

Peak Oil / Waterloo North

Peak Oil \neq The End of Oil

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Peak Oil = The End of *Cheap* Oil

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The Main Issues:

- The End of Cheap Oil
- Energy Returned on Energy Invested
- Inherent Energy Needs of Western Society

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The Cost of Oil:

Free: Near-Surface Gusher

Cheap: Pressurized Reservoir

Unpressurized Reservoir (pumped)

Medium: Off-shore Deposits

Tar Sands

Oil Shales

Expensive: Super-Deep Deposits

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Energy Returned on Energy Invested (EROEI)

How many barrels of oil does it take to produce the next barrel of oil?

How many kg of coal does it take to produce the next kg of coal?

Exploration, Drilling, Mining, Processing, Food for Workers, Transportation, Steel Production, Necessary infrastructure,

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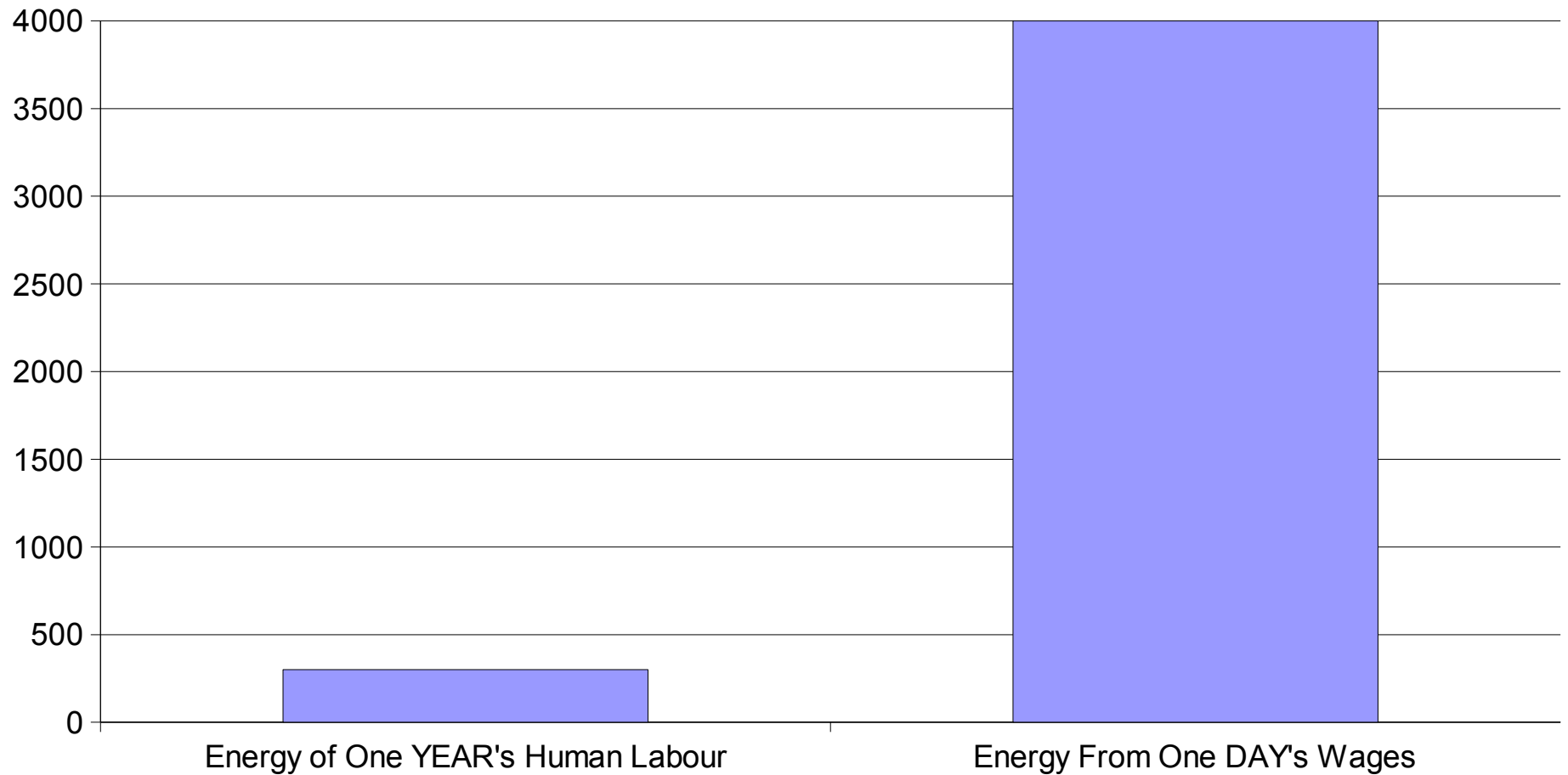
Inherent Energy Needs:

Our infrastructure and societal organization are *premised* on super-cheap energy:

- Suburban sprawl
- Car / Truck-dominated transportation
- Low inventory / Just-in-time delivery
- Distant, off-shore manufacturing
- Distant separation of home and work
- Distant separation of family / community (cheap flights)

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Energy is Mindbogglingly Cheap ...



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... That's Why We Use So Much of It.

One tank of gasoline ...

... has the energy equivalent of 4 YEARS of
human labour.

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But are oil supplies really so precarious?

They recently discovered a BILLION barrel reservoir in the Gulf of Mexico.

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A billion barrels

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A billion barrels

will take care of the world's oil needs,

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will take care of the world's oil needs,

for TWELVE DAYS

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We're not finding a billion barrels every 2 weeks!

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To Think About:

- OK, so gas is expensive, I'll just drive less ...
- Oil WILL decline; more aggressive exploration just delays the decline, and then makes it much worse.
- The high GNP and apparent productivity of Western countries is due to the leverage of cheap energy.
- Food production is enormously energy-intensive; fertilizers and pesticides are fossil-fuel based.
- Our infrastructure is long-term, and cannot be substantially changed without a lot of energy (steel for cars, concrete for buildings etc).

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To Think About:

- Upside-Down Kingdom:
 - Poor subsistence farmer in warm, third-world climate, vs
 - Rich, globalized, highly-dependent first-world worker
- The Meek Shall Inherit:
 - Living at peace with the earth means doing & having less
 - North America uses A LOT more than its fair share!
- How are we called to respond?

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OK, so I'll work hard to reduce my energy usage:

- Turn the thermostat down
- Buy an energy efficient furnace
- Buy a smaller car

These are attempts to preserve status quo,
Tweaking our lifestyle to avoid significant change.

If oil peaks soon or depletes rapidly, status quo is gone. We will need massive, radical change.

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What to do ... energy is still dirt cheap, so it is very difficult to make radical changes.

- Massive reduction in energy consumption
- Reduced-material lifestyle
- Support for local food production
- Support for alternative energy production
- Building strong, local communities
- Localized production of basic needs
- Reduction in specialization; need local skills