



SEAD Incentives

The LEERA Model

The Super-efficient Equipment and Appliance Deployment (SEAD) Initiative of the Clean Energy Ministerial is a voluntary multinational collaboration whose primary objective is to advance global market transformation for energy efficient products. With SEAD, participating governments have access to the resources and technical expertise needed to build and implement cost-effective product efficiency policies and programs, which lead to reduced energy costs to consumers, and more robust economies, and typically represent the lowest-cost opportunities to achieve significant greenhouse gas emission reductions.

SEAD's Incentives activities focus on developing and implementing energy efficiency incentive programs and facilitate peer-to-peer information sharing on incentive policies and program design best practices.

Analyzing Energy Efficiency Revenue

The Lawrence Berkeley National Laboratory Energy Efficiency Revenue Analysis (LEERA) model is a new tool to help policy makers design revenue-neutral appliance efficiency incentive programs. These programs can help governments reduce energy use without altering subsidy programs or increasing energy performance standards.



Subsidy programs can be a major cost for governments. In 2005, approximately \$5 billion per year was spent on electric sector subsidies in Russia, China, India, Saudi Arabia, and South Africa.

United Nations Environment Programme (2008)

Appliance incentives are a viable way to reduce energy use

Countries that reduce residential electricity use can reap critical environmental benefits and lower costs for consumers. However, many countries have limited options to improve end-use efficiency for two key reasons:

Reducing subsidies may not be feasible or desirable. Many countries have taxpayer-funded subsidy programs that lower the price of electricity for consumers. While countries could encourage greater efficiency by reducing subsidies, doing so would raise consumers' electricity costs.

Strengthening standards may not be feasible. Stringent appliance and building efficiency standards (such as minimum energy performance standards) can help reduce energy use. Many countries are unable to strengthen standards, however, without imposing a new cost on consumers.

Faced with these obstacles, many countries are turning to appliance efficiency incentive programs as a viable way to reduce energy use without altering subsidies or increasing energy standards.

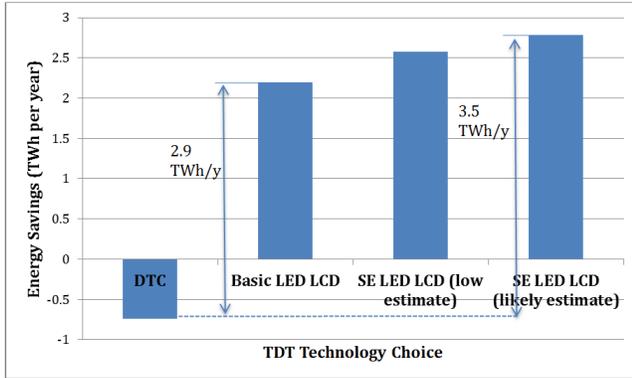


Figure 1. Energy savings available by replacing 14 million CRT TVs with LED-LCD technologies.

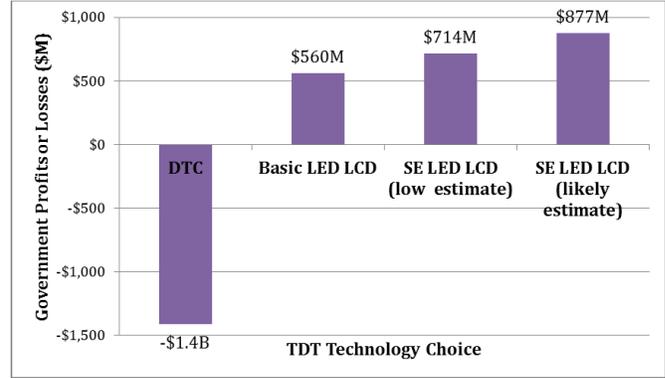


Figure 2. Government profits and losses from different choices of technology in replacing 14 million CRT TVs.

Mexico LEERA example: The 2015 Digital TV transition (TDT) will enable Mexico to upgrade the quality and reliability of its terrestrial TV broadcasts. Research conducted by LBNL shows that the TDT could also allow Mexico to substantially improve the energy efficiency of televisions in the country. If a TV replacement program is designed properly, the Mexican government could **reduce TV energy consumption from 2.9 TWh/yr (if the government gives away basic LED-LCD TVs) to a likely 3.5 TWh/yr (if super-efficient LED-LCD TVs are given away instead of basic models)**. In addition to saving energy, the Mexican government can also net a **profit of US\$560 million** in the case of the basic LED-LCD giveaway and a **likely profit of US\$877 million** if super-efficient LED-LCD TVs are given away. DTC = Digital Television Converter

Revenue-neutral financing for incentive programs

Financing appliance efficiency incentive programs is a challenge for many governments. The LEERA model helps policy makers design incentive programs that can be financed entirely by revenue generated from end-use efficiency improvements, such as avoided subsidies. The model provides key data for decision makers on the following:

- Energy savings that can be realized through efficiency improvements
- Financial savings from avoided subsidies
- Targeted incentive levels (i.e., the percentage efficiency improvement for a given appliance)

The model calculates the financial and energy savings that governments will accrue from the deployment of more efficient models of appliances. It then draws on SEAD’s techno-economic analyses to calculate the efficiency improvements that can be achieved for specific appliances. The model also suggests incentive levels for more efficient models of each product.

For example, in Mexico policymakers are considering giving away 14 million LED LCD televisions as part of their transition to all digital terrestrial TV signals. If the government replaces analog CRT TVs with super-efficient LED-LCD TVs, it can reduce TV energy consumption by 3.5 TWh/yr (roughly equivalent to the electricity generated by a 500 MW power plant). Further, the government could save up to US\$877 million (MX\$11.5 billion) in subsidies from such a replacement program even if these super-efficient TVs are given away for free.

SEAD’s Incentives activities are led by the United States, with participation from India and Mexico, and support from CLASP and the Lawrence Berkeley National Laboratory.

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The Super-efficient Equipment and Appliance Deployment (SEAD) Initiative of 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.