A number of cross-border and internal power lines in Bulgaria and the region, as well as the extension of Chaira pumped hydroelectricity storage are crusial for market connectivity and RES integration, ENTSO-E points out in updated draft of grid development plan

The expected renewable energy growth in the Continental South East (CSE) region and namely in Bulgaria, Greece and Romania, necessitates planning and putting in place of new energy infrastructure to up trans-border capacity and electricity market integration. Despite the moderate growth of renewables in this region, Bulgaria, Greece and Romania, would be the countries with the biggest spur in renewables, ENTSO-E argued in its draft ten year grid development plan update which oversees energy trends by 2030.

The Continental South East (CSE) region covers the Balkan area and Italy. The Regional Group CSE comprises the TSOs of Bosnia-Herzegovina (BA), Bulgaria (BG), Croatia (HR), Cyprus (CY), Greece (GR), Hungary (HU), FYR of Macedonia (MK), Montenegro (ME), Romania (RO), Serbia (RS) and Slovenia (SI).

According to ENTSO-E Bulgaria will see a tremendous growth of PV and wind power generations. While in 2012 the country had 1 GW of PV and 700 MW of wind, by the end of the next decade ENTSO-E forecasts the staggering 8 GW of PV and 4 GW of wind. On the regional level, between 2012 and 2030 PV will reach 41 GW (up from 5 GW), wind – 22 GW (up from 6 GW), and hydro – 31 GW (up from 22 GW).

Ambitious RES estimates

ENTSO-E however points out that it based its future estimations on “the most ambitious vision regarding RES exploitation”, first expressed in the 2014 version of its 10-year network development plan. ENTSO-E clearly states that this vision “is far beyond what the TSO transmission development plans usually considered up to now and will require important investments of national, regional and pan-European relevance on the network”.

The estimates rely on a “top down” vision, thus making a point that a lot of the investments that will be possibly needed in the future, especially at the national level, have not been defined yet. The report highlights the uncertain future and planning of new RES on national level.

Nevertheless ENTSO-E highlights a number of grid development projects which should help mitigate electricity transportation “bottlenecks”.

Grid priorities regarding Bulgaria and the region

A third interconnector between Bulgaria (Maritsa East 1) and Greece (Nea Santa) and a new double 400 kV interconnection line between Bulgaria and Serbia will have to address need to increase the transfer capacity in order to accommodate connection of RES and improve market integration. Both projects are considered in the long run, with completion dates set

at 2030 and beyond.
The so called Black Sea Corridor which will comprise three power lines in Romania and one in Bulgaria (Dobrudzha – Burgas) is set for completion in 2021, as a vital mid-term infrastructure which should allow for RES electricity to be transported towards consumption and storage centers in Central Europe and South-Eastern Europe.
The said storage centers come in the form of two pumped storage hydro power stations in Greece and Bulgaria, as well as a battery storage in South Italy, all of which should be ready by 2021.The Yadenitsa dam, part of the Belmeken-Sestrimo hydro cascade with its notable Chaira Pumped Hydroelectricity Storage Plant, is designated as a Project of Common Interest (PCI) and is estimated to have the biggest storage capacity among the three – 5.2 GWh.
Source; Agencies