



**CTF** CLEAN  
TECHNOLOGY  
FUND

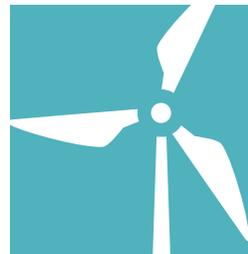
# **SCALING UP LOW CARBON TECHNOLOGIES**

**THE \$5.5 BILLION CLEAN TECHNOLOGY FUND (CTF)** is a funding window of the Climate Investment Funds (CIF). It is empowering transformation in developing and emerging economies by providing resources to scale up low carbon technologies with significant potential for long-term greenhouse gas emissions savings.

Almost \$5 billion is approved and under implementation in clean technologies such as renewable energy, energy efficiency, and clean transport. This is expected to leverage another \$47 billion in cofinancing.

CTF concessional financing, channeled to countries through partner multilateral development banks (MDBs), is boosting investor confidence and attracting significant co-financing from other sources by:

- + **Driving down technology costs**
- + **Supporting first-movers**
- + **Bridging financing gaps**
- + **Creating markets**
- + **Innovating private sector finance**



**\$5.5  
BILLION**

INCLUDING

**\$491 MILLION**

DEDICATED PRIVATE SECTOR PROGRAM

ENDORSED CTF INVESTMENTS  
EXPECTED TO LEAD TO:

**1.3 BILLION TONS  
OF CO<sub>2</sub> AVOIDED**

=

**250 MILLION CARS  
OFF THE ROAD**

**RENEWABLE ENERGY**

Wind, Solar,  
Geothermal

**ENERGY EFFICIENCY**

Municipal,  
Household,  
Industry

**CLEAN TRANSPORT**

Rapid Transit,  
Efficiency Vehicles,  
Modal Shifts



## DRIVING DOWN TECHNOLOGY COSTS IN MOROCCO

In Morocco, the African Development Bank (AfDB) and World Bank have jointly supported the 500+MW Nour concentrated solar power (CSP) complex, one of the world's largest. Together, these MDBs have channeled \$435 million from the CTF alongside their own investment of \$980 million. Independent analysis concludes that the low-cost debt is already driving down the cost of CSP in Morocco by 25 percent for Nour I and an additional 10 percent for Nour II and III, thus reducing the government subsidy required to bridge the affordability gap for CSP.

The complex expects to achieve over 500 MW installed capacity, ultimately supplying power to 1.1 million Moroccans by 2018. It will reduce the country's energy dependence by about 2.5 million tons of oil, while also lowering carbon emissions by 760,000 tons per year. It is a cornerstone of the Moroccan Solar Energy Program, which aims to install 2 GW of solar power by 2020.

## SUPPORTING FIRST MOVERS IN THAILAND

In Thailand, \$100 million from the CTF administered by the Asian Development Bank is supporting a number of pioneering projects under the Private Sector Renewable Energy Program. These projects are expected to lead to over 430 MW installed capacity.

Also in Thailand, the International Finance Corporation (IFC) blended \$8 million in commercial financing from its own resources with \$4 million in concessional finance from the CTF to support expansion of one of Thailand's earliest solar PV developers, female entrepreneur Wandee Khunchornyakong's Solar Power Company Group (SPCG.) This financing enabled SPCG to mobilize additional financing from local banks and bring 12MW in utility-scale solar power capacity over the finish line. Wandee received the prestigious Momentum for Change award from the United Nations' Climate Change secretariat in 2014 for this groundbreaking initiative.

By demonstrating the commercial viability of private sector utility-scale energy generation projects, the program is overcoming risk perceptions. It does this by establishing replicable business models for renewable energy technologies—a track record of investments will catalyze market transformation.

## BRIDGING FINANCING GAP IN SOUTH AFRICA

In South Africa, the 100 MW Sere Wind Farm is one of the largest wind farm projects in Africa and the first commercial utility-scale renewable energy project of the national utility Eskom. It will save nearly 6 million tons of greenhouse gas emissions over its 20-year expected operating life. Average annual energy production is estimated at about 298,000 megawatt hours (MWh), enough to supply about 68,000 standard homes.

The development of Sere Wind Farm is part of South Africa's efforts to diversify its energy mix to reduce reliance on coal. A total of \$100 million in concessional funds from CTF channeled through the AfDB and World Bank were essential to bridge the cost gap relative to coal power generation and in providing the positive incentives required for Eskom and its lenders to proceed with the investment.

## CREATING MARKETS IN TURKEY

Turkey is working to expand domestic energy production via renewables and increase energy efficiency. Together the European Bank for Reconstruction and Development (EBRD) and World Bank Group, including the International Finance Corporation (IFC), are channeling a total of \$270 million from the CTF to address market barriers and drive investment in renewable energy and energy efficiency with Turkish financial intermediaries.

In the first phase alone (through end of 2012), \$172 million from the CTF leveraged \$1.8 billion through 430 subprojects, saving 902,000 tons of CO<sub>2</sub> equivalent and \$568 million in avoided oil imports per year. CTF impact on the energy efficiency market is most notable as this market progressed from barely existent to one that can be financed on purely commercial terms.

The CTF hopes to do the same for the geothermal power industry by supporting the high investment costs and risks of exploratory drilling. With CTF funds structured to absorb the greatest risk, MDBs and other financiers are able to co-invest and help expand the Turkish geothermal market from 600 MW currently to 1 GW targeted by 2030.

**CTF PORTFOLIO**

**\$5.5B**  
ALLOCATED<sup>1</sup>

109 projects  
\$47 billion  
expected co-financing

**APPROVED CTF FUNDING**

**\$4.2B**  
IN MDB APPROVED

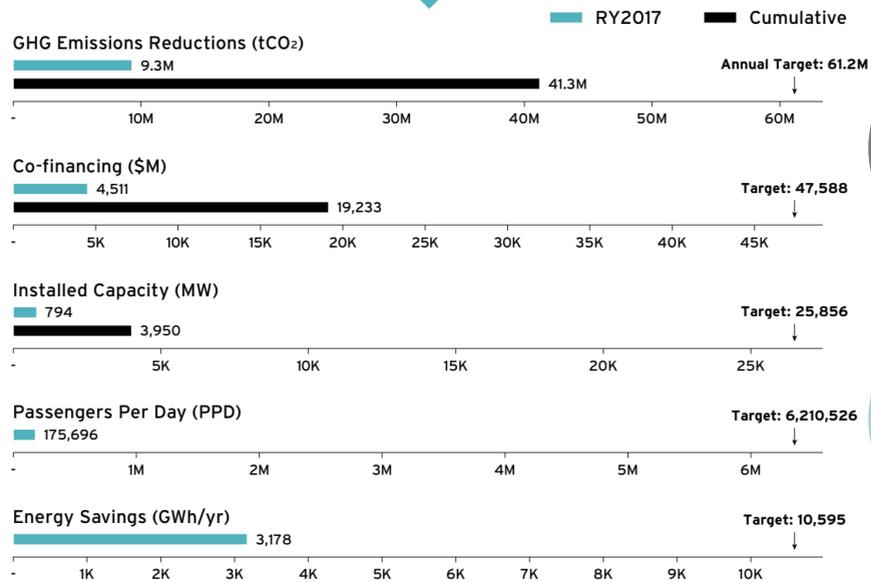
93 projects  
\$35 billion co-financing

**CTF CO-FINANCING SOURCES**

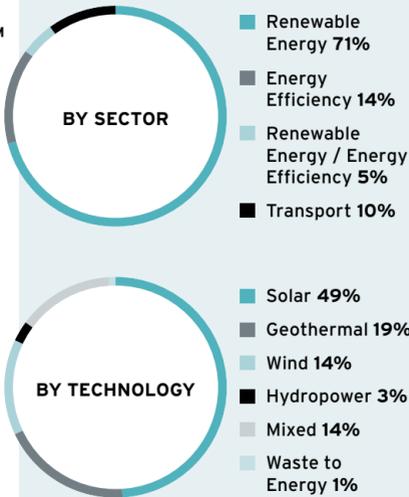
Ratio  
1: 3.4

- Government
- Private Sector
- MDBs
- Bilaterals
- Others

**TARGETS**



**SECTORS AND TECHNOLOGIES SUPPORTED BY CTF**



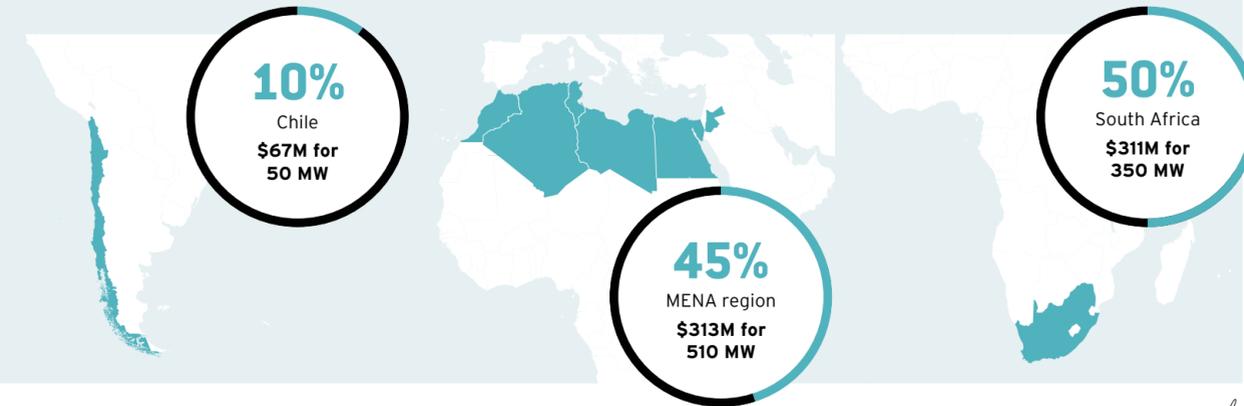
**CIF INVESTMENT IN CSP**

**OVER \$950M**  
CIF ALLOCATIONS

**CTF MODEL IS UNIQUE**

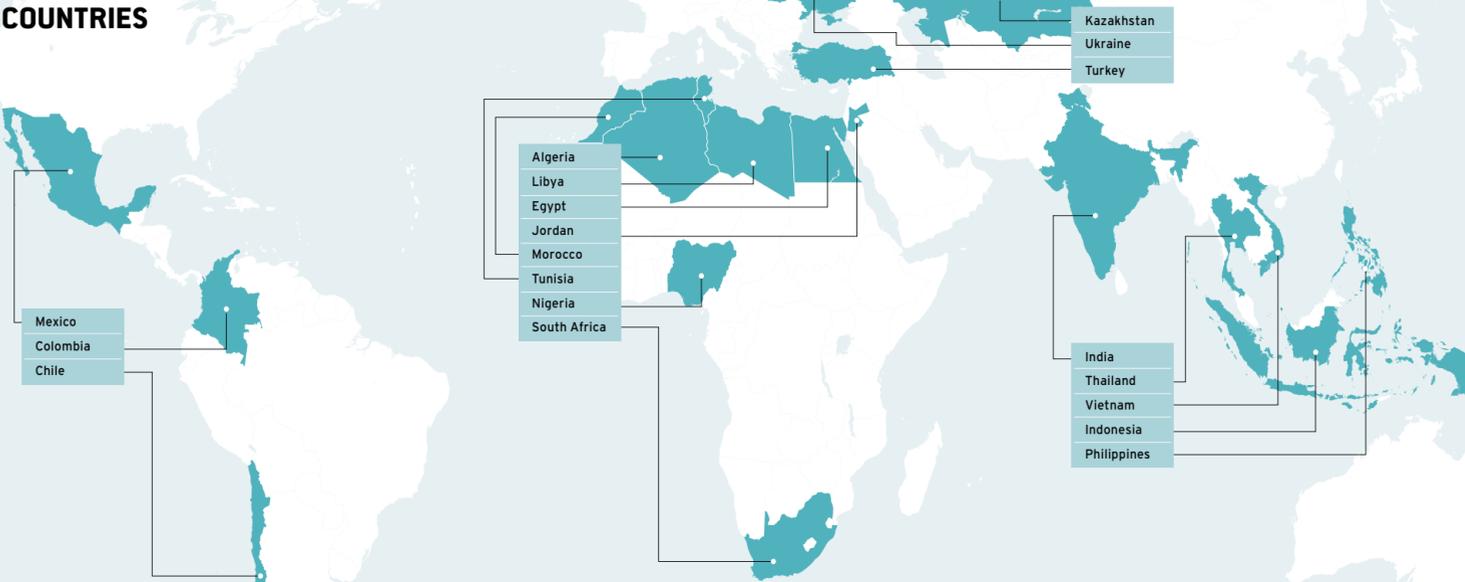
- + Flexible, programmatic approach for greater coordination, cooperation, and financial flows
- + Providing risk-taking, long-term, concessional financing alongside technical assistance and advisory services
- + Business model based on market demands in 72 countries

**OVER 1GW = OVER 1/5**  
CONTRIBUTING TO CONCENTRATED SOLAR POWER CURRENT GLOBAL INSTALLED CAPACITY 4.7 GW



**CLEAN TECHNOLOGY FUND**

**CTF COUNTRIES**



“The CIF is needed to encourage investments in what are perceived as riskier countries—whether in Africa, parts of Latin America, Asia, or Middle East—and reduce the perception of that risk. Then the private sector will step in much more readily.”

—Paddy Padmanathan  
Chairman and CEO of ACWA Power  
(Noor complex project developer, Morocco)

**INNOVATING PRIVATE SECTOR FINANCE**

The CTF is continuously refining its private sector approach to adjust to changing market realities and break down investment barriers. In 2013, a Dedicated Private Sector Program (DPSP) was launched to inject additional speed and flexibility into the CTF. Designed to foster first-of-a-kind approaches and business models among countries, MDBs, and private investors, it has since allocated over \$491 million to ramp up innovative investments in technologies like geothermal, solar photovoltaics (PV), and mini-grids worldwide.

The CTF is now developing strategies to raise funds in the capital markets to help finance the next generation of CTF investments. These strategies could open the door for new investments in frontier areas, such as energy storage and distributed generation, and potentially enable investors to take part in the CIF portfolio.



<sup>1</sup> Overprogramming rate of the CTF is 30 percent.



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