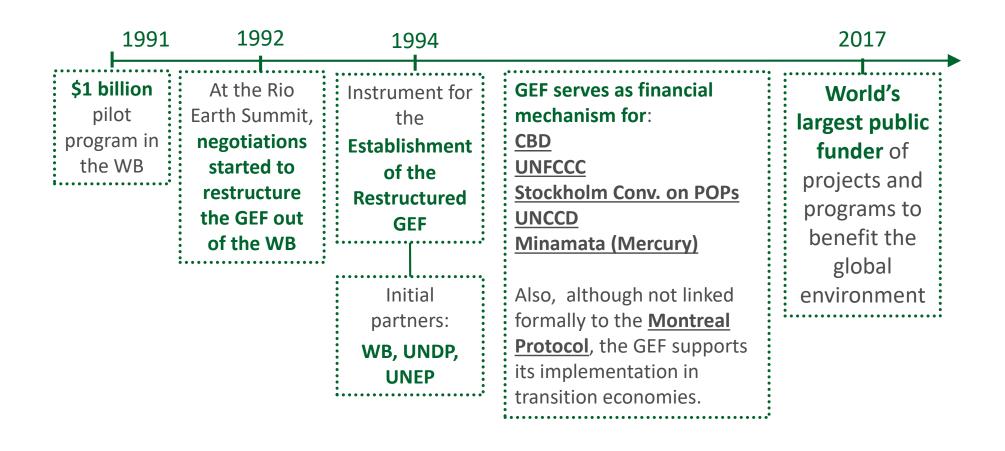
Rural Electrification: GEF Experience in Renewables-based Microgrids

Ming Yang Sr. Climate Change Specialist Global Environment Facility (GEF)

For the International Microgrid Innovation Forum September 5, 2017, Barcelona



What is the GEF



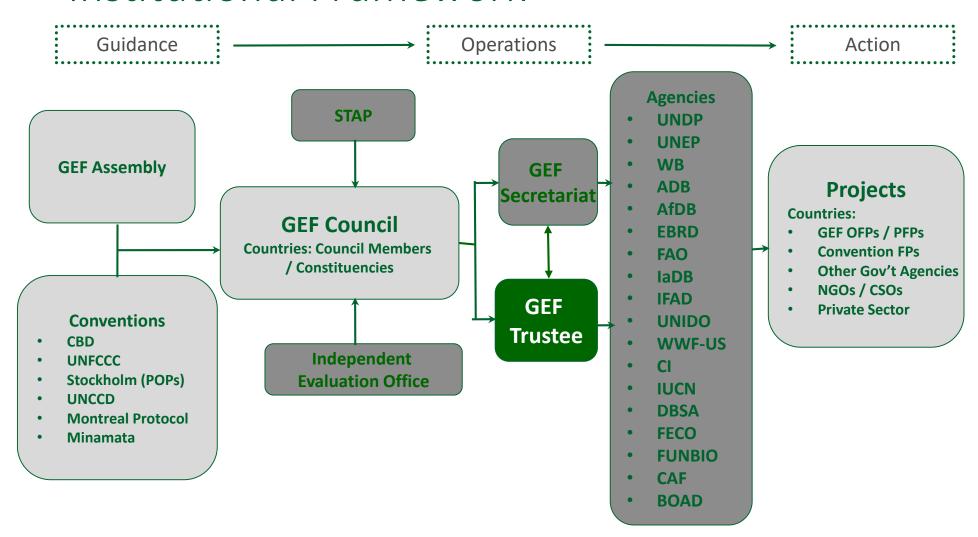
GEF Goal and Mission

Goal: to address *global environmental issues* while supporting *national sustainable development initiatives*.

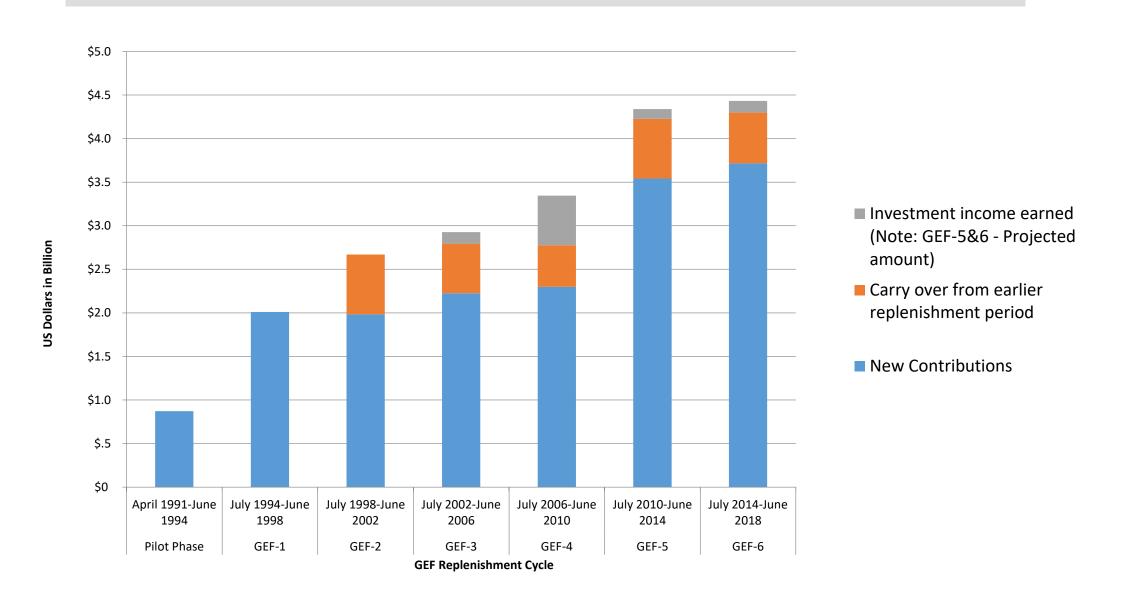
Mission: the GEF is a mechanism for <u>international</u> <u>cooperation</u> for the purpose of providing <u>new, and</u> <u>additional, grant</u> and concessional funding to meet the <u>agreed incremental costs</u> of measure to achieve agreed global environmental benefits.

GEF Trust Fund

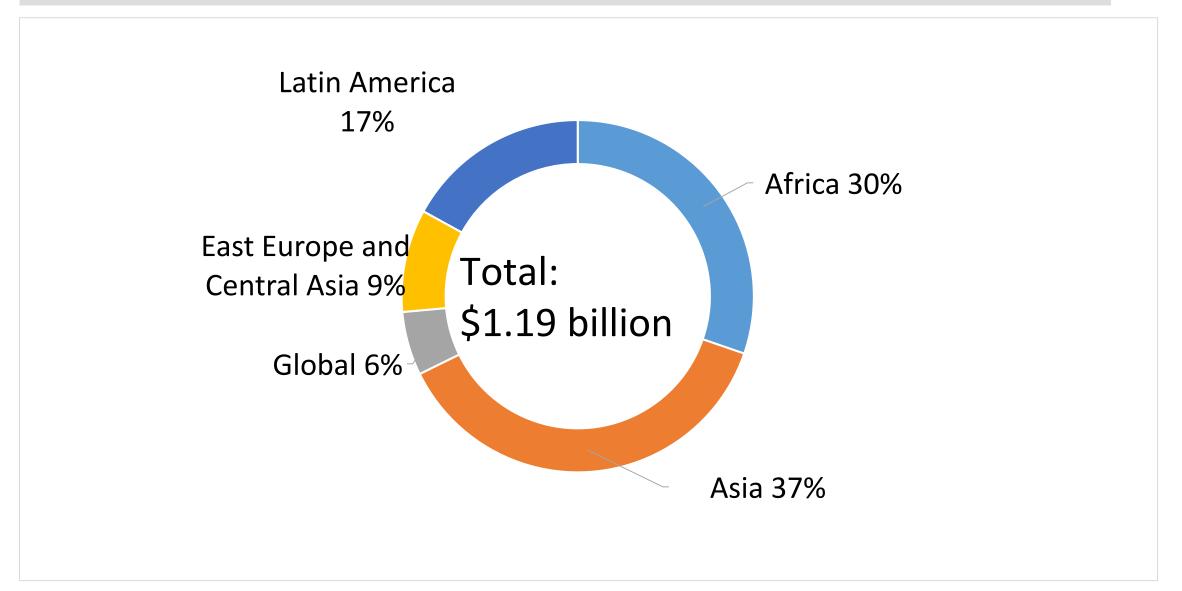
Institutional Framework



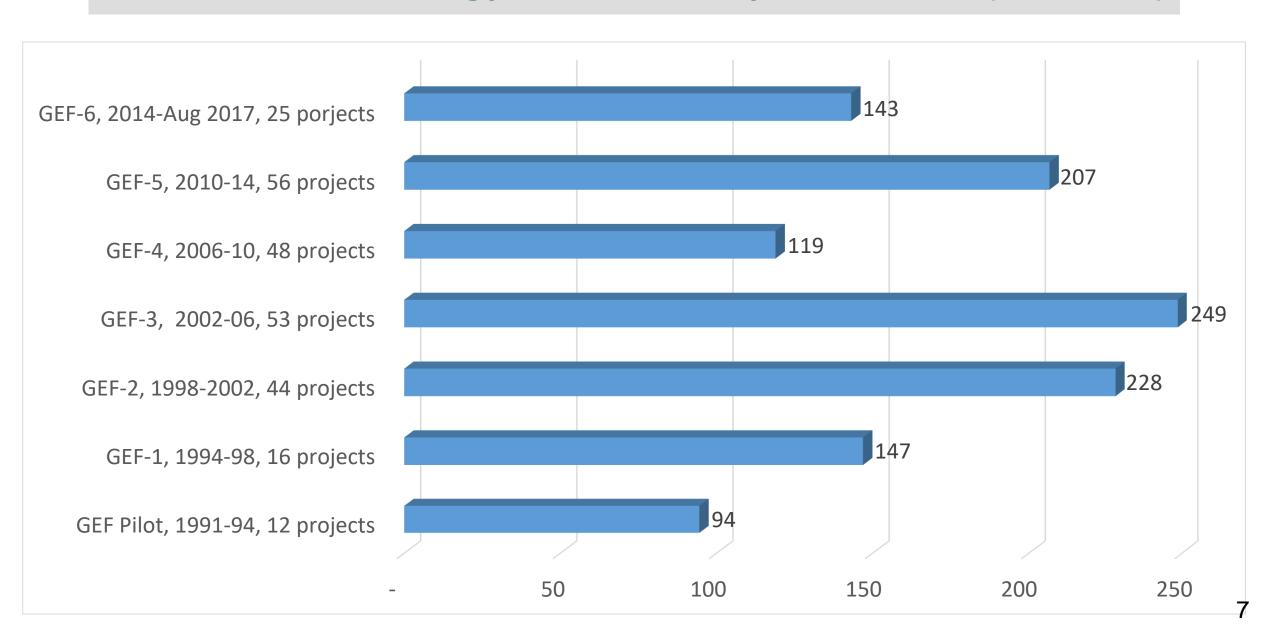
GEF's Replenishment Periods and Resources



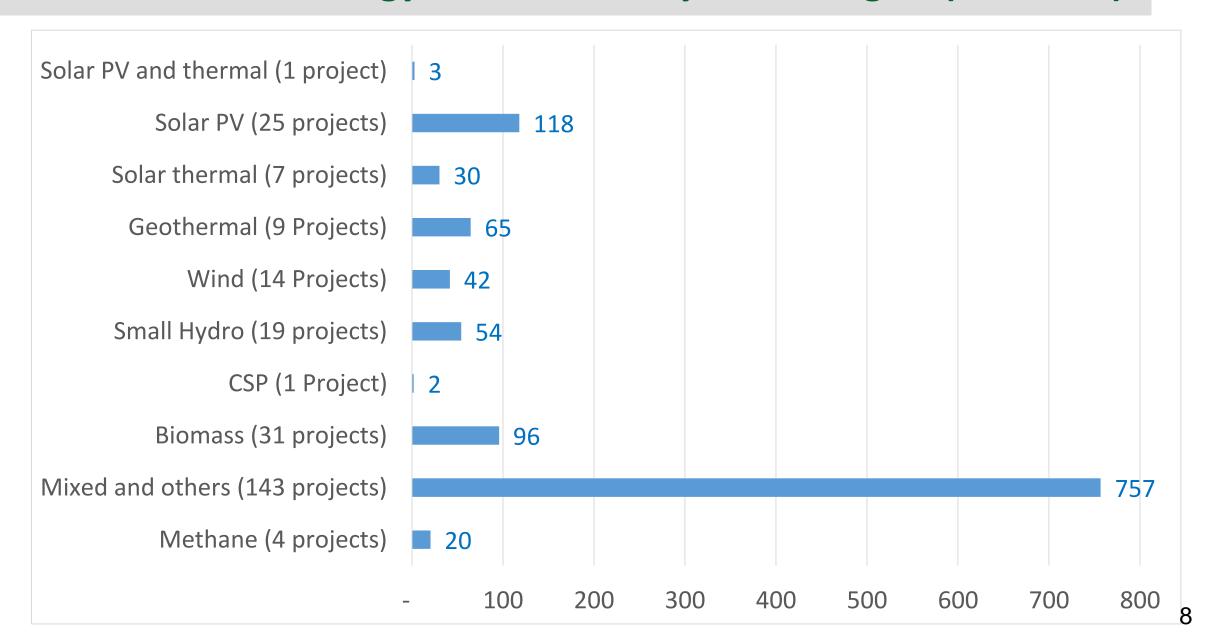
GEF Renewable Energy Investment by Regions (\$ Million)



GEF Renewable Energy Investment by GEF Phases (\$ Million)

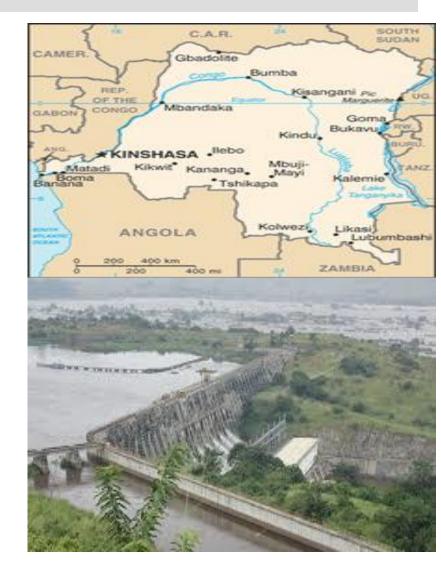


GEF renewable energy investments by technologies (\$ Million)



Case Study 1: Promotion of Micro-Hydro Power Plants in Congo DR

- In May 2016, GEF funding: \$3,187,669, Co-financing \$14,150,000
- To enhance policy and institutional framework; reinforce technical capacities; demonstrate pilot investments in micro-hydropower; and strengthen communication and management
- To lead to construction of 39 microgrids using hydro power technologies (10MW) to electricity 200,000 homes.
- To avoid 1.97 million tonnes of CO2



Case Study 2: India—Microgrid Solar PV in India

- 1993 2002, GEF funding: \$26 million
- Co-financing \$424 million to promote off-grid PV applications.
- GEF funding was used to promote commercialization of RE technologies; create marketing and financing mechanisms for RE; and strengthen institutional framework for encouraging private investments
- Results included: 2.1 MW off-grid PV power generation for local communities.
- Products including 5 W solar lanterns, 900 W PV irrigation pumps, 500–2500 W solar power packs, 25 kW village power microgrids and a 200 kW mini-grid system.





Thank you!

myang@thegef.org www.thegef.org

