

ATHENS ENERGY SUMMIT



4-5 July 2024

Funding Energy Projects under Financial and Geopolitical Turmoil

1. World Energy Trilemma
2. Current Global Energy Development
3. BSEC Region: Energy Security and Vulnerabilities
4. The BSTDB and its Activities in Energy

The World Energy Trilemma

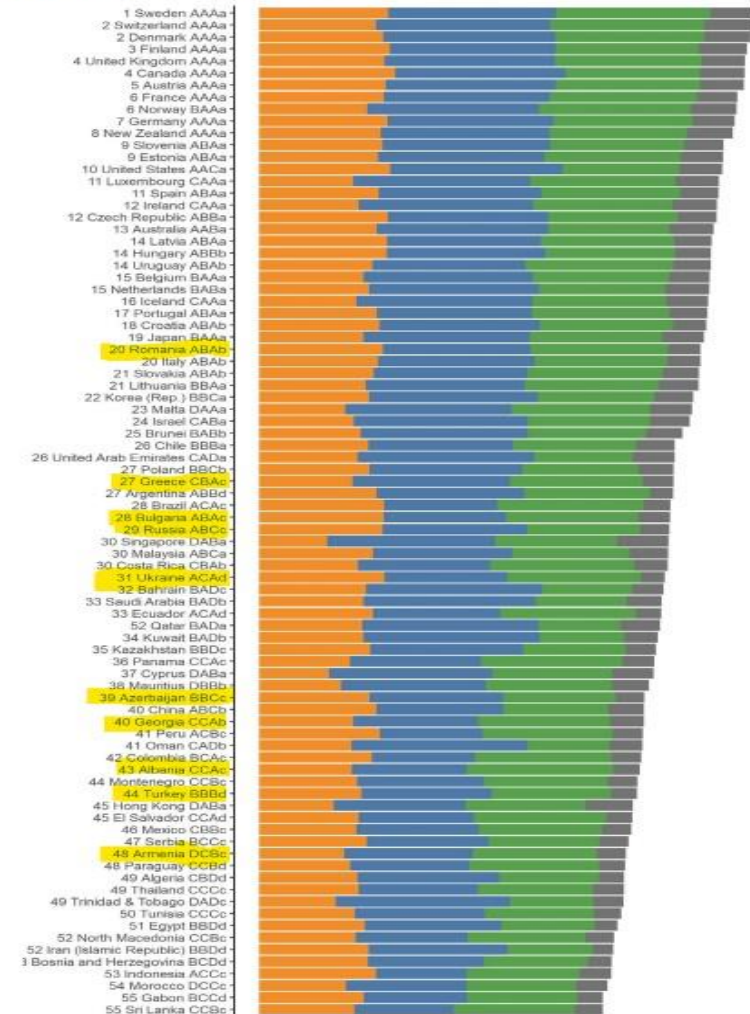
The World Energy Trilemma are three competing issues that drive energy competition, namely:

- 1. Energy Security – nation's capacity to meet current and future needs**
- 2. Energy Equity – country's ability to provide universal and affordable access**
- 3. Environmental Sustainability – transition of country's energy system**

2022 World Energy Trilemma Index

ANNEX A

2022 WORLD ENERGY TRILEMMA INDEX



Top ranking countries are:
Sweden, Switzerland, Denmark,
Finland, UK and Canada.

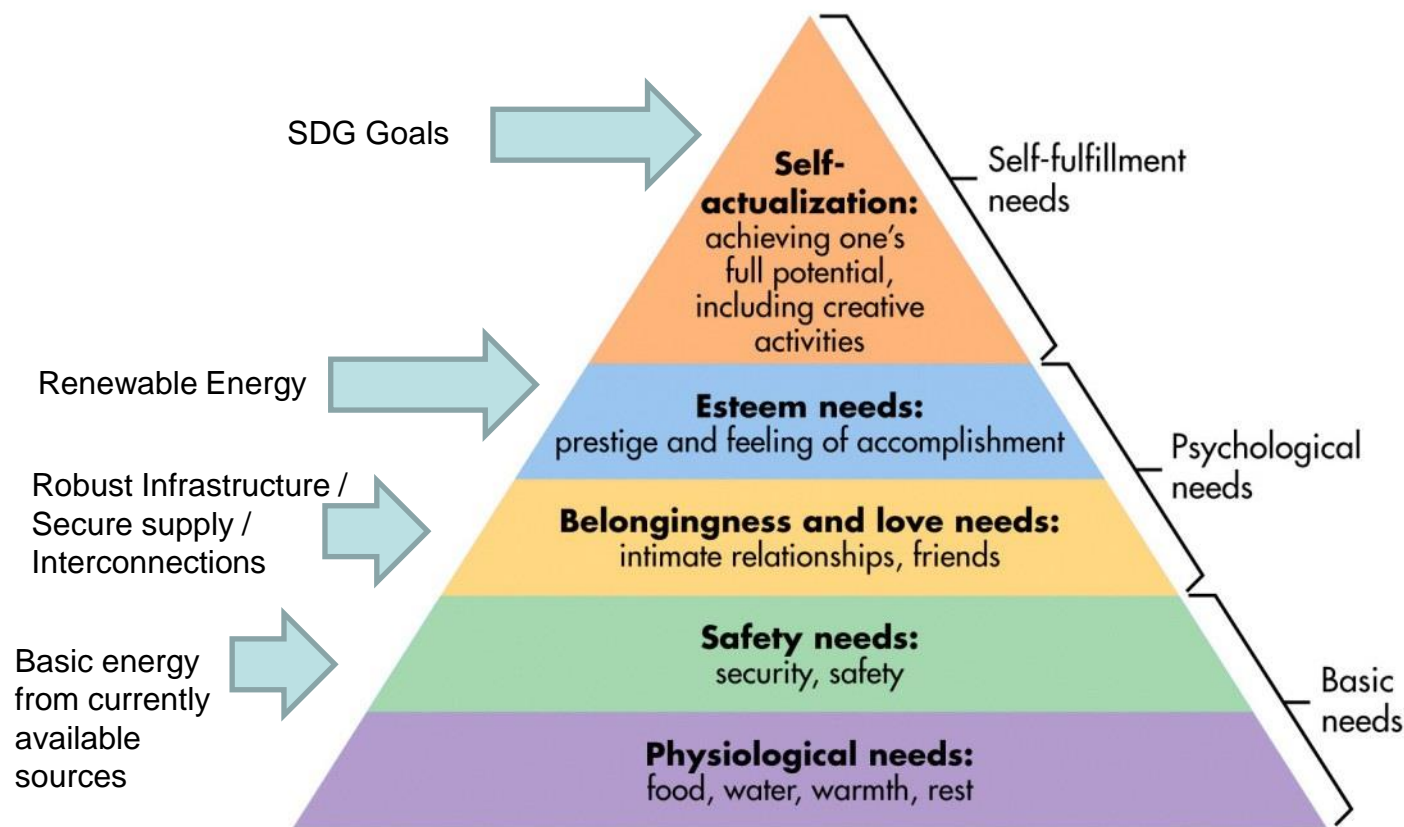
How do BSTDB Countries
compare:

- Romania (20) ranks highest of BSTDB Countries
- Followed by Greece (27), Bulgaria (28), Russia (29), Ukraine (31), Azerbaijan (39), Georgia (40), Albania (43), Turkey (44), Armenia (48), and Moldova (61)

Maslow's Hierarchy applied to Energy

Applying Maslow's Hierarchy to Energy:

- 1. Developing Countries still fulfilling basic needs*
- 2. As more developed increase focus on Renewables*
- 3. Only most developed can focus on SDGs*



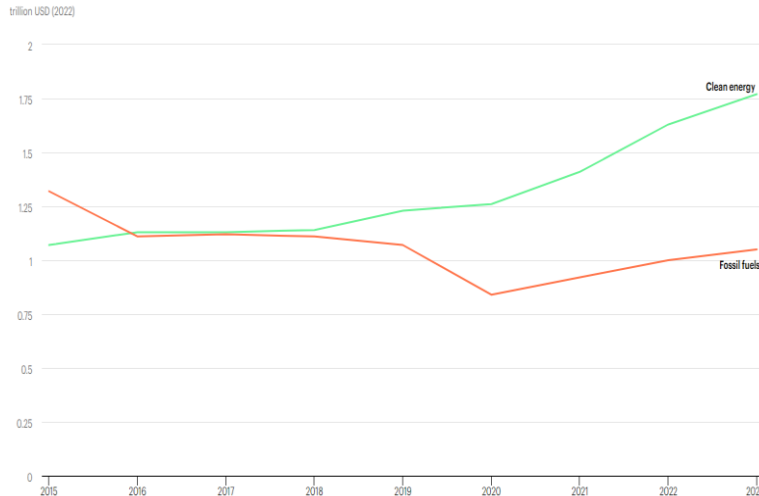
- EU – was balanced but recent gas & energy shocks changed that. Need for more coordination
- BSEC Countries – primarily focused on Basic Needs & Security of Supply / Connectivity with some Renewables. Affordability is key.
- Not all BSEC Countries at same stage of Maslow's Hierarchy as applied to Energy. But changes are forcing acceleration.

Current Global Energy Development

Current Scenarios and Forecasts

Annual investment in fossil fuels and clean energy, 2015-2023

Open



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- An increasing shift towards RES
- These RES sources are cost-effective & widespread.
- Reduced costs makes them competitive alternatives to traditional fossil fuel.

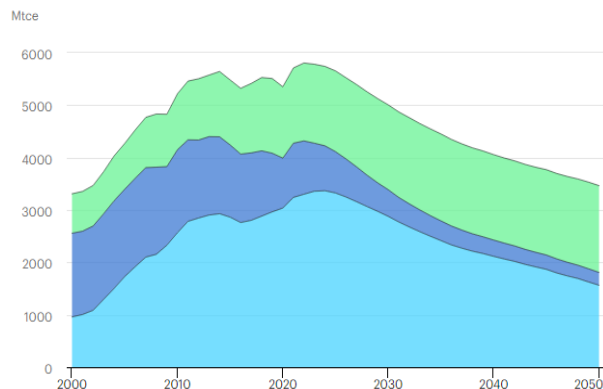
Current Scenarios and Forecasts



- The increasing demand for cleaner energy goes hand in hand with the increased awareness regarding climate change.

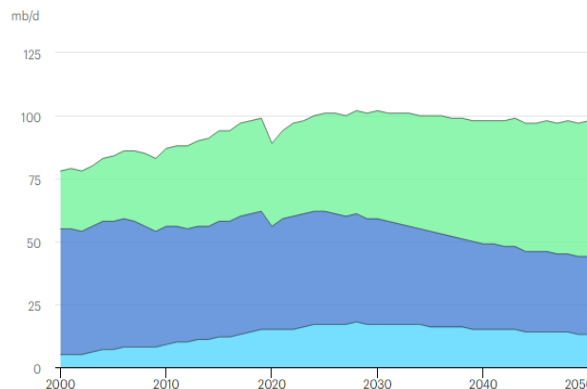
Current Scenarios and Forecasts

Coal demand by region in the Stated Policies Scenario, 2000-2050



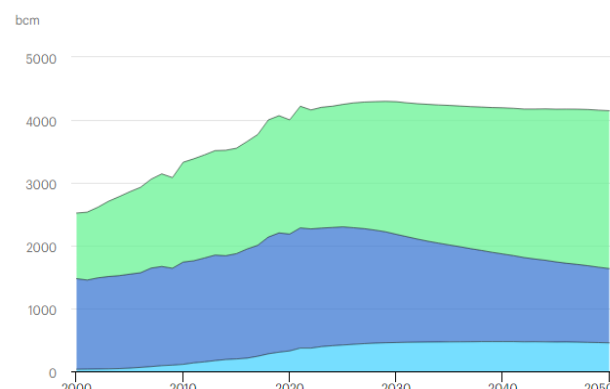
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Oil demand by region in the Stated Policies Scenario, 2000-2050



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Natural gas demand by region in the Stated Policies Scenario, 2000-2050



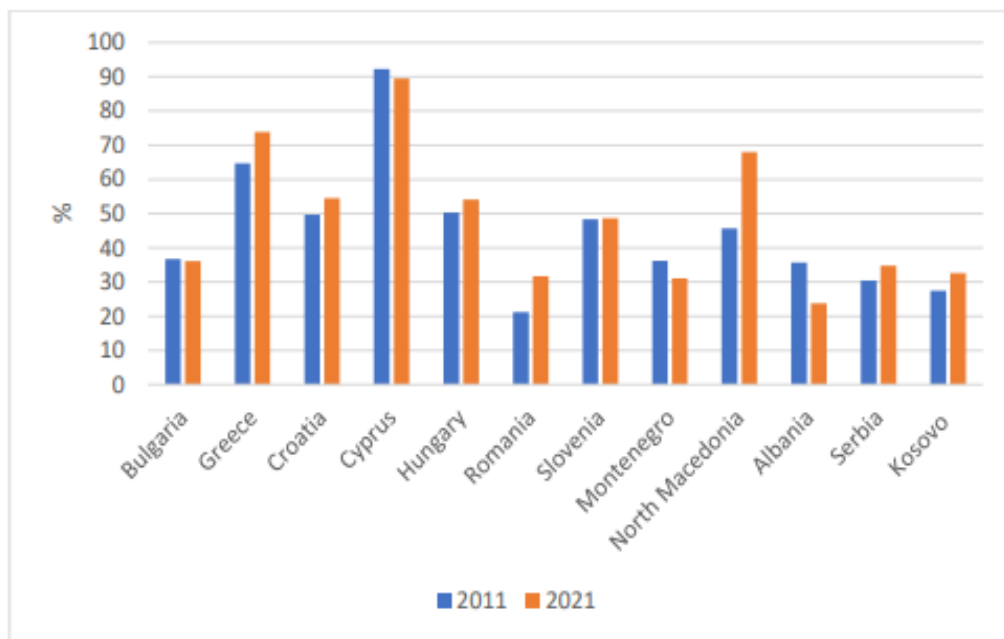
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China Advanced economies Other emerging markets and developing economies

China Advanced Economies Other emerging markets and developing economies

- Projections indicate a rise in RES and structural shifts in energy supply and demand. Traditional energy sources, particularly fossil fuels, are expected to decline in the late 2020's.
- Nations heavily reliant on traditional energy sources may face economic restructuring challenges, requiring careful planning to mitigate potential economic downturns and job displacements.

Figure 8: Energy Dependence (%) in SE Europe, 2011 and 2021



Sources: Eurostat, IENE

Nations heavily reliant on traditional energy sources may face economic restructuring challenges, requiring careful planning to mitigate potential economic downturns and job displacements.

The main **economic/financial challenges** for the increased penetration in renewables relates to the following:

1. Increased construction cost due to higher inflation pressures observed in the last few years.
2. Increased financing costs due to recent steep increases in underlying interest rates.
3. Uncertainty in terms of availability of debt financing from banks, given the uncertainty of the end buyer/purchaser of the energy produced from RES units.
4. Uncertainty in terms of remuneration and return rates on the side of the investors.

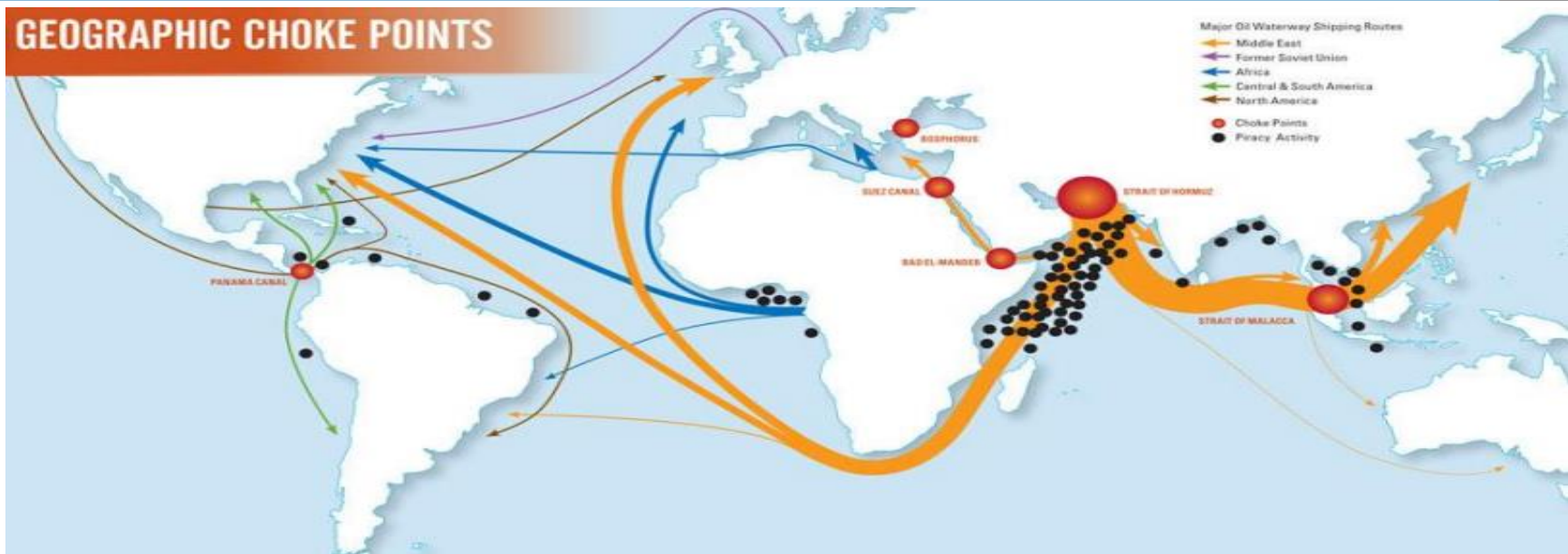
The **main technical challenges** for the increased penetration of renewables in the energy mix relate to the following:

1. Renewables that come onstream have a high geographical dispersion across larger geographic areas.
2. Unlike other energy resources, renewable plants are not interruptible power producing units.
3. Thus the introduction of more renewables in the energy mix requires improved management, upgrade, and expansion of the electricity network, both in terms of capacity and geographical dispersion.

The **main regulatory/political challenges** for the increased penetration of renewables in the energy mix relate to the following:

1. The regulatory framework for the licensing process of newly developed RES projects keeps on changing abruptly in many cases, thus creating market uncertainty for both investors and lenders.

But we still have Geopolitical Tensions



- Need diplomatic dialogue and conflict resolution is paramount.
- Need to diversity energy sources and transportation routes.
- Regional agreements, shared infrastructure projects, advanced technologies with enhanced cybersecurity measures and increased redundancy in energy systems can also be beneficial.
- Energy efficiency and conservation measures reduce the risks and the impact of disruptions.
- Maintaining strategic reserves becomes necessary.
- International cooperation through agreements and treaties help stabilize situations.
- Integration of renewable energy sources can only be beneficial
- Increased government transparency when it comes to decision-making regarding energy strategies.

The Black Sea Region: Energy Security and Vulnerability

- The war in Ukraine has dramatically changed the dynamic. It exposed the vulnerabilities in Europe and sparked a global energy crisis.
- Increased unpredictability and volatility in energy commodity and regulatory markets
- Increased Risks in Energy driven by systematic factors (e.g. current situation in Ukraine, market supply and demand, etc.) rather than unsystematic (company specific) or regulatory risks.
- Focus on alternative sources of supply, restarting closed power plants, focus on Renewables and possibly Nuclear.

- The BSTDB was created in the midst of the Emerging Market Crisis of 1998/1999.
- We have witnessed in our region:
 - The GE / RU conflict
 - The annexation of Crimea of 2014
 - The various AR and AZ conflicts
 - The GR Financial Crisis & Restructuring
 - The invasion of UA in 2022
- But the BSTDB has survived and prospered with an impact on the region of almost EUR 8b in 462 approved projects over the years
- We are an MDB created for the region to on the political risks

The BSTDB and Activities in Energy

BSTDB Members Countries

Overview of Greater Black Sea Region

Romania



Capital: Bucharest
Population: 21.4m
GDP: \$169bn
GDP per cap.: \$7,905

Moldova



Capital: Chisinau
Population: 3.6m
GDP: \$7.3bn
GDP per cap.: \$2,038

Ukraine



Capital: Kiev
Population: 45.6m
GDP: \$176bn
GDP per cap.: \$3,864

Black Sea Region

Population: 327m
GDP: \$3,594bn
Weighted av. GDP per cap.: \$10,979

Bulgaria



Capital: Sofia
Population: 7.3m
GDP: \$54.3bn
GDP per cap.: \$7,243

Albania



Capital: Tirana
Population: 3.2m
GDP: \$12.4bn
GDP per cap.: \$3,845

Russia



Capital: Moscow
Population: 143.1m
GDP: \$2,007bn
GDP per cap.: \$14,027

Georgia



Capital: Tbilisi
Population: 4.5m
GDP: \$15.8bn
GDP per cap.: \$3,520

Greece



Capital: Athens
Population: 11.4m
GDP: \$249bn
GDP per cap.: \$21,799

Turkey



Capital: Ankara
Population: 74.7m
GDP: \$789bn
GDP per cap.: \$10,561

Armenia



Capital: Yerevan
Population: 3.3m
GDP: \$9.9bn
GDP per cap.: \$3,027

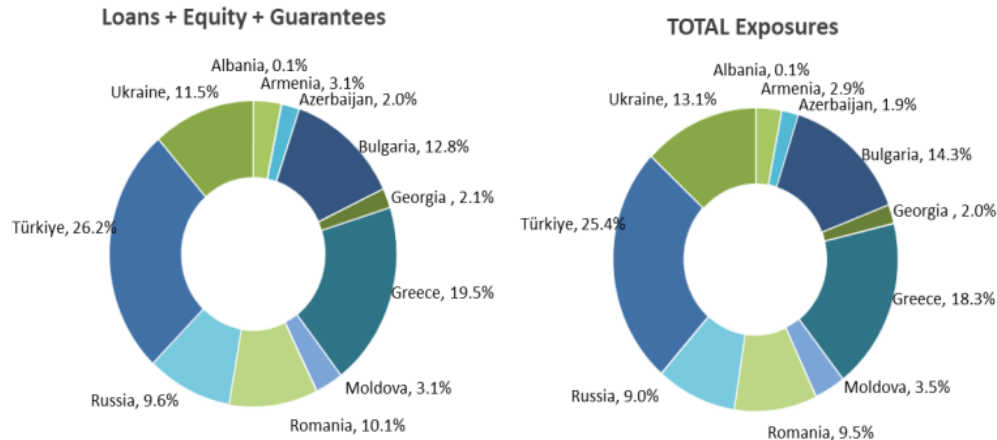
Azerbaijan



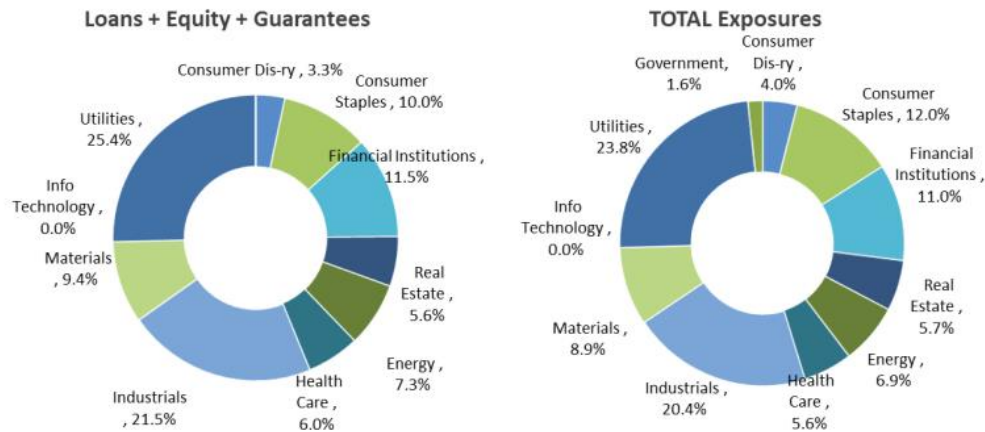
Capital: Baku
Population: 9.2m
GDP: \$68.7bn
GDP per cap.: \$7,442

Portfolio Across Countries and Sectors

Portfolio by Country



Portfolio by Sector



BSTDB Energy Portfolio

Bulgaria Energy Holding (Bulgaria)



Project Cost

Total: EUR 450 m
BSTDB: EUR 50 m

Borrower

Bulgarian Energy Holding

Term

5 years

Sector

Utilities

Summary

Participation in the tap issue of their June 2018 EUR 400m Eurobond issue. The funds will be used for their ongoing capital investment program.

EnergoPro (Bulgaria)



Project Cost

Total: EUR 370 m
BSTDB: EUR 42 m

Borrower

EnergoPro

Term

5 years

Sector

Utilities

Summary

Participation in the primary bond issue as an anchor investor to finance the ongoing improvement and developments of the electricity grid and metering system and of the other markets of EnergoPro operations.

Energean Oil & Gas (Greece)



**Project
Cost**

BSTDB: EUR 90m

Borrower

Energean Oil & Gas

Term

8 years

Sector

Natural Resources

Summary

Support the company's existing oil development programme to access additional oil reserves in the Prinos, Prinos North and Epsilon operating oil fields, located offshore Greece (Prinos-Kavala Basin).



Project Cost

**Total: EUR 360 m
BSTDB: EUR 50 m**

Borrower

Eurohold

Term

5 years

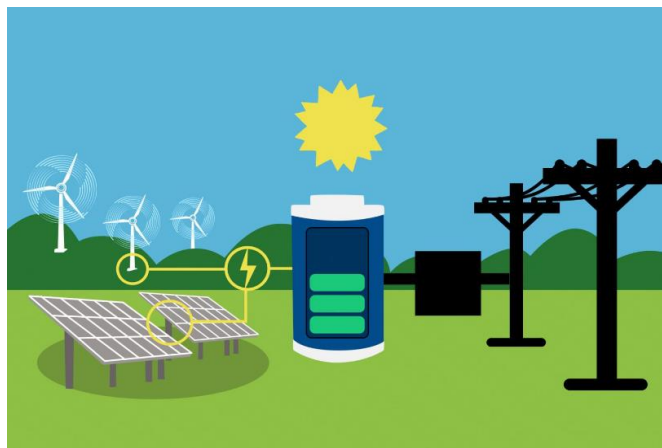
Sector

Utilities

Summary

BSTDB participated in an investment regarding the acquisition of CEZ's assets in Bulgaria and/or refinancing of the existing debt.

VARIOUS GREEK RES DEVELOPERS



Term

5 years

Sector

Utilities

Summary

Unfunded Risk Guarantees on behalf of the companies to RAE.

Gurmat Geothermal Power Plant (Turkey)

Project Cost	BSTDB: USD 1b
Borrower	Gurmat Electric Uretim
Term	15 years
Sector	Energy
Summary	Financing of the construction and operation of 170MW geothermal power plant southwestern Turkey



Galnaftogaz (Ukraine)



Project Cost	Total: USD 220 m BSTDB: USD 20 m
Borrower	Concern Galnaftogaz
Term	7 years
Sector	Utilities
Summary	CAPEX program and expansion of the Borrower's gas filling stations network in Ukraine

Ingulets Solar PV (Ukraine)



Project Cost

Total: EUR 56 m
BSTDB: EUR 19.5 m

Borrower

Ingulets Solar PV

Term

10 years

Sector

Renewable Energy

Summary

Development, construction and operation of an up to 58 MW solar power plant project Ingulets, to be located in the Mykolvyiv region in Southern part of Ukraine.



Public Power Corporation S.A.-Hellas
Always by your side

Project Cost	Total: EUR 1.7 b BSTDB: EUR 160 m
Beneficiary	PPC
Term	5 years
Sector	Energy / Utility
Summary	Corporate Loan for financing PPC's capital expenditure program for the period 2019- 2020 which is expected for its electricity distribution networks.

Rengy Bioenergy Solar PV (Ukraine)



RENGY DEVELOPMENT



Scatec Solar
Improving our future™

Project Cost

Total: EUR 53 m
BSTDB: EUR 18.5 m

Borrower

Rengy Bioenergy Solar PV

Term

10 Years

Sector

Renewable Energy

Summary

Development, construction and operation of three solar parks of total capacity of 47 MW: (i) Afanasievka of 14 MW, (ii) Taborovka of 16 MW and (iii) Tokarivka of 17 MW, located in the Mykolaiv region in Southern part of Ukraine

Syvash Wind (Ukraine)



Project Cost

**Total: EUR 390 m
BSTDB: EUR 30 m**

Borrower

Syvash Wind

Term

10 year

Sector

Renewable Energy

Summary

Development, construction and operation of the wind park of total capacity of 250 MW, to be located in the Kherson region in Southern part of Ukraine

Thank you

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