

This topical lunch aims to initiate an exchange of insights around the design of a sustainable community from the “ground up.” Specifically we want to elicit interest and identify participation from a broad interdisciplinary group who see the concept of sustainable communities as a significant way to address life style changes with major implications for production, consumption and resources.

“Building” a Sustainable Community

ISSUE: A recent report by the UNEP¹ seeks to provide independent, coherent and authoritative scientific assessments of policy relevance on the sustainable use of natural resources and the environmental impacts over a life cycle. In particular the report looks at the economy from the perspectives of: 1) **production** (what sectors have the highest impact?), 2) **consumption** (what products and consumption have the highest life cycle impacts?) and 3) **resources** (what materials have the highest impacts?). Two primary conclusions emerge; that processes using **energy and fossil fuels** and **agriculture and food consumption** cause the highest impacts.

OUTLOOK: The UNEP Report states, “Population and economic growth will hence lead to higher impacts, unless patterns of production and consumption can be changed. Impact reduction strategies may include the shift to clean and efficient technologies (production perspective), shifts to less material-based, more sustainable life styles as well as the use of low impact products (consumption perspective) and the use of low impact materials (materials perspective)”.

OUR CHALLENGE: To collaborate with Aspen Trails Ranch, LLC to create a design of a “sustainable community” near Helena, MT from the “ground up” as the first such community in Montana. More importantly is the creation of a community where the effect of significant life style changes through adoption of sustainable practices can be demonstrated and quantified. A sustainable community should embody the characteristics of:

- Renewable energy
- High level of energy conservation
- Materials recycling
- Transportation system (close proximity, live-work-play)
- Local “smart” grid or grid connect (?)
- Minimum carbon footprint, minimum GHG emissions
- Healthy “green” build buildings (minimum LEED construction)
- Water management
- Waste management
- Efficient and convenient infrastructure (including Internet)
- Food production
- “Green” space, including biking & walking trails
- Local business development
- Community governance, communications, community center(s)
- Educational and recreational opportunities
- Diverse living (intergenerational, low income housing, senior housing, assisted living, etc.)

- Others (?)

APPROACH: Develop a special multidisciplinary approach with student project teams at primarily the Master's level (including upper level senior undergraduates) to **review** an existing site plan and **develop a detailed site design** which incorporates the characteristics (articulated above) for a sustainable community and which meets the broad sustainability goals of environmental, economic and social responsibility.

OPERATION:

1. During academic year 2010-2011 conduct weekly team meetings to review progress of the numerous sub-teams which are working on the respective sub-elements (e.g. renewable energy, transportation, "green" buildings, recycling, waste management, water management, recreational programs, community governance, etc.)
2. During winter intercession 2011, in early January, hold a charrette (workshop) in Helena to present a progress report and to receive feedback involving a diverse group of persons (city, county and state officials; developers; community groups; local university and college faculty and students; city and regional planners; local business persons; realtors; local energy company; Chamber of Commerce; and others). Probably student team representatives if numbers are too large for all students to attend the charrette.
3. Deliver a design document for the sustainable community, May 2011.

¹UNEP (2010) *Assessing the Environmental Impacts of Consumption and Production: Priority Production, Priority Products and Materials*. A Report of the Working Group on the Environmental Impacts of Products Materials to the International Panel for Sustainable Resource Management, Hertwich, E., van der Voet, E., Suh, S., Tukker, A., Huijbregts, M., Kazmierczyk, P., Lenzen, M., McNeely, J., Morigut\h, Y. (www.unep.fr)