



Peak Oil

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Young Presenter Competition – Dunedin

Introduction to Oil

Oil is critical to the operation of our businesses

Oil presents challenges

- rising prices
- environmental impacts
- risk of disruption to supply
- resource sustainability

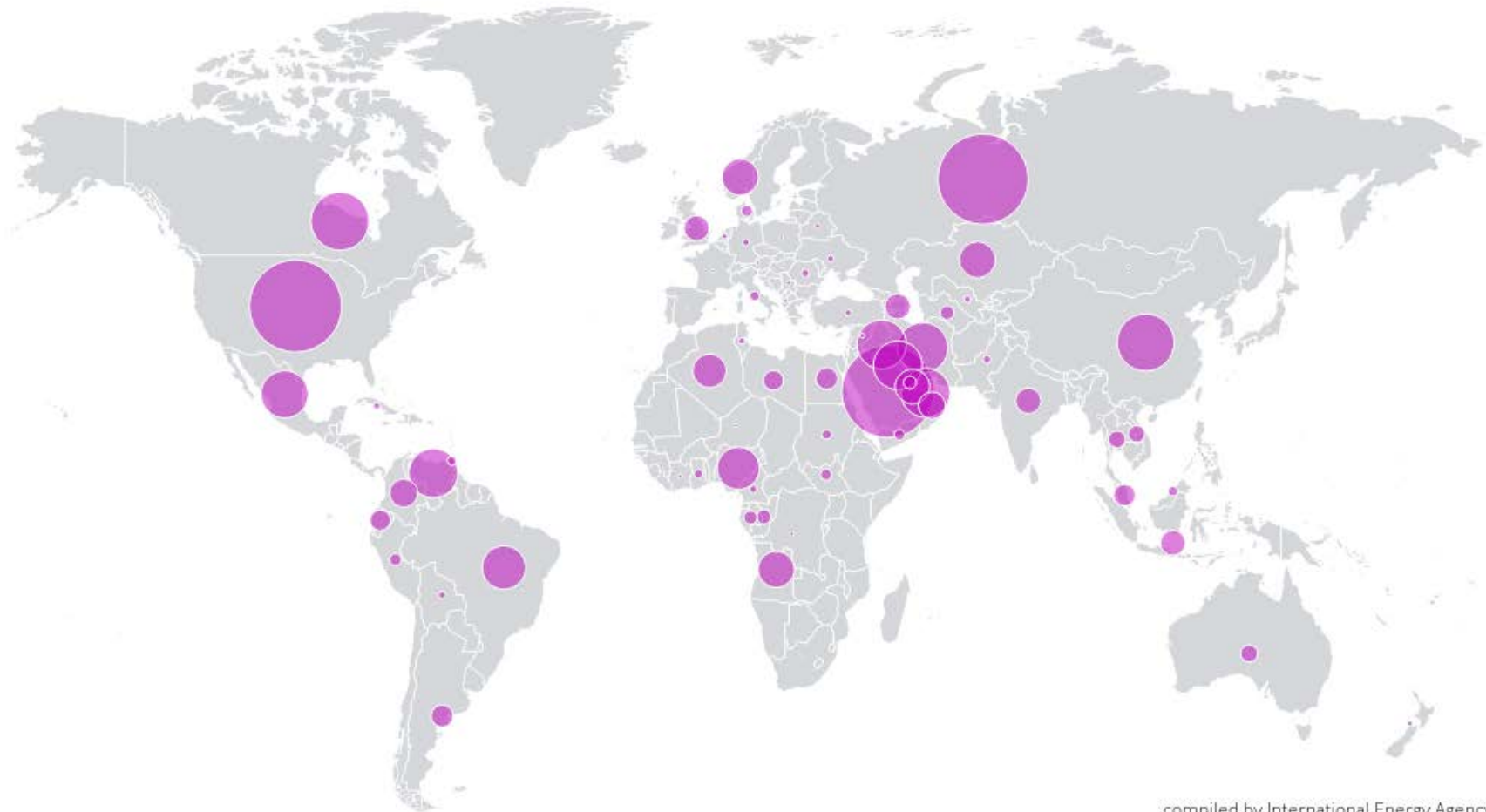


Graphic: Rachel Niebergal, Calgary Herald. Source: iogs.com.

Image source: <https://www.roughneckcity.com/roughneck-city/oilfieldnews/287/why-there-will-never-be-widespread-federal-anti-fracking-legislation>

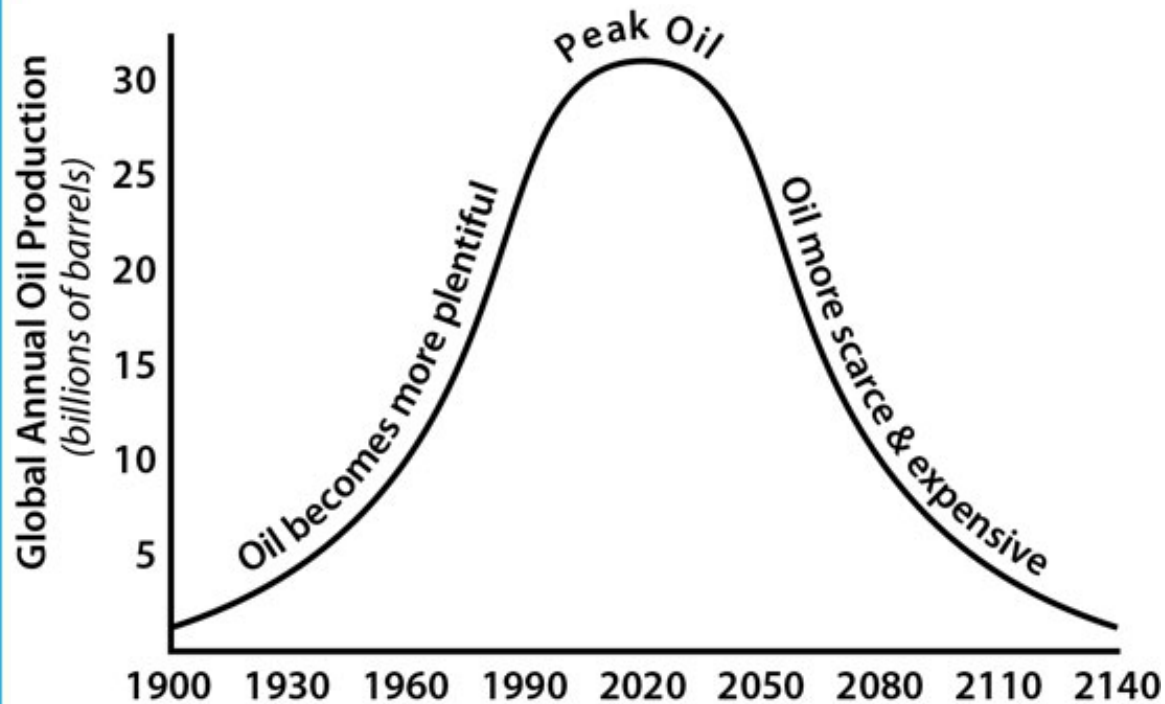
Security of Supply

Crude oil production (Mtoe) (2014)



compiled by International Energy Agency

Peak Oil



Maximum rate of global oil production, after which the rate of extraction is expected to decline.

Conventional oil → Unconventional oil

Unconventional Oil

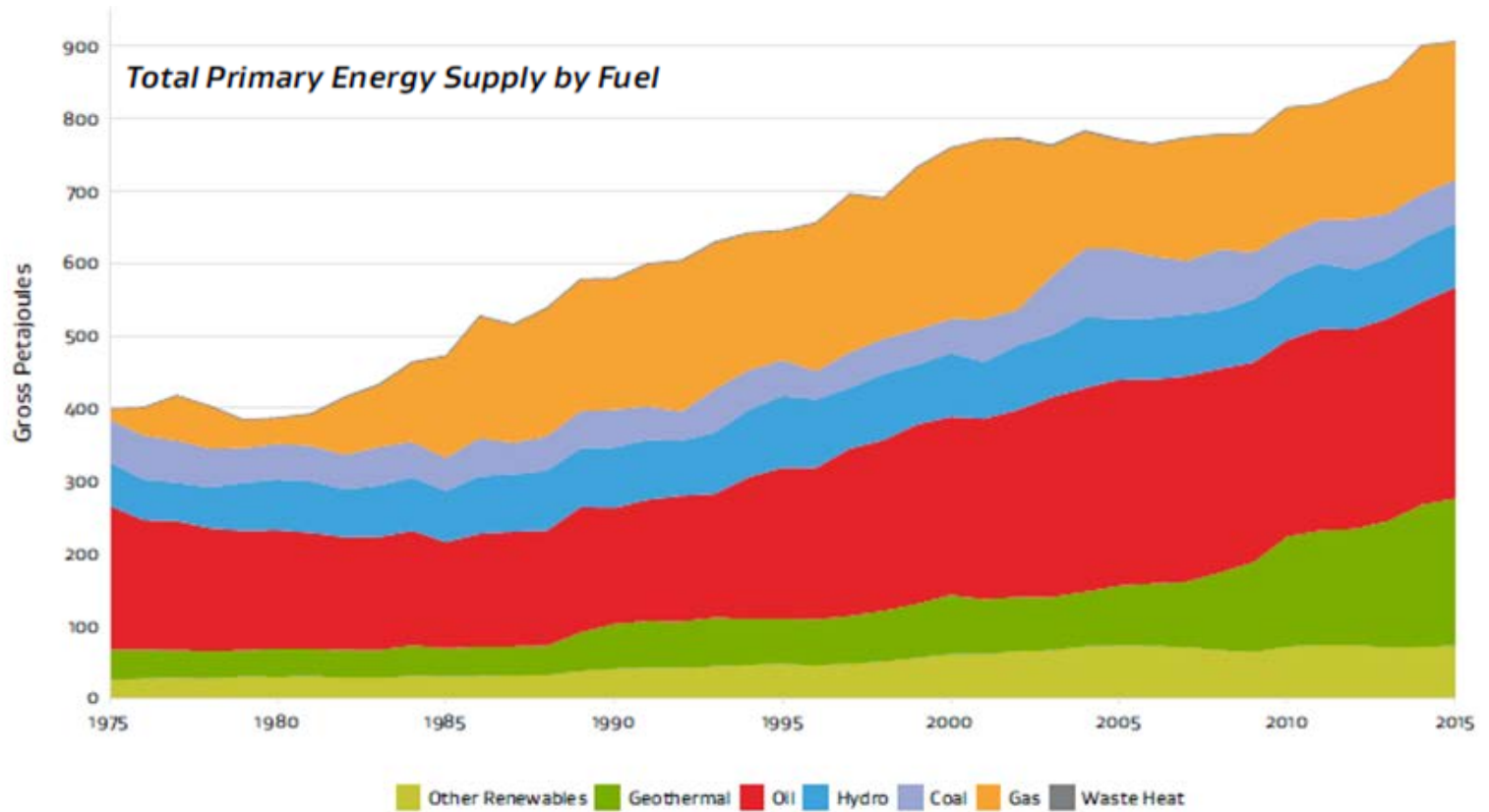


Energy Returned on Energy Invested

1930s	50:1
Deep sea oil	12:1
Tar sands	4:1

Image sources: <http://www.mining.com/canada-oks-three-new-oil-sands-projects/>
<http://www.reuters.com/article/us-usa-oil-cost-analysis-idUSKBN15W10B>

Energy Use in NZ

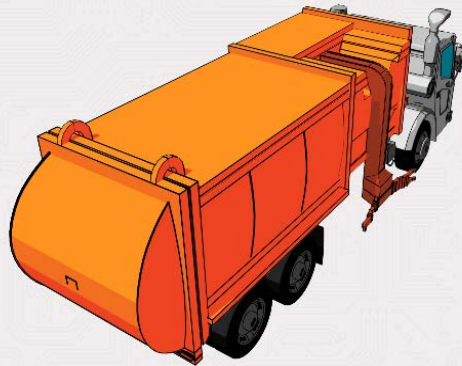
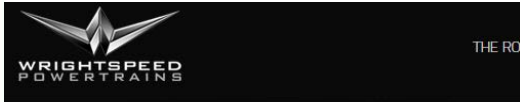


Oil = 32% of NZ's TPES

Over 75% of this oil is used in the transport sector

Providing 99% of transport energy

Sustainability & Innovation



Fulcrum Turbine Generator

Charger Plug-In

Battery Packs

Geared Traction Drive

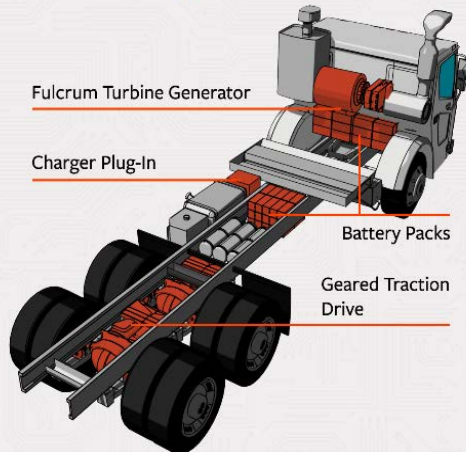


Image sources: <https://driveelectric.org.nz/electric-vehicles-way-of-the-future/>
<http://www.wrightspeed.com/the-route-powertrain>
<https://thelocalindian.com/story-feed/opinion/waste-plastics-for-road-laying-good-bad-or-ugly/>
<http://sustainable.org.nz/what-we-do/sustainable-tools-resources/biofuels-your-first-step-to-kicking-the-fossil-fuel-habit/>

Take Home Points

- Being innovative, energy efficient and sustainable makes good environmental and business cost sense.
- NZ's energy mix will need to change.
- How will your business adapt?



Questions?