

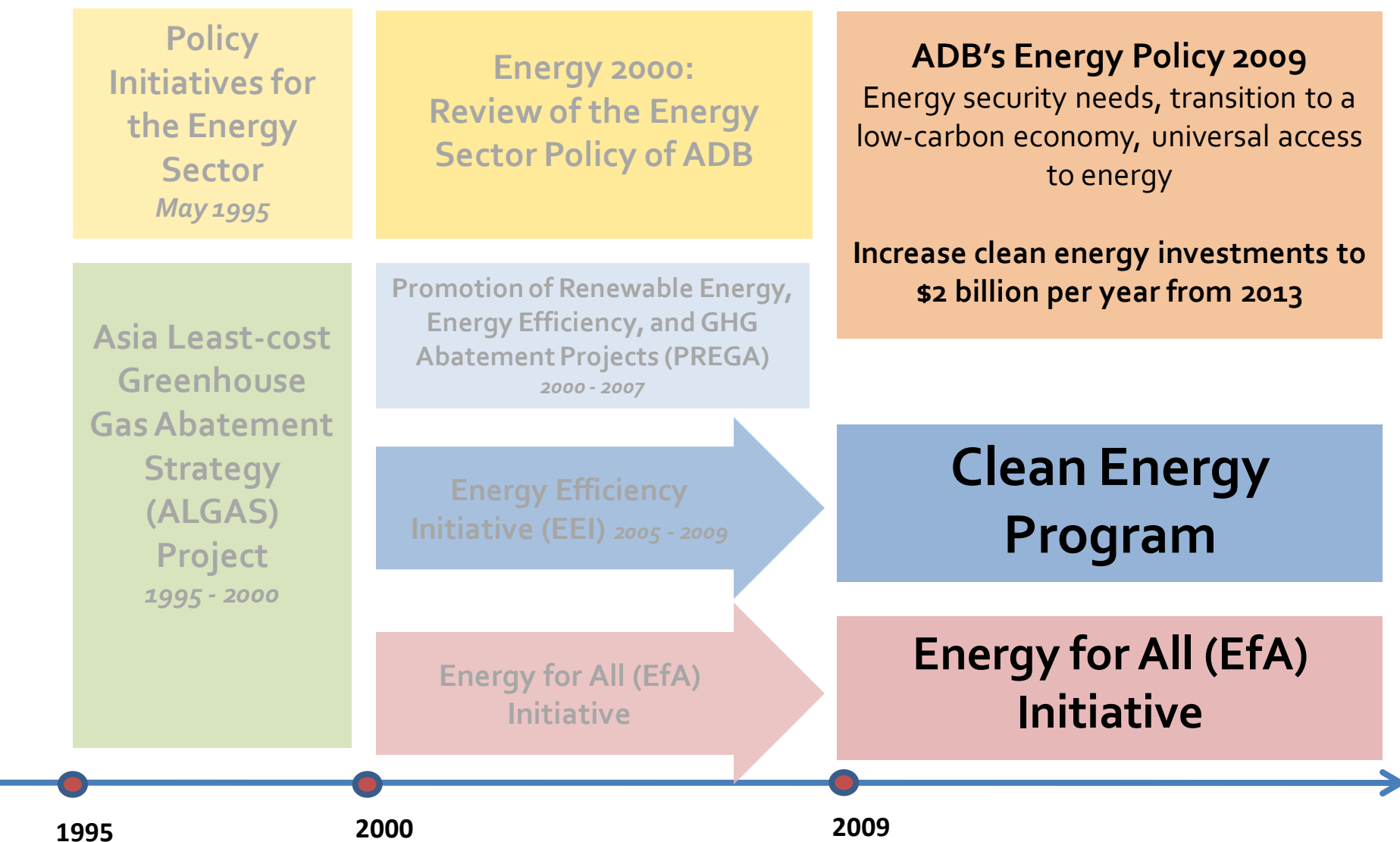


# Supporting Clean Energy Development in Asia and the Pacific

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- ADB's Clean Energy Program (CEP)
- ADB's New Initiatives in CEP
- Renewable Energy Policies

# Evolution of the Clean Energy Program



# 2009 Energy Policy: Changing Context

- **Energy Security**

- Increasing demand for energy
- Volatility in energy prices

- **Climate Change**

- Significance of global warming and climate change
- Need to promote low carbon emission options and technologies

- **Energy Access**

- MDG targets cannot be met without modern energy services for all
- 2.5 billion people rely on traditional biomass and almost 1 billion without access to electricity
- Mobilizing financing is challenging

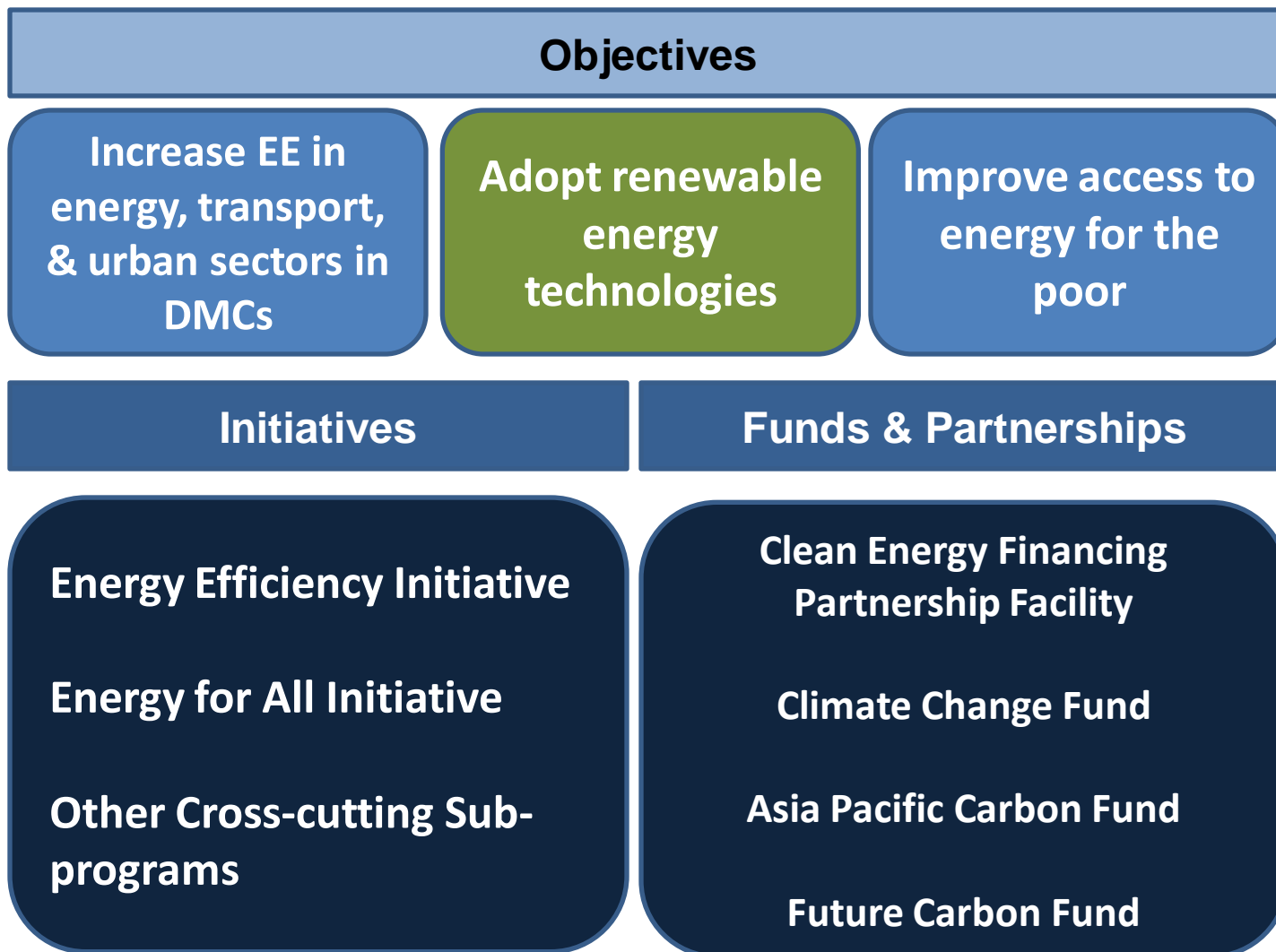
Enabling energy operations to be aligned with ADB's overall strategy emphasizing **energy security**, facilitating a transition to a **low-carbon economy**, universal **access to energy**, and for achieving ADB's vision of a region free of poverty



## Three Pillars of Implementation

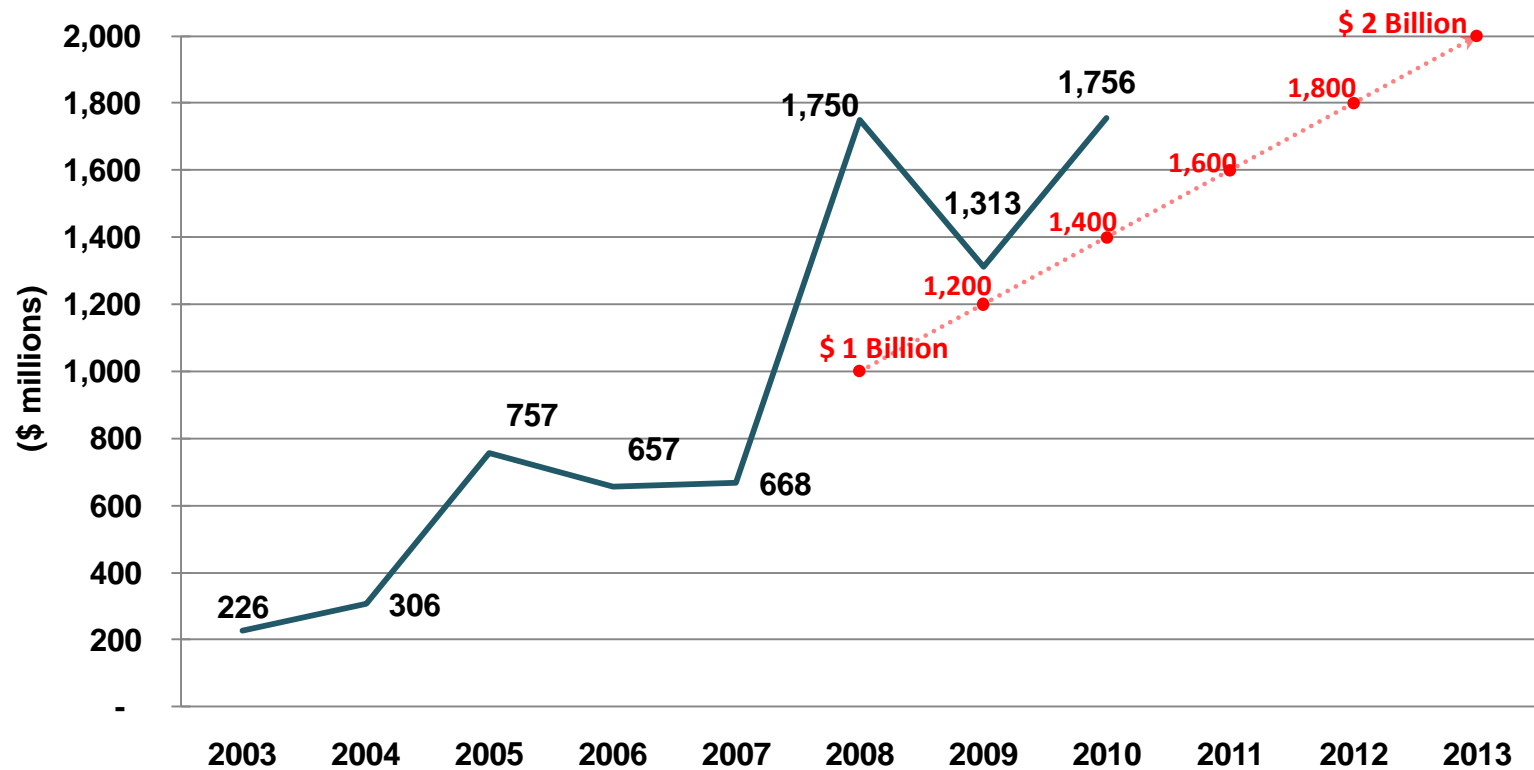
- Promoting EE and RE
- Maximizing access to energy for all
- Promoting energy sector reform, capacity-building & governance

# Clean Energy Program



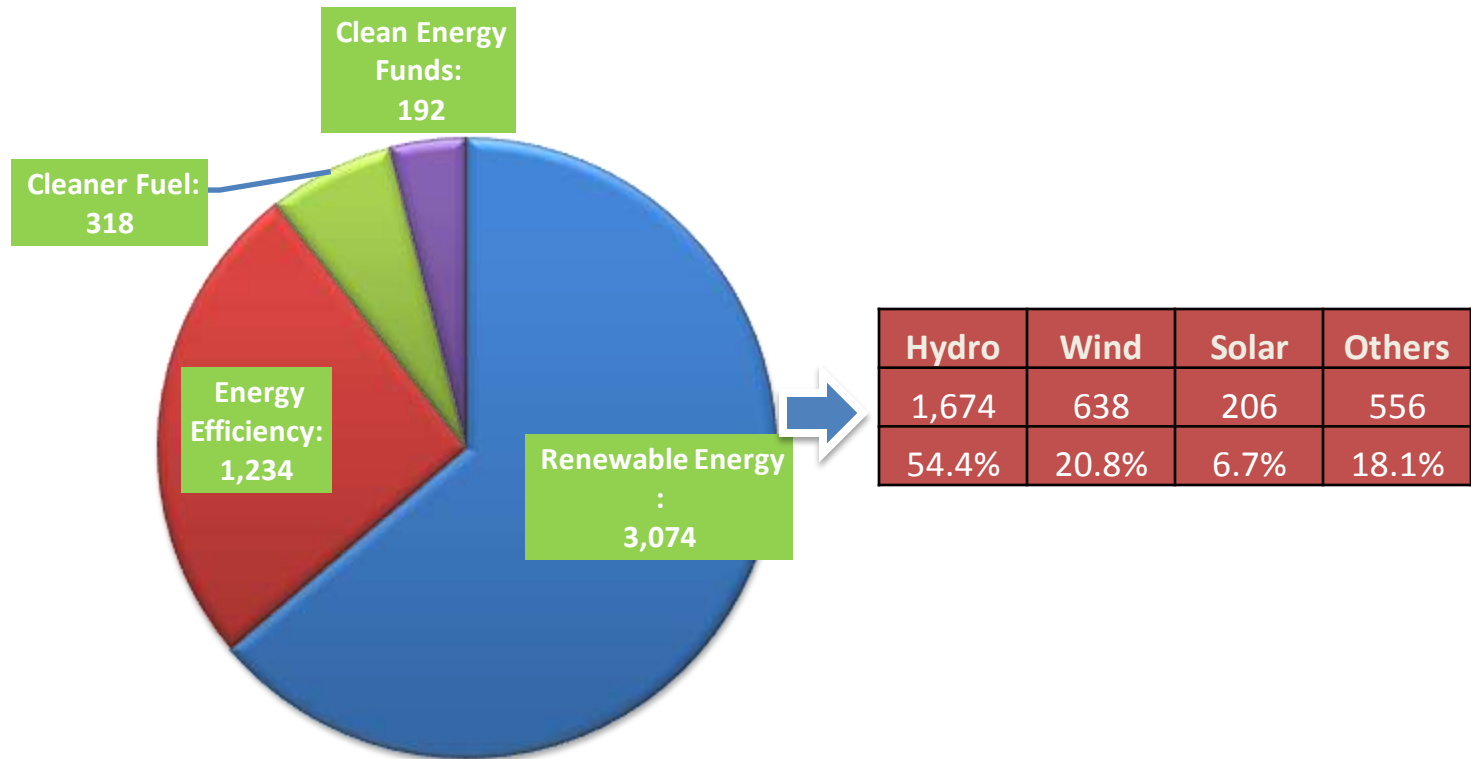
# ADB Clean Energy Financing

(Target = \$2 Billion by 2013)



# ADB's Composition of CE Financing

(Cumulative 2008-2010, in US\$ million)



Total Energy-related Investment (2008-2010): \$ 9.1 Billion ;

Total Clean Energy Investment (2008-2010): \$ 4.8 Billion.

Note: "Others" in the breakdown of RE projects pertains to biomass/biogas, waste to energy



# **Catalyzing Rapid Clean Energy Technology Diffusion**

- **First Asia Solar Energy Forum**

This will serve as a platform to lower key barriers to developing utility-scale solar PV and concentrated solar thermal technology while developing incentives to accelerate technology diffusion in the region.

- **Quantum Leap in Wind/Small Wind**

These programs are intended to aggregate the market for wind to lower cost of technology and catalyze deployment in the region

# Facilitating Clean Energy Technology Development and Diffusion

- **Asia Clean Technology Exchange**

Establish a marketplace to support willing buyers and sellers of low carbon technologies to facilitate technology transfer and rapid diffusion of these technologies in the region.

- **Asia Climate Change and Clean Energy (AC3E) Venture Capital Initiative**

Provide early equity to start-up Asian companies with readily deployable clean energy technologies to: (i) kick-start the development of nascent eligible technologies; and (ii) helping minimize perceived risk of investing in target technologies among potential co-investors.

# Supporting growth through clean and environmentally sustainable energy

- **Energy for All**

Lead efforts to expand access to energy - investments in 2009 of about \$420 million, and connecting over 220,000 households to electricity and almost 35,000 households to modern fuels for cooking and heating. Providing energy service to extra 100 million ppl in Asia by 2015.

- **Sustainable Transport Initiative**

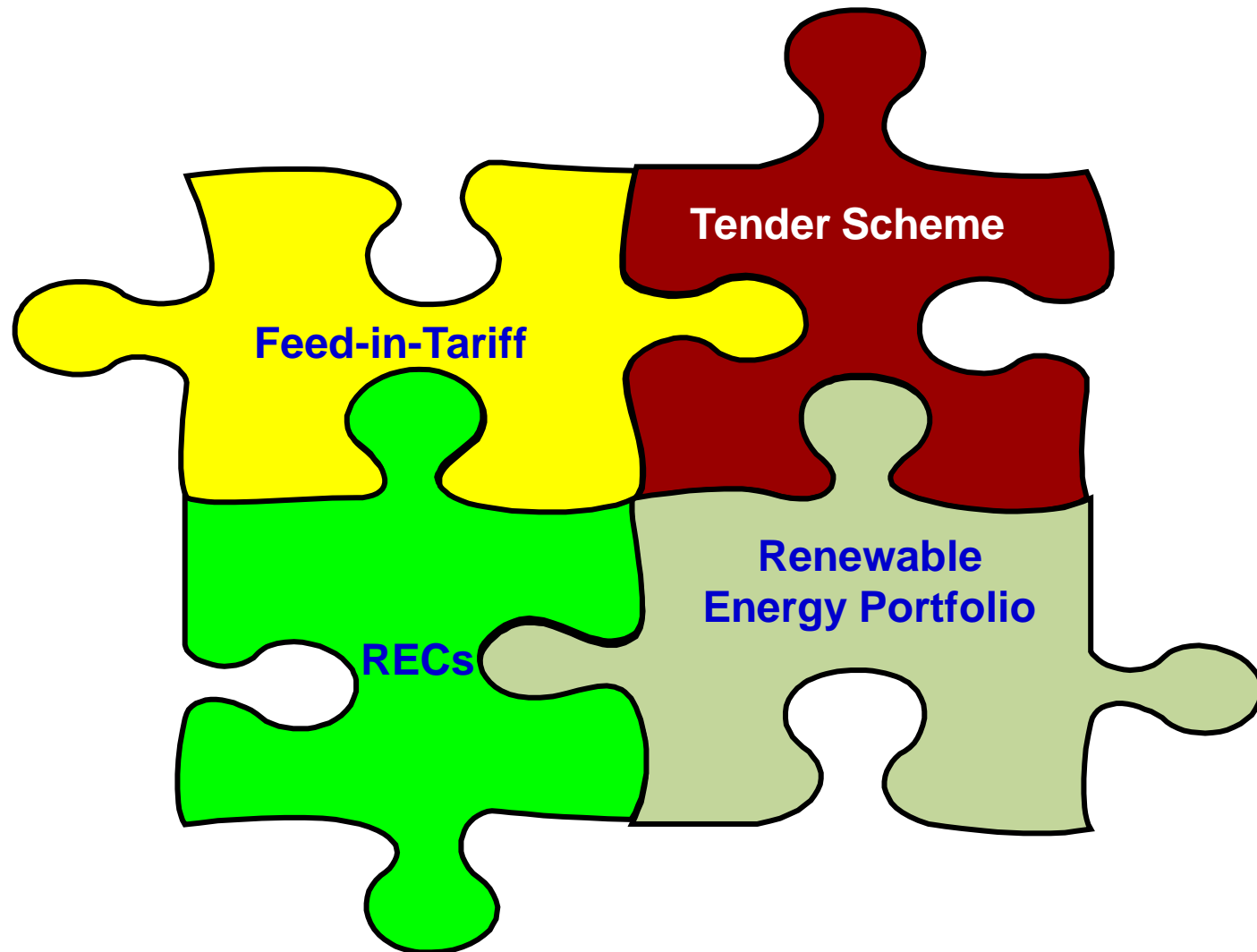
Fundamental change in transport policy to "avoid-shift-improve" approach - integrating land use developments with mobility demands to avoid the need to travel; promotes the shift to energy efficient modes of transportation; improve vehicle and fuel technologies.

- **Cities Development Initiative for Asia**

Works with cities, development partners, and the private sector to implement needed investments for sustainable urban development, such as public transport, solid waste methane capture, energy efficiency in buildings, and alternate energy sources.

- **Carbon Capture and Storage (CCS)**  
Produce a comprehensive road map for CCS demonstration projects, as well as policies, legal and regulatory frameworks to overcome barriers to broad commercial scale deployment of CCS in the region
- **Renewable Energy Certificate (REC)**  
Market-based instrument to promote renewable energy - provides flexibility and innovative funding mechanism to support renewable energy development without actually receiving electricity generated by renewable energy.
- **Regional Policy and Regulatory Dialogues: Bridging the Gap for Renewable Energy and Energy Efficiency**  
Work with partners to develop a dialogue intended to break down regulatory and policy barriers to improve the environment for clean energy investment and promote energy efficiency and renewable energy markets.

# Renewable Energy Policy Framework



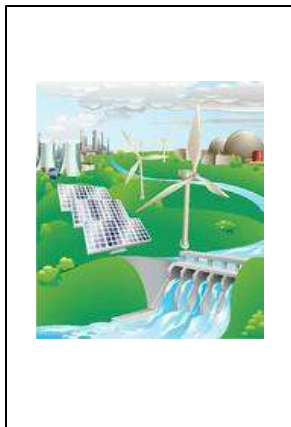
- **Feed-in Tariff Study (Philippines)**

ADB carried out a study for the Philippine Energy Regulatory Commission, reviewing best practices and proposing a methodology for feed-in tariff calculation consistent with the Feed-in Tariff Rules.

- **Feed-in Tariff Policy**

Policy that sets a guaranteed price over a certain period of time for renewable electricity generation.

- Most widely used policy in the world
- Generated significant RE development
  - 75% of global PV and 45% of global wind
- Main Goals
  - Rapid renewable energy development
  - Job creation and stimulate economic development
  - Reduce greenhouse gas emissions



**Guaranteed  
Access to the  
Grid**



**Stable, long term purchase  
agreement**

**either**

- **fixed-price payment**
- **premium-price payment**

## **Payment options**

- **levelized cost of electricity**
- **value to the society**
- **fixed-price incentive**
- **auction based mechanisms**

## **Payment differentiation**

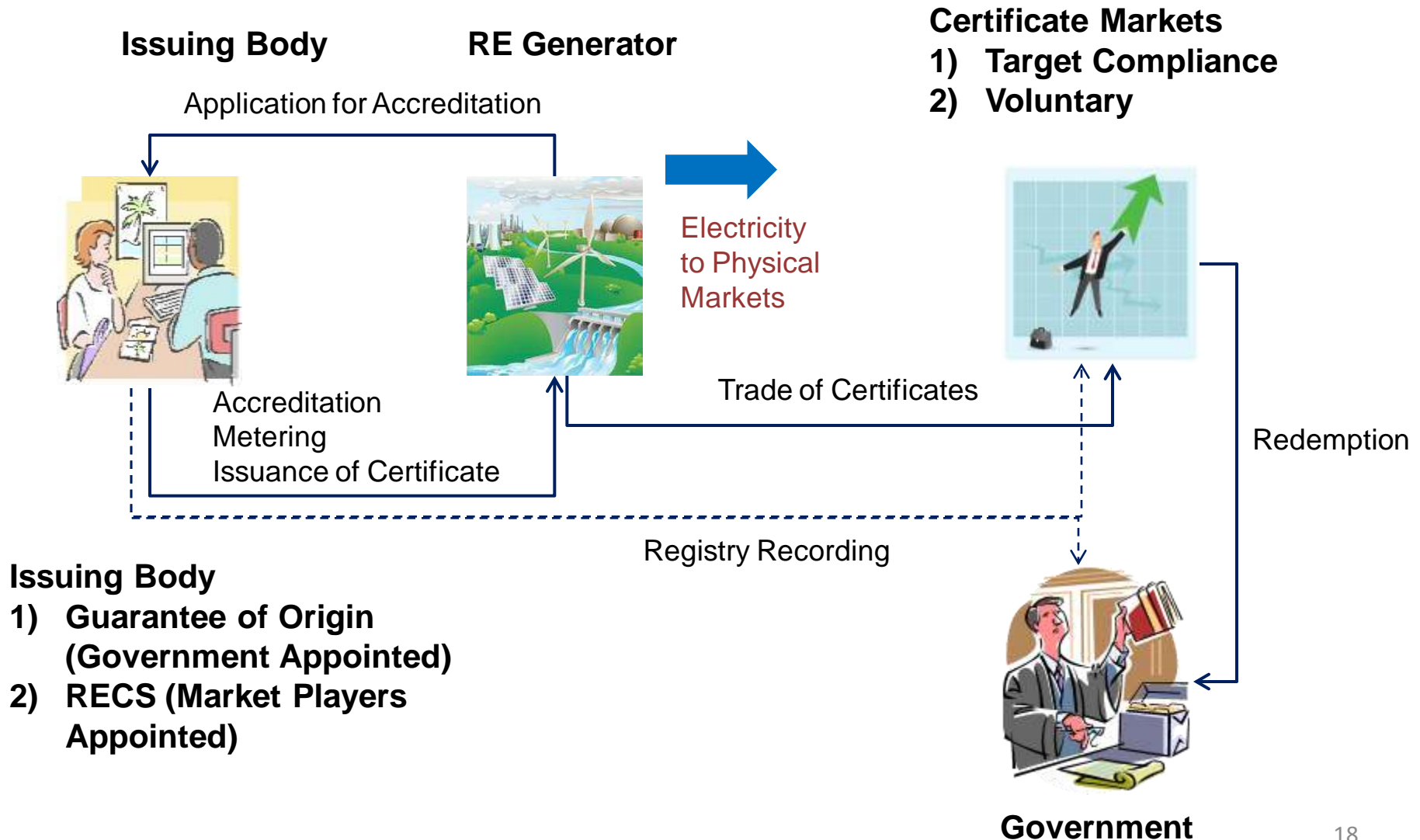
- **by technology type**
- **by project size**
- **quality of resource**
- **location**



- **Energy Certificate**

- An electronic document which provides proof of electricity generation from renewable energy
- Can be used to support claims as evidence of generation or consumption whether as proof of green supply; as condition for receiving public support; or as proof of environmental credentials
- Can be bought by entering into contract of sale, either with another market party or with an exchange.
- Certificates are created by an issuing body which guarantees their quality and credibility by means of various checks and controls.
- Certificates can be transferred between accounts held on a central registration database by market participants.
- The certificate is made non-tradable when the associated energy is sold to a final consumer, or perhaps used as evidence by a public body.

# Tradable Renewable Energy Certificate



For more information:

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