

Taking Up Where Congress Left Off: The Ascendancy of the States in a Post-Energy Bill World.

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ABSTRACT

Important energy efficiency measures including appliance standards and tax incentives are caught in a stalemated federal energy bill proposals that could potentially save more energy in the transportation and electricity sectors were eliminated earlier in the legislative process. This paper will review the ways that the states have taken up where Congress left off and found innovative policy options that address wasteful energy consumption in three areas. In the transportation sector states must find policies other than direct fuel economy standards, due to federal preemption. In the electricity sector states must address an industry no longer composed of regulated, integrated monopolies, but also not primarily governed by competition. With appliance standards and tax credits, states have successfully implemented key market penetration policies in advance of Congress or in ways adapted to meet state needs.

Introduction

The words have echoed in the halls of Congress for the last three years: “America needs an energy bill.” Numerous bills and their offspring have been introduced in both the 107th and 108th Congress, and while they have much in common, their stark and controversial differences have made it appear nearly impossible to pass comprehensive federal energy legislation. Thus although Congress included in the bills widely supported efficiency measures from appliance and equipment standards to tax credits for highly efficient homes, buildings, cars, appliances, and more, those provisions are now hostage to the larger, stalemated bills. Furthermore, in two of the most energy-consuming areas of our economy—transportation and electricity—Congress has not supported aggressive policies that are needed to increase energy efficiency. In both of these areas, as well as in less controversial market penetration measures, some states are making great strides on energy, environmental, and other policies that impact efficiency.

There are many reasons for states and communities to act in advance of or in the absence of federal legislation. Key motivating forces for state governments are the severe air pollution and smog concerns at the state and local level. With more than half of the population living in areas that exceed federal standards for many pollutants, severe ailments from asthma to some cancers have made lawmakers feel they cannot wait forever for federal action. In addition to local health concerns, national concern about U.S. oil dependence and international concern about global warming bring home the ‘think globally, act locally’ civic mindedness that can motivate citizen to call for public policy action. The narrower range of political forces in some states also has allowed local and state lawmakers to act while Congress is caught between opposing views.

Transportation Efficiency and State Policy

Growing concerns about greenhouse gas emissions, urban air quality, and increasing dependence on foreign oil, along with the lack of congressional action to address pollution and energy waste in the transportation sector, have led several states to forge ahead with innovative transportation policies and initiatives. States are creating a variety of incentives, mandates, and education programs that encourage consumers to purchase hybrid-electric and other efficient and clean-fuel vehicles, and sometimes to drive fewer miles.

To do so, states have had to work around several obstacles. Some state measures are preempted by federal law, such as fuel efficiency requirements that are banned by federal Corporate Average Fuel Economy (CAFE) law. In addition to preemption, outdated laws and federal restrictions haunt the states in their efforts to improve the air quality and reduce greenhouse gas emissions emitted by the cars and trucks on their roads. And some state “clean car” legislative measures have been held up in courts.

Legislative Incentives: Time and Money

Incentives for increasing the fuel efficiency of the vehicles on America’s roads offer something of value to motivate market change, in lieu of a standard or regulation. Two things highly valuable to consumers, and thus used as incentives, are time and money.

An inexpensive option for states is to reward consumers for driving cleaner and more efficient vehicles by allowing access to high occupancy vehicle (HOV) lanes. Although federal law currently prevents states from opening HOV lanes to single-occupant hybrid-electric vehicles (which achieve fuel economy ratings as high as 60 mpg in city use and receive low emission ratings),¹ the federal energy bill and also the bill to authorize highway construction funds² would change this restriction. Controversy over these bills has delayed action on the change. Some states, however, such as Arizona, Colorado, Florida, Georgia and Virginia have already moved to encourage hybrid purchase by expanding the HOV lanes to hybrids. Now the Federal Highway Administration may withhold federal highway funding from these states, threatening millions of dollars that are crucial to states' upkeep of the transportation infrastructure, because they are doing what Congress wants to allow them to do.

One area of the law where states have unambiguous rights is state taxation. Although many states have been feeling the pinch of deficits, tax incentives are a popular way of lowering the initial cost for purchase of hybrid electric vehicles, low emission, or zero emission vehicles. States have been using a variety of tax measures in recent years, offering the incentive either at the time of purchase through a full or partial sales tax exemption, as in New Mexico and Maine, or through a credit or deduction on state income taxes, as in Maryland, Colorado, California, New York, Virginia, Oregon, Georgia, Rhode Island, and Vermont. Tax incentives are as generous as \$5000 for a battery electric vehicle or as low as \$200 to provide a reward for buying a hybrid.

¹ The Transportation Equity Act of 1998 (which authorized federal highway and mass transportation programs) dictates that HOV lanes can be used only by multiple-occupant vehicles or vehicles that have been certified by the U.S. EPA as Inherently Low Emission Vehicles (ILEV). To meet this definition, vehicles must have zero evaporative emissions. Natural gas fueled vehicles and battery electric vehicles can meet this standard; hybrid-electric vehicles, while among the lowest emitting vehicles in the market today, cannot meet this definition.

² The Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003 (S.1072 and H.R. 2088).

Legislative Mandates: Pollution Reduction

Standards and regulations are more certain to show results than incentives, but are less likely to be popular if there is an impression of forced behavior change, increased cost, or restriction of options. In addition, there are limits to a state's ability to set efficiency standards due to the federal preemption by CAFE standards. And California is the only state that can set its own auto pollution standards that differ from federal standards.

But over the last 40 years, California has used this ability to pioneer the use of three-way catalysts, unleaded gasoline, and other technologies that have reduced tailpipe emissions. Because other states can choose between federal air pollution rules and California's more stringent standards, California has been able to pave the way for the adoption of groundbreaking pollution policies. Because improving automobile efficiency, including the production of hybrid electric vehicles, is a proven way to reduce vehicle emissions, California's efforts also impact overall vehicle energy efficiency positively.

In 1990, California set forth a plan to reduce vehicle emissions through the introduction of the Zero Emission Vehicles (ZEV) program. The program originally required that a slowly increasing percentage of vehicles sold in California had to be ZEVs (either battery-electric or fuel cell vehicles). The ZEV program has seen frequent debate and been subject to lawsuits due to federal CAFE preemption, and the car manufacturers have claimed they could not meet the original requirements. Thus the California Air Resources Board (CARB) has made a series of changes to make the requirements less stringent, and allow Low Emission Vehicles to receive partial credit toward the requirements. The latest revision, in April 2003, settled the lawsuit and will allow the modified program to restart the 2005 model year (manufacturers can also bank credits for vehicles produced earlier). Following California's lead, New Jersey, Massachusetts, Maine, New York, Vermont, Connecticut, and Rhode Island have enacted California's program; Minnesota may be next in line.

In July of 2002, California Governor Gray Davis extended the state's environmental regulation of vehicles when he signed landmark climate legislation that would require the CARB to develop greenhouse gas emission standards for vehicles in model year 2009 and beyond. The standards will apply to automakers' fleet averages, rather than each individual vehicle. Assembly Bill 1493, often referred to as the "Pavley bill" after its author Fran Pavley (D-Agoura Hills), has been accused of being "back door CAFE" standards. Yet, proponents note that there are many ways to reduce the greenhouse gases emitted from vehicles, from fuel-efficient tires and proper maintenance to alternative fuels and advanced technologies such as battery, hybrid and fuel cell vehicles. In addition, carmakers will be able to partially achieve the standards by reducing pollution from non-auto sources, like factories. Many states, particularly in the northeast, are likely to adopt California's standard if the "Pavley bill" is upheld.

Public Leadership: Education and Example

A number of states have also sought to reduce gasoline use through voluntary consumer education programs. Some states have sought to shape public attitudes and use public education efforts to curb vehicle miles traveled (VMT) in their territories. In Georgia in the mid-1990s, the Atlanta area was suffering from terrible air pollution and ground-level ozone levels. The state, working with the Clean Air Campaign (CAC), established an effort to increase public awareness and reduce driving with a media campaign to connect "air quality with traffic congestion." They

also set up a free ride program for those who participate in carpools or take public transportation, and established other outreach measures. The CAC and the Georgia Department of Natural Resources officials believe the total VMT per person declined by an average of one mile per person per day between 1998-99 and 2000-01, allowing a reduction of 79,333 tons of CO₂ per year by 2001 (Rabe 2002).

Maine's "Cleaner Cars for Maine Program" is a consumer labeling program that enables individuals seeking to purchase an automobile to easily identify the cleanest and most fuel efficient vehicles on dealer lots. The Maine Department of Environmental Protection, the Maine Auto Dealers Association and the Natural Resources Council of Maine developed the program in partnership using, among other criteria, the California Certified Low Emission Vehicle (LEV) and fuel efficiency requirements (Maine Office of the Revisor of Statutes 2003). Maine's Program was the first in the nation when it began in November of 1999. Since its inception, New Hampshire established the Granite State Clean Cars Program modeled after Maine's Program. (New Hampshire Department of Environmental Services 2003).

Nearly 20 percent of all new car registrations are fleet vehicles according to the Center for a New American Dream (New American Dream 2004). While proposed federal fleet clean vehicle mandates, like other federal policies, are caught in the debate over the comprehensive energy bill, many states have chosen to lead by example and are setting requirements on new vehicles purchased by the state government. The hybrid-electric Toyota Prius has been a popular fleet purchase item. New York City has purchased over 650 for use at municipal facilities, and King County, Washington purchased 60 between 2001 and 2003. In Martin County, Florida, the Sheriff's office uses 11 Priuses and 8 hybrid Honda Civics and estimates an average of \$103 savings each month in gasoline – saving the limited tax dollars for the state.

State Policy Actions that Are Needed

Efforts by the states to reduce pollution and greenhouse gas emissions have led to incentives and mandates that result in the use of more fuel-efficient vehicles in these states. Although the federal government and the states are in a constant struggle over authority, the lack of federal action places more emphasis on the need for forward-looking state legislatures to develop innovative solutions and take action to bring cleaner vehicles to their roads. Important options for states considering action currently include:

- Encourage the purchase of highly efficient vehicles through state tax incentives or rebate programs.
- Discourage the purchase of inefficient vehicles by taxing poor performing vehicles.
- Adopt California's approaches to reducing pollution, including the Zero Emission Vehicle program and the more recent Pavley legislation.
- Provide the information consumers need to make smart vehicle purchases through state information campaigns, labeling programs, and educating car dealers.
- Develop purchasing requirements for state agencies to ensure government vehicles are among the cleanest and most efficient on state roads.

State Efficiency Measures in the Electric Sector

A second area of energy efficiency policy in which states have taken the lead in the absence of federal action is in the creation of energy efficiency programs funded through energy utility rates. While most of the action, and most of the following discussion, is focused on electricity, the same issues and potential exist in the natural gas sector. Policies in this area must be examined in the broader context of restructuring of the electric and natural gas industries.

History of State Leadership

Traditionally in the U.S., electricity has been generally provided by integrated monopoly utilities that own generation, transmission, and distribution facilities, and that serve all customers in a region, with rates regulated by the states. In the last couple decades states, in order to avoid the need for expensive new electric facilities, began to require electric utilities to use efficiency programs that encourage customers to reduce demand, and allowed utilities to be paid for such programs through minor rate surcharges. Under “Integrated Resource Planning” (IRP) utilities consider both efficiency programs and new generation and transmission facilities as ways to make supply meet demand, and then adopt the least-cost approach, often including consideration of environmental and social costs. More than 30 states adopted IRP by the end of the 1980’s. In their wake in 1992 the federal Energy Policy Act required all electric utilities to use IRP (U.S. Department of Energy 2002). By the mid-1990’s utility demand-side management programs (both energy efficiency and load management) had reduced peak load by about 30 GW and saved up to 62 GWh a year, with funding up to \$2.7 billion a year (Energy Information Administration 2003).

However, in the 1990’s the industry began to restructure to adapt to competitive wholesale electricity markets under Federal Energy Regulatory Commission orders, and to expected retail competition under new state laws and proposed federal legislation. There was no apparent way for utilities to recover the costs of efficiency programs without regulated rates and with generation, transmission, and distribution costs potentially split between different companies. States abandoned IRP requirements, and utilities jettisoned their efficiency programs. By the late 1990’s, funding had been cut by almost a half, and energy savings were down a lesser amount.

Some states adopted new approaches to encouraging efficiency. In particular, most state restructuring laws created at least a small public benefits fund (PBF, also called a system benefits charge and other names). PBFs are generally funded by a surcharge on consumer electricity bills of 0.03-0.40 cents/kWh; the funding is used for some combination of efficiency programs, renewable energy, low-income energy assistance, and energy research. The programs may be administered by utilities, states, or independent organizations. Of the 23 states and the District of Columbia that have passed restructuring laws and rules, all but two (Oklahoma, and Virginia) have also passed some form of PBF; in addition, three states (Minnesota, Vermont, and Wisconsin) have created PBFs without restructuring (Kushler & York & Witte 2004).³

One state also has taken a different approach. Texas in its restructuring legislation (signed by then Gov. George W. Bush) required utilities to use energy efficiency programs to reduce demand growth by 10% each year. This policy approach of requiring efficiency

³ Note that some of the PBFs do not include energy efficiency funding, and several states fund electricity efficiency through other means.

programs sufficient to meet a set electricity demand-reduction target has been termed an Energy Efficiency Performance Standard (EEPS).

These state actions to spur energy efficiency in a restructured environment have inspired related federal proposals. Rep. Barton (R-TX) in his 2001 electricity bill (HR 3406) would have required FERC to develop “price-responsive demand programs” to try to reduce peak demand by at least 5% (the bill also explicitly authorizes state and municipal PBFs). Sen. Bingaman in his initial comprehensive energy bill in 2002 (S. 597) proposed a national PBF to match state funds. He followed national PBF proposals in narrower bills from Rep. Pallone (D-NJ) and Sen. Jeffords (R/I-VT). However, none of these proposals made it into the comprehensive energy bills that have passed the House or Senate.

Current Action in the States

In the wake of the California price spikes, blackouts, and bankruptcies of 2000-2001, the restructuring revolution ground to a halt, and remained suspended between regulation and competition. No additional states passed restructuring measures, and several states suspended or delayed restructuring plans that had already passed. More recently, FERC’s attempts to create more open wholesale markets have faced a backlash from Congress. States other than California that had already started retail competition have kept it, but in most cases serious competition has not emerged, and a large majority of customers has remained with the default service provider (generally the distribution utility). Consequently, true retail competition remains in large part restricted to large commercial and industrial customers in certain states.

As restructuring has stalled, recent state action on electricity efficiency has become somewhat decoupled. For example Arkansas, where restructuring has been at least delayed, recently passed a PBF for weatherization of low-income homes and for alternative fuels projects, though it applies only to utilities that choose to participate. In both Colorado and Washington, which have not restructured, bills recently were introduced to create an EEPS and for effective IRP, though none of the bills passed. On the other hand, of five states with PBFs that have delayed or halted restructuring, only New Mexico has, in the process, eliminated its PBF.

Other, less helpful, actions have been tied more to the current fiscal troubles in most states than to restructuring. A number of states have raided their PBFs in order to balance their general budgets. For example in Wisconsin the governor proposed a cut from the PBF that was increased by the legislature to a total cut of \$47 million from conservation funds over two years. Connecticut took a similar amount from conservation and load management funding. Massachusetts, New Jersey, and Texas have also raided PBFs, and Illinois and Virginia have raided related funds. Other states have shifted energy efficiency funds to low-income assistance. This problem can be expected to continue as long as states remain in such a bad fiscal situation.

Potential for Further State Action

Effective advocacy to boost electricity efficiency programs funded through energy utilities must recognize the awkward position of the electricity industry, currently with limited regulation and limited competition. Among important tasks are:

- *Fight rollbacks of existing PBFs.* As is clear from the above history, these programs are not simply government environmental programs. They are intended to help provide

reliable electricity at the lowest overall cost; raiding them is like taking money a utility planned to use for a new power plant in order to fund unrelated government programs. When PBFs are raided, ratepayers end up paying twice—once for the bill surcharge and again for the higher rates (both electric and natural gas) due to the cost of meeting the increased demand.

- *Spread PBFs and EEPs to more states, independent of restructuring.* These programs are now proven ways of reducing overall electricity costs, as well as environmental and other social costs of providing electricity. Areas with potential advocates, including environmental groups and low-income organizations, and/or areas where the utilities will support at least limited measures (such as Entergy in Arkansas) should be fertile ground. The spread of these programs will also put more pressure on Congress to create a national PBF that would help support state programs, or a national EEPs that would provide more consistent regulation and a more level playing field.
- *Promote natural gas and electric efficiency as a response to high natural gas prices.* The potential of PBFs and EEPs to lower sky-high natural gas prices provides a strong rationale for extending these programs to natural gas utilities. But the need to lower natural gas prices actually provides an equally strong argument for increasing electric efficiency programs. As natural gas markets are extremely tight right now due largely to increased demand by new gas-fired electricity plants, reducing electricity use also reduces natural gas use and prices (Elliot & Shipley & Nadel & Brown 2003). The impact on natural gas prices also ultimately argues for national programs in addition to state ones, as national measures would have the greatest effect on the national gas market.
- *Return to integrated planning, including use of efficiency measures.* More than half the states have not yet allowed retail competition; in those states there should be no institutional barrier to reinvigorating the IRP process. In other states there are de facto integrated monopoly utilities because no competitors have emerged or because there is little prospect of many customers switching. Those default service providers also should be required to find the least-cost measures to serve their customers and their states. In a restructured environment some organization is still responsible for ensuring that adequate facilities exist to meet demand with reliable electricity for all customers. Typically it is the distribution utility and/or a regional transmission operator. A revised paradigm of “portfolio management” has been proposed to bring appropriate planning to such entities (Harrington & Moskovitz & Shirley et al 2002.).
- *Create market rules that allow efficiency measures to compete fairly.* Where competition does exist, markets should be set up to make sure efficiency measures can compete fairly and can be rewarded as supply measures are for helping match supply and demand. Demand-side response is vital to stabilize electricity markets.
- *Encourage grid technologies that facilitate efficiency.* “Smart-grid” technologies can better monitor where and when demand reductions are needed because supplies are tight, and can enable remote, real-time demand-side response.

State Efficiency Appliance Standards and Tax Credits

In moving markets towards more widespread use of energy efficient products, the “carrot and stick” approach described earlier is available to policymakers. Energy efficiency standards

for appliances are a classic stick tactic, and no better example of a carrot tactic exists in this area than tax credits for the purchase of energy efficient products and homes.

The U.S. has achieved significant energy savings through appliance standards to date. According to the American Council for an Energy-Efficient Economy (ACEEE), “As of 2000, appliance standards had already cut U.S. electricity use by 2.5% and U.S. carbon emissions from fossil fuel use by nearly 2%” (Geller & Kubo & Nadel 2001). Meanwhile, savings from energy efficiency tax credits currently are being realized in a number of places at the state level.

Federal Delays vs. State Success

While important progress towards an energy efficient economy has been achieved through appliance standards and tax credits, the use of these important "carrot and stick" market drivers is languishing at the federal level. Appliance standards require updating as technological capabilities change, and tax credits for energy efficiency are virtually non-existent at the federal level.

Federal action on both of these fronts is delayed. Upgraded residential furnace standards are no less than 10 years overdue. Meanwhile, tax credits for energy efficient products are held up in a 3-year effort to pass a comprehensive federal energy bill. These include credits for the construction of high efficiency new homes, for energy efficiency improvements to existing homes, for the incorporation of energy efficient technologies in new and existing commercial buildings, and for the purchase of high efficiency appliances. Provisions for energy efficiency standards and standard rulemakings for battery chargers, ceiling fans, vending machines, commercial refrigerators and freezers, unit heaters, compact fluorescent lamps, exit signs, torchiere lamps, certain transformers and traffic signal modules are also delayed in the federal legislative wrangling.

Where federal action is lagging on appliance standards and energy efficiency tax credits, many states have stepped up to the plate in the name of energy savings and environmental protection.

Appliance Standards

California and New York set the nation's first appliance efficiency standards in the 1970s. When product manufacturers realized then that they might face a patchwork quilt of differing standards across the country, they lent their support to the establishment of federal standards. In this way, states were able not only to take the lead but to spur federal action on energy efficiency. According to the Appliance Standards Awareness Project (ASAP), “Where no federal standards exist, the field is clear for states, or groups of states, to establish what they deem to be acceptable standards. Oftentimes when several states come together to set standards, it becomes in the manufacturers' interest to agree on one national standard” (Appliance Standards Awareness Project 2000).

Maryland has taken the most recent decisive action to update appliance standards. In a contentious process involving an override of the governor's veto, Maryland established in 2004 new efficiency standards for products ranging from ceiling fans to low-voltage dry-type transformers. According to a *Greenwire* report, provisions in the bill would reduce peak summer electric use in Maryland by more than 200 megawatts in 2010 and by more than 400 megawatts in 2020. Estimates find the electricity saved in the year 2010 would be enough to meet the

energy needs of some 75,000 Maryland households a year, savings that by 2020 would reduce emissions of nitrogen oxides by more than two million pounds each year (Miura, 2004).

Similar legislation is moving now in other states including Pennsylvania, New Jersey, New York, Massachusetts, Connecticut and Illinois. In Pennsylvania, the proposed standards are moving in the form of Senate Bill 901. The Northeast Energy Efficiency Partnership reports that, if adopted, between 2005 and 2010 the new standards could save Pennsylvania consumers \$300 million and reduce the demand for power at peak usage by 450 megawatts. By 2020, these efficiency improvements would be saving consumers nearly \$2 billion and cutting peak power loads by nearly 750 megawatts, the size of a nuclear power plant.

In Florida, the new State Energy Plan calls for stronger efficiency standards for appliances (The Florida Solar Energy Center 2004). Florida Senate Bill 2174 on Establishing Energy Efficiency Standards was filed in February 2004 and includes provisions for products large and small.

California adopted eight new standards in 2001, including standards for commercial refrigerators and commercial clothes washers (California Energy Commission 2003). These states are taking the lead in pushing the appliances segment of the market to new heights in energy efficiency. While federal action is delayed, other states may choose to follow suit.

Tax Credits

While tax credits can provide an important incentive for market transformation to energy efficiency, there are virtually no tax credits for energy efficiency currently set at the federal level. Here too, states have taken the lead, with success stories in homes, products, and other areas.

Tax credits for energy efficiency in homes and other buildings vary by state and are designed to address new or existing buildings or both. New York implemented the first tax credit for green buildings in January 2002, which has served as a model for other states. Owners and tenants of eligible buildings that meet "green standards" can qualify for income tax credit certificates based on a percentage of allowable costs. Credit certificates will be issued over a 5-year period for energy efficiency and renewable energy measures, up to a maximum of \$25 million in credits (New York State Department of Environmental Conservation 2002).

Arizona and Idaho both have income tax deductions for energy efficient homes. In Arizona, a deduction of 5% of the purchase price (up to \$5,000) can be applied to energy efficient homes. This applies to residential buildings certified using the Home Energy Ratings System (HERS) to be 50% or above the 1995 model energy code (MECS) (Arizona Department of Commerce 2002). In Idaho, income tax deductions are allowed for the installation of insulation and other energy saving measures into homes built before 1976. Homeowners receive a deduction (up to \$5,000) for the cost of insulation, storm doors, caulking, and weather-stripping. Montana too offers an Energy Conservation Tax Credit for new and existing homes that applies to a portion of the costs incurred while installing insulation, more energy-efficient windows, a programmable or set-back thermostat and other cost-effective energy efficiency measures (Montana Department of Environmental Quality 2003). States have also implemented tax credits for energy efficiency at the individual product level. Oregon has had residential and business tax credit programs since 1979. These programs have proved so effective at getting these technologies into the market that the Oregon state legislature removed a \$40 million dollar per year cost cap completely, allowing unlimited use of the credit by residents and businesses

(Oregon Department of Energy 2004). Meanwhile, Maryland has a sales tax waiver for the purchase of Energy Star appliances, high-efficiency air conditioners, and heat pumps; and Minnesota has enacted a sales tax exemption for energy-efficient products sold between August 1, 2001 and July 31, 2005. As discussed earlier in this paper, some states, including Maryland, have legislated tax credits to promote greater fuel efficiency in vehicles. These states are taking the lead in the use of market incentives to pull their economies toward more efficient energy consumption practices.

Potential For Further State Action

Individual states have taken great strides to promote energy efficiency through appliance standards and tax credits. Their use of these policy tools has ensured that progress on the promotion of energy efficiency has not stalled entirely in the face of federal inaction or delay. These states have led by example, and there is plenty of room for other states to follow.

The Appliance Standards Awareness Project (ASAP) provides model legislation for states considering the adoption of energy efficiency standards for appliances. Across the country, ASAP recommends new standards for the following equipment and appliances (Hildt 2001):

- Torchieres (commonly seen as floor halogen lamps)
- Ceiling fans
- Furnace and heat pump fans
- Standby energy use for electronic equipment and power supplies
- Unit heaters
- Dry-type distribution transformers
- Vending machines
- Commercial refrigerators and freezers
- Traffic lights
- Exit signs
- Commercial coin-operated clothes washers
- Beverage merchandisers
- Ice-makers
- Commercial air-source packaged air conditioners and heat pumps (<20 tons)
- Large packaged commercial air conditioners and heat pumps (>20 tons)

There is also much opportunity still for state action in the realm of tax credits for energy efficiency. Should tax credits for energy efficient homes and products remain stalled in the federal legislative process, individual states should push ahead with their own legislative efforts. Several states have now provided good examples of tax credit provisions for other states to follow.

Conclusion

Many states have shown remarkable innovation in policies that save energy. From California's restrictions on vehicle greenhouse gas emissions to the Texas standard for reducing electricity demand to the Maryland appliance standards and sales tax waiver, states are taking

effective action in policy areas where the federal government is stuck. They are taking advantage of the narrower range of political forces at the state level in order to move forward, and are tailoring policies to meet local needs. They are taking novel approaches to work around federal preemption of state policies in certain areas, and are using available federal funding, research, education and labels, and technical assistance. Taken together, these state measures are making a significant impact on energy use.

However, for some purposes national or international action is still necessary. Energy markets tend to be regional (electricity), national (natural gas), or global (oil)—to tap the full potential of efficiency to help energy supply meet demand, and thus to avoid dangerous shortages and costly price spikes, we must affect demand at a national level. Global warming is of concern due to the combined greenhouse gas emissions throughout the world, and air pollution is often transported across state lines and even oceans. States individually cannot solve these difficult national and global issues.

State actions still have an important role in helping resolve federal-level gridlock and promote national progress. States serve as policy laboratories for new ideas. State programs can create constituencies for similar federal measures. And the balkanization of different state standards can prompt manufacturers to seek the level playing field of federal standards (with preemption of corresponding state rules). Thus, particularly where federal progress seems stuck, it is important to turn to the states for better efficiency opportunities, in part in order to create the conditions for future federal action.

Acknowledgements

The authors would like to thank Anna Carmichael and Alisa Chugh at the Alliance to Save Energy for their research and editing assistance and Therese Langer at ACEEE for her input. Any errors or opinions expressed in this paper are solely those of the authors.

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