



It has been suggested that Mars once had an environment relatively similar to that of Earth during an earlier stage in its development

Earth And Mars



The Obama administration has called for a 17% reduction in CO2 emission by 2020—

- Reducing our consumption of fossil fuels is a necessity for the preservation of our society.

The old saying
“Think Globally Act
Locally”

If we seize this opportunity to act locally within North Carolina we will be benefiting our State, our Country, and our Planet .

Highways of the Past

Over Fifty years ago, President Dwight D. Eisenhower signed the act that led to our modern interstate highway system, one of the greatest engineering feats in human history.

But despite the impact of the interstate system, roads really haven't changed much since the days when they all led to Rome.

Highways of the Past



Connected people to places

Highways of today :

Highways of today have the potential to be more than a connector between places:

Highways across the U.S. And Europe
Are being utilized for Green Energy

We have the Opportunity to maximize the
Highway as a Resource for Green Energy,
Air Quality, and Reduce Global Warming

Highways of the Future



Germany



Switzerland



England



Netherlands





In 1987, the Swiss government started a program to mount PV arrays on a sound barrier along a main highways

ODOT lights way for Ohio's 'Solar Highways' of the Future...

"It's a win, win for all involved," explained ODOT Director Jolene M. Molitoris.

- NEW JOBS
- Reduce Energy Consumption
- Save Tax Dollars

The Oregon Solar Highway Demonstration Project

☀️ 104 kW ground mounted solar array

☀️ Will produce 112,000 kWhs annually



Free Standing Solar Panels



- Large arrays of solar panels can generate a huge amount of energy in a relatively short period of time. These arrays are being tested at the NCSU Solar House.

Western Blvd & S. Dawson St

- Depending on the particular solar technology, one needs 2-4 acres of land to place a 1 megawatt solar power system.



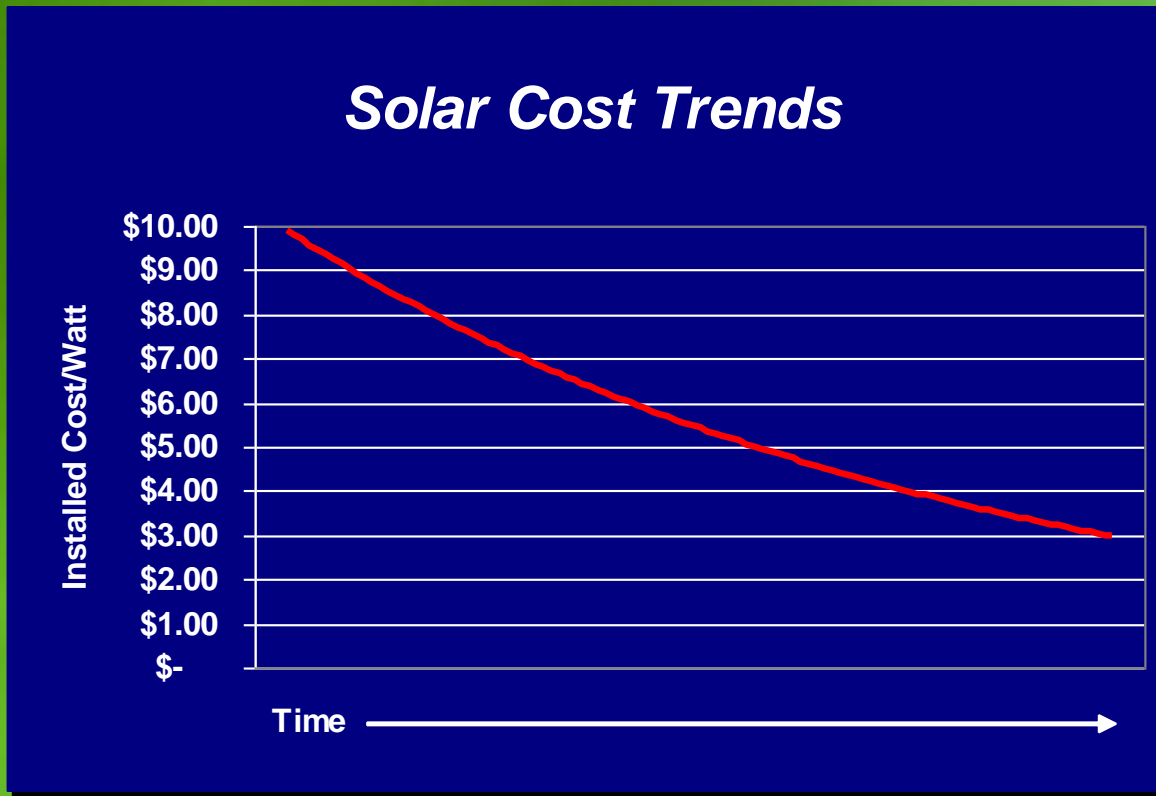
Intersection of Hwy 40 and 85



Energy In North Carolina

- Approximately 67% from Coal
 - Over 3.5 million *tons of coal* per year
 - 77 million *tons of CO2* every year,
- Approximately 30% from Nuclear

Solar Energy Cost ...Over Time Will Drop



Technology improvements and manufacturing economies of scale will lower costs ...

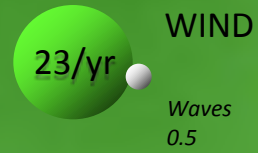
World energy use
15 TW-yr
per year

(15 billion kilowatt-hours x 24 x 365 PER
YEAR)



15

RENEWABLES



Natural Gas



Ocean
Thermal
Energy
Conversion



Petroleum



Biomass



HYDRO



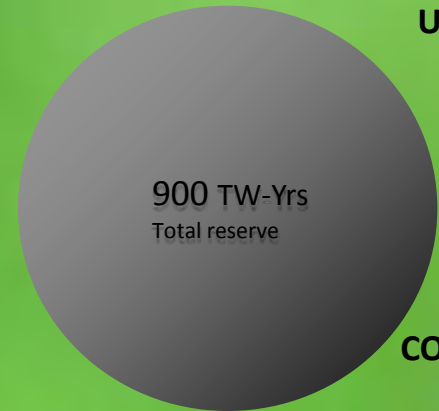
Geothermal



World energy use
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per year

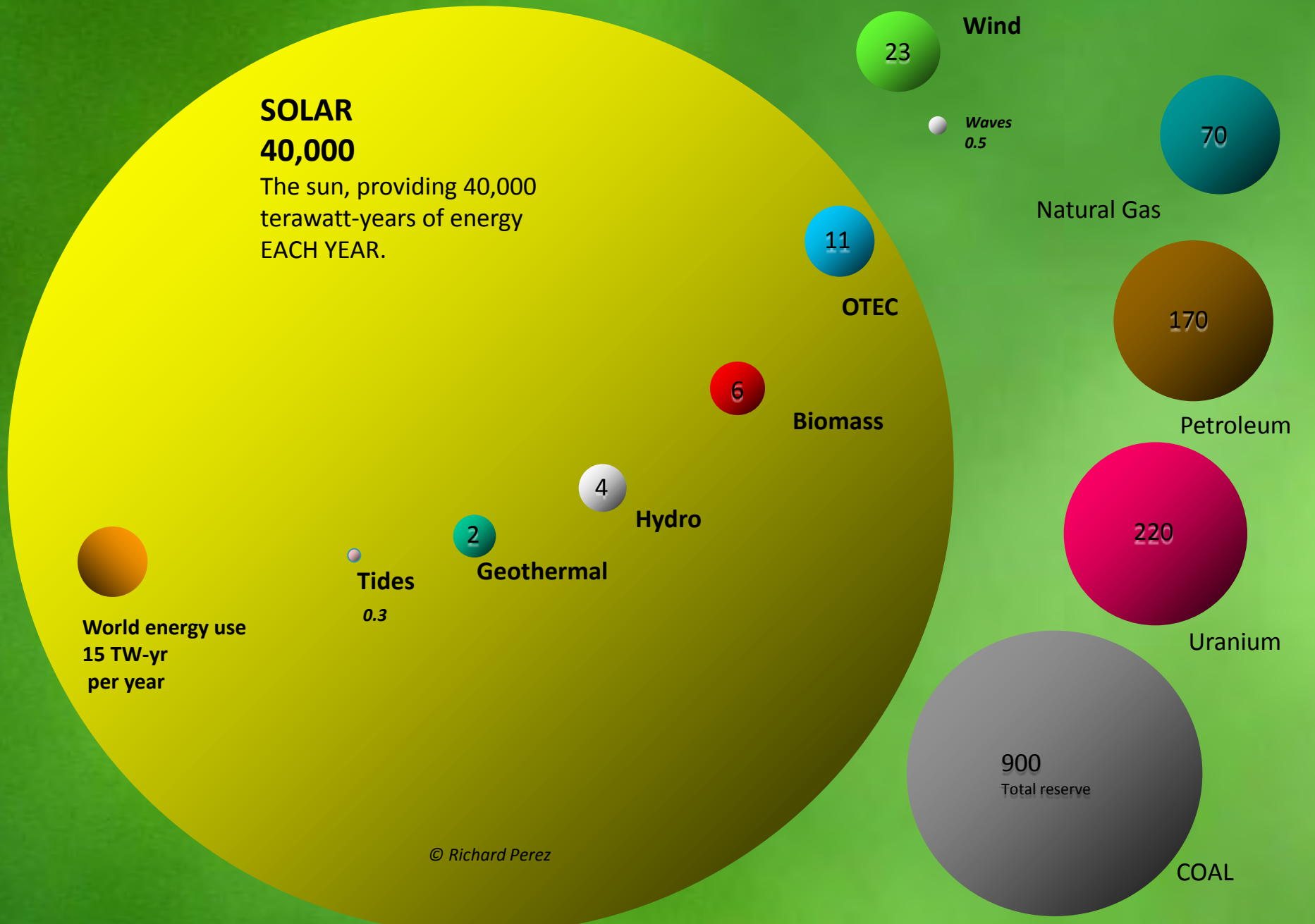


Uranium



COAL

FINITE ENERGY RESERVES



Benefits of Solar Energy ...

- Does not require fuel transport,
- No greenhouse gases
- No radioactive wastes to store and manage and no mining
- Green Job Creation

Air Quality

Burning any fossil fuel produces CO₂. This includes coal, natural gas, and oil fired generators.

Positive Environmental Improvements from Solar Energy

Reduction of Emissions of atmospheric pollutants:

- Particulates,
- Sulfur Dioxide (SO_x),
- Nitrogen Oxide (NO_x),
- Carbon Dioxide (CO₂),

A Solar Project Needs...

- Public-private partnerships
- Use Tax Credits
- Other Creative Funding...
- An internal champion
- Leadership and management support
- Commitment over time

What's next ?

- Planning and Feasibility study
- Define a Pilot Project
- ?
- ?
- ?