

Funded Projects in Progress**Chula Vista Research Project (CVRP)**

Sponsors: U.S. Department of Energy, California Energy Commission

The objective of this contract is to resolve, through research and the development of new knowledge, outstanding technical and market barriers to the creation of more sustainable communities in California. The NECSC and the Gas Technology Institute (GTI) will use several modeling tools to evaluate design options in order to optimize energy, economic, and environmental parameters (including implications to heat island effects, water use, transportation energy, greenhouse gas emissions) at the community-scale. This modeling activity will test the adequacy of these tools for characterizing the energy and environmental implications of sustainable community designs, and advance knowledge on how to optimize energy and resource efficiency at the community-scale.

The research will also analyze the impacts of energy and resource efficiency community design options on the existing utility infrastructure and generate research solutions to the institutional obstacles and market barriers that prevent their use. The project will conclude by translating this research into a set of practical case studies and guidelines for California planning, design and building professionals to use in planning more sustainable communities.

REEEP – GEN Project

Sponsor: Renewable Energy & Energy Efficiency Partnership, Vienna
(www.reeep.org)

The NECSC will develop the Global Energy Network (GEN), a network of international affiliates to accelerate the use of EE and RE, demand response, distributed energy systems and other advanced energy technologies in residential, commercial, industrial and municipal development projects. Members of the GEN are independently funded and administered. They provide research, training and demonstration projects in their respective countries, while developing tools, best practices, training programs and other support materials in collaboration with their GEN partners and REEEP members. Under this scope of work the NECSC will:

- Establish 4 new affiliates, with a priority on 2 developing and 2 developed nations (likely: China, Japan, Mexico & the United Kingdom);
- Collect and distribute methodologies and tools for community energy planning that can further REEEP's Twinning work program and benefit REEEP member activities;
- Produce a global resource center (InterNet site) linked to REEGLE;

National Energy Center for
Sustainable Communities

- Create a presentation on “Energy-Smart Development” for community leaders that can further the objectives of the newly engaged GEN affiliates and REEEP partner networks;
- Produce a report on lessons learned in building local capacity through international collaboration;
- Coordinate new GEN affiliate participation in a technical panel at the Large Cities Summit in NYC this coming June and produce a companion CD.

Leadership Summits Project

Sponsors: Johnson Family Foundation, Actus Lend Lease, 3M, Natural Capital Solutions, CDM, CH₂M Hill, World Resources Institute, Interface Corporation



The NECSC, in partnership with the Johnson Foundation, is holding four leadership summits during 2006-2007 to review the nation's sustainable development goals in light of global warming, and to build a five-year action plan. Three summits are focusing on Energy and Climate Change; Natural Resources; and Sustainable Communities. The fourth will build a concrete action plan based on the recommendations produced by the first three. Each summit will involve 40 of the nation's top sustainability experts from the corporate, academic/academia, nonprofit, government, and financial sectors.

June 4-7, 2007, the third Summit focusing on Communities will be held at the Johnson Family conference center known as Wingspread, in Racine, Wisconsin. The NECSC will work with Actus Lend Lease and others to ensure that the agenda for the Summit advances the NECSC mission and our connection to key public, private and nonprofit organizations aligned with our effort.

To learn more about the Summits, please visit: www.summits.ncat.org

Newly Funded Projects

Creekside Vistas – Mixed Use Residential Project

Sponsor: SDG&E & the City of Chula Vista

The NECSC will coordinate a computer modeling initiative intended to generate cost-effective, energy-efficient development options for a mixed-use residential project to be built in Chula Vista, California. The development project belongs to the Douglas Wilson Companies and will be built on 5.5 acres. It will consist of commercial/retail space (full-service restaurant, retail, office space) mixed in with 167 residential units configured in 19 3-story townhouses, 60 single-flat 4-story buildings, and 88 2-story town homes.

The NECSC/GTI team will generate the energy-efficient development options through extensive computer modeling of prototypical buildings, similar in

characteristics to the buildings planned for the Creekside Vistas site. The prototypical buildings will be used to calculate baseline energy consumption and associated air emissions for the proposed buildings assuming they were built to meet Title-24'05 building energy efficiency standards. This modeling will generate 8,760 hour-by-hour energy consumption load profiles for the prototypical buildings which will reflect the climate conditions of the actual development site. Subsequent calculations will then be performed to determine which cost-effective combinations of renewable and energy-efficient technologies and building materials can be used to significantly increase energy efficiency well beyond the Title-24'05 standard. Once these calculations are complete, the alternative combinations will be shared with the developer to better inform their formulation of final building construction plans for the development site.

The modeling will be conducted by the GTI in Des Plaines, Illinois and coordinated by NECSC personnel located in both Chicago and San Diego. The project will take 5-6 months to complete, although preliminary building design alternatives will be presented to the developer/builder for consideration within 90 days of project initiation.

Wakeland Affordable Housing Project

Sponsor: SDG&E & the City of Chula Vista

The City of Chula Vista is investigating new opportunities for the development of energy-efficient affordable housing within the City's redevelopment areas. One such project, now being planned by the Wakeland Housing and Development Corporation, entails the redevelopment of 1.35 acres of land located at 1501 Broadway. The property is currently occupied by the vacant Tower Lodge Motel that will be cleared to accommodate new housing for families whose household earnings are 40-60 percent of the area's median income (AMI). The project as planned will consist of 45-units in a 3-story complex featuring 8 distinct floor plans. The NECSC will work with GTI on the modeling work that will be conducted concurrently with the Creekside Vistas project and will use the same methodology and tools.