



# RENEWABLE ENERGY

## Overview, Challenges and Lessons learned



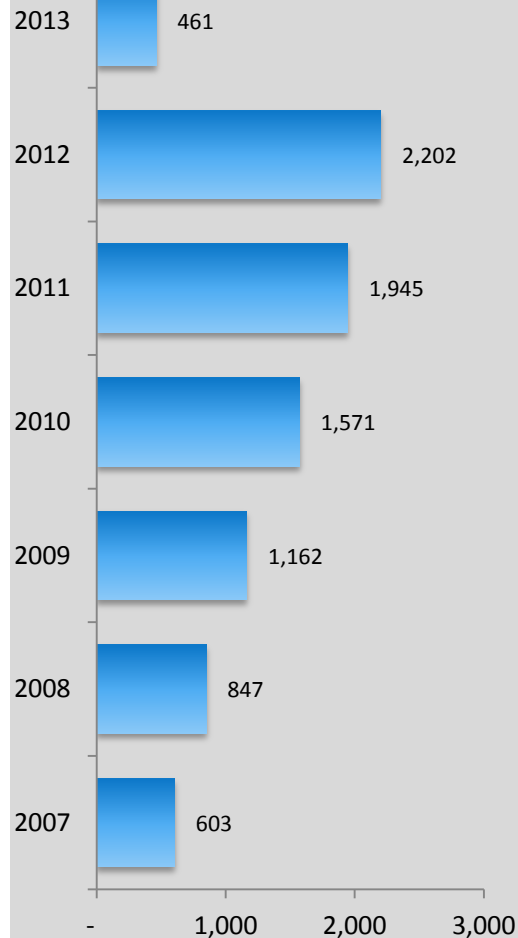
Jarl Krausing  
Climate Change Group  
The World Bank



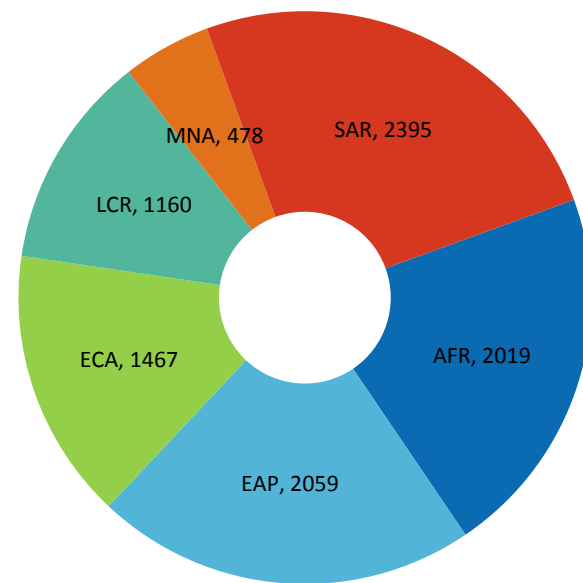
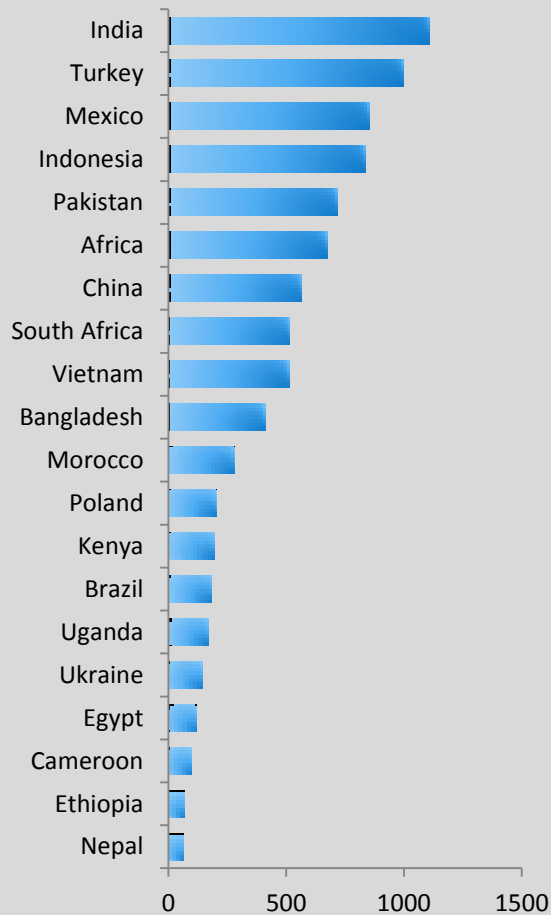
# 86 COUNTRIES RECEIVED FUNDING OF US\$ 9.6 BILLION FOR RENEWABLE ENERGY (INCLUDING HYDROPOWER) BETWEEN 2004-2013

WORLD BANK GROUP

### Renewable Energy lending (US\$m)



### Top 20 countries with most funding (cumulative) from FY'04-FY'13





# RE: LESSONS LEARNED AND CHALLENGES

## 1 Challenge: Leveraging private financing and reduce risk

### Technologies and barriers and risks

	FINANCING BARRIERS					PROJECT RISKS				
	Lack of Long-Term Financing	Lack Of Project Financing	High and Uncertain Project Development Costs	Lack Of Equity Finance	Small Scale of Projects	High Financial Cost	High Exposure to Regulatory Risk	Uncertainties Over Carbon Financing	High Costs of Resource Assessments	Uncertainties Over Resource Adequacy
<b>On-Grid</b>										
Wind	Hi	Med	Lo	Lo	Lo	Med	Med	Med	Lo	Med
Solar	Hi	Med	Lo	Med	Med	Hi	Med	Med	Lo	Med
Small hydro	Hi	Med	Med	Med	Med	Lo	Med	Lo	Med	Hi
Biomass	Hi	Med	Lo	Lo	Med	Med	Med	Med	Lo	Hi
Geothermal	Med	Med	Hi	Med	Lo	Lo	Med	Lo	Hi	Med
<b>Off-grid</b>										
Solar/micro-hydro	Med	Lo	Med	Hi	Hi	Med	Lo	Lo	Lo	Med

## 2 Challenge: Facilitate Market Entry

### Lessons

- Legal provisions allowing private sector participation
- Efficient regulatory processes

## 3 Challenge: Introduce Investment – Grade Policy Instruments: for transparency, certainty, longevity

### Lessons:

- Economic regulations with Investment Grade Policies
- Grid-Access requirements with transparent tools
- Clear contract design with power purchase agreements