

MANDATORY VERSUS VOLUNTARY APPROACHES TO APPLIANCE STANDARDS AND LABELLING

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This paper discusses general similarities and differences between mandatory and voluntary approaches for implementing energy-efficiency standards and labeling for electric appliances. Information in this paper is drawn largely from recent studies by the International Energy Agency (IEA), the International Institute for Energy Conservation (IIEC), and Thailand's National Energy Policy Office (NEPO).

INTRODUCTION

Energy-efficiency standards and labeling have proved to be an effective strategy for promoting energy conservation by encouraging the production and the use of higher- efficiency products and equipment. Two distinct strategies have been widely implemented: mandatory and voluntary approaches.

While aiming for a similar goal (increasing the proportion of energy-efficient appliances purchased within the country, state, or territory), the two approaches have quite different characteristics and components. Experience has shown that the two approaches yield advantages and drawbacks in their implementation requirements and results. This section discusses the similarity and differences between the two different approaches.

NATURE OF THE TWO APPROACHES

Mandatory energy-efficiency standards are a set of procedures and regulations that prescribe the energy performance of manufactured products. In some cases, the standards can also be in a form of maximum energy consumption limits. Implemented along with the appropriate legal and monitoring framework, the standards can be a very powerful and effective tool in transforming the market by prohibiting the sale of products that cannot meet the minimum efficiency level.

On the other hand, voluntary energy standards programs provide consumers with information that can promote (but not mandate) more educated and energy-conscious decisions when purchasing appliances. Voluntary programs are a more flexible approach to reach the same objective. Such programs generally have a business-driven process, tend to favor the most cost-effective solutions, and allow manufacturers to play a pro-active role in setting quantified criteria.

In many cases, a distinguishing label is given to appliances that meet energy efficiency minimums; this allows these products to stand out on the retail sales floor and be more easily recognized by customers. Financial incentives in the form of a grant subsidy, rebate or low-interest loan may be given to encourage and support local production of the most energy-efficient appliances.

REQUIRED COMPONENTS FOR SUCCESSFUL IMPLEMENTATION

Mandatory standards can set a minimum efficiency value and eliminate the low-efficiency products from the appliance market. Regulations and legal instruments are necessary for effective implementation. A well-defined testing procedure (test protocol) and infrastructure is also essential for effective monitoring and enforcement. Such a "testing regime" will allow a country to obtain a sufficiently accurate estimate of the energy performance product in typical use or of the relative ranking of the energy performance of appliances and equipment.

Because mandatory programs involve strict legal implications, administration and monitoring are the key components of such programs. Generally, official testing is required for initial certification of each model's compliance with the standards; this should be followed by random and periodic inspections at points of sale in order to ensure ongoing compliance. A systematic process should be established to collect test results and data for program adjustment and to update the standards. Proper testing facilities and a sufficiently skilled workforce must be available in order to support the program implementation.

Manufacturer Self-Policing: Effective and Inexpensive Monitoring Methods

In self-policing programmes, manufacturers are allowed to test the performance of their own models for initial certification, and there is no inspection at the point of sale. In this type of programme, the success of the standards depend upon the incentives for rival manufacturers to test each other's models for compliance with the standard. Such self-policing is the lowest-cost option for the administrative agency. However, some extra costs involved in such a manufacturer-testing programme would eventually be passed on to the consumer.

Even though the monitoring component of a voluntary approach is not generally as strict or expensive as in a mandatory approach, an effective monitoring system is still important to minimize the submission of fraudulent information and to keep program updated. A continuous monitoring system (appliance efficiency levels, market saturation) would provide timely adjustment of target levels and appropriate modification of the qualifying appliance list.

Since voluntary approaches count on consumers' awareness and decision-making after information is provided, promotional activities are the major task for implementing a voluntary standards or labeling program. Heavy mass media promotion, especially TV advertising, coupled with point-of-purchase display and bill inserts have been proved to be critical successful factors in heightening customer awareness and increasing the purchase of energy-efficient units. In many programs, dealers and retailers are trained how to use labels and point-of-purchase materials as well as how to be more "consumer marketing" oriented and less "engineering" oriented.

Frequently, a successful voluntary standards or labeling program is coupled with complementary programs such as a buy-back program or a rebate program to help overcome the higher initial cost for consumers. It has been found that the speedy processing of rebates (four-week maximum) is the key factor for a high rate of participation and satisfaction.

Cooperation is also key. Experience shows that neither mandatory nor voluntary programs will be successful without collaboration from stakeholders, especially manufacturers and retailers. Mandatory schemes require acceptance, while voluntary programs require participation and commitment from manufacturers. Opposition from stakeholders can lead to a long and difficult process for developing and implementing a standards or labeling program. It is recommended to establish a firm liaison system between the program implementing agency (utility, government units), manufacturers and retailers.

COSTS

Mandatory approaches require a strict and comprehensive monitoring and enforcement scheme, which may involve numerous man months of input. In many cases, the enforcing agency may also have to engage in lawsuits that could take time to be resolved in the courts. As a result, administrative costs related to monitoring and enforcement are typically a significant part of the costs incurred using a mandatory approach, while a voluntary approach would primarily incur expenses on heavy promotional activities and incentives (if any). Information on both the cost and effectiveness of the two approaches is not readily available. Also, the a significant part of the cost depends on the program design rather than its mandatory or voluntary natures (e.g., voluntary programs can be expensive if they involve a large

public relations and advertising effort). However, in typical cases, mandatory schemes incur higher costs when they are implemented with a serious monitoring and policing scheme.

INTERNATIONAL EXPERIENCE

Energy-efficiency standards and labeling programs have been adopted in many countries, including Australia, Brazil, Canada, China, Europe, Korea, Mexico, Philippines, and USA. Many programs have effectively achieved a large amount of energy savings without adverse impacts on appliance features or reliability. Currently, the U.S. and Canada have the most extensive set of mandatory minimum energy performance standards (MEPS). While most countries have implemented mandatory standards, Brazil and Japan have successfully used voluntary standards. Switzerland has successfully implemented the voluntary standard programs with a threat of mandatory legally binding standards. Table 1 summarizes the status of residential and office appliance energy efficiency standards.

Table 1. International Examples of Implementation Approaches

	Mandatory	Voluntary
Refrigerator and freezers	USA (L&S), Korea (L&S), EU (L), Australia (L&S), New Zealand (L&S), China (S)	Thailand (L), India (S), Japan (S), Hongkong (L), Singapore (L), Indonesia (L)
AC	USA (L&S), Korea (L&S), EU (L), Taiwan, Philippines (L&S), Mexico, Canada (L), Singapore, Russia (S), Australia (L)	Japan (L&S), Thailand (L), Hong Kong (L), New Zealand (L)
Lamps/ Ballast	USA, Canada (S) EU (L), Korea(L), Philippines (L&S)	Japan; Thailand, Singapore, Hong Kong
Space/Water heater	USA, EU (L), Korea (L), Australia(L&S)	New Zealand (L)
Dishwashers	USA, EU (L), Australia (L), Canada (L)	Switzerland, New Zealand (L)
Computers		USA, Japan
Clothes washers	USA, Taiwan (L), Australia (L), China (S)	Switzerland, Canada

Sources: IEA (2000) and Wiel and McMahon (2001)

CONCLUSIONS -- DECIDING WHAT IS BEST FOR YOUR COUNTRY

Mandatory and voluntary approaches both have the same goal: to influence the behavior of importers manufacturers, sale persons, and consumers. The success of any program depends upon the appropriate balance of legal, financial, and social considerations in light of the structure, economics, culture and politics of a society. It requires some lead time to establish successful implementation of mandatory programs – acquiring acceptance, enacting a legal framework, developing an effective monitoring and enforcing scheme. Voluntary approaches need a sufficient budget and commitment for promotional campaigns. Manufacturers' cooperation is a key for successful program implementation for both approaches.

When selecting which approach is more suitable, policymakers need to consider the situation and environment in their country and not just import policies or program approaches wholesale. The many factors that will influence program design include the culture, legal conditions, the country's financial situation, social considerations, economic structure, and the profile of product markets.

Normally, solid market research is required to provide the fundamental wisdom for policy-making on what is best for the country, because it can help establish the foundation for the type and scope of program and suggest the level of financial support and promotional activity needed. The design of standards and labeling programs requires considerable technical knowledge. These programs need to be flexible to adjust to dynamic conditions such as technological advances and market saturation.

Of course, the two approaches can also co-exist and compliment each other. In many instances, voluntary approaches can be a valid alternative to the introduction of legislation. Then, when both the legal system and local industry are ready, mandatory standards are can be established and enforced in order to eliminate the most inefficient products from the market. And voluntary standards can be coupled with labeling and/or financial incentives as a way of encouraging local manufacturers to upgrade their products efficiency to even higher levels.

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