

The State of Energy

UPDATES FROM THE STATE OF CT OFFICE OF POLICY AND MANAGEMENT (OPM) • ENERGY MANAGEMENT UNIT

Jan/Feb
2008

Reverse Auction Yields Savings of \$20M

Each year, the State of Connecticut purchases approximately 570,000,000 kWh of electricity to run its facilities, which is enough electricity to power approximately 68,000 homes. The Office of Policy and Management (OPM) is responsible for negotiating the purchase of energy for state-owned facilities including electricity, and the Department of Administrative Services (DAS) has contracting authority to actually purchase the electricity.

In the past, OPM used a standard request for proposal (RFP) process to solicit offers for electric supply. Under the RFP structure, OPM and DAS issue a notice seeking supply bids. Bids are received, reviewed and a supplier is chosen. The process can take several weeks to complete, during which time supply bids grow stale.

With the development of competitive markets for electric supply under restructuring, it became clear to OPM that the traditional RFP process was ineffective at garnering competitively priced bids.

Cont'd page 2

Energy Policy in State Government – Energy Management Plan

The Office of Policy and Management (OPM) serves as the staff agency reporting to the Governor, providing the information and analysis required to formulate public policy for the State. The Energy Management Unit within OPM, monitors and provides general oversight with regard to state government energy consumption and assists state agencies with energy procurement and projects within the established policy framework.

Pursuant to Section 101 of Public Act 07-242, OPM's Energy Management Unit submitted to the Connecticut Energy Advisory Board (CEAB), an Energy Management Plan (herein the Plan) for state facilities. The first in an annual process, the Plan was submitted to the CEAB on September 4, 2007.

Energy management in state facilities is

driven by the existing policy framework. For example, Governor Rell's Connecticut's Energy Vision and the Connecticut Climate Change Action Plan 2005, lay out particular policy goals for the state as a whole that must be incorporated in state government's internal energy planning. Common among all of the various policy documents are an emphasis on energy efficiency, conservation, use of renewable fuels and new technologies, fuel diversification, and reducing dependence on fossil fuels. Accordingly, the Plan incorporates all of these efforts and lays out a path to achieving greater resource deployment in these areas.

The Plan is based on the understanding that effective energy management includes three major elements: energy procurement, energy efficiency and conservation, and investment in new alternative and renewable technologies.

Cont'd page 6

Energy Biz – Is It Time for Bioheat®?

With continued increases in gasoline, home heating oil, natural gas and electric prices, it is clear that Connecticut's fossil fuel based economy is ever more vulnerable to supply impacts. While there is no single approach to a secure energy future, the time is ripe for serious consideration of alternatives. Once such renewable alternative is biodiesel blended with home heating oil. Biodiesel is a renewable fuel

that can be made from recycled cooking grease and oils, animal fats or directly from plant materials with high oil content, such as rapeseed, soy and potentially algae. These oils and fats are pre-processed to remove water and contaminants and are then mixed with alcohol (usually methanol) and a catalyst (usually sodium or potassium hydroxide). This process leaves behind two products, biodiesel and glycerin (glycerin can be used to make soap and other products). Bioheat® is an industry accepted term for any blend of pure biodiesel (B100) with conventional home heating oil.

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Alter the setting of your heating system. For each degree the thermostat is lowered, you can save 1 to 2 percent on your heating bill. That's

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onethingct.com

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A Message from the Secretary of OPM

The Office of Policy and Management (OPM) is pleased to provide the first edition of *The State of Energy*, a bimonthly newsletter of energy price and supply information, and discussions about energy issues, policies and initiatives being undertaken by the State to help determine its own energy future.

The State of Energy is produced by the Energy Unit within OPM's Policy Development and Planning Division. The Energy Unit has existed at OPM since the inception of the agency in the 1970s. Since then, the unit has fluctuated in its size and role with regard to energy management and planning.

Increasing environmental requirements, energy price, and supply and demand pressures have made energy management more challenging over the past few years. These realities have resulted in a reinvigoration of energy planning functions within OPM. *The Governor's Energy Vision* and last session's energy bill (P.A. 07-242) calls for the state to lead by example in its energy policies as well as in the management of its own energy use.

With the addition of six new and reassigned staff over the past year, the Energy Unit at OPM has already taken great strides toward better energy management and planning in state government. Last fall, the Energy Unit worked in conjunction with the Department of Administrative Services (DAS) to procure electricity for the state through a first-time reverse auction process. The auction was a tremendous success, producing an estimated savings of more than \$20 million through the end of the biennium. In addition, the Energy Unit recently undertook the first in an annual strategic planning process for energy management in state facilities. That plan, which is anticipated to receive approval from the Connecticut Energy Advisory Board by February, sets goals, articulates priorities and outlines action items for OPM to manage energy use across state government.

We hope *The State of Energy* is a useful addition to your Connecticut energy information resource library.

Robert L. Genuario, Secretary of OPM

Reverse Auction (cont'd)

This is because suppliers must build in a "price premium" to cover any difference between the market price for power on the day the bid is submitted and the price for power the day the offer is accepted. Thus, the RFP process itself almost guaranteed higher supplier bids. As a result, State facilities have not received bids for supply that represented a better deal than Standard Offer.

In an attempt to minimize price premiums in supplier bids, OPM and DAS, with the assistance of a competitively chosen third-party vendor, World Energy Solutions, Inc., of Worcester, MA, conducted several on-line "reverse auctions" to procure power for state buildings. The real-time auction process encourages supply bidders to offer the lowest price for their product by allowing them to contract power commitments the moment the auction closes.

The auction process placed pre-qualified bidders (using the same criteria as a traditional RFP) in competition with one another. The lowest bid at the close of the auction won the contract award. This auction process allowed the State to drive down its costs by using competition to its advantage.

More than 55 auctions were conducted on two different days (September 19 and November 29, 2007) resulting in eight separate contracts covering facilities under the Executive, Legislative, and Judicial Branches, including UConn, UConn Health Center, the State Universities, and Community Colleges. See Figure 1 below. Direct Energy was the chosen supplier in all cases, providing the lowest bid for the product sought.

The reverse auction process successfully minimized price premiums in supply bids, producing contracts that resulted in more than \$20 million in savings. See Figure 2 below. In addition, the state increased its purchases of green and renewable power by more than 17% above the State's Renewable Portfolio Standard (RPS). To illustrate, the State Capitol Building, the Legislative Office Building and its parking facility will be supplied by electricity that is more than 30% green.

The electric contracts provide the added benefit of budget certainty for the State through the end of Fiscal Year 2009, insulating taxpayers from additional cost increases resulting from energy price spikes.

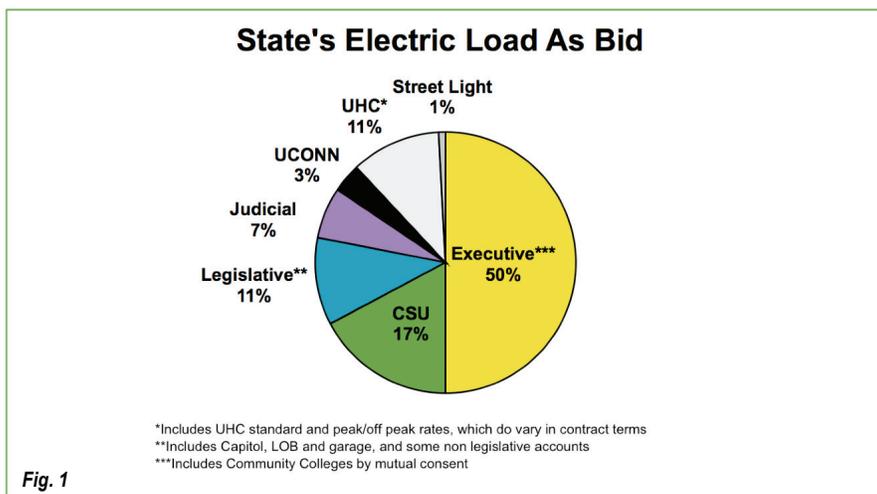


Fig. 1

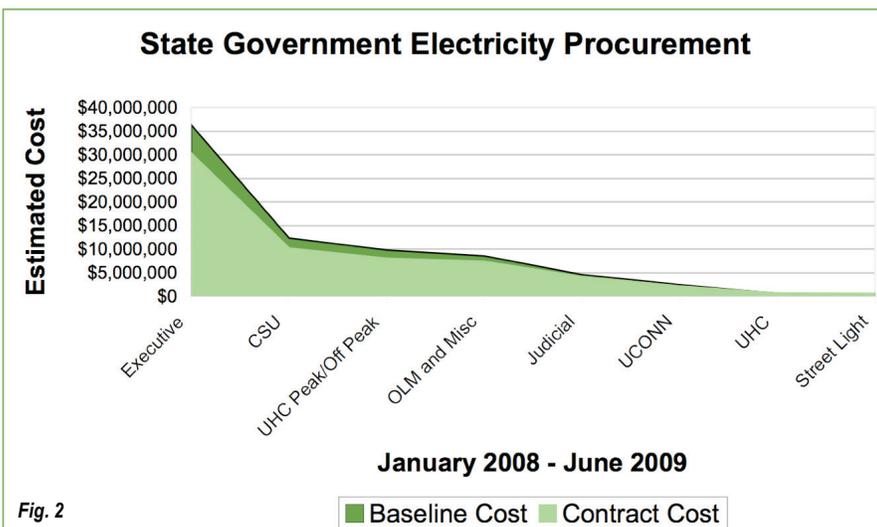


Fig. 2

crude oil

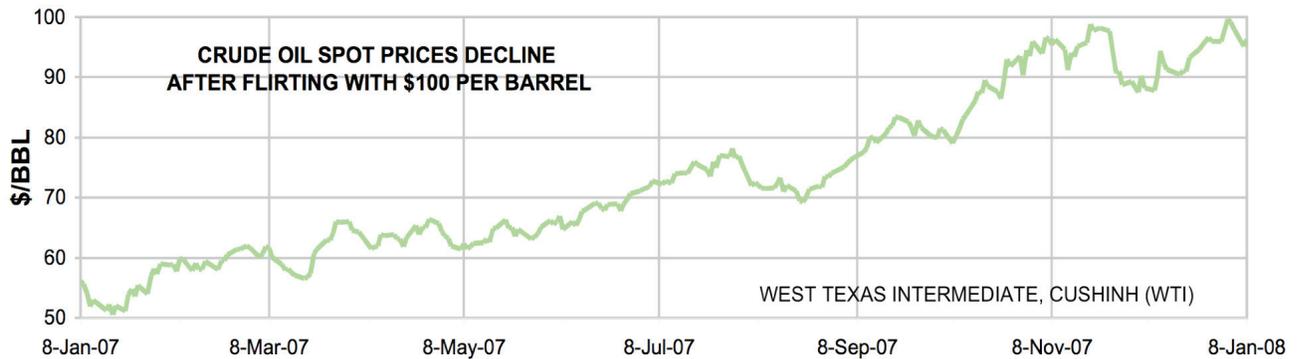


Crude Oil

Low inventories, a weak dollar, international tensions, and a tight demand/supply balance have twice pushed prices close to \$100 per barrel. Fear of a U.S. recession has blunted the price surges. Spot prices had reached over \$99 per barrel but have now declined to \$96. This is 72% higher than a year ago. The 12 month strip (the average of the next 12 futures prices) has fallen to \$94.16 from its peak of \$96.63. It is still 56% higher than a year ago.

did you know?

The United States imported 3.7 billion barrels of oil in 2006, one third of which came from Mexico and Canada.



natural gas

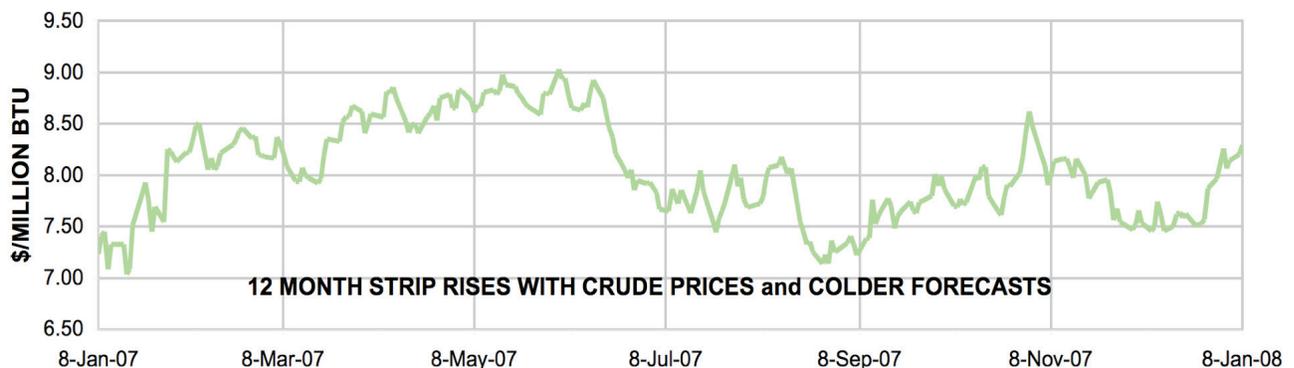


Natural Gas

Harsh winter weather and record high crude oil prices have been pushing up natural gas prices over the past month. The 12 month strip has risen 11% since mid-December and is 15% higher than a year ago. Until December, natural gas storage levels had been at record high levels, which helped limit price increases. Although cold weather during the past five weeks resulted in a draw down in inventories (78% greater than the same period last year), storage is still 8.2% above the 5-year average.

did you know?

About 400,000 Connecticut homes heat with natural gas, spending about \$1,700 annually.



heating oil



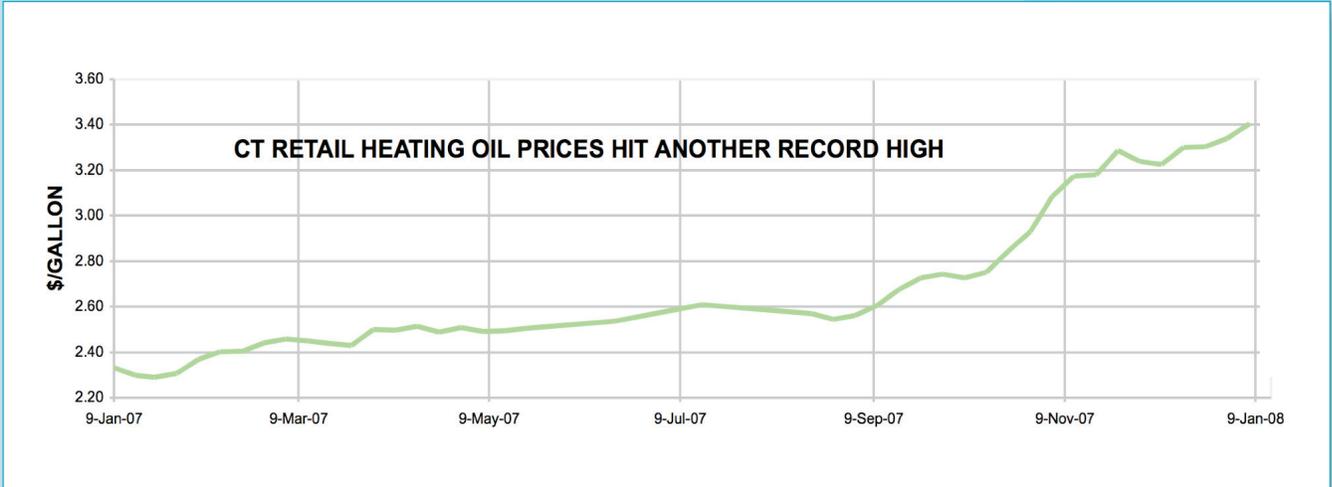
Heating Oil

State retail heating oil prices have been rising since the beginning of September. OPM price surveys over the past 17 weeks show new record highs for heating oil prices. The latest survey (January 7th) showed an average statewide price of \$3.405 per gallon. This is 6.5 cents higher than the previous week and \$1.07 (46%) higher than a year ago.

For more information you can click on the following link:
http://www.ct.gov/opm/cwp/view.asp?a=2994&Q=386258&opmNav_GID=1808&opmNav=

did you know?

More than 680,000 Connecticut homes heat with oil, spending about \$2,800 annually.



gasoline



Gasoline

After hitting an all-time high of \$3.295 on June 1, 2007, Connecticut retail gasoline prices had declined to \$2.856 by mid October. Rising crude oil prices have since pushed prices to \$3.287, only 0.8 cents below the record high price. Gasoline prices are now 80 cents higher than a year ago, an increase of 32%.

did you know?

A typical Connecticut driver getting 22 miles per gallon, will spend an estimated \$1,800 on gas this year.



Inquiry into Impacts of Energy Cost Increases in Connecticut

On December 5, 2007, Governor Rell wrote to Office of Policy and Management Secretary Robert Genuario asking for an analysis of the impacts of energy cost increases on Connecticut's citizens and businesses. The report from OPM was released this month. Among the report's findings are:

- There is a projected shortfall under the federal Low Income Home Energy Assistance Program (LIHEAP) block grant, based on current funding levels. The shortfall could be higher or lower depending on caseload levels and the amount of federal funding that is ultimately made available to the state.
- Energy costs for state agency operations are projected to produce a shortfall of up to \$4 million. The fiscal impact on the state was greatly mitigated by cost savings achieved through electricity and natural gas supply contracts. These contracts locked in prices, fixing the state's costs for a large proportion of the state's energy supply through the fiscal year. The state does not have the same price protection for heating oil and gasoline, the main drivers of the potential shortfall.
- Increasing energy prices could have a significant impact on tax revenues. Sustained high energy costs will begin to force consumers to spend more of their money on energy bills and less on sales taxable items.
- Operation Fuel, which provides energy assistance grants to households that either don't qualify for or have exhausted their Energy Assistance benefits, received \$5 million in the FY 08 budget, which will help offset some of the impact of a shortfall in Energy Assistance resources.

See the full OPM Report at <http://www.ct.gov/opm/cwp/view.asp?a=2965&q=402556>.

RGGI: First Auction in June

The Connecticut Department of Environmental Protection (DEP) has been working diligently to draft regulations that will put in place the Regional Greenhouse Gas Initiative (RGGI). Public Act 07-242, section 93 required DEP to adopt regulations to implement RGGI, which regulates electric generating plant carbon dioxide (CO₂) emissions in a ten-state region using a market-based cap-and-trade system. In essence, the state creates "allowances" that power plants must purchase or obtain in order to generate carbon dioxide emissions.

"We are pleased with the progress that has been made since last session. The DEP, sister agencies and key stakeholders have pulled together to create and advance regulations enacting one of the most critical initiatives in our climate change action plan. RGGI is a tremendously important program to help us meet Connecticut's greenhouse gas reduction goals, but more importantly RGGI will begin to address our contribution towards global climate change," said DEP Commissioner Gina McCarthy.

The regulations have been reviewed and approved by the Office of Policy and Management (OPM), the Governor's Office, and the Attorney General's Office. A public hearing will be held on February 8, 2008 at DEP in Hartford. Next, the revised draft regulations along with the DEP's response to public comments will move to the Regulations Review Committee. Once approved, the DEP will begin implementing the regulations to put RGGI in place before the first auction, scheduled for June.

In August 2003, environmental and energy staff from nine Northeast and Mid Atlantic States began developing the framework for a regional CO₂ cap and trade program designed to stabilize, then reduce CO₂ emissions from large power plants, while maintaining energy affordability and reliability, and accommodating the diversity in policies and programs in individual states. This effort resulted in the framework embodied in the RGGI Memorandum of Understanding (MOU). In December 2005, the Governors in seven states announced an agreement to implement RGGI, as outlined in the MOU. Three additional states have subsequently signed on to the agreement. In January 2006, the participating states issued a model rule for the RGGI program. The DEP's draft regulations are based on the model rule.

The auction uses a cap-and-trade mechanism to distribute emission allowances to individual companies, with the total number of emission allowances distributed equal to the emission target for the trading region. Companies must hold and retire one allowance for each ton of pollution emitted, and are allowed to purchase allowances from other companies. Trading ability provides flexibility to companies with differing capabilities to address emissions in a cost-effective manner.

In Connecticut, Public Act 07-242 mandates that the emission allowance auction proceeds be invested in energy efficiency and renewable energy. The state will be auctioning about 10.7 million CO₂ allowances. Estimates of how much revenue the RGGI allowances will generate for the state vary widely, anywhere from \$21-\$53 million annually.

For more information on the RGGI regulations and the upcoming public hearing, see <http://www.ct.gov/dep/cwp/view.asp?A=2586&Q=401336>

Energy Biz (cont'd)

One benefit of Bioheat is that it has immediate application with no modification to your oil burner. According to the National Biodiesel Board, Bioheat® fuel appears to have little or no negative impact on a burner's performance while providing emissions, sulfur, lubricity, global warming and health benefits, and, all known oil tanks and systems are compatible with Bioheat® fuel at blends of 20% or less. More than 680,000 households in Connecticut use oil for their winter heating needs, consuming approximately 700,000 million gallons of home heating oil annually. Therefore, a Connecticut based market already exists for Bioheat®.

According to the Independent Connecticut Petroleum dealers Association (ICPA), there are 26 retailers selling Bioheat® in Connecticut. These

retailers generally sell blends containing 2% to 5% biodiesel. As the public becomes more aware of Bioheat® as an alternative, and as supply becomes more readily available, the number of retailers selling this product and the blended biodiesel percentage should increase. At present, the price for Bioheat® varies based on the individual retailer. Some charge a small premium for the product, while others keep the price consistent with their traditional home heating oil product. If you are interested in buying Bioheat® contact your local Heating Oil dealer, or check the ICPA website at http://www.icpa.org/find_bioheat.htm to find out who carries this product in your area.

regulations

Peak Oil – What and When?

In November 2007, the Legislative Peak Oil and Natural Gas Caucus released a report entitled, "Peak Oil Production and the Implications to the State of Connecticut" which stated that "The state is unprepared to address the problems that will arise due to high and increasing oil prices," and that "Connecticut is at risk of economic contraction beyond anything we have experienced since the 1930s." The 29 page report is a self-described "...warning, a red flag, to the complacency and ignorance regarding oil...."

So, what is Peak Oil? And, why might Peak Oil be a problem for the state of Connecticut and its citizens?

Peak Oil is all about the production of oil – how much, and for how long, oil can be produced. Peak Oil is a term used to describe forecasts of a time period when oil production levels hit their highest point or "peak," and then begin to decline. This peak can refer to a particular oil well, an oil field, and, for the purposes of the Peak Oil debate, total global oil production.

Peak Oil does not refer to the supply of oil being exhausted; in point of fact, all parties to the Peak Oil debate believe that oil is a finite resource, and as such, oil's global production cycle will be characterized by a beginning, a peak, and an end. The debate is about when global Peak Oil production will occur.

Some believe that global Peak Oil production will occur very soon, possibly within the next decade. They cite as evidence such factors as past peaks in production for individual countries (US oil production is said to have peaked in the 1970's) and the lack of new large oil reservoirs. Others believe that peak global oil production will not occur anytime soon and even that global oil production will continue to increase. They cite as evidence improving technology that will allow for new discoveries and new recovery techniques.

The whole Peak Oil debate is further complicated by the difficulty of accurate production forecasting. Many oil producing countries guard information on their oil supply as secrets. This means much of the world's actual oil supply information is reduced to guesswork.

Why might Peak Oil be a problem for the state of Connecticut and its citizens? Because once a production peak occurs, oil supply may not be able to keep pace with the ever increasing demand for oil. This difference in supply and demand will result in significant economic, political and environmental consequences. If Peak Oil is right around the corner, then policies to address the economic implications with the decline are urgently needed. The Legislative Peak Oil Caucus believes the peak is imminent and the time to act is now.

For the full Legislative Peak Oil Caucus Report, see http://www.housedems.ct.gov/Backer/Peak_oil_and_Natural_Gas_Report_11-16-07.pdf and Addendum at <http://www.housedems.ct.gov/Backer/TSandOSfina.pdf>

Policy (cont'd)

All three elements play an equally critical role in state's energy surety.

The State must be an informed and vigilant consumer in ever-changing regional, national, and global market places. The state spends an estimated \$123 million to procure energy annually. To keep costs as low as possible, the Energy Management Unit seeks to take advantage of favorable market conditions to obtain significant savings over traditional procurement processes.

Energy efficiency and conservation projects result in reductions to the overall amount of energy procured, further reducing costs. In addition, targeted approaches to reduce peak electric use, such as state agency participation in Demand Response programs, not only promote system stability and reduce prices for state government as a consumer, but also generate revenue that can be reinvested in conservation and efficiency.

Investment in new alternative and renewable technologies must continually be pursued.

The State recognizes the need to reduce its dependence on fossil fuel energy sources, address outstanding environmental issues associated with traditional energy production and consumption, and support budding technologies. Over time these investments will help diversify our energy resource portfolio.

Finally, the goal of energy management within state government is to maximize efficiency, minimize consumption and costs, meet or exceed environmental standards, and utilize new and renewable technologies within state facilities. The Plan provides specific energy management objectives and tasks that are identified and discussed to meet this goal.

Upon approval by the Board, the Energy Management Plan will be available in the Energy Management section of the Office of Policy and Management website at www.ct.gov/opm/site/default.asp, as well as the Board's website at www.ctenergy.org.



Connecticut Energy Advisory Board (CEAB)

Regular Meeting
February 1, 2008
at CERC, Brook Street, Rocky Hill
www.ctenergy.org

Energy Conservation Management Board (ECMB)

Regular Meeting
February 13, 2008
at DPUC, New Britain
www.state.ct.us/dpuc/ecmb/index.html

Connecticut Clean Energy Fund (CCEF) Regular Meetings

January 28th and February 25th
at 200 Corporate Place, 3rd Floor,
Rocky Hill, CT
www.ctinnovations.com

Connecticut Siting Council (CSC)

Regular Meetings
February 4th and 28th
at DPUC in New Britain
www.ct.gov/csc/site/default.asp

RGGI Regulations Public Hearing

February 8, 2008
1:30 p.m.
DEP, Phoenix Auditorium
Hartford, CT

State of Connecticut
Office of Policy Management
Energy Unit – MS# 52ENR
450 Capitol Avenue
Hartford, CT 06106-1379

To receive future editions of *The State of Energy*, contact Julie Cammarata at julie.cammarata@ct.gov