

Hot power

Boosting finance for renewables

Geothermal energy is a clean, renewable source of power but can be difficult to harness – high exploration and set-up costs deter investors. This is where the EBRD can help.

A new US\$ 125 million initiative called PLUTO* will provide finance and advice to private developers to help minimise risks at the early stages of geothermal project development.

*Private Sector Early Stage Geothermal Development Framework



Unlocking Turkey's geothermal potential

Turkey currently only harnesses a fraction of its potentially huge geothermal resources. The fault lines which criss-cross country and volcanos that dot the landscape put lives at risk. But they can also provide raw natural power to improve lives and avoid the use of environmentally harmful fossil fuels.

Growth in capacity, 2010-15
560%

Share of geothermal power generated globally, 2015
0.5%

Estimated potential
4.5 GWe

Installed capacity
0.6 GWe
January 2016

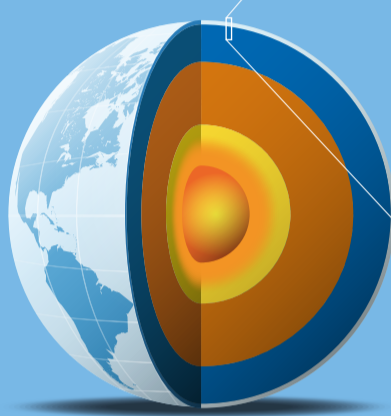
Exploration and extraction

The EBRD and the Clean Technology Fund will provide financing in two phases:

Phase 1

Exploration
(Funded by the Clean Technology Fund)

Exploration typically requires drilling hundreds of metres into the crust, while extraction may require drilling to a depth of several kilometres.



Phase 2

Drilling and construction of at least five power plants with a combined capacity of 60MW.

The EBRD hopes to attract private finance to a sector that has traditionally relied entirely on government funds.



Secure source of local energy

In 2015, about 80 per cent of Turkey's electricity was produced using fossil fuels, over 90 per cent of which is imported.



34 GWe



20 GWe

Turkey has pledged to develop 30 per cent of its total installed capacity from renewable sources by 2023.



5 GWe



1 GWe

EBRD investments in renewable power

Since 2009 the EBRD has invested €3 billion in sustainable energy projects in Turkey.



A selection of projects

- | | | |
|--|--|---|
| 1 Tuzla GPP (2010)
Capacity: 7.5 MW
Investment: US\$ 22 million | 4 Pamukören GPP (2012)
Capacity: 45 MW
Investment: US\$ 63 million | 6 Umurlu II GPP (2015)
Capacity: 12 MW
Investment: US\$ 53 million |
| 2 Babadere GPP (2014)
Capacity: 7 MW
Investment: US\$ 33 million | 5 Gümüşköy GPP (2012)
Capacity: 13.2 MW
Investment: US\$ 50 million | 6 Germencik GPP (2015)
Capacity: 123 MW
Investment: US\$ 800 million |
| 3 Alaşehir II GPP (2015)
Capacity: 24 MW
Investment: US\$ 100 million | 7 Bares Windfarm (2013)
Capacity: 142.5 MW
Investment size: €135 million (equivalent) | 8 Rotor Windfarm (2009)
Capacity: 135 MW
Investment size: €45 million (equivalent) |

Pamukkale means "cotton castle" in Turkish



Pamukkale

Pamukkale is a UNESCO World Heritage Site in the Denizli Province in southwestern Turkey. Pamukkale's terraces are made of travertine, a sedimentary rock deposited by water from 17 hot springs, ranging in temperature from 35°C to 100°C.

The same forces which generate this beautiful natural feature will warm peoples' homes and run their businesses.

Part of a package

The EBRD is the largest financier of renewable energy and energy efficiency in its region. Through our Green Economy Transition, we have committed to doubling our sustainable energy and resource financing to **€18 billion in the next 5 years**.



Donor support

The Clean Technology Fund (CTF) will provide **US\$ 25 million** to cover the first stage of exploration. The CTF is part of the Climate Investment Funds.



Why PLUTO?

Pluto was the ruler of the underworld in classical mythology.

Sources: EBRD; GlobalData; General Directorate of Mineral Research and Exploration of Turkey; Wikipedia



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