

Millennium Challenge Account-Kosovo



RFI for FRR and MFES Activities for Construction of BESS Facilities

Virtual conference
07.03.2024





- The Millennium Challenge Corporation (MCC) is an independent U.S. foreign assistance agency created by the U.S. Congress in January 2004
- MCC provides time-limited grants promoting economic growth, reducing poverty, and strengthening institutions
- MCC forms partnerships with developing countries who are committed to good governance, economic freedom and investing in their citizens.
- MCC grants take the form of:
 - Compacts
 - Concurrent Compact for Regional Investments
 - Threshold Programs



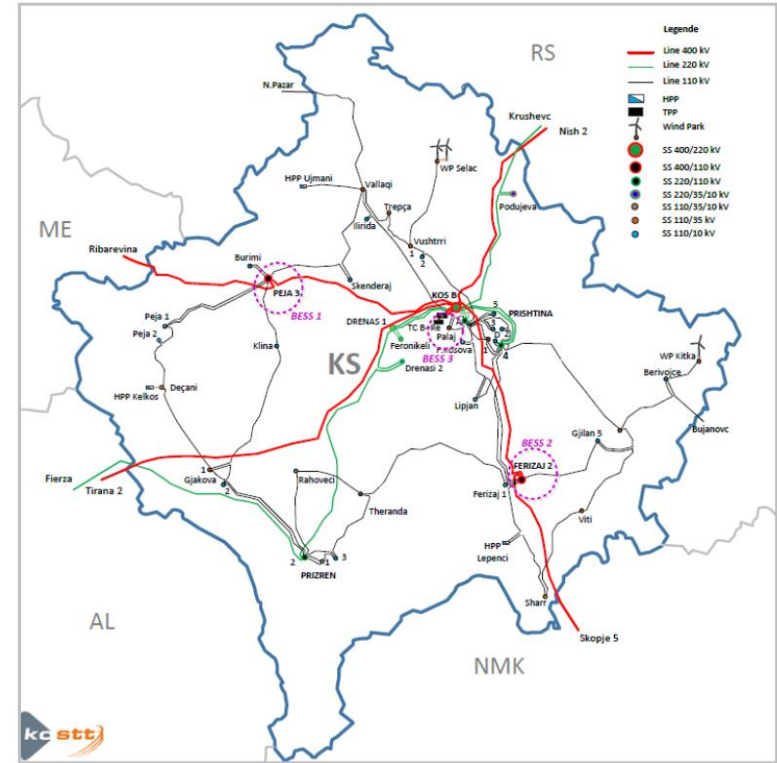
MILLENNIUM
CHALLENGE CORPORATION

UNITED STATES OF AMERICA





**Kosovo Compact Signature
July 15, 2022**





Compact signed – **July 15, 2022**

\$236M program – \$202M
MCC & \$34.6M
Government of Kosovo

Expected to benefit over
1.8 million people in
Kosovo



Three complementary projects that



Support Kosovo's energy security and transition to a cleaner energy future



Address existing skill gaps in the energy sector's education and training system, and



Leverage DFC financing to support blended finance transactions to catalyze energy sector private investments





Energy Storage Project
USD
\$180 million



JETA Project
USD
\$16 million



**ACFD Project and
M&E**
USD
\$5.5 million

Program Management and Administration USD **34.4 million**





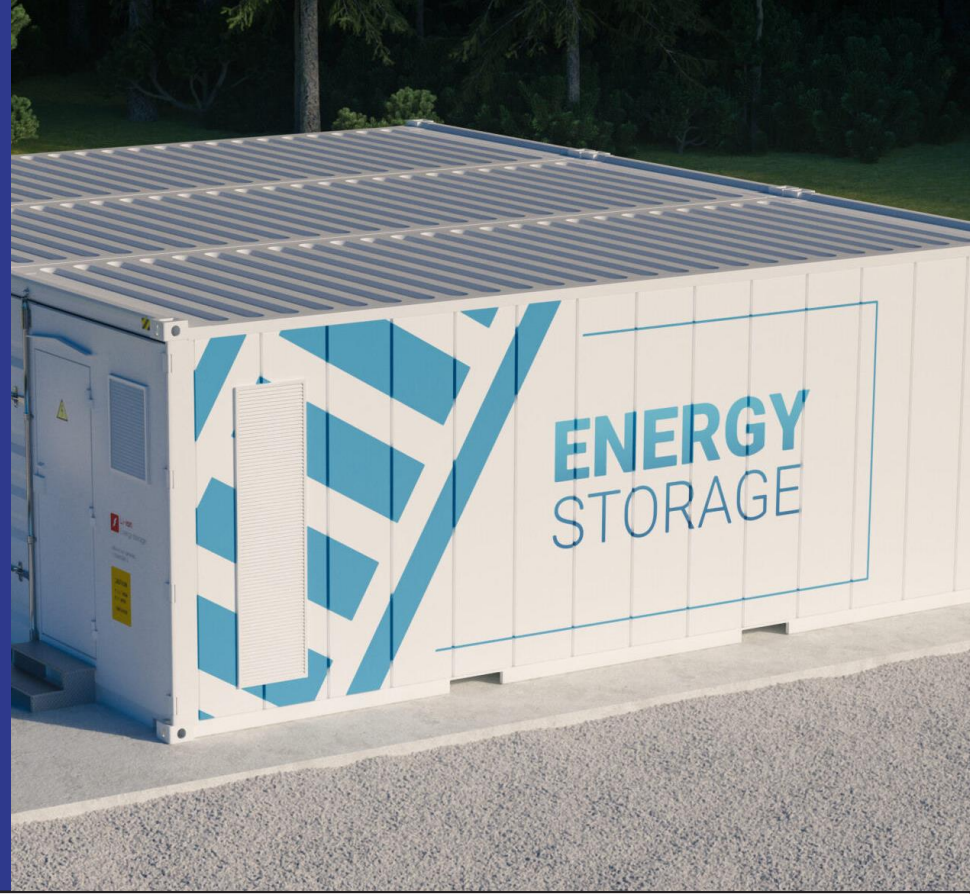


- MCA Kosovo is the outcome of a collaborative partnership between the United States of America and the Republic of Kosovo, formalized through the signing of the Compact Agreement in July 2022.
- MCA Kosovo's central objective is to oversee and implement the Compact Program, a comprehensive initiative comprising significant projects (BESS, JETA, ACFD).
- As the implementing entity for the Compact Program, MCA Kosovo takes the lead in realizing the outlined projects. This well-coordinated program is structured to ensure a cohesive impact across multiple sectors, fostering positive transformation in Kosovo's energy landscape, societal dynamics, and economic resilience.
- MCA Kosovo operates within a collaborative framework, with a key partner being the Millennium Challenge Corporation (MCC). The MCC's substantial grant of 202 million dollars provides a foundational backing for MCA Kosovo's initiatives, reflecting the joint commitment to Kosovo's sustainable growth.



Energy Storage Project

Frequency Restoration Response (FRR)
&
Multi-Functional Energy Storage (MFES)
activities





Energy Storage Project

The objective of the Energy Storage Project is to support Kosovo's energy security, as reflected by:

1. Usage of energy storage systems for reserves
2. Availability of the storage systems, and
3. Reduced cost of securing adequate electricity for Kosovo



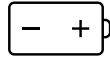


Energy Storage Project

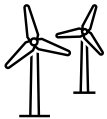
P1A1 - Recognizing that the demand for electricity in Kosovo **has far exceeded supply**, this Project is intended to increase Kosovo's energy capacity by supporting a battery storage system that will enable Kosovo's transmission system and market operator (KOSTT), to **cost-effectively smooth out imbalances** in the electricity grid.



P1A2 - Supporting a public energy storage entity (MFES) with authority to deploy approximately 250 megawatt hours (MWh) in additional energy storage, for **multi-functional activities**.



P1A3 - And **strengthening the regulatory environment** governing battery energy storage systems ("BESSs"), energy projects in a more sustainable manner.



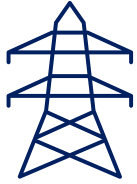


Energy Storage Project

Environmental and Social Mitigation Measures

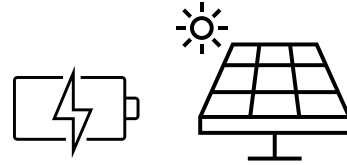
The application of utility-scale BESSs presents new issues that must be addressed, not only to identify and mitigate the potential negative environmental and social impacts of the Energy Storage Project but also to recognize and fully develop its potential contribution to the sustainable development of the energy sector in Kosovo.

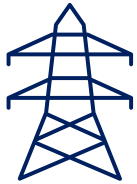




Frequency Restoration Response Activity

The Frequency Restoration Response Activity aims to support KOSTT, which is responsible for the planning, development, maintenance, and operations of Kosovo's electricity transmission system, to own and operate **approximately** 45 megawatts (MW) (or 90 MWh) of energy reserves to cost-effectively smooth out imbalances in the electricity grid, ensuring the security of the interconnected power system while enabling the integration of electricity generated from RES.





Frequency Restoration Response Activity

This activity provides the **design, preparation, and construction** of an approximately 45 MW capacity, two-hour duration, lithium-ion **(or other technology)** BESS, including initial maintenance services, capable of providing automated frequency restoration reserves (**aFRR**) and designed to provide the intended level of service for 20 years under an appropriate maintenance regime undertaken by KOSTT.





PALAJ 110/35 kV/kV Substation (FRR BESS site)

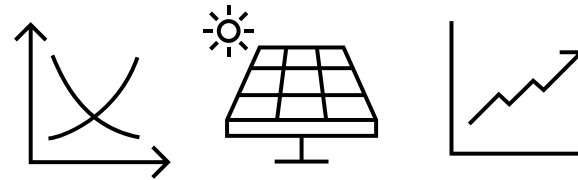




Multi Functional Energy Storage Activity

The Multi-Functional Energy Storage (MFES) Activity aims to support a newly-created Publicly Owned Enterprise (POE) to own and operate **approximately 125 MW (or 250MWh)** of two BESSs.

The BESS will be designed to enable frequency restoration reserves (FRR), Energy Arbitrage, or other potential energy storage services.





Multi Functional Energy Storage Activity

This activity provides the **design, preparation, and construction** of an approximately 125 MW capacity, two-hour duration, lithium-ion **(or other technology)** BESS, including initial maintenance services, capable of providing multi-functional activities.





PEJA 3 400/110 kV/kV Substation (MFES BESS site)





FERIZAJ 2 400/110 kV/kV Substation (MFES BESS site)





- **Millenium Challenge Corporation (MCC)**
- **Millenium Challenge Account Kosovo (MCA-K)**
- **Kosovo Transmission System and Market Operator (KOSTT)**
- **Multi-functional Energy Storage Entity (“MFES Entity”)**
- **Kosovo Energy Corporation (KEK)**
- **Energy Regulatory Office (ERO)**
- **Ministries: ME, MFLT, MESPI**
- **Procurement Agent (“PA”)– DT Global**
- **Fiscal Agent (“FA”) – Baker Tilly**
- **Mott MacDonald (MMI)**
- **ESoC Consultant to MCA-K – Royal Haskoning DHV, Abkons**
- **DS Consultant to MCA-K – Tractebel, Decon, VeVe**



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Technical Introduction by
Design & Supervision Consultant

TRACTEBEL


decon
international





BESS construction under this project is planned in three locations in Kosovo.

BESS PROJECT DESCRIPTION	OWNER / SERVICE(S)	CONNECTION TO SUBSTATION
45 MW, 2-hour BESS	KOSTT / aFRR (secondary reserves)	Palaj 110/35 kV
50-75 MW, 2-hour BESS	MFES / tertiary reserves and arbitrage	Ferizaj 2 400/110 kV
50-75 MW, 2-hour BESS	MFES / tertiary reserves and arbitrage	Peja 3 400/110 kV

Preliminary approximative timeline for the activities under this project is:

- Tender for the aFRR BESS (Palaj) – Q4 2024
- Construction contract commencement for aFRR – Q2 2025
- Energization of aFRR – Q2 2027
- (Tender for the 2x MFES BESS (Peja 3, Ferizaj) – Q2 2025)
- Construction contract commencement for MFES – Q1 2026
- Energization of MFES - Q1 2028



For aFRR facility:

- 45 MW / 2h , Li-ion
- Secondary reserve
- Activated by KOSTT controller - based on ACE (area control error) signal, optionally with a dead-band on the part of the capacity, without dead-band on the remaining capacity
- BoP includes dedicated substation and 110 kV cable connection to SS Palaj, potentially a longer access road
- Redundancy criteria (N-1) not being considered at this moment

For 2 x MFES facilities:

- Each BESS approx. 50-75 MW / 2h , Li-ion
- Arbitrage and/or Tertiary reserve
- Approx. 350 charge/discharge duty cycles during one year, for arbitrage function
- Available option to operate part (1/3) of the capacity in mFRR or aFRR mode
- BoP includes dedicated substation and 110 kV cable or OHL connection to respective SS (Peja 3/ Ferizaj)
- Redundancy criteria (N-1) not being considered at this moment

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Technical Introduction by
KOSTT

OPERATOR SISTEMI, TRANSMISIONI DHE TREGU SH.A.
TRANSMISSION, SYSTEM AND MARKET OPERATOR J.S.C.
OPERATOR SISTEMA, PRENOSA I TRŽIŠTA A.D.





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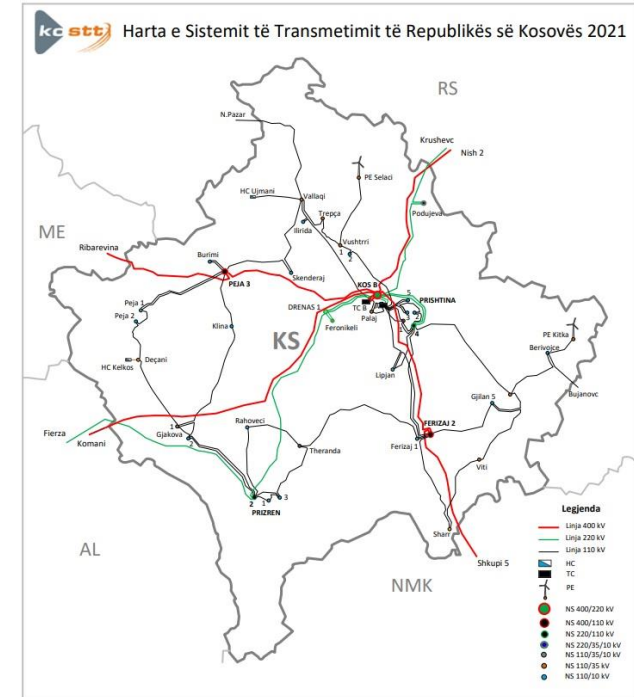
- KOSTT J.S.C is electricity Transmission, System and Market Operator of the Republic of Kosovo, a public company with 100% of shares owned by the Republic of Kosovo.
- KOSTT manages the Transmission System of the Republic of Kosovo, operating with high-voltage 400kV, 220kV and 110kV lines. The transformers connected to the distribution network: 220/35//10 kV and 110/35/10 (20) kV also belong to the transmission system.
- Currently, the Kosovo's transmission network is well connected to neighbouring countries. As a result of the central geographical position of Kosovo, the Transmission System operated by KOSTT, although small in size, represents a very important transmission hub in Southeast Europe.





KOSTT main data:

- KOSTT since 14 Dec.2020 operates as Control Area in Control Block AK (Albania-Kosovo) as part of the European Synchronous electrical system.
- KOSTT has four 400 kV, two 220 kV and two 110kV interconnection lines.
- The ratio between transmission thermal capacity and peak demand is 4.14.
- Total length of the lines: 1430 km, 37 substations (400kV,220 kV,110 kV),
- 1200 km OPGW (fibre Optics) installed for support systems (SCADA, Measurement, and protection systems),





ROLE OF KOSTT in Compact Program

- KOSTT is Implementing Entity in the Compact Program.
- Increasing energy sources in the energy is challenging for KOSTT to maintain stability of the system, so BESS project will help KOSTT in that regard.
- Its responsibility is to support the process of consultancy services, drawing review/approval and contractor's work supervision for BESS projects.
- At the end of the program, KOSTT will own and operate a portion of 90 MWh to provide its own ancillary services, specifically secondary reserves.





Effective January 1, 2024

- These Accountable Entity Procurement Policy and Guidelines (“AE PPG” or “PPG”) set out the principles, rules, and procedures that govern the conduct and administration of procurement for the goods, works, and consultant and non-consultant services by the Millennium Challenge Account Entity or other predecessor or successor entity (“Accountable Entity”) that need to be acquired to implement the projects funded by Millennium Challenge Corporation (“MCC”).

For the avoidance of doubt, this PPG will remain in effect with respect to any successor position or office performing the functions of its predecessor until this PPG is modified, revoked, or superseded.

AE PPG available at: [Accountable Entity Procurement Policy & Guidelines, effective from Jan 1, 2024 \(mcc.gov\)](https://mcc.gov/Accountable-Entity-Procurement-Policy-and-Guidelines)





- The Accountable Entity shall use the appropriate MCC Standard Bidding Document (“SBD”) when inviting Offers;

This Standard Bidding Document (“SBD”) for Procurement of Large Works has been prepared by the Millennium Challenge Corporation (“MCC”) for use by Accountable Entities and other designated Implementing Entities when procuring an admeasurement (unit price or rate) type of works, through Quality and Price Based Selection (“QPBS”) procedures in projects that are financed in whole or in part by MCC. This document is consistent with MCC Procurement Policy and Guidelines (“MCC PPG”) available at: <http://www.mcc.gov>.





There are some Eligibility requirements included in the MCC PPG.

For purposes of these provisions, the terms set forth below are defined as follows:

“Government-Owned Enterprise” or “GOE” is any enterprise established for a commercial or business purpose that is owned and/or controlled by a Government (whether directly or indirectly).

“**Government**” means one or more governments, including any agency, instrumentality, subdivision or other unit of government at any level of jurisdiction (national or subnational).

“**Owned**” means a majority or controlling interest (whether by value or voting interest) of the shares or other ownership interest of the entity is owned (whether directly or indirectly and whether through fiduciaries, agents, or other means).

“**Controlled by**” necessarily is determined on a case-by-case basis but means material support for or the power by any means to control an enterprise (regardless of (i) the level of ownership, or (ii) whether the power is exercised).





GOEs **are not eligible** to compete for MCC-funded contracts for goods or works. Accordingly, GOEs (i) may not be party to any MCC-funded contract for goods (which includes contracts for the supply and installation of information systems) or works procured through an open solicitation process, Limited Bidding, or Direct Contracting; and (ii) may not be pre-qualified for any MCC-funded contract for goods or works anticipated to be procured through these means.

Eligibility requirements can be inspected in the MCC PPG.



Thank you!

