

Systems Approach to Sustainable Energy
Organizer: Al George
October 28, 2009, 12:00 – 1:30 PM, Rice 300

Across the world people expect a future life style based on a much larger individual consumption of energy than most of the world has had previously. At the same time our traditional fossil fuels are beginning to run out, (particularly on a hundred year time scale) and global warming is generally agreed to be caused by man's influence on the environment.

In order to effect a smooth transition from existing energy systems, based on legacy systems and resource depletion, to sustainable ones, we will require a systems approach, including consideration of true long term life cycle costs, individual and societal values and preferences, and interactions with other large systems.

As we investigate a myriad of possible sources, distribution, and conservation ideas we need to consider all of many factors including maximum energy potential, technical feasibility, economic viability, and community and societal acceptance. We also have to take account of the interactions of the necessarily complex energy systems with other complex systems such as food, water, transportation, environment, land and mineral resources, and logistics. The world can no longer accept trial and error approaches such as we have seen with the demise of light rail in the US, with methanol from coal, corn ethanol, nuclear waste, etc.

This lunch is intended to bring together people interested in different energy related research areas to find our potential for working together more broadly in our research, teaching, and service and to set the stage for collaboration that will lead to more lasting impact. Also, as funding agencies are increasingly systems oriented, collaboration will lead to better funding for our work.

Our lunch will begin with a few slides and comments from the organizers and then each of us explain our interests and particularly how we might work with others in a systems approach to energy problems. We will be joined by Dr. Michal Moore who will speak later that day on "Technology, Sustainability, and Economic Challenges."

Deliverables will include notes from this meeting reporting on particular interests of participants and their colleagues and strategies for collaboration. This will lead to potential graduate committee memberships, potential collaborations, and joint proposals to funding agencies.