



Clearing the Path

Transportation and Logistics

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One Year Ago Southern Ontario

Road

- 70% of GTA Highways near capacity
- 401 had reached moderate congestion threshold
- Traffic growth predicted at 80% over next 15 years
- Short 13,000 truck drivers (critical issue)

Rail

- Nearing operational capacity





Today Southern Ontario

- 143,000 less full time employees
- Work sharing/reduced work weeks
- Declining GDP and Industrial Output

Result

- Fewer commuters on roads
- Fewer trucks on roads
- Highway and rail capacity created because of recession
- No truck driver shortage



Future

- Unused current transportation capacity will shrink as Ontario leaves current recession
- When?





Bio-Mass Power Generation Potential Production

- 10,000,000 T wood pellet fuel (WPF) yearly
- 10,000,000 T agricultural pellet fuel (APF) yearly
- WPF – from Northern Ontario
- APF – from crop lands of Southern Ontario

Volumes dictate delivery by ship and/or rail (no transport trucks)

OPG Coal Fired Generation Facilities

Lambton	1920 mw (115T hour)
Nanitoke	3640 mw (2184T hour)
Thunder Bay	306 mw (184T hour)
Atikokan	<u>211 mw</u> (127T hour)
	6077 mw (32mT bio mass)





Volumes in Perspective

- 10,000,000 T of WPF = 110,000 railcars or 270,000 transport trucks or 400 ships
- 10,000,000 T of APF = 110,000 railcars or 270,000 transport trucks



One transport truck each minute, 24 hours day, 365 days a year



Comparison of Transportation Methods



	Ship	Rail	Truck
Energy	1	2.2	9.7
Emissions	1	1.4	7.6
Accidents	1	13.7	74.7
Spills	1	10	37.5

1 Ship = 225 Railcars = 870 Trucks



WPF Movements to Power Plants

- Water – from pulp areas in Northern Ontario by truck to Lake Head Ports then by ship

and

Direct by Rail from more remote locations

(Break even point about 200 km)



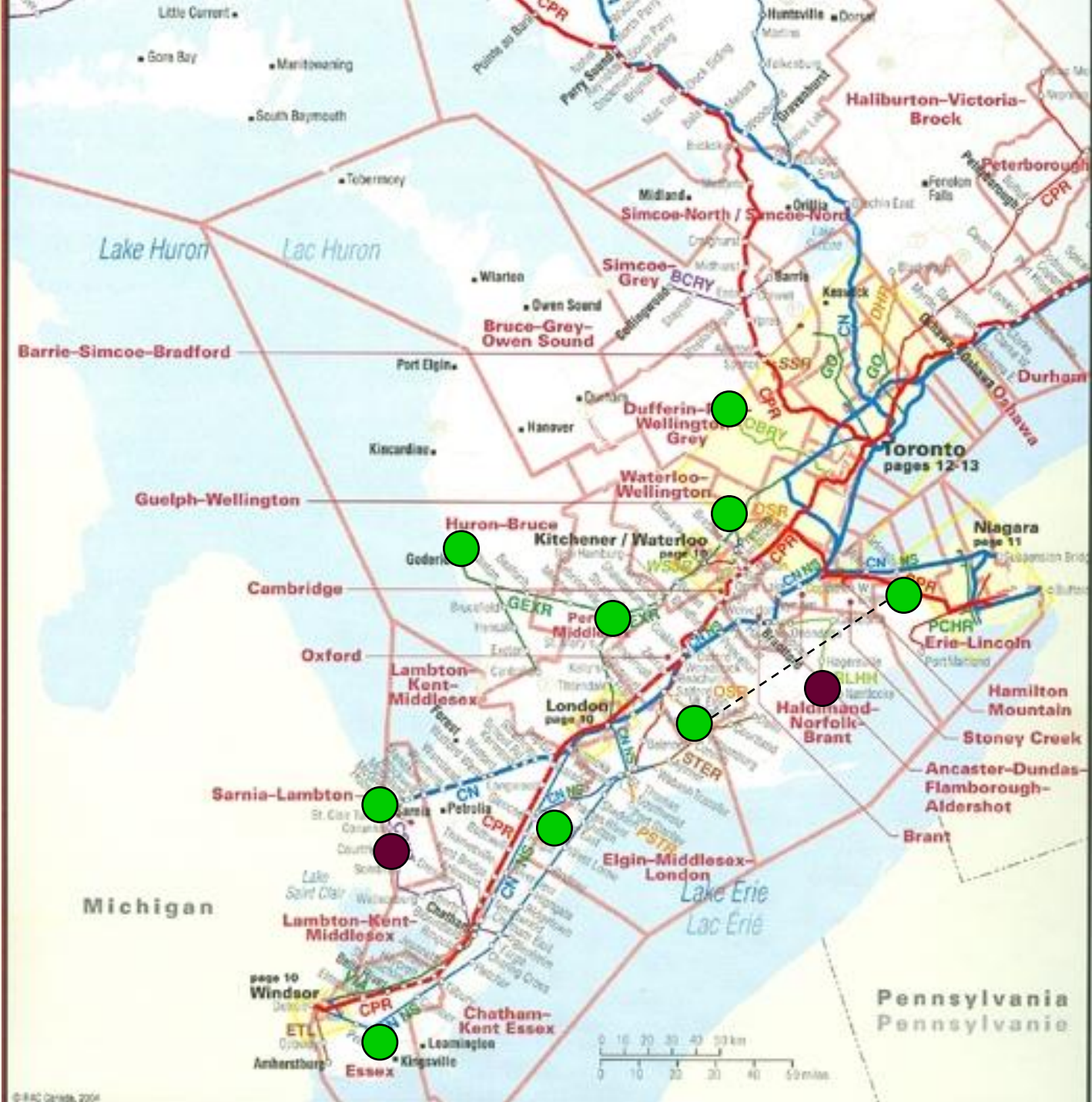
- Off season storage in ships





APF Movements to Power Plants

- Rail delivery only
- Sourced from Southern Ontario crop lands
- Minimum nine pelletizing geographic areas all on secondary railway lines
- Each area could produce 1.1 m T of pellets a year (33 rail cars day)
- Can be accommodated within existing main line railway capacity
- Provides increased utilization of existing secondary rail line infrastructure





Infrastructure Requirements

- Pelletizing plants need to be constructed. Storage and handling facilities built.
- Rail infrastructure on secondary lines need some upgrading \$1m per location
- Re-establish second/third rail access to Nanticoke \$70 m
- Commitment for approximately 870 rail cars to be dedicated. Value \$131 m



Next Steps

- Two to three years lead time to establish pelletizing plants and supporting infrastructure
- Establish clear process for necessary approvals to construct pelletizing plants and infrastructure improvements (included in Green Energy Act?)





Next Steps (Cont.)

- Declare infrastructure used as critical to Ontario and afford protection to participants. NIMBY type issues.
- Commitment to purchase necessary in order to secure private capital investment.
- Start today