



Trans Adriatic
Pipeline

Building TAP, the European Leg of the Southern Gas Corridor. Project Update

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Greece as a Southeastern Europe & East Med Energy Gas Hub,
Technical Chamber of Greece HQ, Athens, Greece
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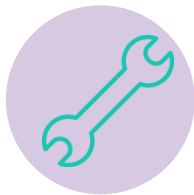


TAP's Key Features

Supporting EU energy policy objectives



Length:
878 km
105 km offshore



Diameter:
48" onshore
36" offshore



Operation:
built-in physical
reverse flow

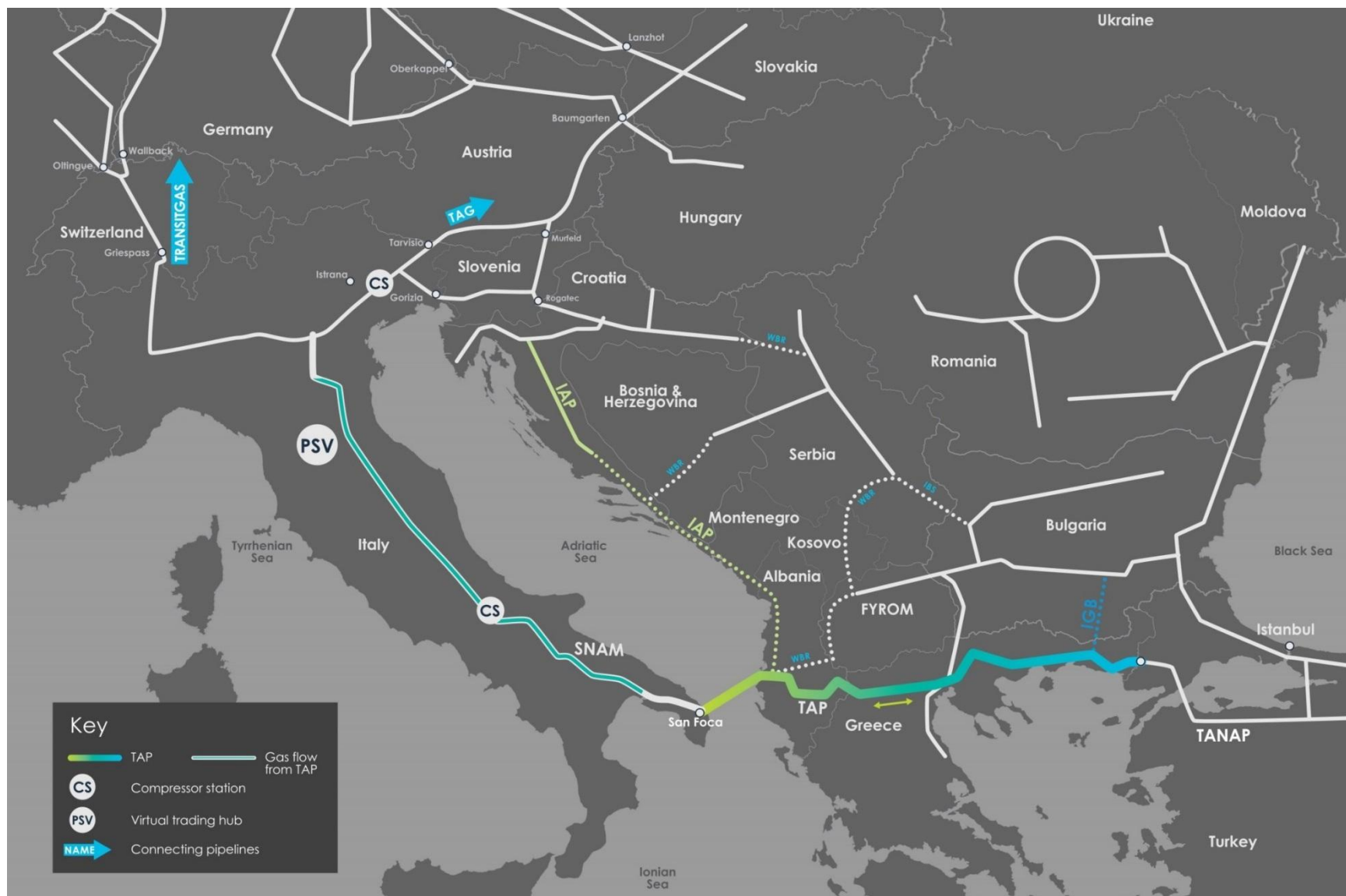


Expansion:
can double
capacity from 10
to 20bcm/a



Potential:
interconnections
with several markets

Facilitating Connections in South East Europe and beyond



TAP can contribute to overcoming the SEE region's energy challenges



Ensuring security of supply

Diversification of gas resources and transit routes

Significant **physical reverse flow** and **enhanced flexibility**



Spurring regional investment

Stimulation of **additional investment** in gas infrastructure

Promotion of **market development**



Enhancing market integration

Support to physical **interconnections** and **market integration**

Alignment between **EU and regional regulations**



Introducing cleaner energy source

Contribution to the **reducing of carbon emissions** and achieving environmental targets

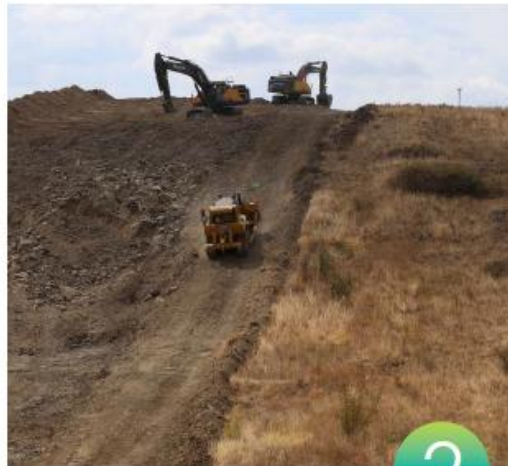
Pipeline Construction Process (I)



Survey

1

Detailed environmental surveys and surveys for possible archaeological findings are conducted to determine the most suitable construction techniques.



Clear and grade easement

2

A 38 meter ROW (Right of Way) is cleared and graded along the pipeline route. The top soil is stored at the edge of the ROW for later reinstatement.



Stringing and bending

3

The 48 inch steel pipes are hauled by truck to the easement. The pipes are laid end-to-end. The pipe can be bent using specialized equipment to match changes in terrain or direction in route.

Pipeline Construction Process (II)



4

Welding and X-ray / ultrasonic testing

The pipe is welded above ground. All the welds are subject to automatic ultrasonic testing to ensure they meet national and International standards.



5

Weld joint coating

Each weld is grit blasted and covered with a protective coating to prevent corrosion and protect against mechanical impacts.



6

Trenching

A trench is dug for the pipeline. The top soil is placed separately for the reinstatement.

Pipeline Construction Process (III)



Lowering in

7

Side boom tractors are used to lower the welded pipe into the trench. Generally, up to one kilometer of pipe is lowered into the trench at a time.



Tie-ins

8

A tie-in is carried out when two lowered-in pipe strings are welded together in the trench.



Padding and backfilling

9

Fine soil is placed around the pipe in the trench to act as padding, protecting the pipeline. After padding is completed the trench is backfilled and compacted with the subsoil and the original topsoil.

Pipeline Construction Process (IV)



Pressure testing

10

The integrity of the pipeline is further verified using hydrostatic testing. The pipeline is capped with test headers and water is pumped to a pressure higher than the maximum allowable operating gas pressure.



Reinstatement

11

The ROW is restored to its original state as much as possible. Where required, erosion control mechanisms are constructed and additional topsoil is spread to encourage soil retention and vegetation growth.



Signage

12

As a safety measure, signs (marker posts) are erected to warn of the location of the buried pipeline. Also cathodic protection wherever is needed.

Compressor Stations Progress



- ✓ The construction of the compressor stations began in the first quarter of 2017.
 - 1CS in Kipoi, Greece
 - 1CS in Fier, Albania
- ✓ The compressor stations construction will be a continuous activity over approximately two years.
- ✓ The first gas turbine is soon anticipated to be delivered to Greece from Germany.

TAP's Progress in Greece

- 433km of RoW cleared and graded*
- 393km strung
- 363km welded
- 270km backfilled
- 173km in process of reinstatement
- 90% of line-pipes delivered since May 2016
- pipes & bends continue arriving to Kavala, Thessaloniki and Alexandroupolis ports
- 1st hydrotest conducted end-April 2017

TAP construction in Greece:

550km route

22 block valve stations

1 compressor station

8 camp sites



TAP's legacy in Greece

- ✓ renders Greece a key hub in the energy map of South-eastern Europe, upgrading its geopolitical role and strategic importance.
- ✓ offers employment to more than 3,300 people working for the project in Greece.
- ✓ spends millions in the procurement of goods and services, collaborating with multiple domestic partners: 175+ companies operating in Greece have already been involved in the implementation of the project, reaping both financial benefits and invaluable expertise.
- ✓ voluntarily invests €32 million on Social and Environmental investments, with 60 such initiatives already concluded or in the process of completion, amounting to a total of ca. 16.5 million.
- ✓ contributes millions of euros for the Greek State in corporate tax.
- ✓ enables the possible delivery of gas to Greece, by building the necessary infrastructure.





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Thank you for your attention!