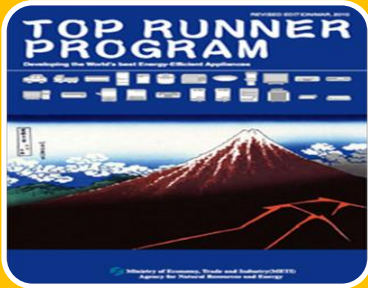




# Driving Energy Efficiency

Mr. Chee Hong Tat,  
Chief Executive, Energy Market Authority  
Singapore

# There have been some good progress in energy efficiency thus far, but more can be achieved.



## Japan – Top Runner Program

- Introduced in 1999 to reduce energy consumption in civil sector and transportation sector
- Standards of energy efficiency are applied to 23 products of machinery, equipment and vehicles prescribed under the Energy Conservation Law



## United Kingdom – The Energy Efficiency Action Plan

- The UK Minimum Energy Performance Standards for buildings has building codes that specify the installed lighting energy limits to the recommended light levels.
- The UK Carbon Trust encourages the implementation of comprehensive energy management procedures, best practices and information for the private and public sector.



## Singapore – Energy Efficient Singapore (E2Singapore)

- Upcoming legislation Energy Conservation Act in 2013 to cover large energy consumers of more than 15 GWh/year
- Minimum Energy Performance Standards introduced in September 2011 for household air-conditioners and refrigerators, and will be further tightened in 2013 to help consumers avoid being locked into high energy consumption and energy costs

# Greater international collaboration in 3 areas is needed to drive energy efficiency momentum globally.

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**1**

## **Increase awareness and encourage the adoption of energy efficiency**

- Public education and outreach
- Standards & Labeling Schemes
- Regulation and Pricing Policies

**2**

## **Develop human capital and institutional capabilities in energy efficiency**

- Training and certification in energy efficiency

**Need to Foster Greater International Collaboration**

**3**

## **Catalyse research and technology innovation for energy efficiency**

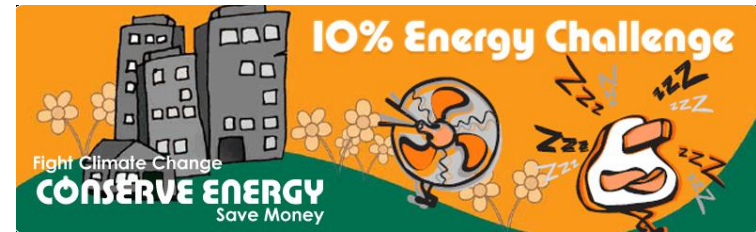
- Incentive schemes to encourage EE technology adoption and innovation
- Test-bedding projects to test close to market technologies

# Increase awareness and encourage the adoption of energy efficiency.

1



- Awareness raising initiative was launched in 2002 by the German energy agency Dena.
- Supported by 3 energy supply companies (VDEW, VRE and VKU).
- Provides comprehensive information and advice on efficient use of energy.



- Awareness raising initiative by the National Environment Agency (NEA).
- To encourage household consumers to adopt more energy efficient appliance, and encourage supplier to bring in better energy performing appliances.
- Provides comprehensive information and advice on efficient use of energy.

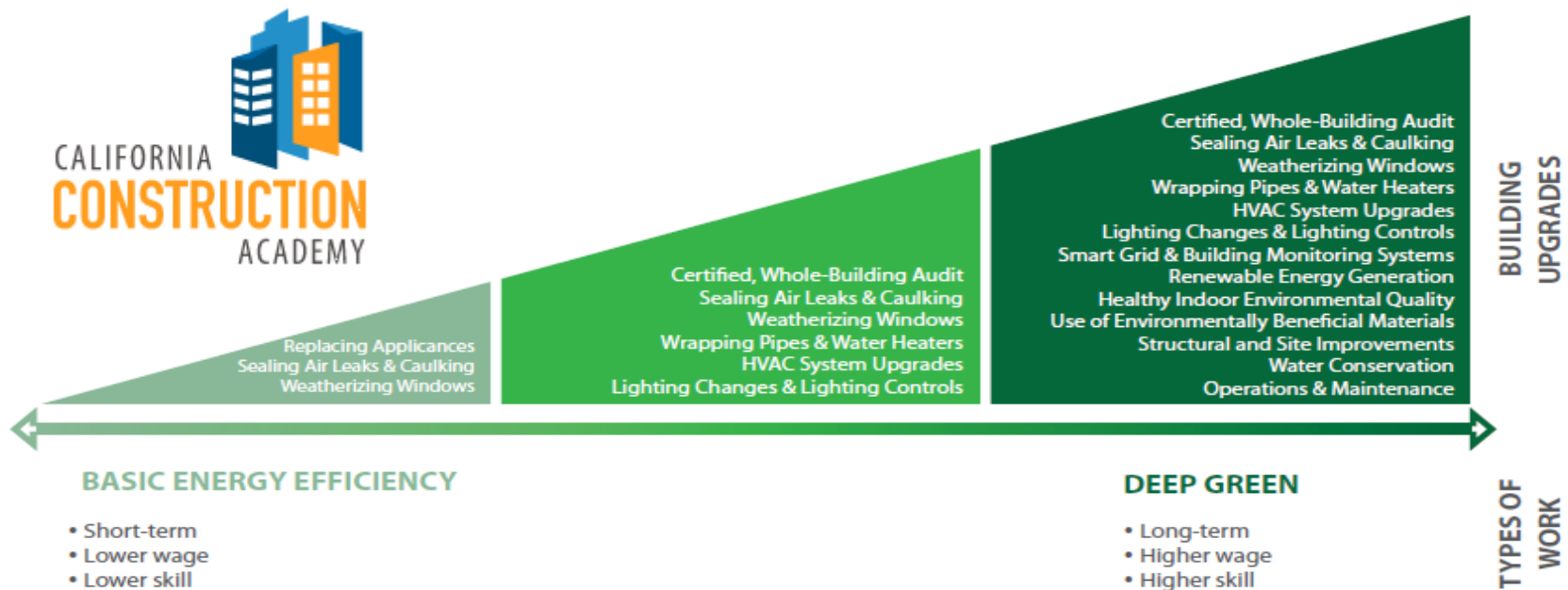


**The bottom line on energy efficiency**  
A joint initiative of Australian, State and Territory Governments

- An open information joint initiative of Australian, State and Territory Governments.
- Shares information on specific energy efficiency opportunities and highlights best practice across industry
- Provides a platform on current energy efficiency programs and grants, skills and training opportunities and upcoming events

# Develop capabilities and expertise in energy efficiency.

2

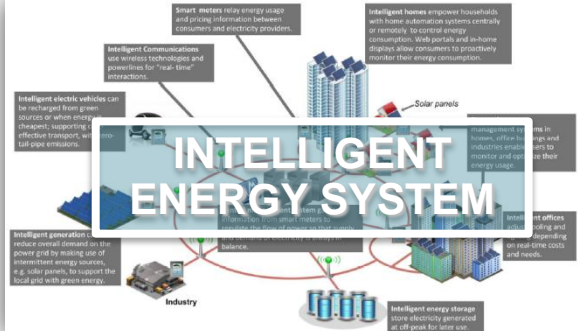
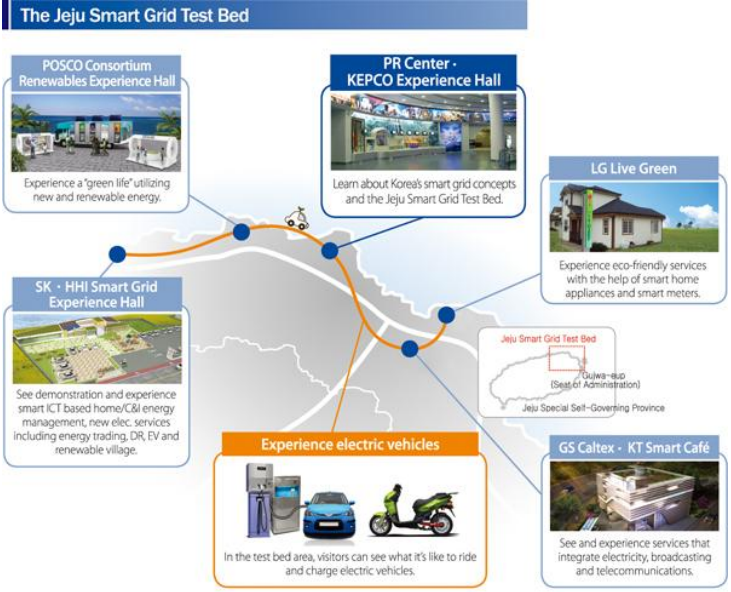


Source: *Beyond Green Jobs, California Construction Academy*



- Implemented by the ASEAN Centre for Energy in 2010 for 8 countries, providing training of energy managers for high level executives.
- Funded by the European Union under the Switch-Asia Programme.
- Supported by UNEP and Action for Sustainable Development-France technically and financially.

# Catalyze research and technology innovation for energy efficiency through test-bed projects.



## Singapore: The Living Lab



- Jeju Smart Grid Test-bed was launched by the South Korean Government in 2009.
- Composed of five main showrooms and test facilities owned and run by LG, GS Caltex, SK, POSCO and KEPCO and includes a fully-functioning total operating center (TOC).
- Development of smart infrastructure which is energy efficient and integrates other technologies such as renewables

- Singapore is a living lab to test bed various technologies.
- EMA is working with industry partners on 3 projects (IES, EV and Pulau Ubin Microgrid) to test-bed the technologies.

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**Thank You**