

Feeding the Pipeline: An Approach to Assessing the Market for Emerging Energy Efficiency Technologies

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Utilities need new approaches to identify technologies that will make significant contributions toward aggressive demand-side management (DSM) goals in the coming years. California, New York, Washington, and Minnesota have already instituted rules and regulations that require load-serving entities (often utilities) to increase acquisition of this highly cost-effective resource to meet customer energy needs. Further, proposed federal greenhouse gas (GHG) regulations now include aggressive DSM targets.

Expanding on Emerging Technology Programs' Technology Selection Criteria

Successful achievement of aggressive DSM goals will rely more heavily on the success of programs focused on emerging technologies. Such programs must identify new technologies with the potential to achieve significant levels of market penetration. Market traction risk is more significant than either of the other two types of risk that are relevant to emerging technologies (technology risk and team risk). Specific actions can be taken to mitigate the technology risk (e.g., laboratory or field tests) and team risk (e.g., placement of experienced executives). Market traction risk, however, depends on a factor external to a firm: the target market's response to the product. Of the three risks, the market traction risk poses the most significant risk to the achievement of energy efficiency goals.

Considering Market Receptivity to Emerging Energy Efficiency Technologies

Developing effective strategies for addressing the market traction risk will be a critical factor in the future success of emerging technology programs. As part of the evaluation of the 2006-08 California Statewide Emerging Technology Program (ETP), the authors have developed a methodology for applying a practice used throughout the private sector to the utilities' investments in assessments of DSM technologies. Since many products considered in the ETP will not achieve widespread market penetration for several years, this approach provides a leading indicator for evaluating current approaches to resource commitment.

A Useful Tool: The Value Proposition. Value propositions are an effective tool for summarizing information about the market for a product. They are a statement about how the product creates value for a specific target customer. Development of compelling value propositions relies on market research, including contact with relevant market actors and, where available, consultation of existing public sources of information about the market for the technology. The poster summarizes the characteristics of effective value propositions, including components of the value proposition and the underlying due diligence.

Lessons Learned to Date. Preliminary results of the ETP evaluation identified strategies for improving resource commitment decisions in three categories: (1) target market definition, (2) the explanation of technology value to the target market, and (3) the performance of due diligence.