

## Associate Professor Ahmad Zahedi

Head of Electrical & Computer Engineering School of Engineering & Physical Sciences Townsville Queensland 4811 Australia Telephone (07) 4781 6907 International +61 7 4781 6907

29 July 2009

# **Barriers to Energy Efficiency Improvement**

The following is a list of the main barriers, broken out by the individual or institution that faces the barrier(s).

- 1. Barriers at the Consumer Level
- Barriers at the Market Level
- 3. Barriers at the Financial Institution Level
- 4. Barriers at the Government Level

There is usually a combination of barriers from each of the categories.

#### 1. Barriers at the Consumer Level

- Even if they understand that they will save money from energy efficiency investments, many energy users will only invest if the financial returns occur in the very short term.
- Energy consumers often have a general understanding of the benefits of energy efficiency investments. But they do not want to go into debt for energy efficiency.
- Energy users often prefer to apply their limited resources and debt capacity to other, higher priorities.
- Usually, energy-efficient products are more expensive than the products they are meant to replace. Even where energy users would like to purchase higher efficiency products and would like to borrow to do so, affordable financing is unavailable.
- Lack of information There are many parties, including energy users, in the energy efficiency equation who often have insufficient information about the costs and benefits of energy efficiency.
- Many energy users do not trust that energy savings will happen from their energy efficiency measures, or at least doubt that the savings will be as large as they feel.
- Many energy users do not have a financial incentive to implement energy efficiency measures. This can be due to low energy prices. But even where there are higher prices, users often need an extra financial incentive such as a rebate before they will take action.
- When the builder or owner of a home does not pay the energy bills, he/she usually have little financial incentive to make energy efficiency improvements, while the tenants, who pay

the bills, do not want to make major energy efficiency investments in property they do not own.

#### 2. Barriers at the Market Level

- Manufacturers often do not market more energy-efficient products. In addition, product distributors and retailers often do not have any incentive to stock display energy-efficient products.
- Manufacturers often do not have the know-how to make energy-efficient products.
- Some countries have import tariffs that result in elevated prices for energy-efficient products. Some countries have high import tariffs on what are considered "luxury goods," and these sometime include products like air conditioners.

# 3. Barriers at the Financial Institution Level

 Although investments in energy-efficient products can seem high for consumers, many financial institutions consider them too small.

## 4. Barriers at the Government Level

- Although governments usually understand that rationalized energy prices make economic sense and that price rationalization usually involves removing subsidies, the resulting higher prices are obviously unpopular with consumers. Increasing energy prices is thus politically difficult for politicians and government agencies to do.
- Governments typically have at least a general understanding of the benefits of energy efficiency. But they neither have the capability to design nor the resources to support them.
- Demand side management and energy efficiency are often regarded as a low priority, particularly for users whose energy costs are low relative to other costs.

#### Kind regards

Assoc. Prof. Ahmad Zahedi Head of Electrical and Computer Engineering School of Engineering and Physical Science James Cook University Townsville, 4811 Queensland, Australia

Phone: +61 - (0)7 - 4781 6907 Email: <u>Ahmad.Zahedi@jcu.edu.au</u>