

BUILDING ENERGY RATING AND LABELING

Policy summary: The current real estate market operates without the explicit consideration of energy performance of the property – a significant factor in future operating costs. Potential building owners or tenants of either residential or commercial buildings make major investments without the ability to compare the energy performance of the buildings they are interested in. This policy would address this market barrier by introducing an energy rating program designed to facilitate “apples-to-apples” comparisons between buildings. Initially in a pilot form, this would be the buildings equivalent of the EPA MPG rating on cars and light trucks. This policy complements existing efforts to track actual energy use through utility billing data, but the ratings are intended to be independent of tenant or user behavior, and are known as “asset” ratings. The DOER is developing pilot programs for new “asset ratings” of both residential and commercial buildings.

Clean energy economy impacts: Building energy labeling is anticipated to enable significant additional investments in energy efficiency. This investment in turn leads to large reductions in fuel expenses and creates and supports clean energy jobs in residential and commercial remodeling and construction. Less spending on imported fuel will keep more money in the state economy and thereby create additional jobs.

Rationale: At present the voluntary market is providing a glimpse of the potential for an “MPG rating” for buildings. For commercial buildings the Leadership in Energy and Environmental Design (LEED) green building rating has become a must-have requirement for class-A office space in cities across the country, including the greater Boston area. But while the LEED program has steadily improved its emphasis on energy costs, it remains a poor proxy for energy savings potential, and instead signifies that the building underwent a more thoughtful design process than is typical elsewhere in the market. In addition, a growing number of relatively energy efficient buildings have opted into the Energy Star Portfolio Manager program for commercial buildings — which allows buildings above the 75th percentile in energy performance to receive an Energy Star designation.

For the residential market a similar story is apparent. The Energy Star homes program has achieved significant market penetration in MA and other states around the country, and LEED for homes is also a growing “green building” presence, alongside several other green homes certification programs.

While these voluntary programs have shown that there is market interest in energy and green design data, their impact has been limited largely to new construction, particularly toward the higher end of the market, leaving existing residential and commercial real estate markets largely unaffected. Initially developed as pilot programs serving the much larger existing buildings market, this policy could become a standardized source of energy comparison information. This would enable investment decisions that improve energy performance once developers are able to demonstrate and market the results of their investment.

Design issues: Any energy benchmarking and rating metric needs to be clear, transparent and trusted if it is to support increased energy efficiency investment. However, residential and commercial real estate markets face different design issues. For the relatively homogenous

residential market, a comparison of total annual energy needs (primarily heating and standardized electric plug loads) is likely to be the most intuitive metric. DOER, in collaboration with three other states and funding from the DOE, is launching a pilot along these lines in western Massachusetts in 2011.

For the more diverse commercial real estate market, an accurate comparison of energy needs per square foot (primarily heating, cooling, ventilation and lighting in office/retail/lab spaces) is the generally accepted metric. DOER in collaboration with a public and private sector team is developing a pilot to launch in eastern Massachusetts.

GHG impact: The GHG impact for this policy is indirect, in that it enables larger and more targeted energy efficiency investments in the covered real estate markets. It is too early to estimate the actual level of GHG savings attributable to this policy. However, given the large number of existing buildings and the equally large level of annual investment made in building renovations, retrofits and other improvements, enabling the market valuation of energy performance has the potential to foster significant private investment in energy-saving measures and hence reduced carbon emissions. Two major constraints to energy efficiency investment are lack of awareness of potential savings, and lack of credible metrics to support financing from lenders. This policy tackles both of these market failures, and enables smarter real-estate investment decisions.

Other benefits: The task of rating and labeling building energy performance is a labor intensive and skilled exercise. The resulting clean energy jobs are paid for from the energy savings and the other actionable building condition information that results from the building assessments. Energy assessments conducted for asset ratings generally uncover operational issues that can affect building durability (such as water damage, mold, and mechanical problems) as well as more energy-specific improvement opportunities. This information on buildings results in better market valuation and reduced investor risk, and also facilitates improved comfort and early identification of any health and life-safety issues.

Costs: The primary costs of energy asset rating and labeling programs is in the initial building assessments. It is critically important that these assessments are conducted in an independent, consistent and professional manner to ensure the integrity of the ratings. At the same time it is important to minimize costs to building owners and property managers. The Commonwealth is moving forward with pilot programs for both residential and commercial building energy rating to better assess the likely costs of implementation and to allow for both technology and process innovations to be tested, to reduce costs prior to any broader statewide deployment.

Equity issues: Providing access to energy use comparison data is likely to have equity benefits for low and moderate income households for whom energy costs represent a significant portion of their disposable income. As a result, there has been relatively high voluntary adoption of the Energy Star homes program by public and affordable housing programs both in Massachusetts and elsewhere in the U.S. Similarly, for the commercial buildings sector it is likely that small business owners and tenants who lease space will be the primary beneficiaries of more transparent and comprehensive access to energy comparison data in making decisions about where to lease and buy commercial space.

Experience in other states: Residential energy labeling has been successfully piloted in various metro-areas in the U.S., and has become a cornerstone of the European Union climate

and energy policy framework for buildings. Notable examples in the U.S. on the residential side include Portland, Oregon; Seattle, Washington; and Austin, Texas. On the commercial side California is moving to a mandatory utility bill disclosure and benchmarking program through Energy Star Portfolio Manager. Similar programs are underway in New York City and Washington D.C. for public sector buildings and commercial office markets. A growing number of property management companies are developing internal metrics to assess building energy assets and performance in order to inform investment decisions across their portfolio. Adopting an “asset” rating, which has credibility for building appraisers in commercial real estate, is a new idea in the U.S., although it has been the policy direction of the European Union for the past several years.

Legal authority: The Commonwealth can likely require energy ratings as part of the building code governed by the independent Board of Building Regulation and Standards (BBRS). Based on the findings of the pilots, DOER and the Department of Public Safety will develop plans for widespread adoption of rating and labeling and their possible incorporation into the building code. However, the state may opt to put such a requirement in legislation in order to provide longer-term certainty for investors and businesses in the real estate marketplace.

Implementation issues: If energy labeling pilot programs are subsequently expanded to a statewide level, the large number of existing buildings to assess and rate mean that it will necessarily take many years to fully implement this policy. As a result, the timing of market coverage will likely vary in different market segments and different geographic areas around the state. Further, in order to be effective energy ratings need to be accessible prior to any major financial transactions, and ensuring awareness and access to this information may be initially difficult while market coverage is low.

Uncertainty: The rate of adoption of energy ratings and labels by different segments of the real estate market, and the impact that this new information will have on efficiency investment decisions, is unknown. A certain threshold level or “critical mass” is needed for both the residential and commercial markets to make full use of energy comparison data in their purchasing and leasing decisions, and it will likely take a few years before a broader trend in energy efficiency investments can be seen in response to these market signals. Availability of sufficient financing to improve properties is also likely dependent on broader economic trends.