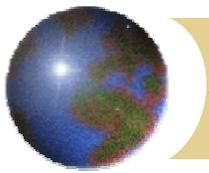


# *Multilateral Financing for Renewable Energy Projects*

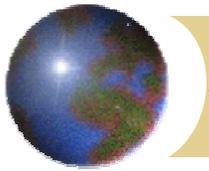
Alan Miller, GEF Coordinator, IFC

Oct. 23, 2003



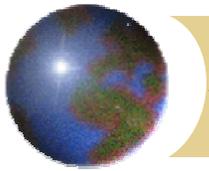
# *From Aid to Investment: Shifting Sources of Energy Finance*

- ✦ World Bank: sovereign lending
- ✦ One-fourth WB lending for energy in 1990 declining to about 10% in 2001, \$3.7 billion to about \$1.4 billion
- ✦ Emphasis on sector reforms: liberalization, privatization, restructuring
- ✦ *Legitimizing function* for large controversial projects (e.g., pipelines)



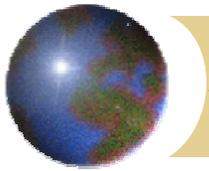
## *IFC Energy Lending*

- ✦ The International Finance Corporation: private sector arm of WB Group
- ✦ Energy lending increasing in countries with favorable policy environments
- ✦ Renewable energy primarily when concessional funding available, exceptions small hydro, geothermal



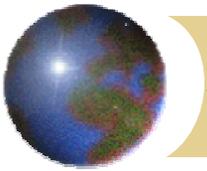
## *IFC Power Sector Lending*

- ✦ About \$2.4 bn US (6/30/02), or 12% of total portfolio
- ✦ Loans to 33 countries led by Pakistan, Mexico, India, Egypt, Philippines
- ✦ Recent projects: 43 MW hydro in Guatemala; CHP in China; power plant rehabilitation in Tajikistan; two gas-fired power plants in Egypt



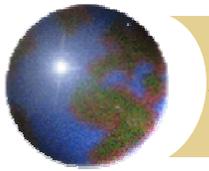
## *IFC FY 03 Activities in Algeria*

- ✦ \$35 m loan for the first integrated dry process cement plant with substantial environmental benefits
- ✦ \$25 m loan to rehabilitate and upgrade a steel plant
- ✦ Technical assistance for microfinance and improving the investment climate



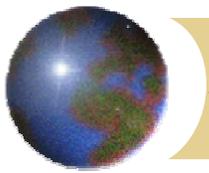
## *IFC GEF Energy Projects*

- ✦ Concessional lending for off-grid solar enterprises
- ✦ PV addition to hydro based utility for dispersed power in the Philippines
- ✦ Facilitating wind energy in Russia
- ✦ Expanding markets for efficient lighting



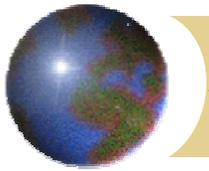
# *World Bank Strategy in Algeria*

- ✦ Assist transition to a market-driven economy, minimal lending
- ✦ Hydrocarbon revenue management for economic growth
- ✦ Removing constraints to private sector investment and growth
- ✦ Improve basic public services (water, housing, waste management)
- ✦ Liaison office est. January 2002



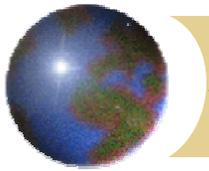
# *Changing Focus of WB Energy Lending*

- ✦ May 2001: *Energy Program for Poverty Reduction, Sustainability, and Selectivity*
- ✦ Linking energy and poverty reduction, targets for increasing access, improving the finances of state enterprises, and utility restructuring



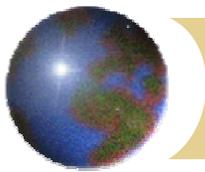
# *Global Environment Facility*

- ❖ *Founded as a pilot in the WB in 1991, in 1994 restructured by international agreement*
- ❖ *The financial mechanism of the climate convention, finances the incremental (added) cost of measures to reduce greenhouse gas emissions in developing countries.*
- ❖ *The largest source of funds for clean energy projects on concessional terms*
- ❖ **Projects implemented by WB, UNDP, UNEP, RDBs, UNIDO**



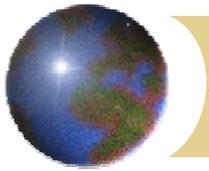
# *GEF Clean Energy Projects*

- ✦ Since the Pilot Phase in 1991, GEF funding of
  - ✦ \$1.2 billion for more than 120 projects, total value of about \$5 billion
  - ✦ In more than 70 developing countries
  - ✦ Small scale demonstrations, high technology commercialization, enterprise funds and business technical aid, power sector and policy reform



# GEF Energy Project Types

Project type	Primary applications to-date	Projects	Strategies / directions under discussion
Off-grid household renewable energy	Solar home systems for lighting, TV, radio; a few village mini-grids	25	Moving to integrate productive uses with existing household consumption approaches. Fostering new and more capable rural energy enterprises.
On-grid renewable energy power generation	Wind, small hydro and biomass power generation	15	Power sector reform that promotes/enables renewable energy; financing mechanisms to reduce risks for project developers like guarantees and insurance
Productive uses of renewable energy	Water pumping, agriculture, health and education facilities	3	Much greater emphasis on these types of projects, for rural enterprises and jobs, drinking water, water pumping, drip irrigation, cottage industry, distance education, telecomm, etc.
Energy-efficient product marketing & manufacturing	Supply and demand sides of markets for efficient lighting, refrigerators, chillers, and boilers	8	Apply to more countries and more products; exploit synergies between multiple projects focusing on same product; promote replication of proven approaches outside of GEF.
Energy efficiency investments in industry	Energy service companies; technical assistance and financing to industry	8	Contingent financing vehicles, guarantee mechanisms, insurance, mainstreaming among commercial financiers, more ESCO development.
District heating	Geothermal heat supply; energy efficiency investments, energy-service companies	7	Regional Eastern Europe replication and mainstreaming strategy; contingent financing vehicles and guarantee mechanisms
Investment funds	Small and medium scale enterprises, grid-based renewable energy projects, business plans for productive-uses and rural households	4	Implementation and evaluation; replication and mainstreaming; focus on smaller, less developed enterprises (with more TA).
Advanced renewable energy technologies	Solar thermal power plants, grid-based PV	5	Strategies to catalyze industries based on existing projects; distributed generation and fuel cells
Transport	Fuel-cell buses; bikeways	6	Transport/urban planning, modal shifts, policies and incentives, 2-wheelers, public transit



## *GEF & Solar Thermal Power*

- ✦ Commitment to four projects: India, Mexico, Morocco, and Egypt
- ✦ First three approved to date, commitment of about \$150 million
- ✦ Slow implementation, unlikely to approve new ones pending progress
- ✦ Public ownership most likely model