

SUSTAINABLE COMPETITIVE ADVANTAGE

Renewable Energy (and Sustainability?) for Oregon Communities

Some Points to Ponder



Tom Chester, Director – Oregon Renewable Energy Center



SUSTAINABLE COMPETITIVE ADVANTAGE



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I have a Dream

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That one day this nation will rise up and live out the true meaning of its creed:
"We hold these truths to be self-evident: that all men are created equal."

That one day on the red hills of Georgia the sons of former slaves and the sons
of former slave owners will be able to sit down together at the table of
brotherhood.

That my four little children will one day live in a nation where they will not be
judged by the color of their skin but by the content of their character.



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OREGON RENEWABLE ENERGY CENTER

**Oregon Renewable Energy Center
(OREC) was established
at the Oregon Institute of Technology
in 2001 to integrate renewable
energy technologies into energy
systems for practical use
by businesses and consumers.**



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OREGON RENEWABLE ENERGY CENTER

- Geo-Heat Center
- Applied Research
- Technical Support for Economic Development
- Information
- Renewable Energy Engineering
- Sustainability at OIT



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Thinking about Energy

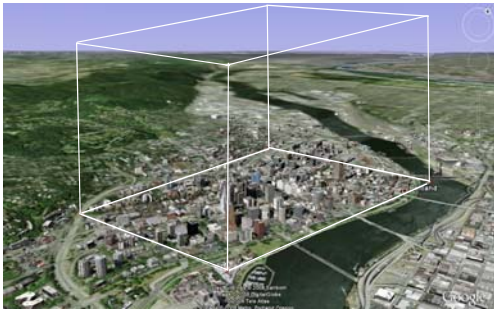
- Energy is not created equal
- Respect oil
- Conservation comes first
- First Law of Walt Disney is wrong
- Everything is connected
- Question technology



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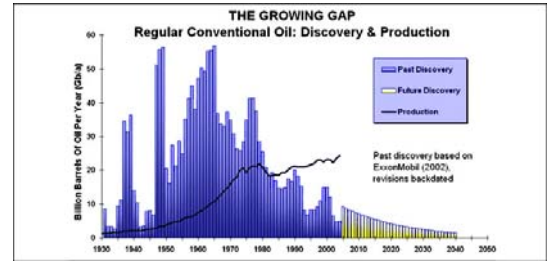
Cubic Mile of Oil



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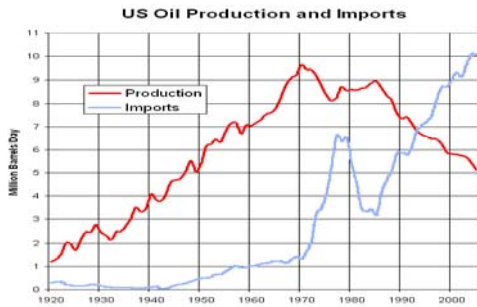
Interesting Future



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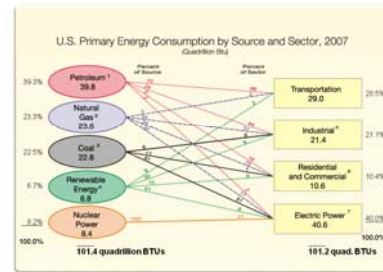
United States Oil Production



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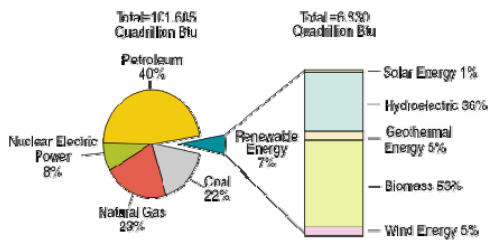
US Energy Consumption



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Current US Renewable Energy Use



Note: Sum of components may not equal 100 percent due to independent rounding.
Source: EIA, Renewable Energy Consumption and Electricity Production, 2007 Statistics, Table 1. U.S. Energy Consumption by Energy Source, 2003-2007 (May 2009).

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Fossil Conundrum

The energy equivalent of a cubic mile of oil:

- Build one Diablo Canyon nuclear plant (1.1 GW) a week ...
- Build 90 Columbia Gorge wind machines (1.6 MW) a day ...
- Build three 2.1 kW solar panels a second ...

For fifty years

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Planning about Energy

- Experts aren't
- It's about people and values, not numbers and things
- We're not as smart as we think
- Everything is connected
- Nature bats last
- Prediction is an art (at best) not a science
- Consequences often are unintended
- Big difference between theory and reality
- What about the least among us?



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Communities and Energy

- Categories of energy projects and activities
 - Large private developments
 - Public sector projects
 - Non-profit projects
 - Small private projects
- Don't trust anyone
- Consider the least among us



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Sustainability

- What is it? Many versions of truth
- Palliative versus curative
- Community – thinking locally, acting locally
- Renewable energy in a bit player



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A Future Based on Wise Use of Energy

This “problem” offers opportunities to use our creativity for a prosperous, sustainable future based on wise energy use.

- Conservation
- Conservation
- Frugal use of oil, natural gas, and coal
- Increased use of renewable energy

We must muddle our way toward frugality



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It's not going to be that simple.



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