
A possible way forward to a well-integrated and competitive electricity market in South-East Europe

Interconnection Italy – Montenegro: a potential key driver for EU-SEE market integration

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Benefits for Italy, Montenegro and the South-eastern Europe region

Benefits over power system and RES development in Italy

Project key figures:

- **Length** : 415 km (of which 393 km of undersea cable and 22 km of underground cable)
- **Capacity**: 2x500 MW HVDC cables (theoretically possible a 1000MW upgrade);
- **Transfer capacity**: 1000 MW;
- **Total CAPEX**: around 1BN€

Timing:

- Contracts for converter stations and cables assigned in November\December 2012;
- Expected to be in operation from 2017;

At the strategic level, the construction of the new interconnection will determine a series of **benefits for the Italian system**:

- Creating a **direct electrical connection with SEE region**, characterized by significant energy potential and prospective generation surplus at a lower cost than in Italy;
- **Diversification** of supply sources and resulting increased **competition** in the Italian electricity market;
- Increasing **safety and efficiency of power system supply** as well as **transmission system security** in emergency situations



The new infrastructure will provide benefits over **power system and electricity market**.

SEE regional market integration and EU accreditation

The new interconnection Italy-Montenegro will contribute to:

- **The integration of the SEE region into the EU energy market**, through a direct electricity connection, while making of the Montenegrin transmission a platform of electricity exchanges among Italy, the EU and SEE;
- **Boost investments in generation plants**, particularly RES (an exploitable surplus of 10,4 TWh\year is foreseen starting from 2016 with the construction of about 70 new plants in the Balkan region), and **offering the opportunity to sell abroad electricity in surplus** - countries foreseen in structural surplus beyond 2016 are Bulgaria (9,6 TWh/yr), Romania (3,9 TWh/yr) and Bosnia-H. (2,9 TWh/yr).
- **Support the creation of a SEE regional market** as defined in the perimeter of the 8th EU Congestion Management region and in line with the Energy Community Treaty binding commitments;
- **Consolidating the creation and entry into force** of the **Co-ordinated Auction Office**, on the footprints of CASC (the central auction office for cross-border transmission capacity for Central Western Europe);
- **Build a more reliable and interconnected regional grid**, whose benefits will in the near future outweigh the initial infrastructural costs;

Montenegro infrastructural investments benefit scenarios

Assumptions for benefits analysis:

- Infrastructural investments costs in Montenegro: **135 Mln€** (in three years);
- O&M costs: **1,5%** of the investment per year;
- Period of time considered for the analysis: **20 years** (*yet infrastructures have more than 40 years lifetime*);
- Congestion revenues: **200 MW**, 20% of the entire interconnection capacity;
- Discounting tariff: **7,24%**, equal to Montenegrin WACC from August 2014;
- Italy-Montenegro energy price differentials considered: **10-20-30 €/MWh**;
- Operation of the interconnection considered: **7500 hh/year**.

Results expressed in PBP (Pay Back Period) and PV (Present Value)

		Italy - Montenegro energy price differential in €/MWh		
		10	20	30
Interconnection operation in hh/year	7500	PBP = 20 y PV = 6,8 Mln/y	PBP = 9 y PV = 13,5 Mln/y	PBP = 6 y PV = 20,3 Mln/y

LEGEND:

Worst scenario; **Best scenario**

Major challenges ahead

- ❖ In order to apply European best regulatory practices, **Montenegro** needs to **deepen some areas of its regulatory framework**, specifically:
 - ✓ **Determining invested capital remuneration** through European best practices methodologies (WACC, CAPM) and parameters reflecting national and regional economic and financial conditions;
 - ✓ **Regulation conditions\modalities for pass-through tariffs** related to the system, with a settlement separate from earnings regulation;
 - ✓ **Dispatching rules, economic and contractual conditions** towards operators and other market participants, in reference to congestion management too;
- ❖ **Harmonized rules and procedures in the region** which progressively **create a regional market** to be integrated with the European one (CAO setting and the EU Third Energy Package adoption in the framework of the Energy Community Treaty surely are steps in the right direction);
- ❖ Need to **enhance Montenegrin national grid and strengthen its interconnections** with bordering countries through the **construction of new network infrastructures**, making **Montenegro the electrical hub of the Balkans** (thanks to the Montenegrin's government commitment to issuing a sovereign guarantee, EBRD and KfW have recently approved a 85 million-euro financing package to develop a 400-kilovolt, 155 kilometer OHL from the northern Montenegrin town of Pljevlja to Lastva);
- ❖ The **experiences** in the next few years **and a certain degree of uncertainty about possible future developments** of the regional market scenarios, **could lead to the need of further investments** in order to maximize the cable's operation.