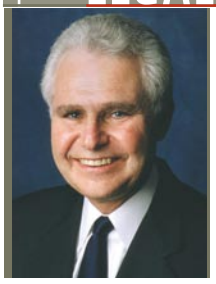
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Why RPS programs may raise renewable energy prices

By Steven F. Greenwald and Jeffrey P. Gray

Until very recently, common wisdom held that the price of renewable energy would fall as legislative procurement mandates ensured its long-term demand. The resulting growth in supply and sales would spur investment in the field, create economies of scale, and accelerate progress down the technology learning curve.

Something unexpected, however, happened along the way. Though more than half of U.S. states have adopted renewable portfolio standards (RPS) that require utilities to meet specific generation targets, and investment in green projects and technology development has increased significantly, recent data suggest that the price of green electricity has risen and will continue to spiral upward. What happened?

The curse of the visible hand

The economic Achilles heel of current state RPS programs is that they carve out a portion of the larger energy market and unbalance it by imposing legislatively determined demand. In the pre-RPS era, utilities aligned their resource planning with demand forecasts largely irrespective of generating technology. Procurement decisions were based primarily on need, price, and "fit" (dispatchability and "black start" capability). As a result, coal, gas-fired, nuclear, hydro, and renewable energy plants competed against each other for a piece of the utility demand pie. The overall market benefited from the increased competition, which—to some extent—also provided a hedge against raising fuel costs. For instance, if biomass prices rose, utilities could procure more gas-fired generation.

In stark contrast, the RPS regime mandates specific renewable procurement targets, generally a percentage of a utility's overall load. Legislatively imposed capacity targets—and penalties for failing to meet them—often obligate market participants to subordinate their own (and their customers') economic interests to the desires of states. Utilities must purchase RPS-compliant power even if its price cannot otherwise be justified. The economic consequences for utilities seeking to be RPS-compliant include higher costs for facility sites, fuel, and generating equipment.

Moreover, although in theory there is competition among different renewable technologies, external forces (such as siting and transmission constraints) effectively limit the availability of resources that can meet a utility's needs—as well as the benefits that competition can provide consumers. Legislative directives that artificially increase demand will also increase prices when supply cannot keep pace. The net result is a skewed market in which power produced from renewable resources commands a price premium just for being "green," irrespective of the benefits of the project that generated it.

Upward price pressure on RPS-compliant power is further sustained by fast-approaching RPS compliance deadlines. In California, for example, utilities are currently scrambling to procure significant amounts of renewable resources in order to meet the state's 20% target by 2010. In such a market, rising prices should be no surprise: Prices rise when demand exceeds supply, regardless of the reasons for the imbalance.

In economic theory, competition enables markets to respond with an "invisible hand." When the movements of a market are precipitated by government fiat, they are subject to a visible and very heavy hand.

Let's get real

Wind farms are feasible only where it's windy, and photovoltaic arrays only where it's sunny. Access to fuel similarly limits potential sites for geothermal and biomass projects. Though these geographic realities should be evident, overly ambitious RPS programs such as California's suggest a failure by regulators to meaningfully assess whether regional renewable energy "reserves" are sufficient to meet RPS-imposed demand.

The shortage of viable in-state resources has prompted utilities to look to neighboring states to meet RPS requirements. But extending the search for renewable power beyond state borders can have negative consequences for both the consuming state (higher prices resulting from increased transmission costs) and the producing state (the energy that could be delivered locally at the lowest price is exported).

The bottom line: Although governmental edicts to increase demand promise some short-term benefits, long-term gains won't be possible unless RPS targets are based on a realistic assessment of available supply—not simply on au courant political correctness.

All is not lost . . . yet

Fostering the development and use of green generation is good policy that should be continued for several reasons. If implemented wisely, RPS programs can significantly benefit both consumers and the environment by reducing dependence on foreign oil, diversifying generation fuels, cutting greenhouse gas emissions, and ultimately by lowering the overall cost of power.

If they are ill-conceived, however, RPS programs create artificial market demand that does not reflect real-world limitations on renewable project development. The net effects could be much higher electric bills and a likely public backlash. If policy makers do not carefully consider the possible downsides of their fervor to make power generation less of a contributor to global warming now—whatever the cost—history may remember RPS as yet another expensive "green" façade. ■

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