

Clean Energy Solutions - Upcoming Solutions for Renewable Energies in Asia

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What is the imperative for accelerating the dissemination of clean energy in the Asia Pacific region?

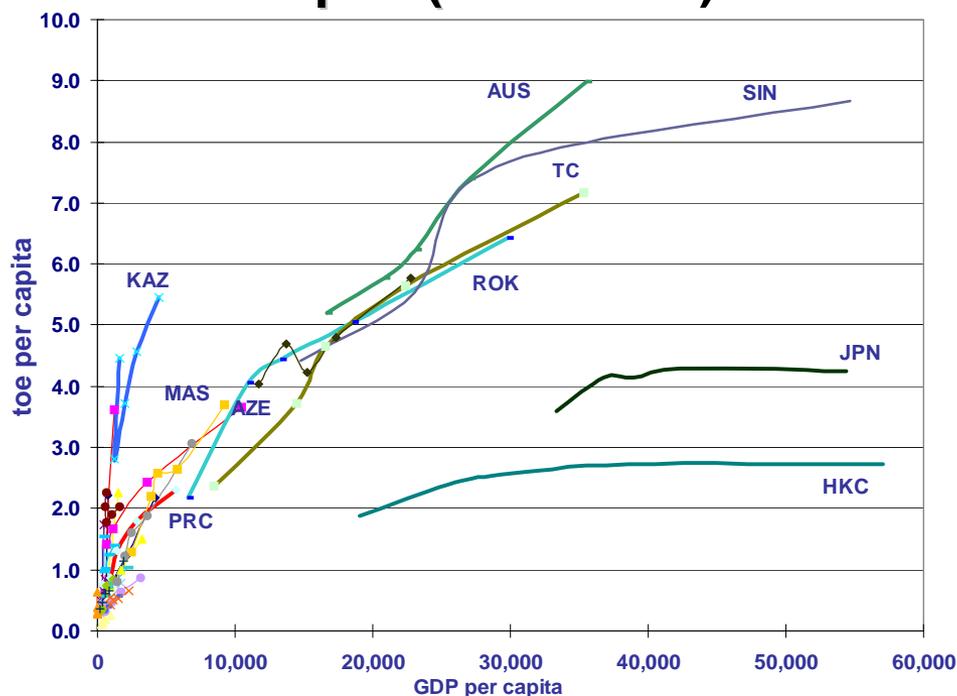
Energy Security

- Rapid economic growth is driving a steep increase in energy demand through the region.**
- Nations continue to use fossil fuels due to low cost and tried and tested technology.**

Outlook: Energy Demand

- Annual energy demand growth in the Asia-Pacific region until 2030: 2.6%
- Energy demand increase between 2005 and 2030: 92%

Total Primary Energy Demand per Capita (1990-2030)



Asia and the Pacific will lead the world's energy demand growth, but per capita energy demand will remain relatively low for developing member countries

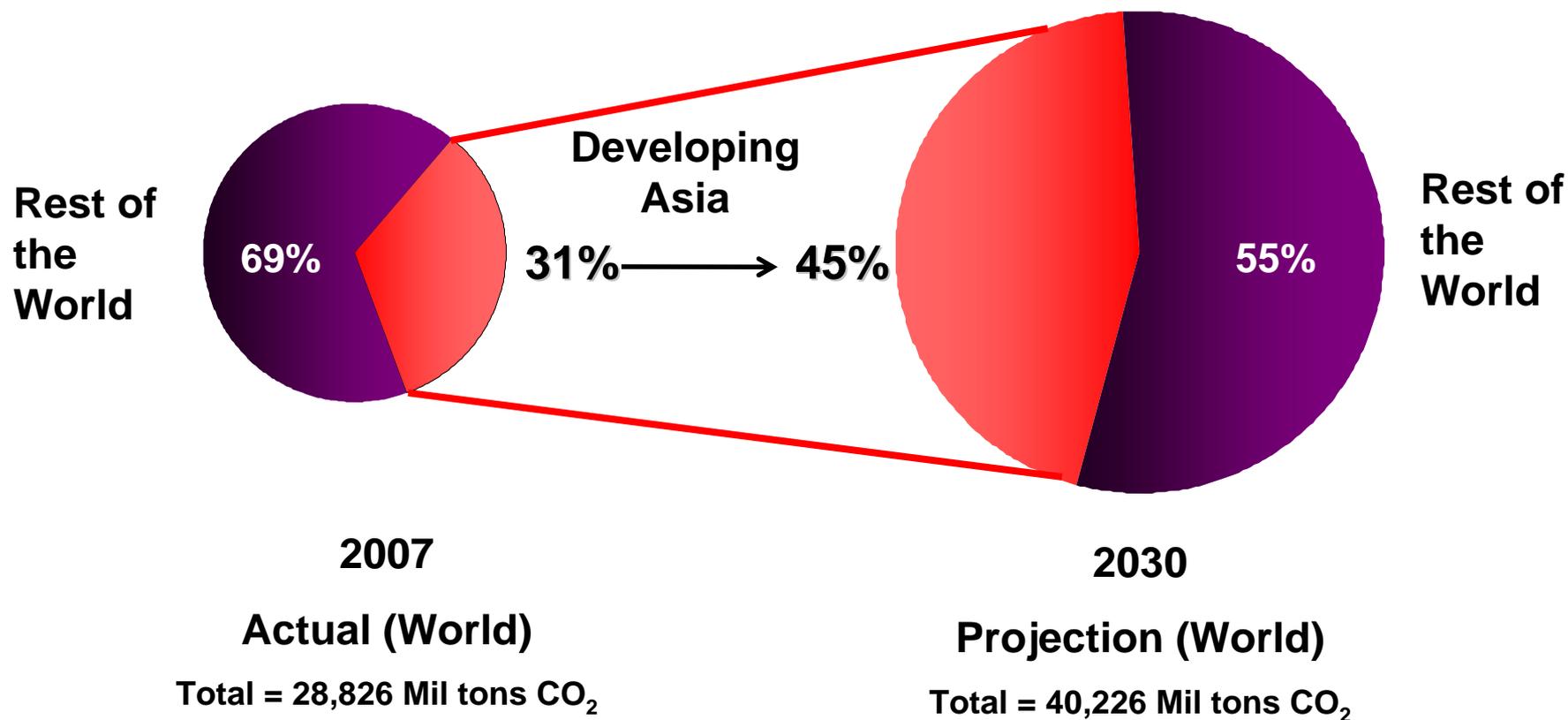
What is the imperative for accelerating the dissemination of clean energy in the Asia Pacific region?

Climate Change

- ▣ **Major Asian economies are among the global top CO2 emitters.**

CO₂ from Energy Consumption

The region's heightened energy consumption will lead to an increased share in energy-related CO₂ emissions.



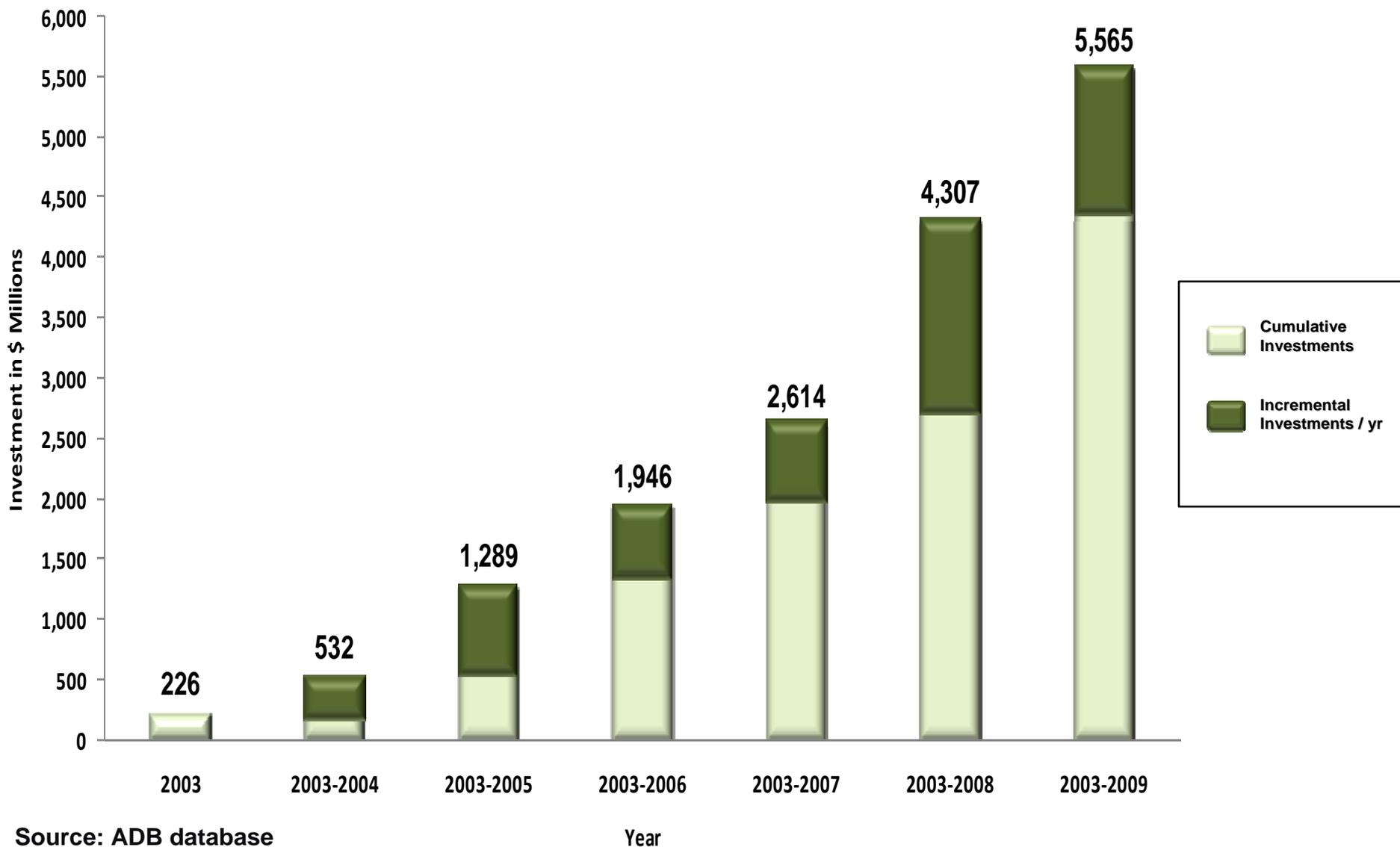
The Asia Pacific Region is the front line in the fight against climate change.

The decisions made in the region will decide whether the fight is won or lost

In ADB's experience, there are three areas we need to focus on to bring down the barriers that slow down the dissemination of clean energy:

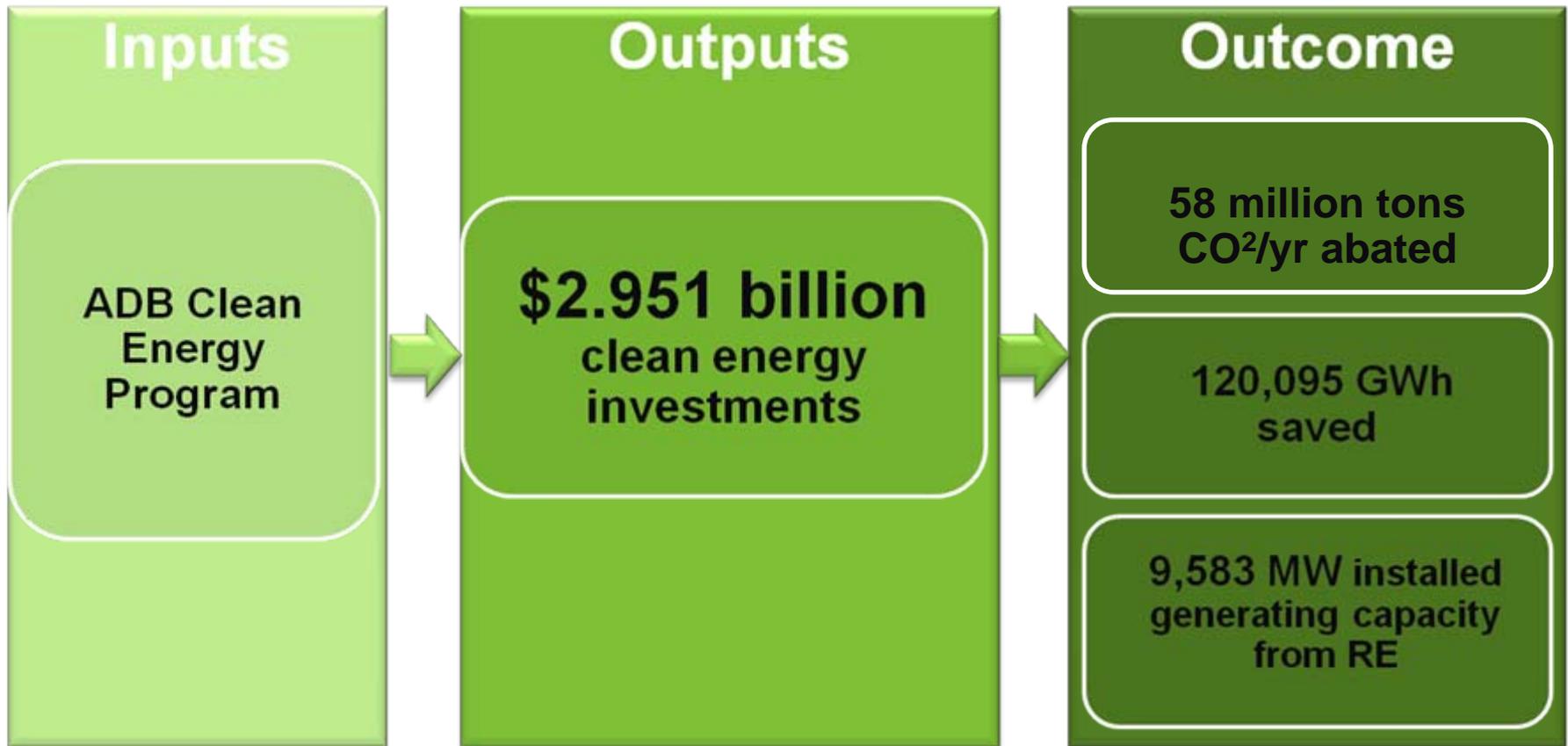
- Market aggregation for economies of scale**
- Low carbon technology transfer and deployment**
- New market based instruments**

ADB CE Investments 2003-2009



Source: ADB database

Clean Energy Activities Toward Outputs, Outcomes and Impacts (2008-2009)



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 Venture 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.

- **Climate Public Private Partnership Fund (CP3)**

ADB is working to establish this fund as an investment vehicle through which the resources of institutional private equity funds can be mobilized towards investment strategies for mitigating climate change.

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.

- **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.