

Behavioral Change Toward Low Carbon Society: Role of business, consumers and government

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The broad roles of business, consumers and government to achieve low carbon society are outlined below.

Businesses:

- Reduce GHG emissions from own facilities by-Installation of the best available technologies in the own production processes-consideration to the optimal energy mixture
- Develop & propose low-carbon or energy efficient products and services to the society
- Promote technological innovation

Government:

- Create enabling environment for deployment
- Support virtuous cycle for business and consumers' value creation for low-carbon or energy efficient products and services
- Facilitate international cooperation for RD&D

Consumers:

- Make a wise choice for low carbon products & services
- Create social appraisal for environmentally responsible (corporate) activities

Japan has many examples to offer for such interventions:

- Top-runner program: Introduced in 1998, it now covers 21 product categories with target standards for energy efficiency which are determined by independent experts. This program provides incentives to manufacturers to develop more efficient products, and provides comparative information to the consumers. For instance, as a result of this program, energy efficiency of TV and video recorder has increased by 25.7% and 73.6% respectively during 1997-2003, of air-conditioner by 67.8% during 1997-2004, of refrigerator and chiller by 55.2% and 29.6% respectively during 1998-2004, and of vehicles by 22% during 1995-2004.
- Programs for raising consumer awareness: Several such programs are in place, for example TEPCO's Lifestyle Laboratory that introduces consumers to comfortable, convenient and energy efficient lifestyle with electricity. Consumers can compare the performance of home appliances of different manufacturers.
- Innovations like Eco-Cute, the energy efficient water heater: Eco Cute, developed jointly by DENSO Corporation, Central Research Institute of Electric Power Industry, and TEPCO, is the world's first water heater for residential use that applies the natural refrigerant (CO₂) which has very little impact on global warming. Compared with a conventional combustion type water heater, Eco Cute can save primary energy by about 30% and reduce CO₂ emission by about 50%.

The key challenges for inducing behavioral change among businesses are as follows:

- It is important to focus on all the inter-linkages through the supply-chains and not just the upstream end
- There is a need for industry and cross-industry standards and metrics, as well as global harmonization of formats for disclosure of relevant information by businesses
- It is critical to create conditions for a transformational zone of Public-Private Partnerships (PPPs) to stimulate desired change along the value chain