


ISE Quarterly

Issue I • Winter 2005



The newsletter of the Institute for Sustainable Energy at Eastern Connecticut State University

Experts Gather to Discuss Connecticut's Energy Future



In This Issue

Connecticut's Energy Future

Experts gather in Hartford to discuss the future of energy in Connecticut - Page 1, 3

Universities Go Green

Colleges and Universities meet at Green Campus Initiative workshop - Page 1, 8

Peer Exchange Encourages Energy Savings

CT OPM and DOE's Rebuild America host Energy Savings event in Fairfield - Page 2, 7

On December 2, 2004 energy policy makers, energy professionals, and stakeholders from around the region converged at the Legislative Office Building in Hartford, CT, for the Connecticut's Energy Future conference. Sponsored by the Connecticut Energy Advisory Board (CEAB) and the Institute for Sustainable Energy at Eastern Connecticut State University, the full day forum was designed to create an open dialogue to discuss critical energy issues impacting Connecticut's economy and environment. The main objective was to assist state legislators, their staff, and state agencies in addressing pressing energy issues in the

2005 legislative session.

Critical topics of discussion were the problems and solutions outlined in the 2004 Connecticut Energy Plan. Released in March, 2004, the plan was written by the CEAB in response to Public Act 03-140 concerning long term planning for energy facilities and supply in the state. Upon examining existing data resources, the CEAB found that the generation and transmission of electricity and the burning of fossil fuels have had a significant financial and environmental impact on the state. In their report the CEAB presented 10 strategies for creating

Continued on Page 3

Connecticut Colleges and Universities Go Green

Twenty colleges and universities were represented at the inaugural Connecticut Green Campus Initiative workshop on December 10, 2004. The event was sponsored by the CT Department of Environmental Protection (DEP) and the Institute for Sustainable Energy (ISE). Students, faculty, staff and administrators discussed the issues that impact their ability

to be environmentally more sustainable.

Dr. David Carter, President of Eastern Connecticut State University, opened the program by discussing why a focus on green campuses is needed, reflecting on ECSU's efforts to green it's campus. Highlighting that the university has just begun to venture

Continued on Page 8

ISE Quarterly

Editor

Chris Heneghan

Layout & Design

James Gibson

Contributors

William Leahy
Director of Operations

Laurel Kohl
Education and Training

Dr. Fred Loxsom
Professor
Sustainable Energy Studies

ISE Quarterly is published by the Institute for Sustainable Energy at Eastern Connecticut State University

The Institute for Sustainable Energy is funded and supported by The Connecticut Energy Conservation and Load Management Fund through the Energy Conservation Management Board

VISIT US



ON THE WEB

www.sustainenergy.org

Southwestern Connecticut's Municipal Peer Exchange A Success

On November 18, 2004, the Institute for Sustainable Energy along with Connecticut's Office of Policy and Management, and the US Department of Energy's Rebuild America program hosted, "Let's Talk Energy Savings," a Peer Exchange for Municipal Leaders in southwestern Connecticut, at the Fairfield Board of Education Office.

The forum provided an opportunity for community leaders from 16 towns in southwestern Connecticut to share experiences, ask questions and network with community leaders and representatives from organizations that provide energy services, including conservation specialists from Connecticut Light and Power and United Illuminating.

The workshop included best practice presentations by mayors, selectmen and representatives from four towns and cities in southwestern Connecticut. Presenters showed their peers cost saving, energy conservation strategies that have effectively been adopted in their communities.

Sharing local success stories were:

Norwalk's Mayor Alex Knopp on his staff's use of energy management and facility benchmarking to identify opportunities to cut energy costs. He also outlined the benefits of Norwalk's participation in the Community Based Conservation Program sponsored by the Connecticut Light and Power Company.

Continued on Page 7



Connecticut's Energy Future

Continued from Page 1

an economically and environmentally sound energy infrastructure in Connecticut. These strategies include support for energy efficiency, conservation, and load management, as well as increased fuel diversity, promotion of clean distributed generation and the support of renewable energy technologies.

The CT Energy Plan and the day's agenda also focused on reducing the levels of greenhouse gases (GHGs) in the region, and other initiatives addressed in the Connecticut Climate Change Action Plan.



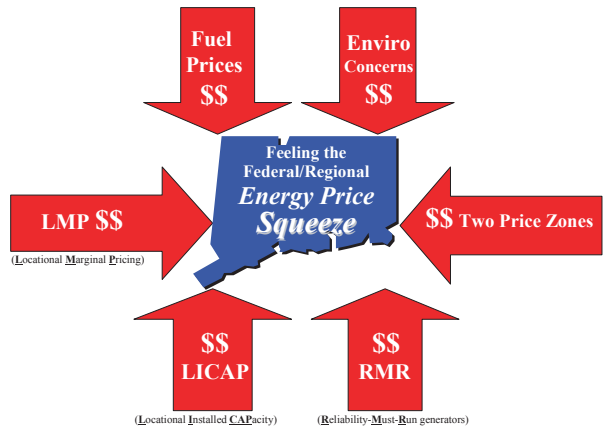
Connecticut's Energy Future Presentation Summaries



Photo: Courtesy of CT-N
<http://www.ctn.state.ct.us/>

Donald W. Downes, Chairman of CT Department of Public Utility Control, spoke about the emerging role of the CEAB in developing the Connecticut Energy Plan. He also gave an overview of the effects that federally mandated regional energy prices have on energy cost, including the impact of locational marginal pricing, locational installed capacity, reliable must-run generators, and two-district price zones. He stated that the CEAB's plan for a newly restructured energy environment requires a new approach that both encourages competing energy solutions and provides opportunity to review multiple

energy solutions simultaneously. To do so developers must consider the preferential criteria set out by the CEAB regarding economics, energy efficiency through conservation and load management, as well as environmental issues surrounding quality of life, and community interests in the state. Downes also stated that an energy project solicitation process is needed in the state.

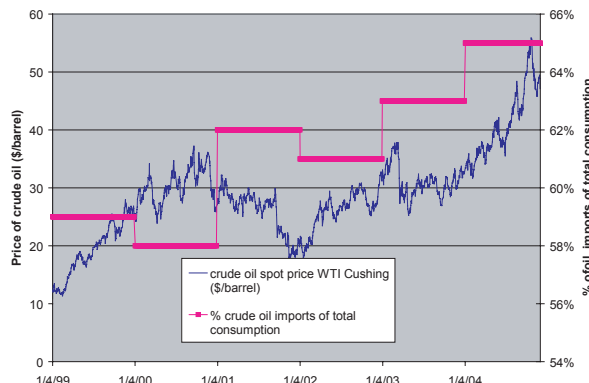


Energy Supply Forecast Panel

Bridgett Neely, Senior Consultant for London Economics International LLC, addressed the growing electric demand in the state as well as the concern over the impact that the increasing dependence on foreign oil imports has on CT's energy supply. She predicted that the availability of natural gas would be a critical prerequisite for additional electric supply.

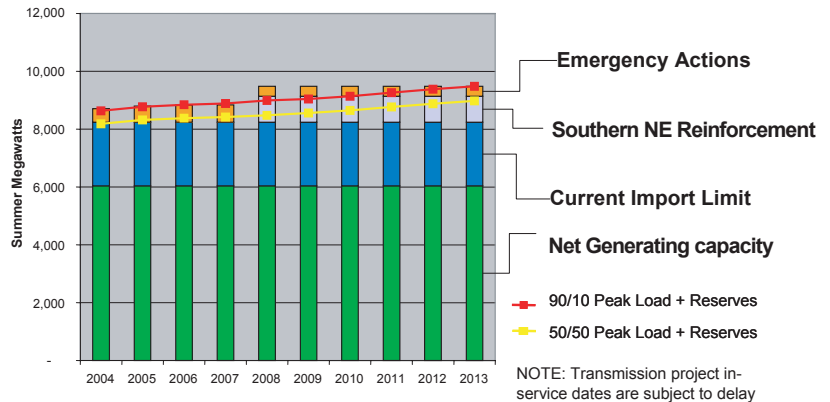


Photo: Courtesy of CT-N
<http://www.ctn.state.ct.us/>



Energy Supply Forecast Panel (cont)

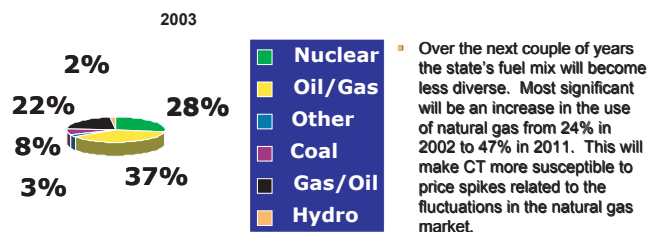
Kevin Kirby, VP of Marketing Operations at ISO New England, shed light on the New England electric system, focusing specifically on Connecticut's capacity situation, and the impact that inadequate capacity and aging generation and infrastructure is likely to have on the regional system over the next ten years.



Power Supply Options Panel

Scott Davido, Northeast President of NRG Energy, Inc, addressed issues around the current and predicted diversity for the state's base loaded generation fuel mix over the coming years. He predicts that the state will experience roughly a 50% increase in reliance on natural gas by the year 2011, making consumers very susceptible to natural gas price spikes.

CT Electric Capacity Fuel Mix



Dave Boguslawski, Vice President of CL&P Transmission, focused on the electric transmission in southwestern Connecticut. In order to remedy the Gold Coast's transmission crisis, he believes that experts will need to complete overhauling the old facilities and constructing new transmission lines to meet the load capacity projections of this area. He stated that it is also important to factor new generation and conservation into the equation.

It Takes All Three

- Generation, Conservation, and Transmission are all important to our energy future

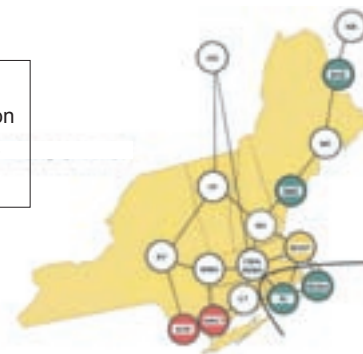
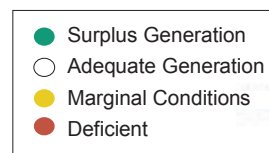
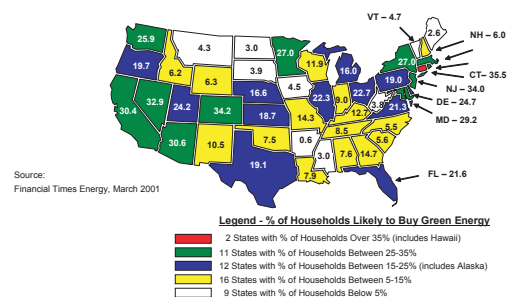


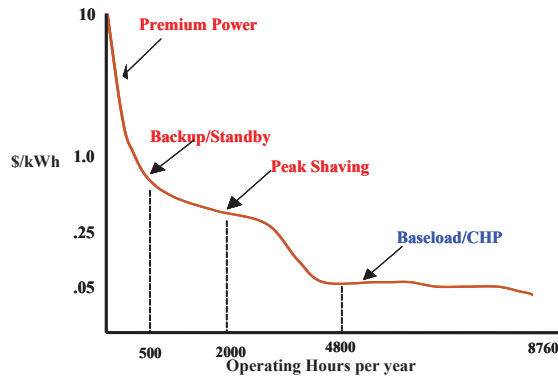
Photo: Courtesy of CT-N
<http://www.ctn.state.ct.us/>

Mel Jones, President and CEO of Sterling Planet, provided information on the expanding development of renewable energy generation projects nationally and the emerging market for Renewable Energy Credits (RECs). Recent market studies identified Connecticut and Hawaii as the two states in the nation where residents were most likely to purchase green power.

Target Marketing – Public Support for Green Energy



Cost of DG Power

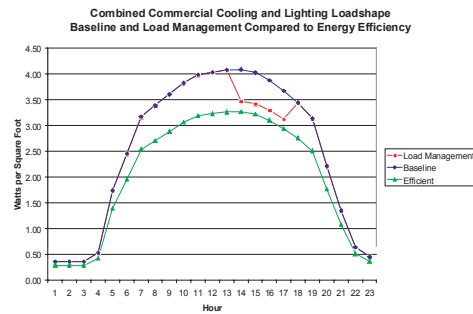


Gunnar Walmart, Director of Industry Research at NYSERDA, presented information gathered by the New York State Energy Research Development Authority on the potential for developing cost effective distributed generation (DG) projects. Mr. Walmart cited numerous examples where DG improved system reliability in capacity constrained areas, delivered cost competitive heat and power, and supported homeland security objectives.

Demand Management Options Panel

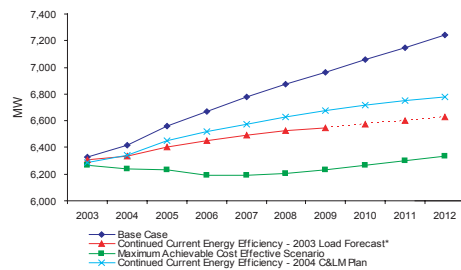
Richard Cowart, Director of the Regulatory Assistance Project, provided an overview of the contribution that demand side management makes to the region's energy market and how various "beyond the meter" programs can both improve regional energy efficiency, slowing load growth, and reducing consumer costs.

Demand Response includes embedded efficiency



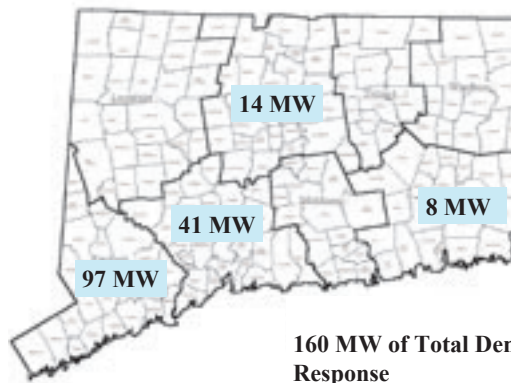
Jeff Schlegel, consultant to the Energy Conservation Management Board, contrasted projections of Connecticut's peak load forecast with and without the existing conservation programs and projected the impact on the regional load profile if conservation programs were expanded to a maximum achievable cost effective level. He also showed that energy conservation is by far the least costly resource available for meeting our state's energy requirements.

Connecticut Summer Peak Load Forecast (MW): Base Case, Continued Current Energy Efficiency, and Maximum Achievable Cost Effective Potential



*For the "Continued Energy Efficiency" scenario from the 2003 Load Forecast, values for the GL&P service territory for years 2009 to 2012 are estimates based on the average of prior year values.

Robert Laurita, Senior Administrator for ISO New England, gave an overview of Demand Response Programs including: reliability demand programs and price response for managing the regional load profile. He stated how their implementation in 2004 reduced demand in southwestern CT by 97 MW.



Source: 10/1/2004 Enrollments

James D. Lundrigan, Pricing Manager for United Illuminating, described the effectiveness of market based pricing signals available through time-of-use rates for commercial, industrial and residential customers of United Illuminating.

TOU Rates at UI

(Time of Use)

Objectives:

- > Use Rates to Flatten the Regional Load Curve by sending price signals
- > Pricing is more correctly in line with the Regional Market Signals
- > Rate uses Peak, Off-Peak and Shoulder Pricing

Commercial & Industrial TOU Rates

- > Large Power & General Service Time of Use
- > 7,375 of 30,000 C/I or 24.6%

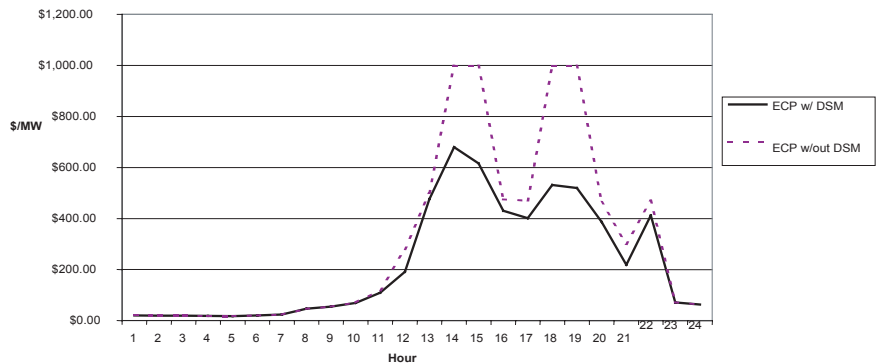
Residential Time of Use Rates

- > Rate A & RT
- > 35,100 of 280,000 Residential Customers or 12.5%

Removing Barriers to Promote Energy Sustainability Panel

Daniel Sosland, President of Environment Northeast, called for changes in public policy to provide financial support to promote the use of sustainable resources in the state. Sosland explained that statewide improvement in energy efficiency for electric, natural gas and oil customers would aid in the reduction of market prices for all consumers. Graph to the right shows the impact of DSM on electric capacity pricing (ECP).

Efficiency Impact: Reducing Market Prices to Consumers

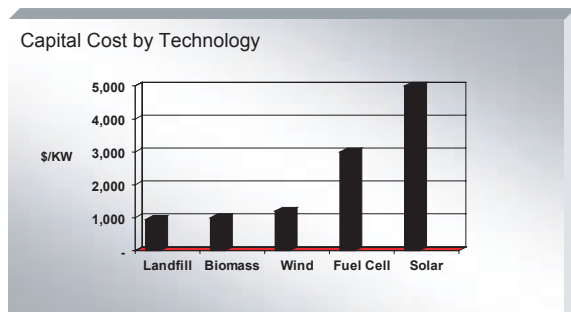


Thomas Bourgeois, Director of Energy R&D at NE Combined Heat and Power Collaborative, and Pace University Law School, addressed the financial tools available for promoting clean distributed generation. He encouraged the State to consider Investment Tax Credits (ITC), Accelerated Depreciation Expensing, Production Tax Credits (PTC), and Tax Exempt Financing to remove financial barriers to developing efficient Combined Heat and Power (CHP) projects.



Daniel J. Donovan, Founder of Prospero, LLC, discussed sustainable energy project financing from the investors' view point. He stated that CT leads the nation with landmark legislation, citing Public Act 03-135, that promotes the development of renewable generation deployment. As an investor, he forecasts that renewable generation technology and DG could be a viable economic option in southwestern CT.

Renewable Energy Capital Cost



The Draft of the 2005 Connecticut Energy Plan is available on the web at

www.ctenergy.org

Public hearings to discuss the Plan are scheduled for the following locations

Tuesday, January 11, 2005

5:30 p.m. to 7:30 p.m.
The Parsons Complex
70 West River
Milford, CT

Wednesday, January 12, 2005

5:30 p.m. to 7:30 p.m.
Eastern Connecticut State University
(Webb Hall, Seminar Room #110, First Floor)
Willimantic, CT

Thursday, January 13, 2005

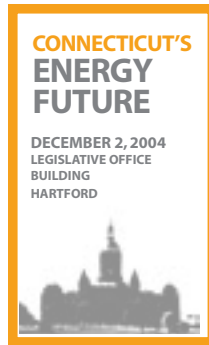
4:00 p.m. to 6:00 p.m.
Russell Hearing Room
CT Department of Environmental Protection
Hartford, CT

The written comment period began November 29, 2004 and runs through Thursday, January 13, 2005.

Further information on the hearings and requests for the plan as well as comments should be submitted to the Board

c/o: Gretchen Deans
CERC, 805 Brook Street, Bldg. 4
Rocky Hill, CT 06067

Phone: (860) 571-7147
Fax: (860) 571-7150
Email: contact@ctenergy.org



For copies of presentations from the Connecticut's Energy Future event, visit our website: www.sustainenergy.org

Following the formal presentations, conference participants engaged in an open forum to discuss issues not covered in the agenda. Issues raised by the audience and discussed by the participants included:

- The advantages of distributed generation over centralized generation for improving power quality, system reliability and providing a more secure energy environment in an age of terrorism.

- The efforts underway to target publicly funded conservation programs and renewable energy funds to solve the regional energy constraint problems in southwestern Connecticut.

- The advantages and disadvantages of developing state energy policy through the Connecticut Energy Advisory Board versus creating a State Energy Office.

Peer Exchange

Continued from Page 2

Mayor Marc Garafolo from the **City of Derby** described how his city's use of ENERGY STAR® benchmarking gave them the information needed to convince city voters to support the renovation of their schools, and finance the projects through a combination of performance contracting, municipal bonding, and participation in conservation programs offered by United Illuminating.

Mayor Dannel Malloy and **Nancy Domiziano**, City Engineer for the **City of Stamford**, explained how their city used energy management and energy accounting to identify projects for performance contracting, as well as how their involvement in the Cities for Climate Protection led Stamford to develop a community energy action plan.

First Selectman Ken Flatto and **Ed Boman** from the **Town of Fairfield** discussed how their town's use of renewable energy sources, including a fuel cell, photovoltaic panels and alternative fuel vehicles, in conjunction with cost effective conservation, energy

LET'S TALK ENERGY SAVINGS

NOVEMBER 18, 2004



management, performance contracting and green power purchases to produce financial and environmental benefits for the town.

OPM and ISE plan to hold similar peer exchange workshops for community leaders in other regions of the State in 2005.

Universities Go Green

Continued from Page 1

down the road to sustainability, and referring to institutions of higher learning as leaders of progressive movements, he said, "Historically we have been the leaders for this nation, [and] we have a rare opportunity through influencing students and communities to get our government to develop sound energy policy."

Chris Nelson from CT DEP updated participants on the Connecticut and New England Governors' / Eastern Canadian Premieres' Climate Change Action Plan that calls for universities to reduce their levels of green house gas emissions.

Julie Newman, Sustainability Director at Yale, invited the participants to join a regional initiative that brings together colleges in New England, New York, New Jersey, Pennsylvania and eastern Canada in response to the United Nations' Decade for Education in Sustainable Development. The UN's program calls for universities to lead efforts to promote local and global

"Historically we have been the leaders for this nation, [and] we have a rare opportunity through influencing students and communities to get our government to develop sound energy policy."

Dr. David Carter
President of Eastern Connecticut State University

sustainability through education in socio-cultural, environmental and economic solutions.

William Leahy, Director of ISE, presented a roadmap for campuses to address sustainability called, "Twelve Steps to a Green Campus." Breakout sessions followed addressing a diverse range of topics such as; conservation and load management, increasing student involvement, green product purchasing and alternative fueled campus transportation. The final workshop was a tour of Central Connecticut State University's new energy center.

Members of the newly formed Connecticut Green Campus Initiative elected to meet on a regular basis, once each semester, to discuss sustainability topics for campuses, including recycling and waste management, sustainable facilities management and tracking campus progress. For more information on the CT Green Campus Initiative go to www.sustainenergy.org



At Eastern Connecticut State University
83 Windham St • Willimantic, CT 06226

The Institute for Sustainable Energy
is funded and supported by
The Connecticut Energy Conservation and
Load Management Fund through the
Energy Conservation Management Board

NON-PROFIT
ORGANIZATION
U.S. POSTAGE
PAID
WILLIMANTIC, CT
PERMIT NO. 12

ISE
Quarterly

 PRINTED ON RECYCLED PAPER