

Implementing Sustainable Principles: Energy Consumption in SLO

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Class meets Tuesdays 7-9:30pm in Building #34 Room #249 (plus outside lectures and fieldtrip to be arranged)

“Policies to improve energy efficiency can reduce oil imports, improve the reliability of the U.S. electric grid, save consumers money, reduce air pollution, create jobs and reduce prices...”

In the United States, transportation accounts for 28% of energy consumption, more than residential and commercial uses and second only to industrial uses. It also consumes 67% of petroleum used in the United States, over half of which is imported. Over three-quarters of transportation energy use is by highway vehicles, 60% by cars and light trucks (including minivans and sport utility vehicles) and 16% by heavy trucks. Transportation energy consumption is increasing by 1.8% per year, faster than any other major category of energy use.” **American Council for an Energy-Efficient Economy**

“In energy policy, the conceptual solutions are now clear. The more efficient use of energy and the harnessing of cost-effective renewable resources—sources that don't run out, such as sun, wind, flowing water, and biomass—can together provide affordable and sustainable energy options. Together they can continue to outcompete and outpace both fossil and nuclear fuels—as they have so far, despite many official efforts to force the opposite result....”

...Buildings consume nearly a third of America's energy—much of it wasted by inefficient design—while land-use decisions influence another third used in transportation. Real-estate development therefore offers abundant opportunities for saving resources, not to mention reducing waste and restoring damaged land.” **Rocky Mountain Institute**

Term Topic: Energy in SLO

Your assignment for this term will be to study our use of energy in the San Luis Obispo region.

Working in teams, you will select an energy use sector (Industrial, Transportation, Residential, or Commercial) and then propose approaches for how we might apply principles of sustainability in our region to substantially reduce our consumption of non-renewable energy resources. Environmental, physical, social, political, legal, technical, economic issues will be researched. The emphasis will be on finding holistic and realistic, community-based means to address the issue of energy consumption.

Energy Sectors (not entirely binding, interpretation encouraged)

- □ Industrial – include larger scale agricultural uses such as ranching, farming, viticulture, greenhouses, etc.
- □ Transportation – movement of people and or things including for recreation
- □ Residential - includes all types of housing including institutional
- Commercial- offices, retail stores, wholesale warehouses, recreational uses etc.

The Project

1. Determine the sources of the energy we use in our region.
2. Assess how much energy we use and how we use it. Which “sector” uses the most energy? Which aspects of our lives use the most energy? Where are the potential greatest efficiencies to be found? What do you want to work on?
3. Propose specific projects: ideas, designs, plans, approaches, activities, things etc. for how we might apply principles of sustainability in our region to substantially reduce our consumption of non-renewable energy resources. Explain the rationale for your choice of project.
4. Present research, project proposals and rationales in three formats. All three formats must include enough explanatory text, diagrams and illustrations/photos to “stand alone” without further/additional verbal explanation. The formats are:
 - a. One or two printed 24”x36” poster(s)
 - b. A printed 8.5” x 11” publication/brochure
 - c. Digital format (pdf, powerpoint, website) submitted on a CD.

Teamwork:

A very important aspect of this course is learning about working in an interdisciplinary team.

Plan to make the best use of your team individual's backgrounds, strengths, and interests. Respect the potential power as well as the potential limits of working in a team.

Tips: Listen. Communicate. Negotiate.

Do not waste the weekly class time that finds us all in the same place at the same time.

Use the “thinking paper” assignment as a way to research and organize the different aspects of your project.