



EXCESS CAPACITY AND ENERGY EFFICIENCY



Courtesy of DOE/NREL

What is the issue?

Due to a spate of new power plant construction and the economic recession, Wisconsin has more power plants than it needs to generate electricity right now.

Claimed effect on energy efficiency

Some claim that energy efficiency isn't needed in Wisconsin due to our excess capacity. This short-sighted view ignores the real role that efficiency plays avoiding the need for additional capacity. *Energy efficiency is what allows our economy to grow without the need for ever more power plants.*

It also ignores the fact that the biggest benefits from energy efficiency don't have to do with building new plants at all - they are from avoiding the need to burn polluting fuels at the plants we already have.

Impact of energy efficiency on excess capacity

In 2009 and 2010 alone, energy efficiency avoided the need for over 234 MW of generation.¹ That's 40% of the entire electrical 2011 reserve margin.²

Without the strong history of efficiency in Wisconsin, the 2011 reserve margin would have been less than one-half of one percent - a critical shortage that would have had severe impacts on the grid.

Efficiency will continue to reduce the need for more power plants

The rebounding of our economy; increasing electrification of transportation; warmer summers increasing the air conditioning load while reducing power plant capacity; accelerating retirement of old and outdated power plants.³

All of these trends point toward an increase the need for more electrical capacity. *Efficiency is the quickest, cheapest, and easiest way to meet this need.*

**“Excess capacity”
IS NOT
excess energy**

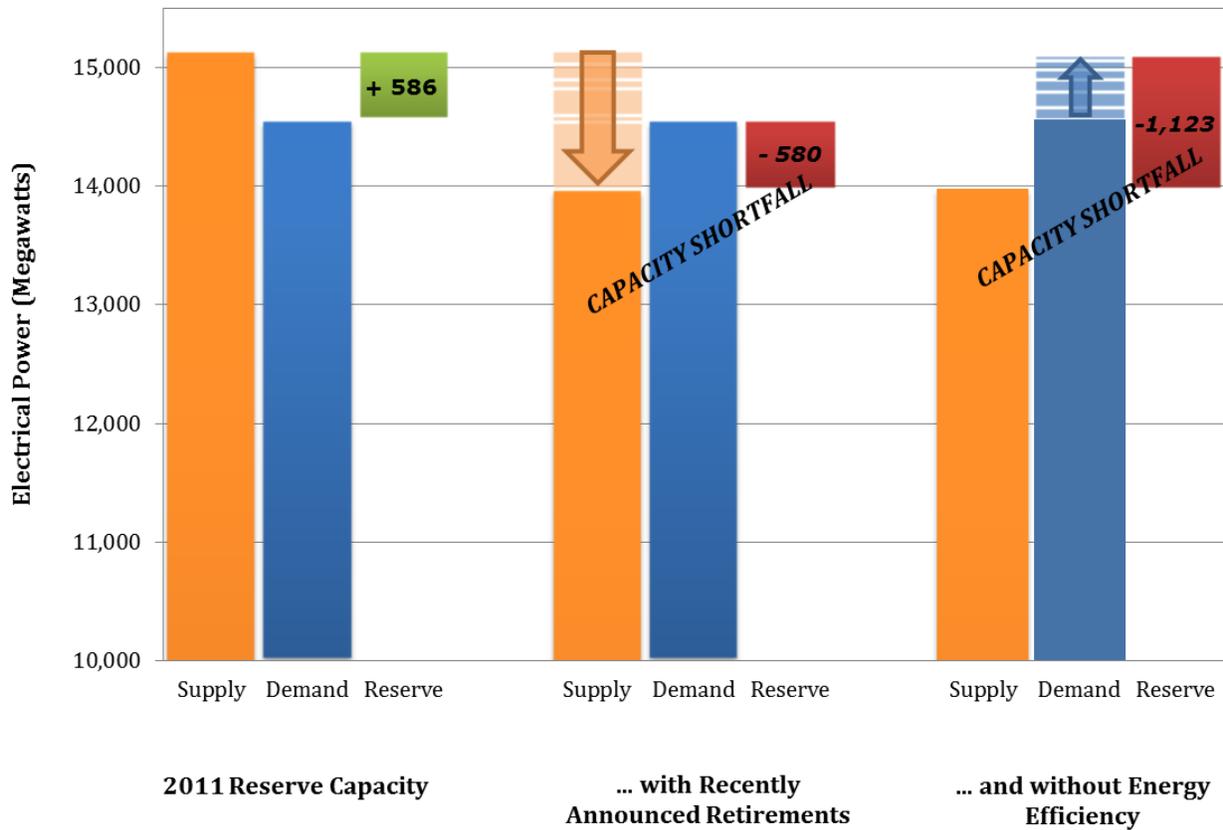
Having more than enough power plants doesn't mean there is free energy waiting to be used -

any more than having a spare car means that it's free to drive

What does energy efficiency do for our state?

- Cuts down on the amount of coal and other fuels we have to import and burn for the services we need
- Keeps our dollars from draining out of Wisconsin
- Increases the money consumers and businesses have to spend in the state.
- Keeps toxic pollution out of our air and water, improving our health and the health of our environment.

Wisconsin's Reserve Capacity



If recently announced retirements were in place in 2011, electrical supply would have been short of demand. **Without energy efficiency measures, we would have been 1,123 megawatts shy of the electricity we needed.**

Efficiency can improve the bottom-lines of businesses

Efficiency measures can directly cut business expenses while increasing productivity and output.

Efficiency programs lower risk for energy users and producers

Although natural gas is cheap now, price volatility is expected to return – especially with the recently increasing demand.

Energy efficiency can also help avoid the problems that power plants have on the hot “peak” days: hot weather can raise river temperatures, limiting the output of plants that rely on that water for cooling purposes.

Efficiency can help utilities

Efficiency programs can allow utilities to increase their produce/ purchase ratio, bid more resources into the regional “capacity market,” and reduce potential deficiency charges for capacity shortfalls.

Sources:

1. Tetra Tech, "Focus on Energy Evaluation Annual Report (2010)." Prepared for Public Service Commission of Wisconsin.
2. Public Service Commission of Wisconsin, "Draft Strategic Energy Assessment Energy 2018" (2012).
3. See, e.g., Joe Eaton "Record Heat, Drought Pose Problems for U.S. Electric Power." National Geographic News (August 17, 2012).

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