
Building Envelope Technology Road Map— A Vision and Strategy for the Building Envelope of the Future

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ABSTRACT

The mission of the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy is "the development and deployment of advanced energy efficiency and clean power technologies and practices, providing Americans with a stronger economy, healthier environment, and more secure future." In accordance with this mission, the Building Technology, State, and Community Programs (BTS) is facilitating an industry-led initiative to develop a series of technology road maps, which will identify key goals and strategies for different areas of the building and equipment industries, including the "building envelope." Technology road maps are a key component of the BTS strategic plan that will help to align public and private research, policy, and market objectives. This paper discusses the development of a technology road map for the building envelope industry.

The building envelope industry has traditionally been slow to adopt new technology. This has been driven primarily by product/practice affordability and familiarity, as well as external events and a fragmented industry structure. However, the information age is providing customers with direct access to building envelope technology information, creating an environment favorable to industry and product innovation.

The building envelope technology road map is the first step in exploring the potential synergies resulting from the cooperation of building envelope industry parties. This cooperation will provide economic, environmental, and other unexplored benefits to society. This paper will present the results of the yearlong collaboration of building envelope industry participants under the facilitation of the U.S. Department of Energy. Key topics include

- the industry vision of the building envelope in the year 2020;*
- the key market, technology, and policy barriers to achieving the 2020 vision;*
- the key actions needed to overcome those barriers;*
- the timeline and plan for moving toward the 2020 vision; and*
- the portfolio of research and development technology options ranked by risk and contribution to the 2020 vision.*

There are three steps in the road-mapping process: vision development, road map development, and implementation. To date, industry participants have developed a vision for the building envelope of the future. They will identify and outline the key barriers and crucial actions needed to achieve the vision in the next step.

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