

## Project 293 - Southern Aegean Interconnector

The project refers to the construction of a submarine DC transmission link to connect the licensed RES plants (mentioned above) at the South Aegean Sea to mainland Greece and the islands of Crete, Kos and the Dodecanese. The capacity of the link will be 600-800MW both directions using HVDC (High Voltage Direct Current) technology. VSA conversion technology in conjunction with plastic (XLPE) cables will be used.

The licensed RES projects consist of wind and solar power plants located on 23 small uninhabited islands. The link will be used for transmitting electricity from the RES plants mentioned above to the mainland and the island of Crete. More specifically, the power produced in each island will be transferred to the island of Levitha where the main conversion station will be built acting as a hub.

Classification	Future Project
Boundary	Greece
PCI label	
Promoted by	Kykladika Meltemia SA



### Investments

Investment ID	Description	GTC Contribution	Substation 1	Substation 2	Present Status	Commissioning Date	Evolution since TYNDP 2014	Evolution Driver
1431		100%	LAVRIO	LEVITHA	Design & permitting	2020	Investment on time	
1432		100%	LEVITHA	KORAKIA CRETE	Design	2021	Investment on time	
1433		100%	Levitha	Syrna	Design	2020	Investment on time	
1434		100%	KINAROS	LEVITHA	Design	2021	Investment on time	
1435		100%	Kandeliousa	Syrna	Design	2021	Investment on time	
1436		100%	Kandeliousa	Pergousa	Design	2021	Investment on time	

### Additional Information

[www.eunice-group.com](http://www.eunice-group.com)

### Investment needs

These connections will be AC submarine cables (150 kV or 220 kV). The main link will be an HVDC link connecting the island of Levitha to both the metropolitan area of Athens and the island of Crete; the 400kV substation at Lavrion area will

be the connection point in the Athens area and Korakia will be the connection point in Crete (located in the north coast). Both links will consist of two parallel cables in order to increase the reliability of each link; two converter stations are foreseen in Levitha and relevant converter stations in Lavrion and Korakia. Illustrative routing of the links is shown in the attached Entso-e map.

The connection to Crete gives further possibilities for power transmission to Cyprus and further to Israel through the "EuroAsia Interconnector" (already accepted as a PCI by the E.C.). It is also possible to further extend this link to the main islands of the Dodecanese complex (namely Kos, Leros, Kalymnos, Nisyros, Tilos) in order to allow the supply of these islands and at the same time the supply of a complex of other smaller islands already connected to the main ones. This is a short link (10km to 15km long) and more likely it will be an AC one.

All the installations on the islands (converter stations, substations etc) will be of closed type using GIS technology.

The project increases the transfer capacity between Mainland Greece and Crete-Kos Islands and further on to Cyprus (through EuroAsia Interconnector). The project will provide the system with 1.9 TWh/year wind energy.



## Project Cost Benefit Analysis

This project has been assessed by ENTSO-E in line with the Cost Benefit Analysis methodology, approved by the EC in February 2015.

The indicators B6/B7 reflect particular technical system aspects of projects based on a summation of qualitative performance indicators, in line with the CBA methodology; these cannot be used as a proxy for the security of supply indicator.

General CBA Indicators	
Delta GTC contribution (2020) [MW]	Delta GTC was not checked for 2020 and the 2030 values were considered for SEW, RES and CO2 assessment.
Delta GTC contribution (2030) [MW]	-: -
Capex Costs 2015 (M€) Source: Project Promoter	1800

Cost explanation	
S1	NA
S2	NA
B6	+
B7	N/A

Scenario specific CBA indicators	EP2020	Vision 1	Vision 2	Vision 3	Vision 4
B1 SoS (MWh/yr)	N/A	N/A	N/A	N/A	N/A
B2 SEW (MEuros/yr)	N/A	70 ±10	60 ±10	90 ±10	80 ±10
B3 RES integration (GWh/yr)	N/A	1340 ±270	1350 ±270	1200 ±240	990 ±200
B4 Losses (GWh/yr)	N/A	42.75	42.75	42.39	40.60
B4 Losses (Meuros/yr)	N/A	2.4	2.1	2.6	2.9
B5 CO2 Emissions (kT/year)	N/A	-1000 ±200	-1100 ±	-600 ±100	-400 ±100

The project is key to enable RES development. When no SEW has been valued, the RES indicator can be monetised, resulting in about several tens millions euros/yr per TWh of enabled RES.

As the accurate location and project scope are still under investigation, B4 indicator (impact on losses) was not assessed