

## NREL Releases *Comparative Analysis of Three Proposed Federal RESs*

DOE’s National Renewable Energy Laboratory (NREL) just released a report<sup>1</sup> using their Regional Energy Deployment System model to evaluate the impacts of three potential federal renewable energy standards relative to a base case of no federal standard. The three proposals are:

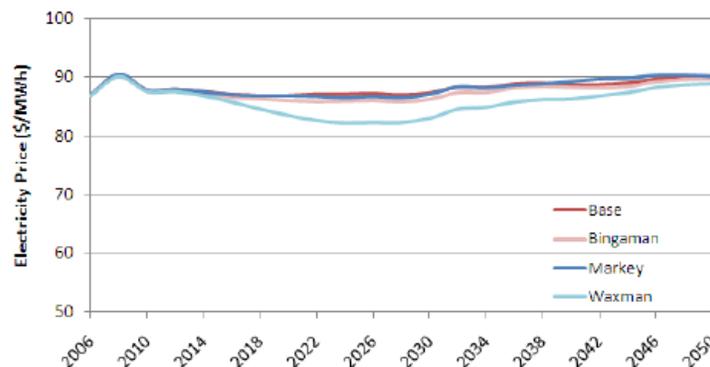
- A 20% by 2021 RES target, with 25% of the RES assumed to be met with qualifying energy efficiency projects (e.g. a proposal circulated by Senator Bingaman’s staff and labeled “Bingaman” in the table and graph below)
- A 25% by 2025 RES target, with no energy efficiency substitutions allowed (e.g. H.R. 890 introduced by Representative Markey and labeled “Markey” below)
- A 25% by 2025 RES target, with 20% of the RES assumed to be met by efficiency, plus a cumulative 15% reduction in load by 2020 due to an energy efficiency resource standard (EERS) (e.g. the proposal in the Waxman-Markey Discussion Draft, which incorporates Representative Markey’s H.R. 889, labeled “Waxman” below).

Key results of the study are summarized in the table and figure below:

**Table ES1. Comparative Findings of the Proposed RES Legislation**

	Peak Effective RES (%)	Qualifying Renewable Generation in 2030 (TWh)	Qualifying Renewable Capacity in 2030 (GW)	CO <sub>2</sub> Emissions Reductions in 2030 (million metric tons)
Base Case	NA	699	208	NA
Bingaman	12.1	638	197	95
Markey	21.8	867	261	150
Waxman	17.4	573	183	435

**National Average Electricity Price**



The study found that “none of the RES bills modeled have a significant impact on consumer electricity prices at the national level.”<sup>2</sup> In fact, the lowest electricity prices were for the Waxman scenario, including a full EERS. This analysis did not include the cost of implementing the EERS, but there is ample room to add the average 3 cents/kWh cost of efficiency programs<sup>3</sup> and still have the Waxman scenario result in lower electricity prices than the other scenarios. The study also found that the Waxman scenario with efficiency reduces CO<sub>2</sub> emissions by more than a factor of four relative to the Bingaman proposal (435 vs. 95 MMT) while reducing the amount of power that needs to be generated from renewables (573 vs. 638 TWh) with the difference explained primarily by lower energy sales due to energy efficiency.

<sup>1</sup> Sullivan, Logan, Bird and Short. May 2009. *Comparative Analysis of Three Proposed Federal Renewable Electricity Standards*. NREL/TP-6A2-45877. Available at <http://www.nrel.gov/docs/fy09osti/45877.pdf>

<sup>2</sup> *Comparative Analysis* at vi.

<sup>3</sup> Kushler et al., 2005, *Five Years In*, ACEEE. Preliminary results from a new ACEEE study indicate the average remains 3 cents/kWh saved.