Trans Adriatic Pipeline

Building the Trans Adriatic Pipeline – the European Leg of the Southern Gas Corridor

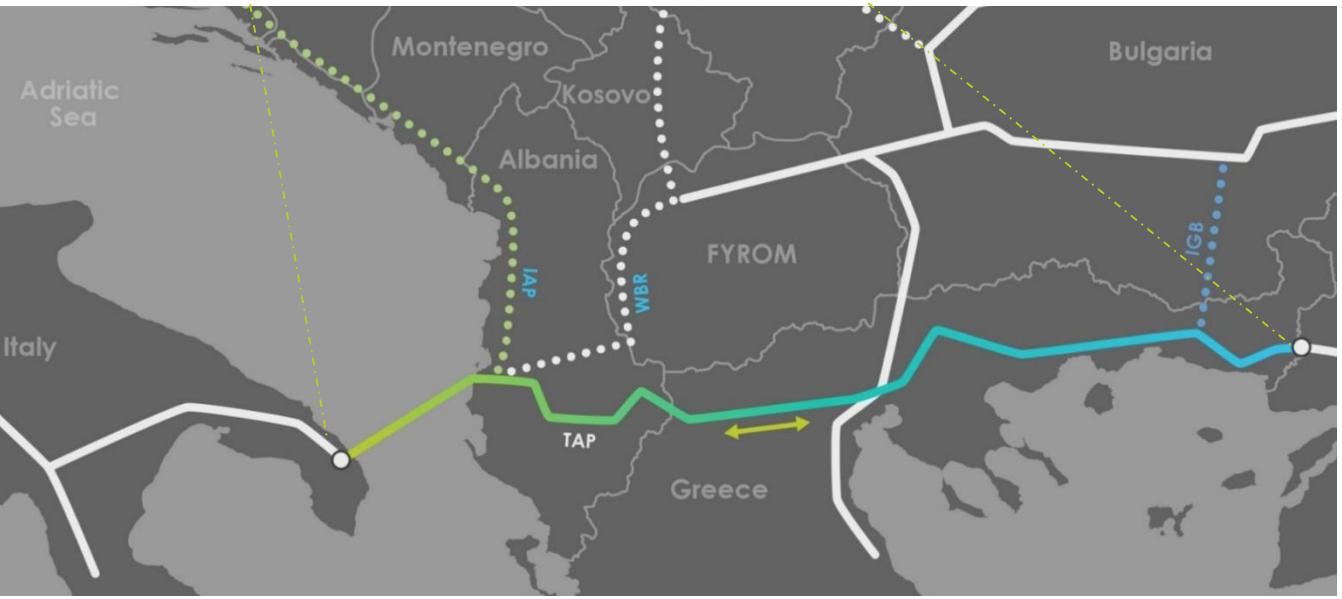
Ron Ottaway, Deputy Project Director & Project Manager

50th IPLOCA Convention

TAP linepipe transported in Greece

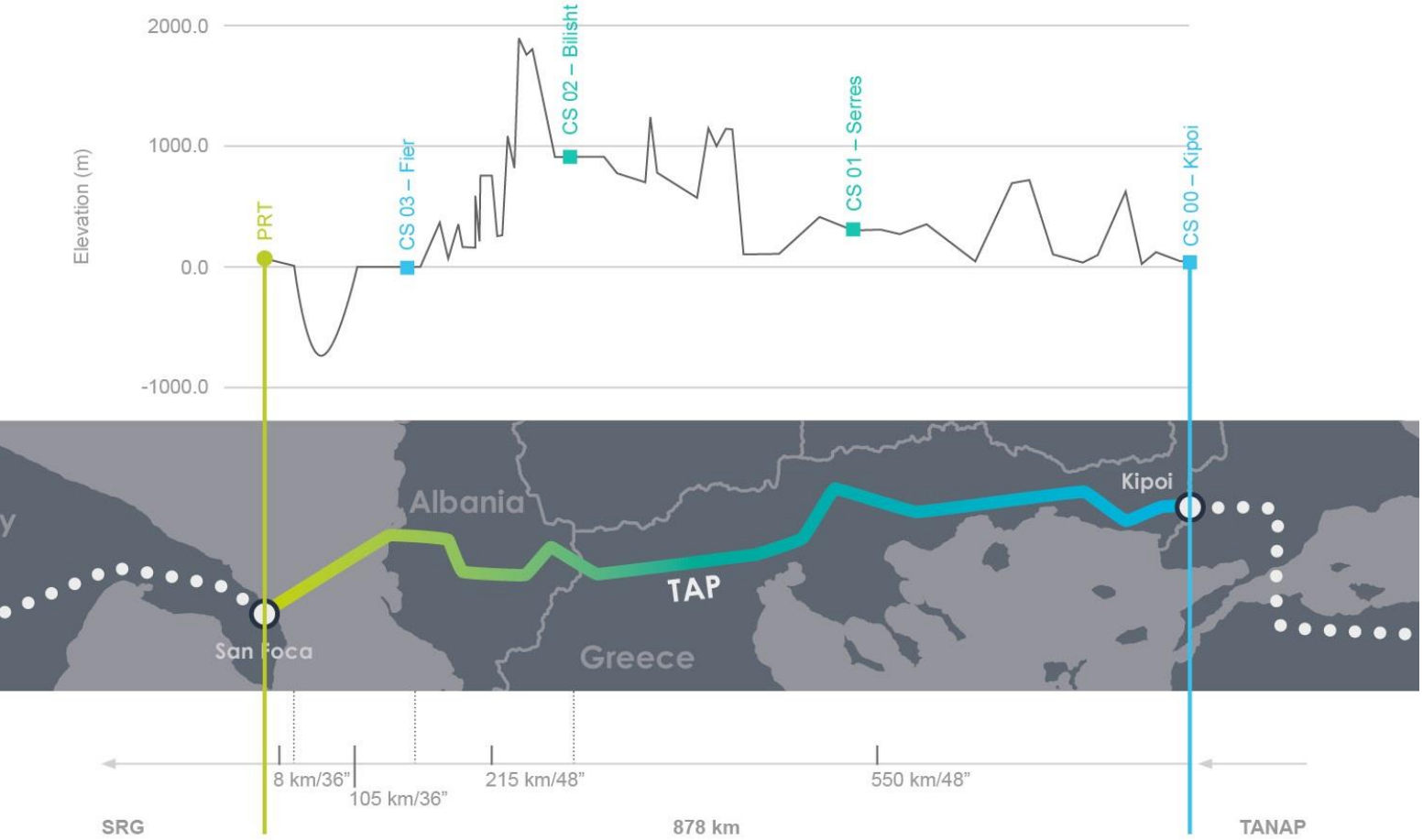
TAP & the Southern Gas Corridor

3,500 km value chain - investment of approx. USD 45 bln



TAP Elevation Profile

Highest elevation: 1800 m, Potom area in the Albanian mountains
Deepest section offshore: 820 m in the strait of Otranto in the Adriatic Sea



Can expand from 10 to 20bcm/a

878 km
105 km offshore

Built-in physical reverse flow

48" onshore
36" offshore

TAP Contractors

Early Works Contracts	Engineering, Procurement and Construction	Company Provided Items
Access roads and bridges (Albania)	Onshore EPC (Greece & Albania) SPIECAPAG ENTREPOSE — 1 lot Greece, 2 lots Albania Bonatti / J&P AVAX — 2 lots Greece	Onshore line pipes (495km) CORINTH PIPEWORKS
gener2 SICILSALDO MONTAGGI INDUSTRIALI	Onshore EPC (Italy) Enereco STREICHER	Onshore pipes (297km) & bends Offshore line pipes (110km) SALZGITTER MANNESMANN INTERNATIONAL — A Member of the Salzgitter Group
	Offshore EPCI SAIPEM	Turbo compressors SIEMENS
		Large diameter valves PIPELINE EQUIPMENT
	Compressor Stations RENCO Terna	Fittings & scraper traps BASSI
		Isolating joints NUOVAGIUNGAS
	PRT (Italy) RENCO	Fibre optic cable Himachal Futuristic Communications Ltd.

TAP in Greece

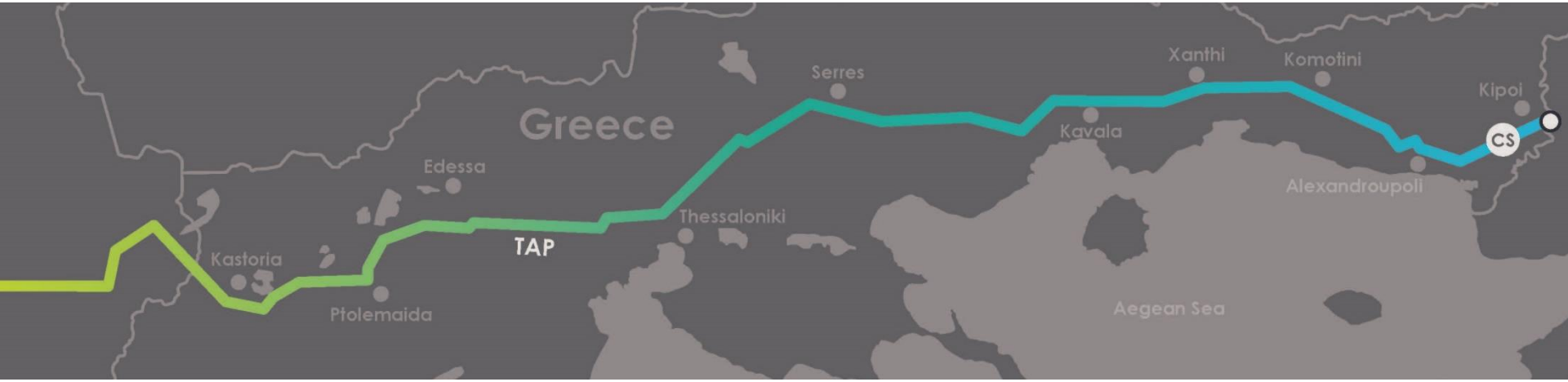
Longest section of TAP is in Greece

550 km

22 block valve stations

2 compressor stations

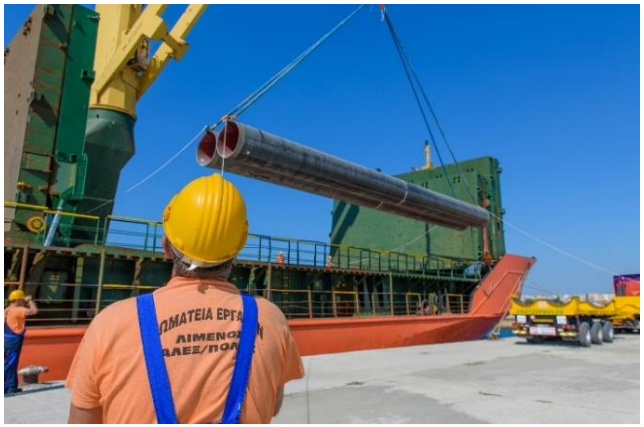
8 camp sites



- Construction Inauguration Ceremony on 17 May 2016
- 10,170 land parcels
- Crossing 1,693 roads, 722 rivers and 20 railways

Greece Construction 2016

- Line pipes & bends continue to arrive in the Kavala, Thessaloniki & Alexandroupoli ports
- Clearing of Right of Way began in the area close to the Greece/Turkish border at the beginning of August
- Pipe stringing commenced second week of August



32,000 line pipes

323,000 t steel weight

3,200,000 m^3 excavation

170,000 m^2 MMY area

TAP in Albania

215 km

8 BVS +1 landfall valve station

2 compressor stations

6 camp sites

- 90.5% of access roads & bridges (combined progress) completed
- Crossing 555 roads, 514 rivers and 1 railway (major & minor crossings)
- 8,700 land plots; 35,000 land owners and users
- Archeological find: a 40cm limestone column capital, dating back to the 6th century AD.

Albania Construction 2016

- Clearing of Right of Way began near Fier early August, heading east.
- Fier compressor station site preparation start Q3 2016
- Bilisht metering station site preparation start Q3 2016

12,000 line pipes

126,000 t steel weight

1,300,000 m^3 excavation

90,000m^2 MMY area

Offshore Construction 2017/2018

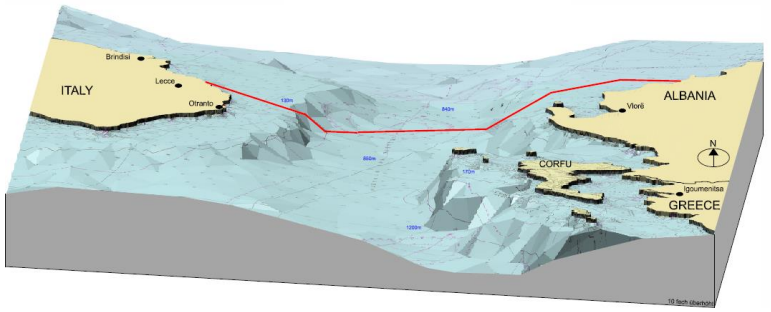
105 km

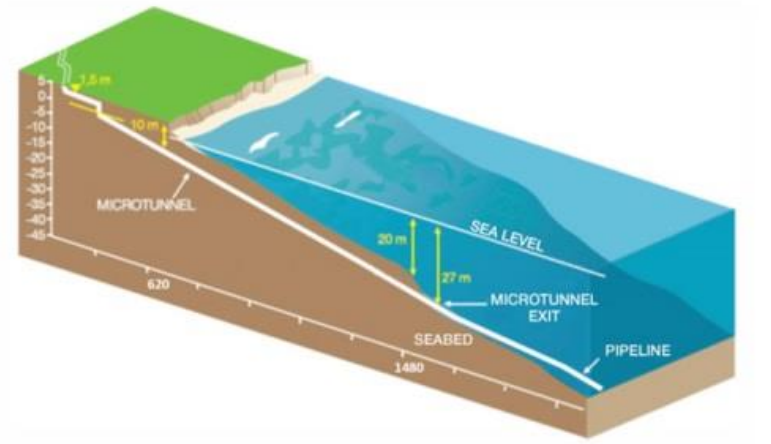
S-lay installation

820 m water depth

20-34mm steel wall thickness

3D illustration of an offshore pipeline S-laying process





1.5km micro-tunnel in Italy to avoid impact on the beach

Italy Construction 2016

8 km

1 landfall valve station

1 pipeline receiving terminal

1.5 km micro tunnel

- Crossing 15 asphalt roads (major and minor crossings)
- Offshore surveys (June 2016)
- Spraying of olive trees (phytosanitary treatment) (July / August 2016).
- Networking events contractors – subcontractors for the pipeline's onshore and offshore sections
- 190 land plots

Health and Safety

- TAP aim to achieve world class project health and safety performance in our goal to zero incidents
- Driving continual improvement towards this objective requires TAP and our contractors to work as one team, one project, one TAP
- Key to this is on boarding our contractors in a consistent manner

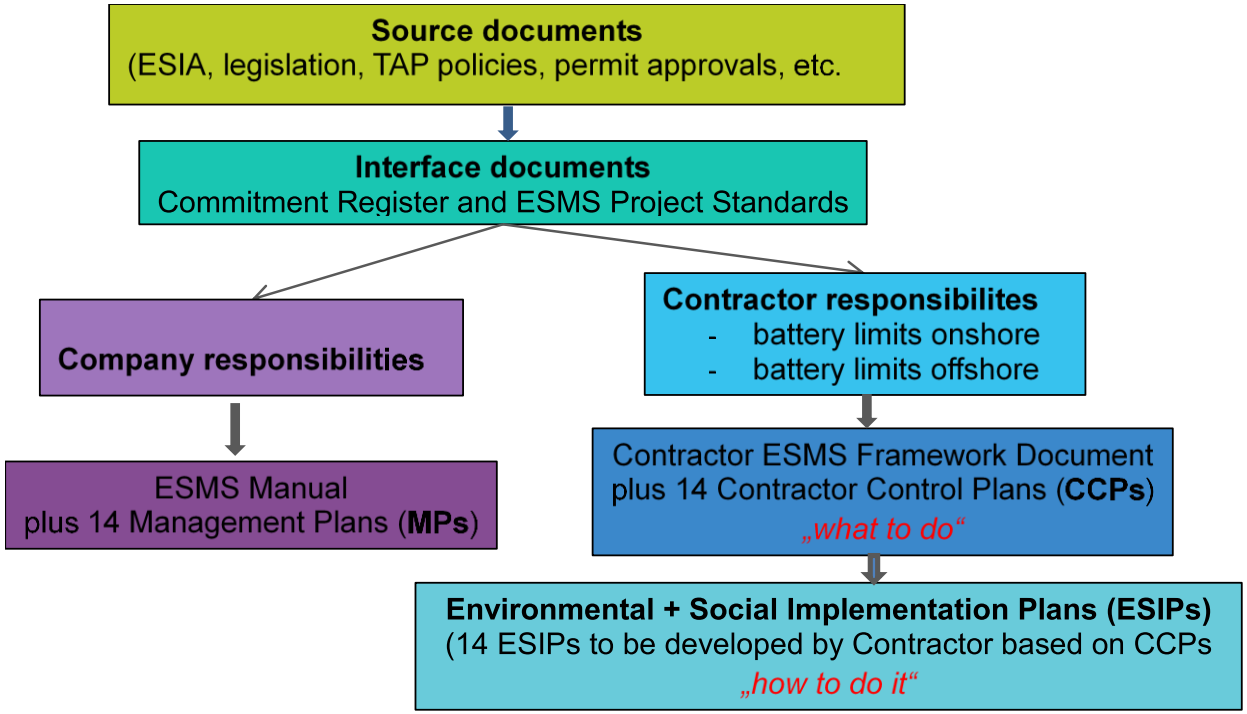
Exposure Hours		Project Life
1	TAP IPMT	988,155
2	Contractors	3,047,019
3	Total	4,035,174
Project KMs Driven		7,595,540

Frequency Rates	To date
Lost Time Injury (LTIFR)	0.00
Total Recordable Injury (TRIFR)	0,48

HSE statistics to end of July 2016

Environmental and Social Management System

- One concept
- Current focus on construction and pre-commissioning
- Considers lessons learnt from similar projects and industry best practice in addition to commitments made in ESIAs
- Management system: plan – do – check – amend cycle (in line with ISO 14001)
- Relevant for lender compliance



ESMS KPIs – Project to date

Ecological Management & Biodiversity Protection

Baseline flora & fauna ecological surveys undertaken in order to identify, avoid and protect;

1. Internationally protected ecological sites
2. Vulnerable and internationally protected mammals such as wolf, brown bear, otter and European ground squirrel.
3. Vulnerable and internationally protected bird species during breeding and migrating periods.
4. Important flora species and sensitive habitats

Construction schedule designed and planned to consider the major ecological constraints identified

Progress on the Ground

VIDEO - Access Roads and Bridges Rehabilitation in Albania

Video: https://vimeo.com/175832937

Trans Adriatic Pipeline

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Thank You!

TAP linepipe at MMY in Albania