



## Energy Community Workshop on the electricity interconnection projects in the Contracting Parties

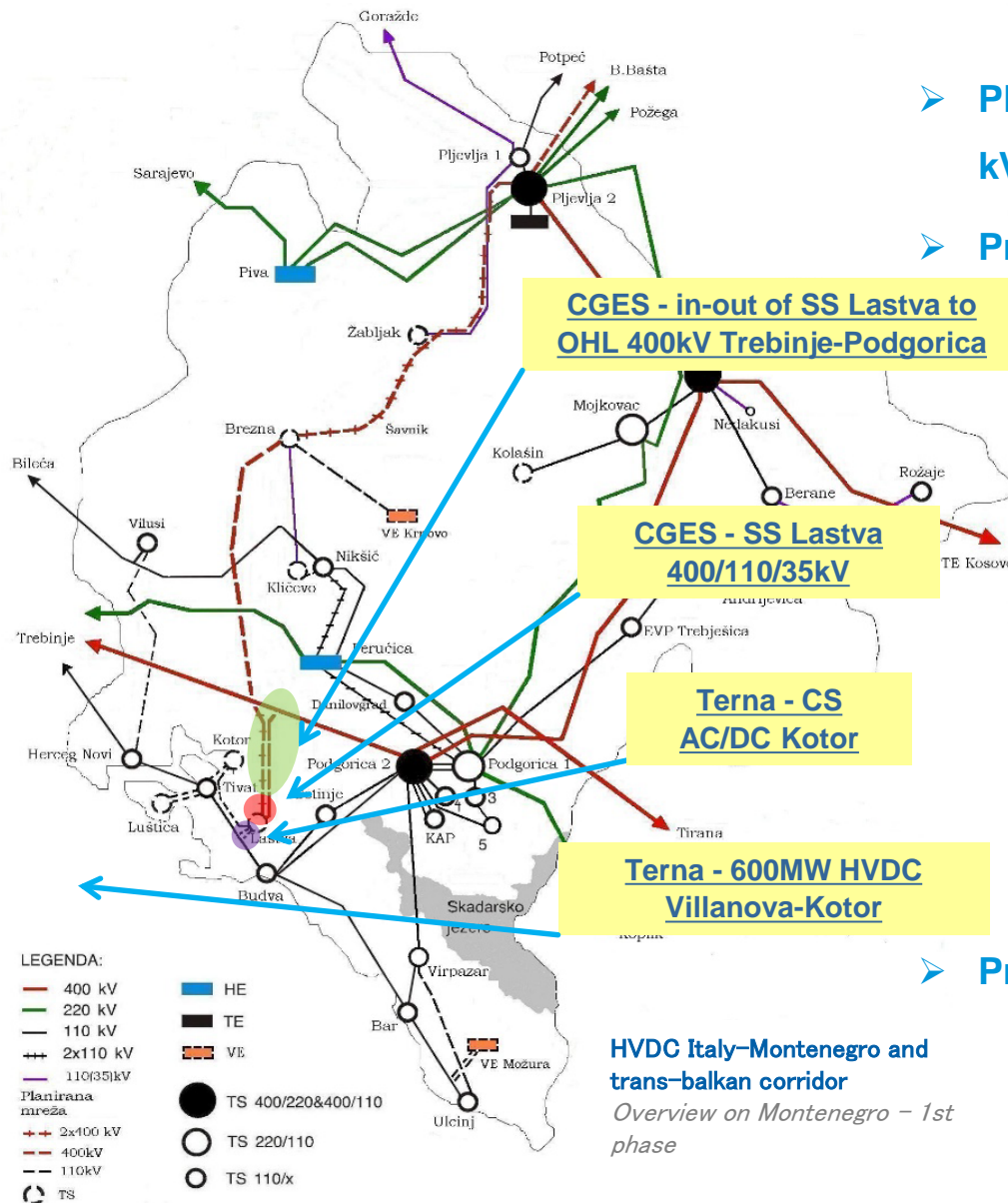
### Presentation on Transbalkan corridor and other significant projects in Montenegro



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Sector for development and investments

# Trans – Balkan corridor in MNE – 1st phase completed



➤ **PECI - Transbalkan corridor - Section in ME - 400 kV OHL Lastva – Pljevlja – Serbian border**

➤ **Project scope and objectives:**

- ❑ Phase I – 500 kV HVDC undersea cable Cepagatti – Lastva (423 km) with 2 CS AC/DC – TERNA;
- ❑ Phase I SS 400/110 kV Lastva (2x300 MVA), OHL 400 kV in-out of SS Lastva to 400 kV Trebinje-Podgorica (35 km) – CGES;
- ❑ Phase II – 400 kV Lastva-Pljevlja (120 km), 400 kV Pljevlja-B.Bašta (15 km in Montenegro), reconstruction of 15 SSs

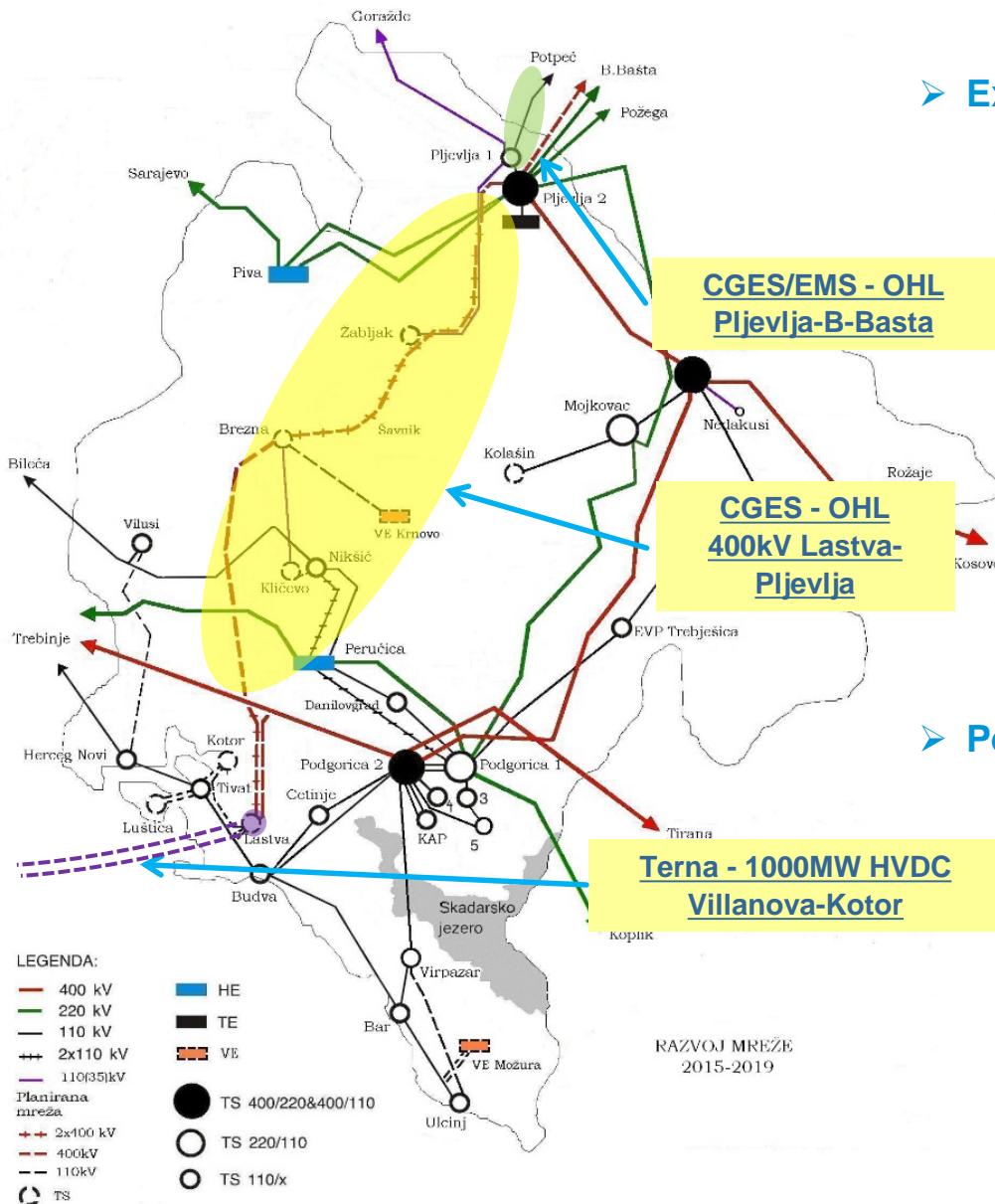
➤ **Project budget and financing:**

- ❑ CGES: 127 MEUR (EBRD and KFW loan, EU Grant and own funds)

**HVDC Italy–Montenegro and trans-balkan corridor**

*Overview on Montenegro – 1st phase*

# Trans – Balkan corridor in MNE – 2nd phase in progress



## ➤ Expected commissioning date - II phase:

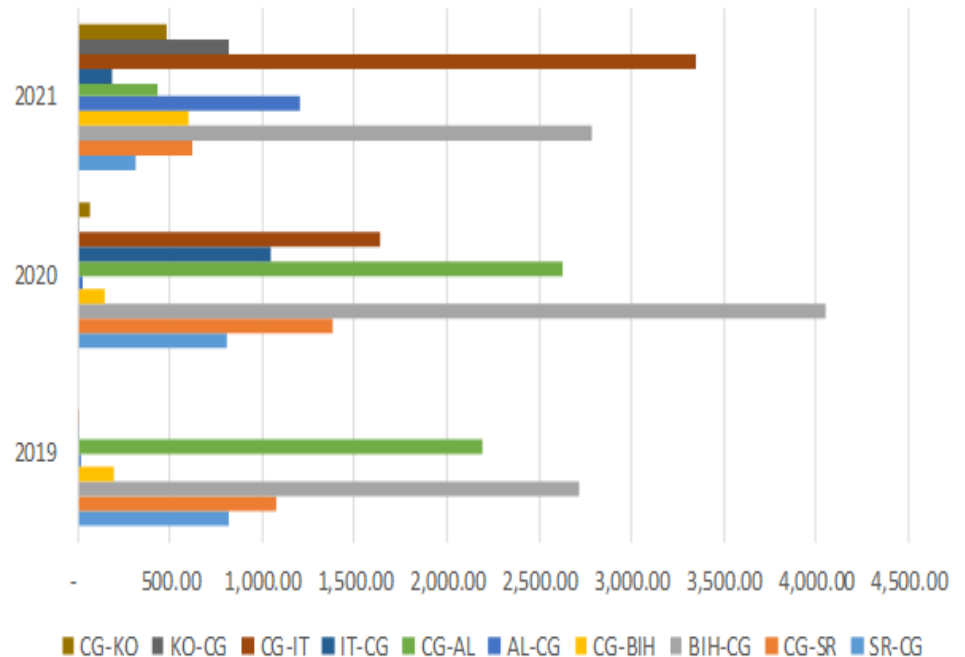
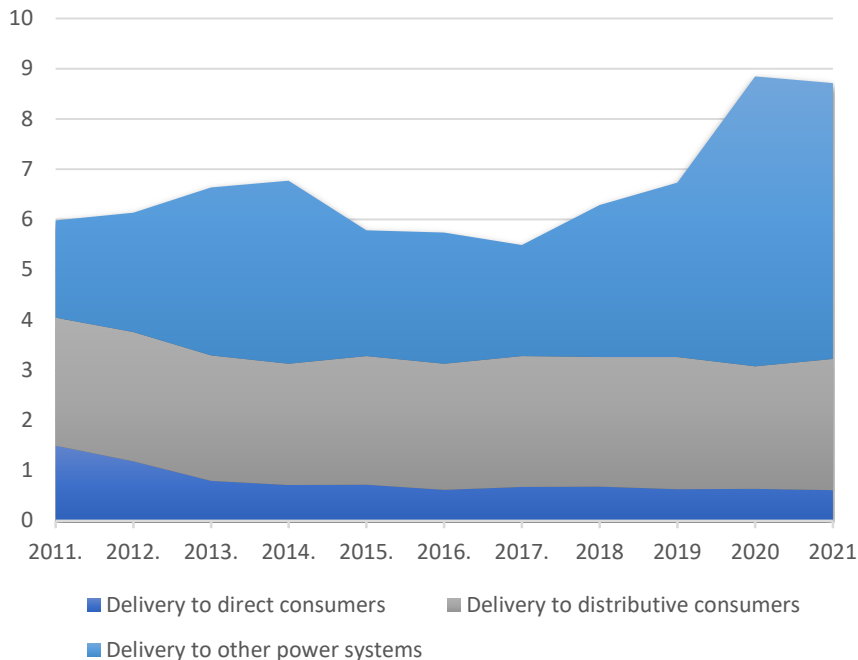
- ❑ 2023 for completion OHL Lastva-Pljevlja,
- ❑ 2026 for completion OHL Pljevlja-B.Bašta (Serbia) - not later than 5 years after execution of a binding agreement for the realization of the new interconnection Montenegro – Serbia for 2nd pole of HVDC
- ❑ 2022 for completion of reconstruction of 15 SSs (replacement of HV equipment and new control-protection devices)

## ➤ Permitting:

- ❑ OHL Lastva - Pljevlja – building permit obtained, under construction (90% completed)
- ❑ OHL Pljevlja – B.Bašta (Serbia) – Planning document prepared (but not adopted), preliminary design prepared

# Transmitted energy

Transmitted energy in 2021 (TWh)

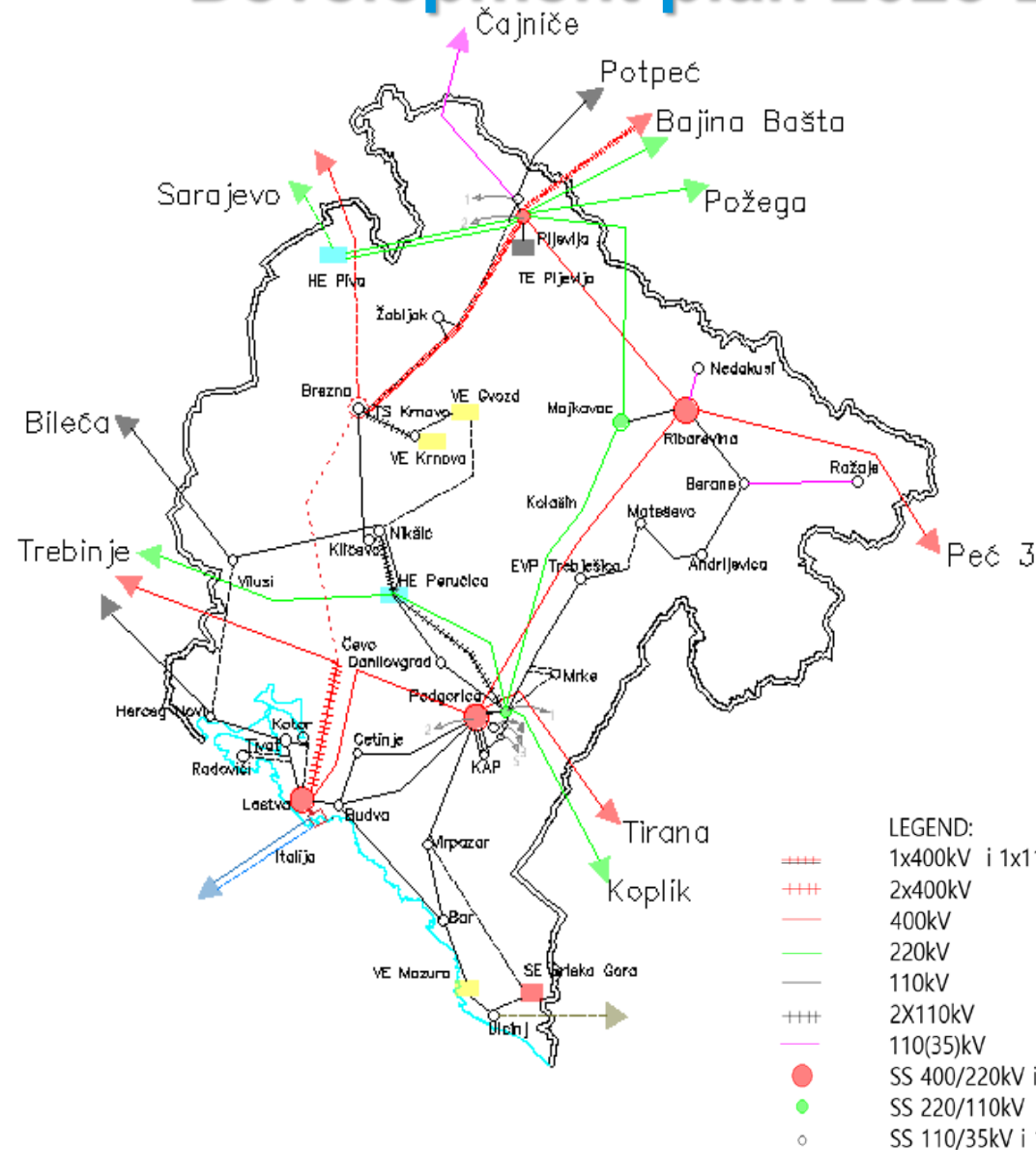


- In 2021, the CGES transmitted a total of 8,708.85 GWh of electricity, for the needs of the Montenegrin electricity system and the transit of electricity for the needs of other systems and interconnections.
- As in 2020, we are recording trends in record amounts of total energy transmitted by CGES through its transmission system.

## ➤ Transmission line 400 kV Pljevlja – Bajina Bašta

- Project includes construction of double 400 kV OHL from Pljevlja (MNE) to border with Serbia,
- Preliminary design completed,
- Planning document prepared (but not adopted),
- Binding agreement for the realization of the new interconnection Montenegro – Serbia (15 km in MNE),
- 2026. for completion OHL Pljevlja-B.Bašta (Serbia); not later than 5 years after execution of a for 2nd pole of HVDC.

# ➤ MNE transmission network – Development plan 2023-2032



- More than 2 GW interest in RES (dominantly solar)
- New interconnections (with Albania, Bosnia and Serbia)
- Internal network reinforcement (mainly coastal and Podgorica area)
- Smart grid projects (VSR, Synchronous compensator, DLR, digital substation...)
- 5 years investment plan approx. 160 mil EUR

**LEGEND:**

- ==== 1x400kV i 1x110kV
- +++ 2x400kV
- 400kV
- 220kV
- 110kV
- +++ 2X110kV
- 110(35)kV
- SS 400/220kV i 400/110kV
- SS 220/110kV
- SS 110/35kV i 110/10kV
- SPP
- HPP
- TPP
- WPP
- Cable existing 110kV
- Future 110 kV
- Converter plant

## ➤ Other significant projects:

### ❑ Integration of SS 110/35 kV Brezna and associated transmission line into the public transmission grid:

- SS Brezna is the connection point for WPP Krnovo (72 MW) to Transmission grid.
- Enables connection of renewables in north-western region of Montenegro.
- Creating conditions for full exploitation of the submarine cable between Montenegro and Italy.

### ❑ Installation of shunt reactor 250 MVar in SS 400/110/35 kV Lastva:

- During the last few years, in the region of Southeast Europe, a significant number of hours during the year were recorded in the modes of minimum consumption, when the voltages at the 220 kV and 400 kV voltage levels were far above the permitted values. Various analyses and studies showed the necessity of installing a reactor (shunt) to absorb excess reactive power in the system and maintain the voltage within the required limits.
- ERA approved the project of installation of a variable shunt reactor VSR (420kV, 100-250MVar, OLTC ~30 steps of regulation, IN, ONAN).

### ❑ New 400 kV OHL Brezna – Sarajevo:

- new interconnection between the future 400 kV SS in Brezna (MNE), and the corresponding 400 kV SS in Bosnia and Herzegovina in order to ensure safe and reliable execution of excess production and energy transmission from/to the HVDC transmission



**Thank you for the  
attention!**

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