMC**

- Dimethyl Carbonate

**EG**

- Ethylene Glycol

**EC**

- Ethylene Carbonate

**Applications**

- Consumer products
- Pharmaceuticals
- Industrial Solvent
- Li-Ion

**Applications**

- Environmentally friendly solvent
- + Li-ion batteries

**Applications**

- 4% of global capacity
- $2.4B market value by 2030

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