

## Energy Efficiency Resource Standard Mechanics

The energy efficiency resource standard specifies the amount of energy savings utilities need to achieve. A utility will need to document achieved savings through evaluation reports. What kind of savings count towards the goal and how those savings are counted will be detailed in evaluation, measurement and verification regulations promulgated by the DOE. However, it is anticipated that the federal procedures will reflect procedures currently implemented in states with an EERS. Free riders should be excluded (the utility should not get credit for efficiency measures that would happen even if it had no efficiency programs) while “free drivers” or spillover effects (efficiency investments induced by utility programs, even if customers do not formally enroll) should be counted toward the savings target for a given year.

Under the legislation, utilities get credit for savings from codes and standards (including federal standards) and from programs and combined heat and power installations where they “played a significant role in achieving the savings” (i.e. if the utility, the state, and a retailer all play a significant role, the utility gets credit, without having to figure out the size of their role relative to the role of others). In the end, it is a matter of counting kilowatt-hour savings and making a determination that the target has or has not been met. The target for a given year is relative to the average total sales in the prior two years (ie, the base quantity is rolling).

On average, based on state-specific analyses in six states, ACEEE estimates that codes and standards will reduce 2020 electricity use by 4.5% and natural gas use by 1.6%. The EERS bills call for 15% electric and 10% natural gas savings by 2020, leaving 10.5% electric savings and 8.4% natural gas savings to be achieved by utility programs. If standards achieve more, of course, the utility targets will be adjusted downward by a corresponding amount, and vice versa.

If a utility’s sales go down due to the recession, that decline does not count as efficiency savings. Conversely, if a utility’s sales go up, the savings target only increases by a little bit using the percentage savings targets in the legislation (e.g. 1% of the sales increase in 2012).

The standard is expressed in cumulative terms because efficiency measures installed in early years will continue to save energy throughout the compliance period. In 2020, the 15% electricity savings is relative to the average sales from 2018 and 2019 because those sales take into account all of the energy savings up to that point. Cumulative savings are the savings achieved in a particular year from measures installed in that year, as well as from measures installed in earlier years that are still in place. For example, an energy-efficient dishwasher installed in 2012 might achieve savings of 100 kWh in 2012. That same dishwasher will save 100 kWh per year for its useful life. These savings achieved post-2012 may also be claimed by the utility, until the dishwasher is taken out of service. Although the savings are cumulative, because the targets increase slowly over the compliance period, additional measures will be needed each year to meet the growing annual targets. However, each year’s target only increases by an incremental amount, eventually reaching a maximum of 2.5% additional savings required per year.

An illustrative example is provided in a table on the other side of this write-up.

**Illustrative Example: Electric Utility Company X**

	2009	2010	2011	2012	2013
<b>Electricity Sales (million kWh)</b>					
Estimated Electricity Sales	11,000,000	11,055,000	11,110,275	11,128,906	11,147,248
Base Quantity for 2011 (average of 2 prior years' sales)	<b>11,027,500</b>				
Base Quantity for 2012 (average of 2 prior years' sales)		<b>11,082,638</b>			
Base Quantity for 2013 (average of 2 prior years' sales)			<b>11,119,591</b>		
<b>Savings from Programs* (million kWh)</b>					
Existing Residential and Small Commercial			6,500	13,100	19,500
Residential New Construction			390	786	1,170
Commercial and Industrial			18,850	37,990	56,550
Efficient Products Program			8,320	16,768	24,960
Low-Income Retrofits			2,860	5,764	8,580
<b>Total Energy Savings from Programs</b>			<b>36,920</b>	<b>74,408</b>	<b>110,760</b>
<b>Savings (million kWh)</b>					
Incremental Annual Savings (as a % of base quantity)			<b>0.33%</b>	<b>0.67%</b>	<b>1.00%</b>
Total Cumulative Energy Savings ** (including savings from measures installed in previous years)			36,920	111,328	222,088
<b>Total Cumulative Energy Savings (as a % of base quantity)</b>			<b>0.33%</b>	<b>1.00%</b>	<b>2.00%</b>