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Table of Contents

1 Data

2 Analysis

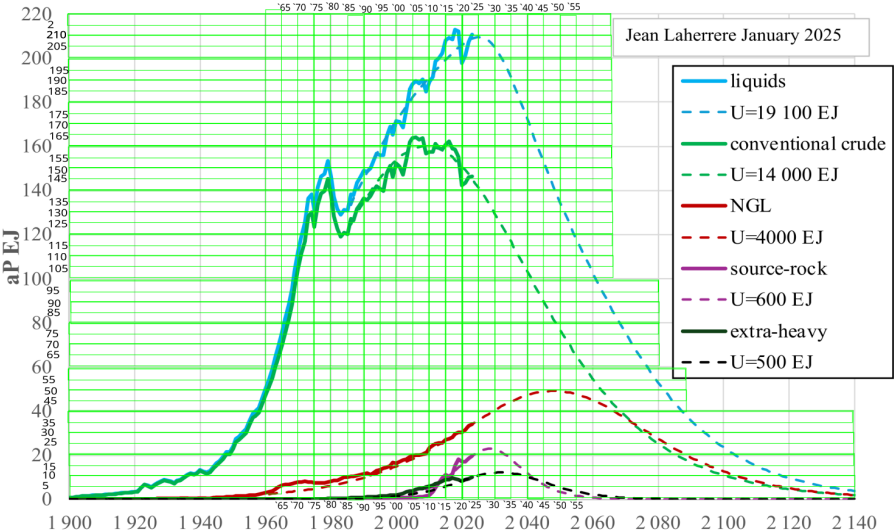
3 5 year breakdown

4 Land Reallocation

5 Proposal

Jean Laherrere graph

world oil production ASPOdata



Jean Laherrere January 2025

Oil Decline Historical

Percentage Decline (%)	Oil Price Increase (%)	Additional CPI Increase (%)	Total CPI Increase Including Baseline (%)	Food Price Increase (%)	Historical Precedent
2	25	1.0	3.0	5	2005 Katrina
3	30	1.5	3.5	6	2011 Libya War
4	40	2.0	4.0	8	1979 Iran Crisis
5	50	2.5	4.5	10	1973 Oil Crisis
6	60	3.0	5.0	12	Post-pandemic Recovery

Historical oil supply decline examples and effects.

Refined Table of prices

Year	oil decline	CAD/Lt	drive \$/mth	Food %/income
2015-2020	-2.50%	\$1.10	\$80.00	23%
2020-2025	-2.44%	\$1.50	\$109.09	28%
2025-2030	2.38%	\$1.86	\$135.06	36%
2030-2035	7.32%	\$3.22	\$233.89	49%
2035-2040	10.00%	\$6.43	\$467.79	70%
2040-2045	10.53%	\$13.20	\$960.19	102%
2045-2050	13.07%	\$30.46	\$2,215.35	152%
2050-2055	13.53%	\$71.69	\$5,213.56	228%

2020 to 2025

- oil production grows 0.5% a year
- fuel prices from \$1.10/lit to \$1.50/lit
- food prices from rose 24%
- we co-created the maker space, an essential piece of local industry infrastructure.
- Median household spend 28% of income on food.
- 1.5%-3% of Canadians have enough land to grow their own food.

2025 to 2030 Plateau Years

- oil production declines 0.5% a year
- gasoline prices from \$1.50/lit to \$2.00/lit (\$5-\$7/gal).
- industrial food price rise 5% a year, if maintain peace.
- Median household spends 35% on food.
- Focus on community cohesion through subsidiarity.
- aim for 6% of people with enough land to grow food.

Subsidiarity Hierarchy in Owen Sound

Level	Roles and Examples
Block	<ul style="list-style-type: none">- Connect neighbors (share garden produce)- Resolve small issues (parking disputes)- Communicate quickly (FRS radios)
Village	<ul style="list-style-type: none">- Manage shared resources (tool libraries)- Organize events (workshops)- Mediate disputes (noise complaints)- Connect to experts (plumbers)
Neighborhood	<ul style="list-style-type: none">- Coordinate projects (festivals/markets/parks)- Connect to city (liaise for community centers)- Promote initiatives (resilience workshops)
City	<ul style="list-style-type: none">- Set goals (urban agriculture policies)- Manage infrastructure (roads)- Fund programs (food banks)- Lobby higher governments (funding/policy)
County	<ul style="list-style-type: none">- Oversee resources (colleges, maker spaces)- Manage housing (ruralization projects)- Support skills (agricultural training)- Lobby higher governments (funding/policy)

2030 to 2035 Rail years

- oil production declines 1.5% a year.
- gasoline prices from \$2.00-\$4.75 per litre (\$7-17/gal),
- industrial food prices rise 7.5% a year.
- when fuel prices are between 3-4 dollars a litre can start building rail.
- Median household spending 50% on food.
- People may begin demanding land distribution nation wide.
- Should aim for at least 12.5% of Canadians with enough land to grow food.

Truck Road to Rail Road

Feature	Truck-Compatible County Road	Rail-Compatible County Road
Maximum Grade	6-8%	2-4%
Right-of-Way Width	9-12 meters	12-15 meters
Curve Radius	90-150 meters	150-300 meters
Base Layer	30-38 cm gravel/crushed stone	38-45 cm compacted gravel/crushed stone
Surface	Asphalt or heavy-duty gravel	Asphalt (temporary, replaceable with ballast/tracks)
Embankments/ Cuts	Moderate slopes, some cuts for terrain	Flatter profile, minimal abrupt changes
Load Capacity	36,000 kg (standard truck axle loads)	36,000 kg now, rail loads later (130,000 kg/car)
Primary Use	Heavy trucks, local traffic	Trucks now, convertible to rail later
Cost per Kilometer	CAD 1.2-2.0 million	CAD 1.4-2.4 million

2035 to 2040 Revolutionary years

- oil production declines 2.1% a year.
- gasoline prices from \$5 to \$10 per litre (\$18-37/gal).
- industrial food prices rise 8.5% a year.
- Median Household spending 70% on food. Revolutionary territory.
- Aim for 25%+ of people village homesteading.

Food Expenditure Consequences

Combined Table: Food Expenditure, Consequences, and Intensity of Demands for Change

Region/Event	Time Period	Food Expenditure (% of Income)	Consequences	Outcome Type
French Revolution	1789	50–80% (est.)	Overthrow of monarchy, land redistribution, radical social change	Revolution
Mexican peasants	Early 1900s	60–80%	Mexican Revolution, significant land reform	Revolution
Russian Revolution	1917	60–70% (est.)	Bolshevik Revolution, land redistribution, establishment of Soviet Union	Revolution
Japanese tenant farmers	1930s	50–60%	Post-WWII land reform under Allied occupation	Major reform
Chinese peasants	1930s–1940s	60%	Chinese Communist Revolution, land redistribution	Revolution
Bolivian peasants	1950s	70–80%	Bolivian National Revolution, land reform	Revolution
Filipino peasants	1970s	60%	Agrarian reform programs with limited success	Major reform
Indian landless	2011–12	65%	Various state-level land reforms, ongoing demands	Major reform
South African poor	Current (2015)	40%	Ongoing land reform debates and policies	Ongoing demands
Brazilian landless	Current	45%	Landless Workers' Movement (MST), some land redistribution	Ongoing demands

2040 to 2045 FT Fuel

- oil declines at 2.6% a year.
- gasoline prices from \$10 to \$20 per litre (\$37-\$75/gal).
- FT gasoline can be made at \$15/lt (\$50/gal).
- industrial food prices rise 9% a year.
- Median Household spends 100% on food.
- 50%+ of Canadians village homesteading or society collapses.

2045 to 2050 Rural paradise

- oil declines at 2.7% a year
- fossil gasoline prices from \$20 to \$50 per litre (\$75-180/gal).
- FT gasoline at \$15/lit (50/gal) and biodiesel at \$25/lit (\$90/gal).
- industrial food prices rise 10% a year, only very wealthy can eat from grocery store.
- 75%+ Canadians homesteading in villages.

Global Land Allocation Changes

Category	Pre-Industrial Times (Circa 1800)	Current Allocation (2025)	Post-Cheap-Energy Allocation
Total Agricultural Land	~1.5 billion ha (cultivated + pasture)	4.9 billion ha (1.5 billion ha cropland, 3.4 billion ha pasture)	4.9 billion ha (1.8 billion ha cropland, 1.085 billion ha food forests, 1.085 billion ha SRC, 0.93 billion ha pasture)
Cropland	0.5–1 billion ha - Subsistence crops - Low-yield (0.5–1 t/ha) - Feeds ~1 billion, plant-based	1.5 billion ha - Food crops: 1 billion ha - Feed crops: ~0.5 billion ha - High-yield (3 t/ha)	1.8 billion ha - Food crops only - Low-yield (1–1.5 t/ha) - Subsistence for 8 billion, plant-based (0.225 ha/person)
Pasture	0.5 billion ha - Grazing for draft animals - Low energy (0.5 GJ/ha/year)	3.4 billion ha - Grazing for livestock - ~70% of ag land tied to livestock	0.93 billion ha (unusable or minimal livestock) - Converted: 2.47 billion ha to food forests (1.085 billion ha) and SRC
Food Forests	~0.1 billion ha - Wild/seems-managed (nuts, fruits) - ~0.1–0.5 t/ha edible	Negligible (~0.01 billion ha, niche orchards)	1.085 billion ha - Hazelnuts: 482.8B L, 16.51 EJ - Cactus pear: 195B L, 6.67 EJ - Pine nuts: 146.2B L, 5 EJ
SRC (Willow)	Negligible (~0 ha) - Wood from natural forests	Negligible (~0.01 billion ha, experimental)	1.085 billion ha - Firewood: 52.7B EJ - FT diesel: 645.8B L, 23.8B EJ - 10 t/ha/year, sustainable
Biofuel Throughput	0 EJ/year - No liquid fuels; human/animal power	100 EJ/year fossil fuels - Minor biofuels (5 EJ)	1.47T L/year, 50.05 EJ - FT diesel: 645.8B L - Hazelnuts: 482.8B L - Cactus pear: 195B L - Pine nuts: 146.2B L
Firewood/Biomass Energy	40–80 EJ/year - Wood from forests - Heating, cooking (40–80 GJ/person for 1 billion)	~50 EJ/year (wood, crop residues) - Heating/cooking	52.7B EJ/year (SRC, 813.75M ha) - Heating/cooking (20 MJ/day/person)
Other Land (Forests, etc.)	~5–6 billion ha forests - Timber, foraging - ~3–4 billion ha other	4 billion ha forests - ~4.1 billion ha other (urban, barren)	~4 billion ha forests remain - ~4.1 billion ha other land
Total Energy Output	40–80 EJ/year - Biomass + human/animal labor - ~40–80 GJ/person (5–10 energy slaves for 1 billion)	150 EJ/year (100 EJ fossil, 50 EJ biomass/other) - ~18.75 GJ/person (18 energy slaves for 8 billion)	102.83 EJ/year (50.05 EJ biofuels, 52.7B EJ firewood) - ~12.85 GJ/person (13 energy slaves for 8 billion)
Total Land Usage	~1.5 billion ha agricultural - Forests: ~5–6 billion ha - Other: ~5–5.5 billion ha - Total: ~13 billion ha	4.9 billion ha agricultural - Forests: 4 billion ha - Other: 4.1 billion ha - Total: 13 billion ha	4.9 billion ha agricultural - Forests: 4 billion ha - Other: 4.1 billion ha - Total: 13 billion ha

Grey County Land Allocation Changes

	Current Allocation	Post-Cheap-Energy Allocation
Total Land Area	318 kha	318 kha
Cropland	100 kha	79.5 kha
Pasture	11 kha	11 kha
Orchard/food forest	1 kha	79.5 kha
Managed forests	70 kha	5 kha
Other farmland	40kha	0 ha
Urban	23 kha	23 kha
Coppice land	0 ha	125 kha
Other land	73 kha	0 ha
Food Energy	1.4 PJ	3.3 PJ
Firewood Energy	1 PJ	1.9 PJ
Population	100k	212k
Hectare per capita	3.18 ha	1.5 ha
Heating Energy	~3.47 PJ/year (res + indus)	1.48PJ
Fuel Eenergy	~5.46PJ/year	197TJ/yr or 5.8Ml/yr or 32kbbbl/yr

Next Steps

- Can improve organization by adding block leaders, village leaders, and neighbourhood leaders below municipal level, connected by family radio service.
- Can hire me to onboard county/municipal councillors and staff.
- Will likely run for Mayor of Owen Sound in 2026.