Why Wait for A Corporate Solution to Ocean Acidification

Home Owners Have an Economically Viable Option That Reduces Household Carbon Release by 50%
Is Ocean Acidification a Problem?

This graph shows the correlation between rising levels of carbon dioxide (CO₂) in the atmosphere at Mauna Loa with rising CO₂ levels in the nearby ocean at Station Aloha. As more CO₂ accumulates in the ocean, the pH of the ocean decreases. (Modified after R.A. Feely, Bulletin of the American Meteorological Society, July 2008)

http://www.pmel.noaa.gov/co2/story/Ocean+Acidification
Energy retrofits reduce demand for household energy, but a 50% reduction is generally not possible from this investment.

A different fuel for household transportation can achieve this:
- Reduce household carbon footprint by 50%
Half of Household Carbon Emissions are due to Transportation

http://www.fueleconomy.gov/feq/climate.shtml

If household transportation is accomplished by Electric Vehicle, up to 50% of household CO2 emissions are eliminated.

- National average is 2 cars per household
- WA utilities use little electricity from coal plants.
74% Non-carbon Energy
Ref: Institute for 21st Century Energy

Homeowner rooftop PV is a local Climate Solution

With PV connected to the energy grid, energy is sent to the grid during the day and used to charge the EV at night.

Panel to Vehicle (P2V)

Business, Home, Apartment, Parking Lot

- 100% Clean energy
- No fuel cost
- Charge anytime from grid
- Isolated from utility rates
- Standard Charge Station

- Energy Feed-In Tariff pays off home PV installation costs
- No transportation CO2 footprint
- Petro fuel cost savings pay off home PV installation costs

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PV Cost History

Gasoline Price History

http://gasbuddy.com/gb_retail_price_chart.aspx
Cost Curve Intersection

NOTE  Add PV installation cost of $2/W
PV Incentives Don't Last Forever

WA Sales Exemption
100% 75%

Federal Tax Credit
30%

WA Grid Energy Incentives - $0.54/kWh

7 Year Payback – PV

Study

10 year Payback with financing
About Electric Vehicles

Most EV manufacturers offer products with performance in this region.

Note: Data subject to verification by Manufacturers
State Energy Mandate – Long Term

Compliance required regardless of utility need.
Amount of Renewables based on annual retail load:
- 3% by 2012
- 9% by 2015
- 15% by 2020
Utilities must acquire:
- Renewable Energy Credits (REC), and/or
- Eligible Renewable Resources (MWh)

<table>
<thead>
<tr>
<th>Eligible Renewable Resources</th>
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<tbody>
<tr>
<td>- Wind</td>
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<td>- Incremental Hydro</td>
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<td>- Biomass</td>
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<td>- Landfill Gas</td>
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<tr>
<td>- Ocean (wave, tidal)</td>
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<td>- Bio Diesel</td>
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Residential energy consumption is 22% of US energy produced.
http://www.eia.gov/energyexplained/index.cfm?page=us_energy_use

The share of US energy used for Household transportation (cars + light trucks) is 29% of the Transportation segment (29% of 29%), or 8%
http://www.eia.gov/energyexplained/index.cfm?page=us_energy_transportation

Including home and car the total Household energy consumption is 22% + 8% = 30%
Hohm Living Space over Garage

Microsoft and Ford: Shared Vision for the Future of Energy Efficiency

1. Save money by easily managing all home energy usage online using Microsoft Hohm™

2. Determine the best time to recharge Ford electric vehicles efficiently using Microsoft Hohm

3. Use smart recharging habits to help utility companies understand and better manage the demands placed upon the electrical grid
Mission:

Advocate for efficient distributed energy generation as well as early adoption of clean energy transportation for homes and businesses. Help transform the solar industry by providing accurate prediction of cost trends and performance.

better-energy-LLC.com August 1, 2011

SEARCH “Renewable Gas Tank” – Solar WA