



# ENERGY FOR ALL

PROMOTING MINI-GRIDS IN ASIA AND THE PACIFIC

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# ENERGY ACCESS SITUATION IN ASIA-PACIFIC

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**4.2 Billion**  
Population  
in Asia



**1.8 Billion**  
No. of people  
w/o access to  
clean cooking



**615 million**  
No. of people  
without access  
to electricity



## OBJECTIVES:

### INTERNAL

Increase ADB's investment in energy access projects and enterprises

### EXTERNAL

Develop strategic partnerships and alliances with other stakeholders



## ACCOMPLISHMENTS IN 2013



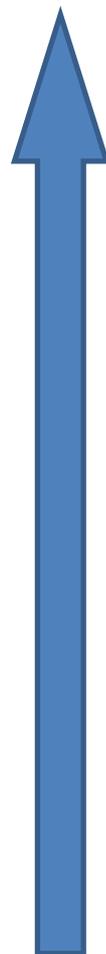
New connections to electricity for 1.7 million households



Improved electricity service to about 500,000 households



The switchover of 90,000 households to improved cookstoves



**\$984 million**

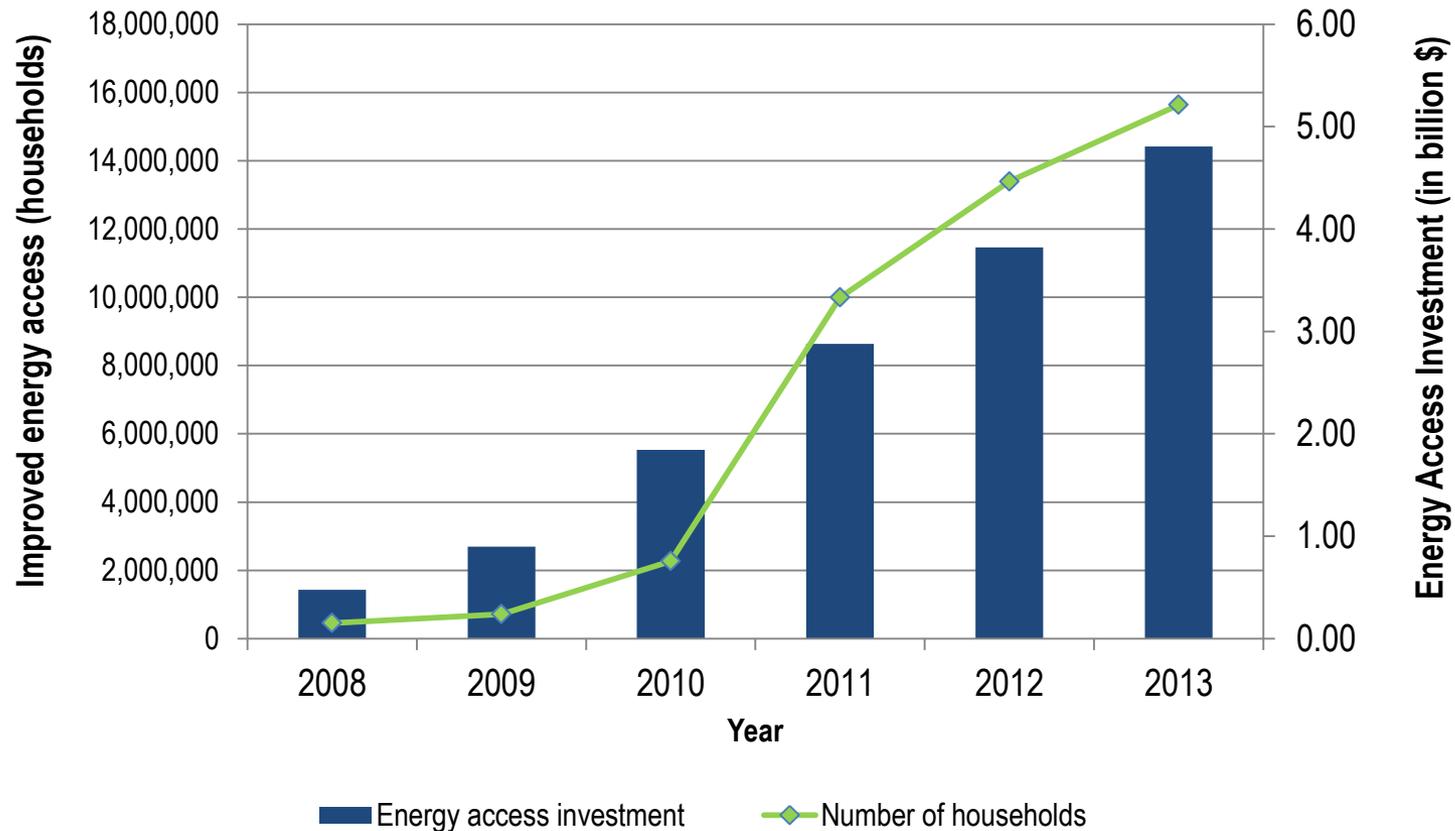
ADB's access to energy investment increased

*\*\*from \$942 million in 2013*



# IMPACT OF ADB'S INVESTMENT IN ENERGY ACCESS

## 2008-2013 (Cumulative)



# ENERGY FOR ALL PARTNERSHIP



The Partnership was created in 2009 to address energy poverty at the regional scale

**TARGET:** Provide energy access to 100 million people in Asia Pacific by 2015

**78% of target achieved!**



Implemented by giz



World Business Council for Sustainable Development



한국풍력산업협회  
KWEIA Korea Wind Energy Industry Association



renewable energy & energy efficiency partnership



WORLD LPG GAS ASSOCIATION  
WWW.WORLDPGAS.COM



Global Sustainable Electricity Partnership



# I. TECHNICAL ASSESSMENT

# II. PILOT TESTING OF INNOVATIVE MODELS

# III. SCALING UP

# IV. CAPACITY BUILDING



MINISTRY OF FOREIGN AFFAIRS OF DENMARK  
**DANIDA** INTERNATIONAL  
DEVELOPMENT COOPERATION



Austrian  
Development Cooperation



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Agency for Development  
and Cooperation SDC





Energy for All conducted extensive research and feasibility studies on mini-grids in several Asian countries:

## The future of mini-grids: from low cost to high value

**WEBLINK:** <http://www.energyforall.info/wp-content/uploads/2012/07/The-Future-of-Mini-Grids.pdf>

### STUDY FINDINGS:

- Mini-grid systems are more economical for households and businesses in the long term compared to off-grid.
- Mini-grids can provide electricity of equal quality, reliability, and availability comparable to the conventional electrical grid.
- Mini-grids can be limited to a small, population dense areas, and be economically sustainable, if coupled to some productive and/or commercial applications.

## FEASIBILITY STUDY (ongoing):

### "Hybridization" of existing mini-grids for islands in the Philippines

- Designing of least cost renewable energy option for 5 selected sites
- Hybridization with renewables will increase efficiency and reliability, and decrease fuel costs
- FS should facilitate commercial bank financing



## FEASIBILITY STUDY (ongoing):

- Development of technical and financial design for a least cost hybrid renewable energy system to supply power 24/7
- Three remote Philippine islands that currently only enjoy between 6–12h/ day electricity through diesel generators
- Study should support the local electric cooperative to develop and implement the project through commercial bank financing.



## PILOT (under implementation):

- Implementation of an 141 kW innovative hybrid solar mini-grid in Bangladesh for 24/7 power supply
- Collaboration with Infrastructure Development Company Limited (IDCOL)
- Households/shops have higher electricity demand & willingness to pay if uninterrupted electricity services are available
- Expected to supply electricity to 1000 households and shops in several villages.



## PILOT (under implementation):



- Solar mini-grids in 3 remote rural communities in Nepal
- Installation of 35kW solar power to provide 95k kWh of electricity per day
- 83 households for lighting and electric appliances
- 25 local anchor businesses
- Private sector/ community participation



## PILOT (implemented):

- Country's first mini wind-solar hybrid power system
- Two sets of 5 kW wind turbines
- 2 kWp of solar PV panels
- To cover village's electricity demand of 43.6 KWh/ day - serves 46 rural households



## SCALE UP:

- ADB/ SREP investment of overall **USD 17 million** for replication and scale up of off-grid solutions



## PILOT - Phase 1 (under implementation):

- Scoping, planning and piloting of off-grid renewable energy installations
- Selected regions: Chin State and Mandalay
- Pilots for mini-grid, SHS, solar lantern charging stations
- **WEBLINK:** <http://www.energyforall.info/energy-releases-report-grid-renewable-opportunities-myanmar/>

## SCALE UP- Phase 2 (approved):

- Investment of USD 2 million
- Expansion of installations to 25 villages



## Clean Technology Fund (CTF)/ADB:

### Renewable Energy Mini-grid Fund and Distributed Power Generation Program

- The Program will deploy **USD 30 million** of investment capital over multiple private sector companies and impact funds to scale-up mini-grid investment in India, Indonesia and Philippines
- Supported by a **USD 3.5 million** technical assistance advisory program, administered by ADB's Energy for All Initiative
- Investment component includes senior debt, subordinated debt, guarantees and equity investments along ADB investment
- **WEBLINK:** <https://www.climateinvestmentfunds.org/cif/content/approval-mail-renewable-energy-mini-grids-and-distributed-power-generation-program-india-i-0>



# ENERGY FOR ALL INVESTOR FORUM



- Held annually in June in Manila during the Asia Clean Energy Forum
- Since recently also in-country events held with first forums in Nepal and Myanmar

**A venue where energy access enterprises supported by the Energy for All Program are showcased to investors, financial institutions and other energy access stakeholders.**

# SUSTAINABLE ENERGY FOR ALL INITIATIVE REGIONAL HUB FOR ASIA-PACIFIC



**ADB, through Energy for All, acts as the regional hub for efforts that contribute to the global Sustainable Energy for All Initiative (SE4All), alongside UN agencies and development partners.**

SE4All has ambitious goals to reach by 2030:

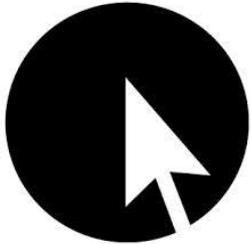
- Universal energy access
- Doubling use of renewable energy in global energy mix
- Doubling global rate of growth in energy efficiency



ADB President Takehiko Nakao (left) meets with UN Secretary General Special Representative and Sustainable Energy for All CEO Kandeh Yumkella



# FOR MORE INFORMATION:



[www.energyforall.info](http://www.energyforall.info)



[Energy for All Partnership](#)



[@EnergyForAll](#)



[ADB Energy for All](#)

