

RESNET

Forward Capacity Trading

What is Forward Capacity Trading?

Today, the United States is increasingly dependent on electricity from grids that barely have the capacity to serve its demand at peak usage times. One cost-effective way to ensure that the power remains on at these critical times is to create utility capacity trading programs. Utility-capacity trading allows energy efficiency companies to enter the capacity market and sell energy savings on an equal playing field as those who wish to sell additional energy.



New England is leading the way in promoting energy efficiency as a method to increase utility companies' capacity, by creating the forward capacity market. Forward capacity markets allows energy efficiency to be sold at an equal playing field as additional power supply.

Power Demand Approaching Crisis Levels

As the United States' demand for electricity expands, it becomes necessary to increase the capacity of power grids to supply electricity into Americans' homes and businesses. Building power plants, however, can be unpopular due to the costs and locals' hesitance to add more pollution and safety hazards in their towns. As a result, while power demand has increased, power supply has largely remained unchanged. Thus, power demand is threatening to surpass utility companies' energy capacity.

Opportunities for Raters

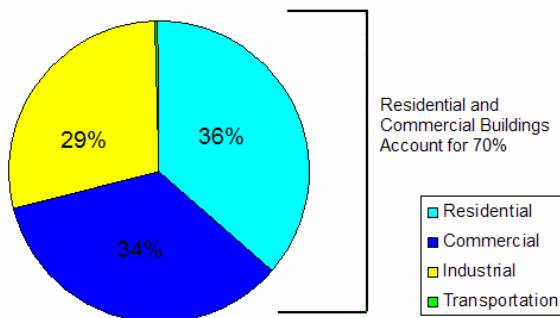
- In a mature forward capacity market the demand for raters will be substantially higher. Raters will be needed to calculate and verify energy savings from a building's improvements so that value can be traded in utility markets.
- Create a market for builders to improve the energy of homes
- New source for funds to invest in building improvements
- Conservation Services Group (CSG), a ratings firm has already made \$2.4 million in "pilot" capacity sells
- Help the nation meet its electricity capacity challenge

*Setting the STANDARD
for QUALITY*

Exceeding Capacity is Dangerous to American Energy Security

In 1995, the city of Chicago experienced record high temperatures. As Chicagoans turned on their air conditioners, its energy usage exceeded local utilities' energy capacity. As a result, the power went out in city, contributing to the death of hundreds of Chicagoans who were ill-equipped to deal with the heat in a concrete heat-island, without power. The Chicago heat wave of 1995 is now being called one of the deadliest recent natural disasters in United States. These deaths could largely have been avoided if utilities had the power capacity to deal with the high demand for electricity. The state of California faced a major electricity crisis between 2000 and 2001 resulting in massive financial losses and rolling blackouts. In 2003, a major blackout left approximately 50 million people without power in the North-eastern United States and Ontario in part due to an overload of demand on the power grid.

Consumption of Electricity



Source: U.S. Energy Information Agency

Why Focus on Residential Efficiency?

Traditionally, utilities look to construct new power plants in meeting the increased demand for power. There is now a new realization that energy efficiency is a cost-effective option to meet the demand for electrical services. Energy use from residential buildings accounts for 36.5% of electricity consumed in

the U.S. High performance buildings can play a significant role in meeting utility energy efficiency targets.

How Building Performance fits into Utility Capacity Trading

Forward capacity market trading offers a new market for raters, but will not require them to learn a new skill or set of standards. By applying the existing RESNET standards for energy efficiency to utility capacity trading, America can reduce the need to build new power plants. The modeling and inspection procedures developed by RESNET can be used to document efficiency in a forward capacity market. There is no need for additional inspections nor software modeling.

Massachusetts: An Example of Forward Capacity

The rating firm, Conservation Services Group (CSG), has made \$2.4 million in early residential energy efficiency forward capacity trading. CSG has demonstrated that an ENERGY STAR Home is capable of having market value as high as \$1,000 megawatt in a forward capacity market.

What Raters Should Do

It is vital that raters advocate that energy efficiency is included in upcoming plans to increase utilities' capacity. Raters can begin by forming partnerships with environmental advocacy groups, and sitting on local regulatory meetings. Advocacy on the local level will be an important step in ensuring that buildings are included in a forward capacity market program. Raters also should educate regulators that there is a national standard to measure and verify the energy performance of homes.