

De Anza ES 79 Renewable and Alternative Energy Sources

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Instructor

Lecture #3

Logistics

- <http://bhs.deanza.edu/faculty/sGould/index.htm>
- Reading assignments
- Homework assignments
- Journal
- Materials due
- EMTP starts again in the Fall.....
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2

Homework Assignments

- "Take Home" Homework Assignment
- Field Trip Report
- Current Event or brief project description (for discussion in class)
- Small Scale Renewable Design (for discussion in class)
- Journal

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3

Biomass

- What is Biomass?
- Represents 1.5% of US electrical supply or about 7800 MW
- Ethanol & Bio diesel
- Is it Renewable?
- Environmental Impacts?

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4

Geothermal Power

- Geothermal geysers
- Geothermal ground source heat pumps
- Is it renewable?
- Environmental Impacts?

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5

Ocean Energy

- Tidal Power
 - SF Project www.hydroventuri.com
- Tidal fence & tidal turbine
 - Environmental issues?
- Wave Power
 - Offshore & Onshore
- Ocean Thermal

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6

Green Power

Green Certificates Example

- 3 Phase Energy Services
 - <http://www.3phases.com/>
- City of Palo Alto
 - <http://www.cpau.com/>

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7

Course Objectives

- Understand basic renewable technology terminology
- Discuss life-cycle costs of alternative energy options
- Explore the technology and applications of renewable and alternative energy systems as they apply to commercial buildings.
- Examine existing and potential applications of photovoltaic (PV) power systems.
- Examine existing and potential applications of wind power.
- Examine potential applications and types of fuel cells.
- Analyze opportunities for buying green power.

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8
