

Illinois Climate Change Advisory Group
7/3/2007

Subgroup: Power/Energy

Policy Name: Enhanced Energy Efficiency Programs

Policy Type: Portfolio standard for electric utilities/system benefits charge

Estimated 2020 Reductions Compared to BAU: 37.4 million metric tons CO₂

Affected sectors, subsectors or entities (As the case may be)

Sector: Electric

Subsector: Distribution utilities

Entities: ComEd, Ameren, Mid-American

Description

Generally, states fund energy efficiency programs either through a system benefits charge – about 20 states take this approach – or through utility procurement of efficiency with costs recovered in rates. California has adopted a hybrid approach in which energy efficiency is funded both through a system benefits charge and “procurement funding”.

The Governor’s Sustainable Energy Plan calls for an Energy Efficiency Portfolio Standard for electricity suppliers in Illinois, and his Energy Independence Plan expands that concept to include natural gas. The Governor’s Plan proposes to achieve incremental annual energy savings of 1%, with a cap on spending of 2% of utility revenues. Based on the cost effectiveness of “best practices” from ACEEE¹, the Governor’s Plan would achieve 0.7% annual electricity savings before reaching the cap, and the full 1% annual natural gas savings while staying under the cap.

An enhanced plan could either impose a more stringent Energy Efficiency Portfolio Standard or establish a system benefits charge (SBC) or other funding mechanism that funds programs designed to achieve similar efficiency benefits as the EEPS. Enhanced Plan A would double the EEPS set in the Governor’s Plan, while B would apply a SBC to achieve the same level of reductions.

Enhanced Plan A: Energy Efficiency Portfolio Standard of 2%

Enhanced Plan B: System Benefits Charge of 5.1 mills/kwh, 3.3 cents/therm

¹ American Council for an Energy-Efficient Economy (ACEEE), "Examining the Potential for Energy Efficiency to Help Address the Natural Gas Crisis in the Midwest", Jan. 2005 and discussions with Marty Kushler of ACEEE. The analysis uses the following assumptions for the levelized annual cost effectiveness of state energy efficiency programs:

| | Average | Residential | Commercial | Industrial |
|----------------|---------|-------------|------------|------------|
| \$/kWh saved | \$0.030 | \$0.044 | \$0.024 | \$0.020 |
| \$/therm/saved | \$0.200 | \$0.300 | \$0.150 | \$0.100 |

The Governor's Plan would result in net annual savings to consumers of \$2 billion. The Enhanced Plan would result in additional savings of \$1.2 billion from direct energy bill cost savings and indirect savings from lower natural gas and electricity prices due to lower energy demand.

Rough estimate of reductions from BAU in 2020

The Governor's Plan would reduce annual greenhouse gas emissions by 24 million metric tons by 2020 and the Enhanced Plan would reduce an additional 13 million tons, for a total reduction of **37 million metric tons**. The reductions in electricity emissions assume an emissions rate of about 1.75 pounds CO₂/kWh from the Shaw Study, which reflects that coal generation predominantly, but not exclusively, will be displaced. The Shaw study also shows that more than half of the electric emission reductions would occur outside of Illinois because of the regional nature of the electric dispatch system.

Timetables, duration and stringency

The Governor's Plan was to be phased in over a period of four years, starting at a .25% reduction in load in 2008 and rising to 1% in 2011. The Enhanced Plan would be phased in from 2008 through 2015 similar to Senator Harmon's SB 1184.

| | | | |
|------|------|------|------|
| 2008 | 0.2% | 2012 | 1.0% |
| 2009 | 0.4% | 2013 | 1.4% |
| 2010 | 0.6% | 2014 | 1.8% |
| 2011 | 0.8 | 2015 | 2.0% |

Barriers to implementation

The major barrier, currently, to rapid implementation of an enhanced energy efficiency program is the time it would take the Illinois General Assembly to pass enabling legislation and the Illinois Commerce Commission to adopt the rules or approve plans. In addition, since both Illinois utilities and the State Energy Office have only implemented very modest energy efficiency programs, it will take time for the specific programs to be developed and fully implemented.

Interstate Cooperation

Since two of Illinois' utilities – Mid-American and Ameren – also operate in the adjacent states of Missouri and Iowa, it would make sense to coordinate energy efficiency programs with those states. Mid-American, which already administers significant efficiency programs in Iowa, has sought (in SB 215) to adopt similar programs in Illinois.

Comparison of Energy Efficiency Plans

| | Governor's Plan | Enhanced Plan |
|---|--------------------|------------------|
| Goal (incremental annual reduction in demand) | 1% | 2% |
| Revenue Cap (%) | 2% | None |
| Reduction achieved | | |
| Electricity | 0.7% | 2.0% |
| Natural Gas | 1.0% | 2.0% |
| SBC Equivalent | | |
| Electric (mills/kWh) | 1.8 | 5.1 |
| Natural Gas (cents/therm) | 1.7 | 3.3 |
| CO2 Reductions (million metric tons) | | |
| Total | 24.25 | 37.40 |
| Net | 0.00 | 13.15 |