



Executive Summary

A Global Review of Incentive Programs to Accelerate Energy-Efficient Appliances and Equipment

Stephane de la Rue du Can, Amol Phadke, Greg Leventis, Anand Gopal

A Global Review of Incentive Programs to Accelerate Energy-Efficient Appliances and Equipment reviews and assesses incentive instruments and the regulatory frameworks that govern their development across major economies. The report clarifies how incentive programs are implemented globally across different regulatory frameworks. The report also examines how programs are designed to accelerate the penetration of highly efficient (HE) technologies in the residential sector.

Policy Framework

The study concludes that governments most typically roll-out incentive programs using tax funds; however they also set energy-savings goals for utilities, a method increasingly used to incorporate efficiency into energy resource planning.

In addition, government funded programs are used to adopt emerging technologies, by using incentives to generate economies of scale and foster learning-by-doing effects. Incentive

programs have also been used to disseminate stimulus funding during economic downturns.

Governments are seeking new sources of secure, long-term funding for efficiency programs. Innovative alternatives to directly spending tax funds include revolving funds, feebates and Clean Development Mechanism (CDM) credits. In the case of energy provider obligation schemes, programs are funded through tariff increases or public benefits charges. These are known as *rate-funded programs*. Efficiency – which entails reducing utility sales – can directly challenge the business models of energy providers.

Some regulators have addressed these challenges by instituting decoupling policies, which disconnect sales from revenue, and revenue adjustment mechanisms, which compensate energy providers for lost sales.

Market Transformation

Market transformation addresses all stages of an efficient product's market diffusion to accelerate its penetration in a sustainable way for long-term impact.

Well-designed incentive programs address market barriers and complement mandatory standards. They can push market penetration of more-efficient equipment, while appliance standards cement these improvements by eliminating the least-efficient models from the market. In countries with weak or slow-moving S&L programs, incentive programs can help jumpstart negotiations to achieve higher efficiencies. Incentives can make ambitious standards politically palatable and acceptable to local manufacturers and the public.

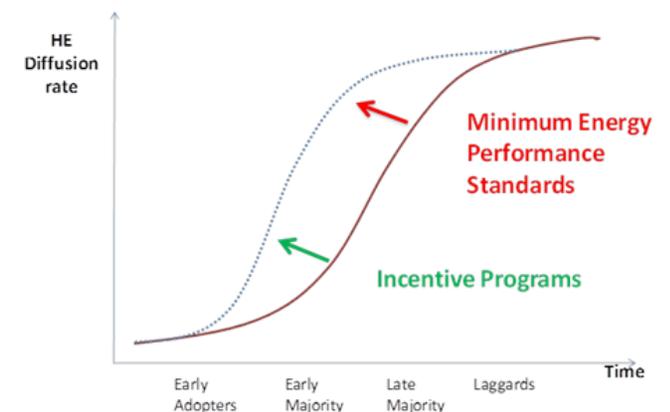


Figure 1 illustrates how market intervention speeds the diffusion of a HE appliance.



Program Designs

The paper explores a variety of program design options. Typically, incentives are implemented through upstream programs (targeting manufacturers), midstream programs (directed to distributors and retailers) and downstream programs (provided directly to consumers). Each addresses different barriers and each has advantages and disadvantages.

There is no perfect program design. A critical factor in successful program design and implementation is a thorough understanding of the market and effective identification of the most important local factors hindering the penetration of energy-efficient technologies. Market transformation strategies require a multi-year, holistic approach in which upstream, midstream and downstream incentives are part of a larger set of market interventions that speed the adoption of more-ambitious standards.

Measuring Success

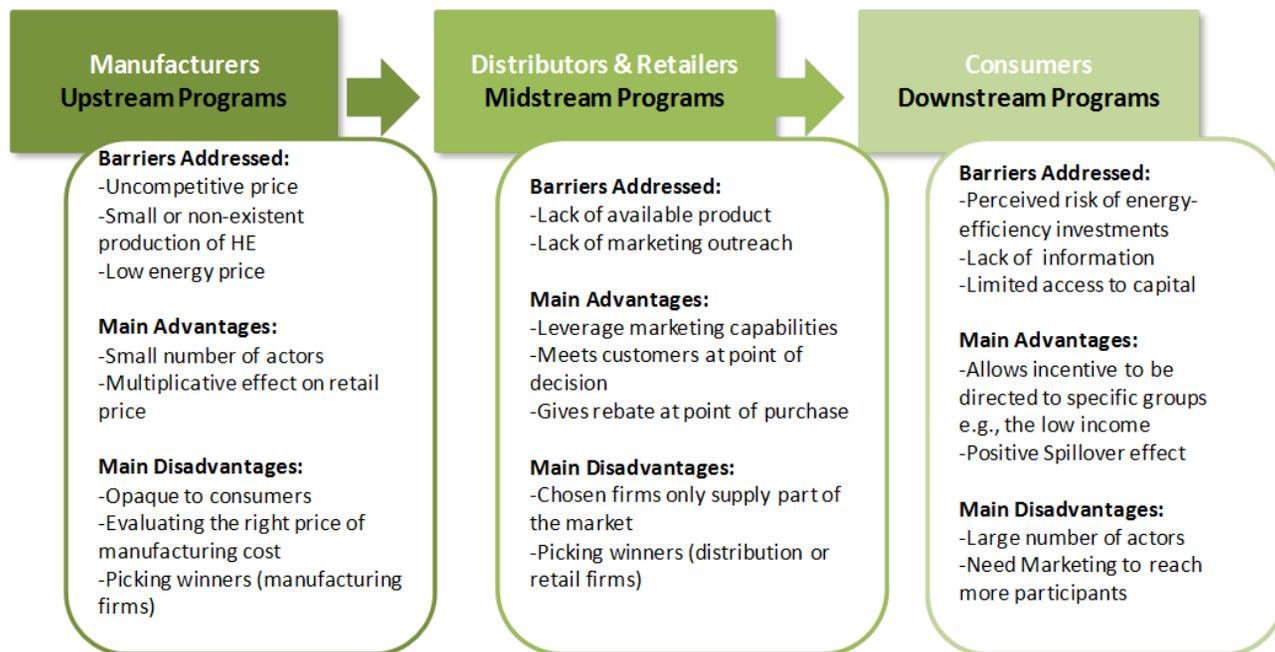
Evaluations of policies and programs are far from being systematically or consistently conducted around the world. Governments do not always allocate time and money to evaluate their programs.

Rate-funded programs are more systematically evaluated, as their achievements are a necessary input for resource planning investment and may be necessary to prove compliance with mandated efficiency goals.

Accounting for energy savings differs widely from country to country. Accounting differences have a

significant impact on results, making numbers difficult to compare across regions. Differences in units, scope, time frames and net versus gross savings account for the divergence in how savings are reported.

Figure 2 illustrates how incentive programs are designed along the supply chain and highlights the market barriers typically addressed, as well as the main advantages and disadvantages of each design option



The Super-efficient Equipment and Appliance Deployment (SEAD) Initiative, a five-year, US\$20 million initiative under the Clean Energy Ministerial (CEM) and the International Partnership for Energy Efficiency Cooperation (IPEEC), helps turn knowledge into action to accelerate the transition to a clean energy future through effective appliance and equipment energy efficiency programs. SEAD is a multilateral, voluntary effort among Australia, Brazil, Canada, the European Commission, France, Germany, India, Japan, South Korea, Mexico, Russia, South Africa, Sweden, the United Arab Emirates, the United Kingdom, and the United States.