

Multilateral Development Bank (MDB) Financed Green Energy Case Study from Taiwan

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A Partner to Enhance Investment Efficiency on Green Financing with EBRD

As a long-term cooperative partner to the EBRD and Taiwan International Cooperation and Development Fund (ICDF), ITRI has contributed our leading & affordable technology portfolio and services to improve investment efficiency for targeted countries' projects.

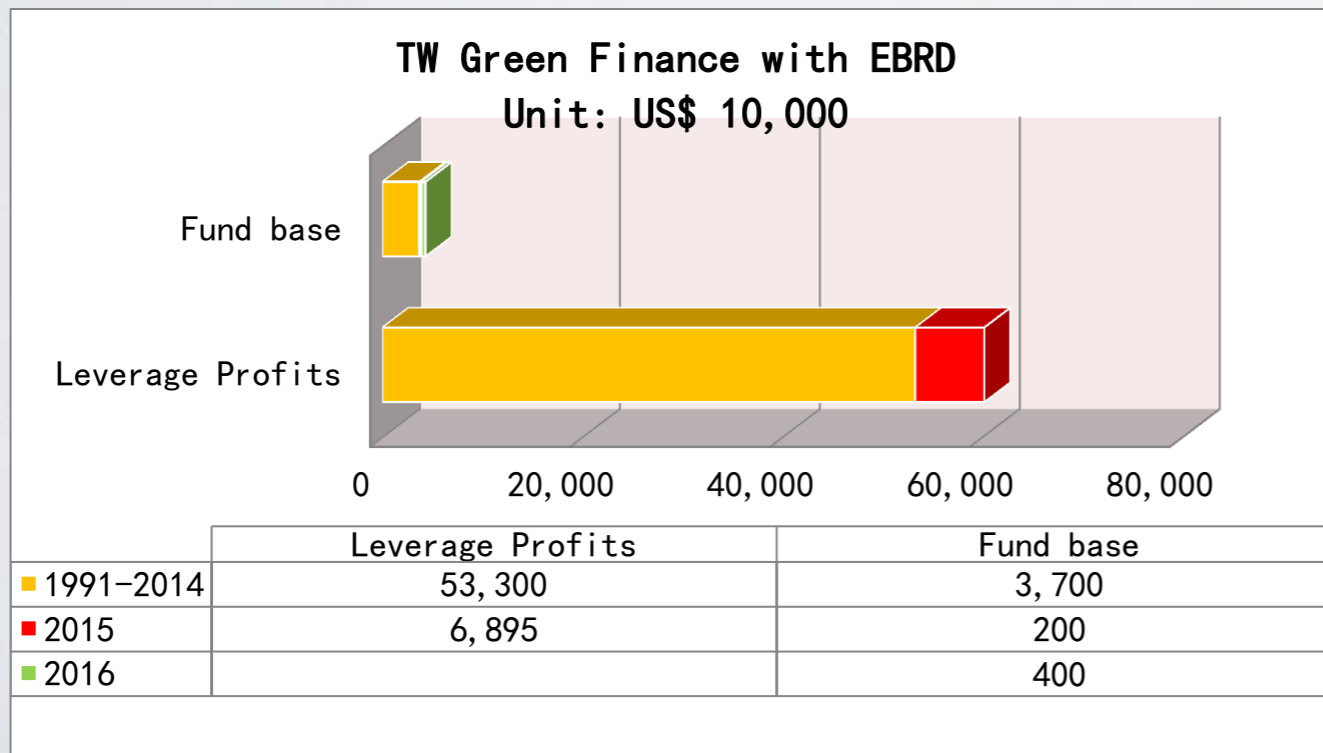


EBRD is stepping up the green financing objective from 25% (2011~2015) to 40% (2016~2020) with €18 billion investment in renewable energy, energy efficiency, district heating and cooling, sustainable energy, technology transfer and capacity building, etc. to tackle feasible solutions on mitigation and adaption climate technology.



TW Green Finance with EBRD

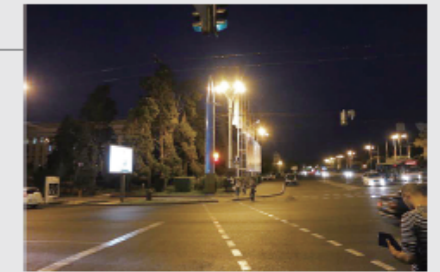
- Taipei China-European Bank Cooperation Fund (1991-2006)
- Taiwan Business—EBRD Technical Cooperation Fund (2006- till now)
- Green Energy Special Fund, GESF
- Taiwan is the fourth large fund donor in EBRD



Ref: Taiwan-EBRD GESF

Case Study 2

EBRD Green Energy Special Fund



To provide financial investments that spur the development of emerging industrial nations, since 2011 the TaiwanCDF has been cooperating on the Green Energy Special Fund (GESF), established with the European Bank for Reconstruction and Development (EBRD), in hopes of encouraging the EBRD's countries of operation in Eastern Europe, Central Asia and North Africa to invest in municipal infrastructure by applying the best available technologies that could achieve significant levels of CO₂ savings via preferential funding.

Cooperation with EBRD Leveraging Multiplier Effect of Inputs

The goal of the GESF is to address the affordability gap faced by the EBRD's countries of operation in boosting their efficiency of energy use. The program provides loans to municipal governments in developing countries in Central Europe, Eastern Europe and Central Asia, promoting their investment in energy efficient technologies. GESF sub-projects are financed by loans, with the principal and interest to be returned to the TaiwanCDF in accordance with the agreement with the EBRD and the TaiwanCDF.

The GESF's contributions in boosting the energy saving and energy efficiency of these regions' public services have received widespread attention during 2014 thanks to the signing and implementation of water resource,

solid waste management and smart transportation projects in Eastern Europe, as well as LED street lighting projects in Central Asia and North Africa. Three sub-projects have been signed for since the fund was established: an LED street lighting project in Almaty, Kazakhstan; an urban roads project in Chişinău, Moldova; and a water supply and wastewater project in Vâlcea, Romania.

At the signing ceremony for the LED street lighting project in Almaty, Kazakhstan, on June 10, 2014, EBRD president Sir Suma Chakrabarti made a point of thanking Taiwan for its technical assistance and funding support toward the GESF. The bank's Twitter page also took on a dedicated theme – "Taiwan government helps Almaty shine even brighter!" – to highlight the contributions of Taiwan's development experience

70%
Reduction in energy use by street lighting system in Almaty, Kazakhstan

toward improving municipal infrastructure in Almaty. The project is expected to yield a 70 percent reduction in energy use by Almaty's street lighting system. The project has gained widespread attention

from many countries, and more than 10 countries are currently in talks with the EBRD regarding similar lighting projects.

In addition to the LED street lighting project, the GESF has also subsidized an LED street light project in the Moldovan capital of Chişinău and a water resource management project in the southern Romanian city of Vâlcea, receiving widespread acclaim from local

governments and the European Union.

The project is the first program of cooperation between the TaiwanCDF and the EBRD to focus on energy saving and carbon reduction. We hope that marshaling Taiwan's advantages in environmental protection technologies can broaden the scope of projects through cooperation with the EBRD and the GESF, assisting partner countries in pursuing environmentally sustainable development despite resource constraints, and thereby achieving a synergistic, leveraging effect.

ITRI Contributes Green Technology Transfer

- A leading innovation hub for major enterprises in Taiwan, and linked with local industries and international stakeholders
- In Taiwan, ITRI is the major technical assistance provider and incubator for bankable projects with solid capacity building experiences to assist governments and industries for achieving their own sustainable development goals (SDGs) under NDCs to the UNFCCC
- Well experiences on consulting and training among governments and private sectors to comply legal regulations and international trends (e.g. Paris Agreement in the UNFCCC)
- Support enterprises through ESCO and MRV (measurable, reportable and verifiable) service teams to reach effective technical assistance



United Nations
Framework Convention on
Climate Change



innovation hub



ESCO and
MRV Service for
Industries



Work with EBRD's Green Economy Transition approach

- Echo the Article 10 of Paris Agreement under the UNFCCC: **“Technology Development and Transfer”** to accelerate climate actions and contribution
- Leverage Taiwan Green Energy Special Fund (GESF) and EBRD Green Finance as a co-financing mechanism with ITRI technical support to expand profits (as a Climate Technology Partnership)
- Integrating stakeholders' advanced climate technology to conduct Green Economy Transition (GET) approach and involve possible green procurement markets with innovated technology transfer
- EBRD expands its initial focus on energy efficiency and renewable energy projects, and has already moved into the areas of water and materials efficiency and climate adaptation. As a technology partner, ITRI provides skillful technical service and capacity building works.



Tbilisi (Georgia) LED Street Light Consulting Project

Tbilisi City' s extant street light system improvement case: retrofit the system to enhance its efficiency in saving energy, reducing maintenance costs, and beautifying the city' s view at night.



Model	Municipality	ESCO	PPP
Borrower	Municipal Government or Public Utility Company	ESCO Company	PPP Special Purpose Company
Responsibility	Owner, Supervise lighting company, provide budget	Installation	Installation Operation and Maintenance
Repayment source	Government budget	Energy cost savings	Energy cost savings and maintenance cost savings
Risk level	Low, government budget	High, if energy savings lower than expected	Average, with savings from electricity and maintenance costs
Role for "City of Light" to play	As borrower or as contractor for City	Subcontractor for maintenance	Reorganize to join part in PPP if fits
Gap	None	None	Must reduce current workforce in City of Light Need PPP regulations

Key working areas :

1. Identify the gap for retrofitting the system, with on-site visit to investigate current status of existing SL system.
2. Propose potential retrofitting strategy based on three scenarios; Continue with current technology; Pure-LED; Partial & Progressive retrofitting.
3. Perform detail financial analysis, to provide justification for banks to consider financial arrangements.

Collaboration Vision

- Create a financeable business model to disseminate climate technology with Taiwan green industry involvement
- Considering higher technology R&D capability, ITRI has prevailing ability to deploy suitable climate technology for selected countries, and improve their climate resilience and mitigate CO₂ emissions
- Multilateral Collaboration with ITRI under green finance towards green economy transition
 - Consulting Service
 - R & D Support Service
 - Implementation Service



ITRI green campus visiting



ITRI Climate Technology Demonstration



Thanks for your attention

