

Trans Adriatic Pipeline

GUARANTEEING ENERGY SECURITY FOR EUROPE





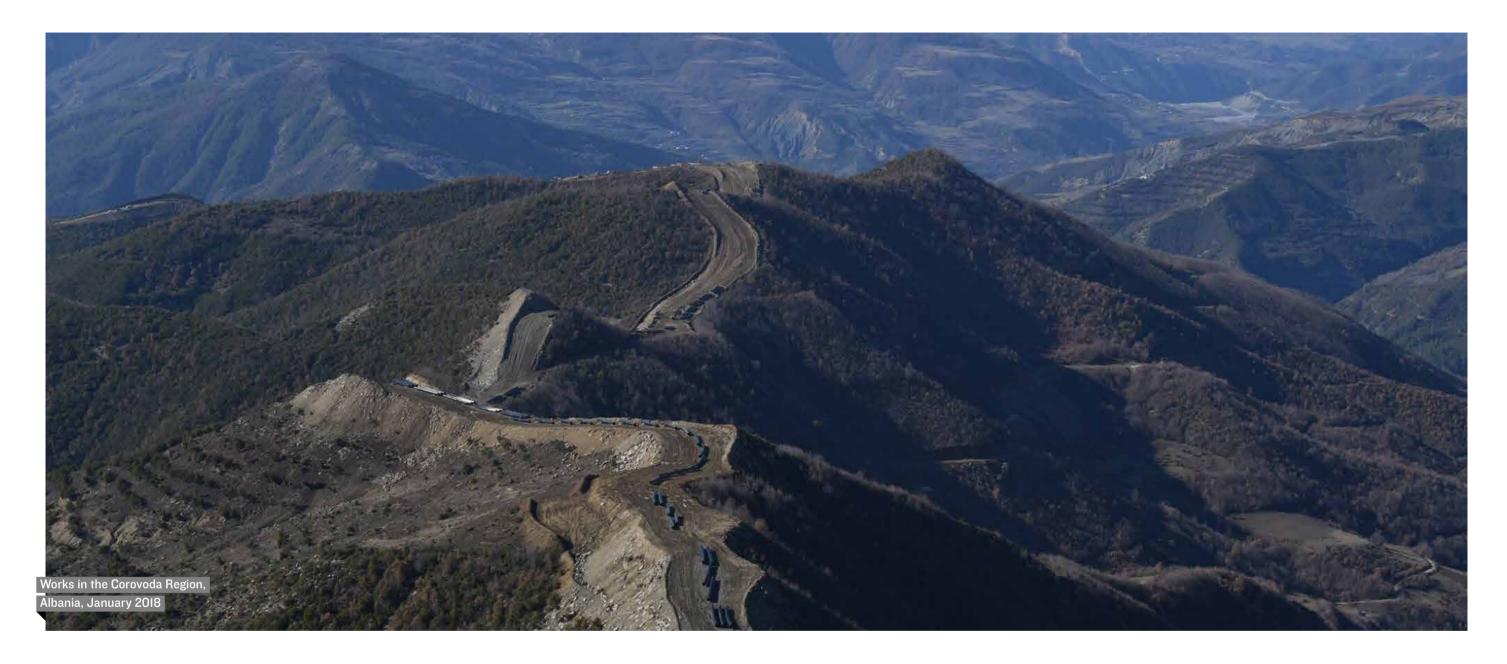
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The Paris Climate Agreement of 2016 represented a commitment by nearly 200 countries across the world to lower their carbon emissions starting in 2020. Achieving the carbon reductions these countries committed to will be a significant challenge - either they will have to reduce their overall energy requirements or deliver the same overall levels of energy using cleaner methods.

words by Michael Minihan ▶ RESEARCH BY Wisner Gomes

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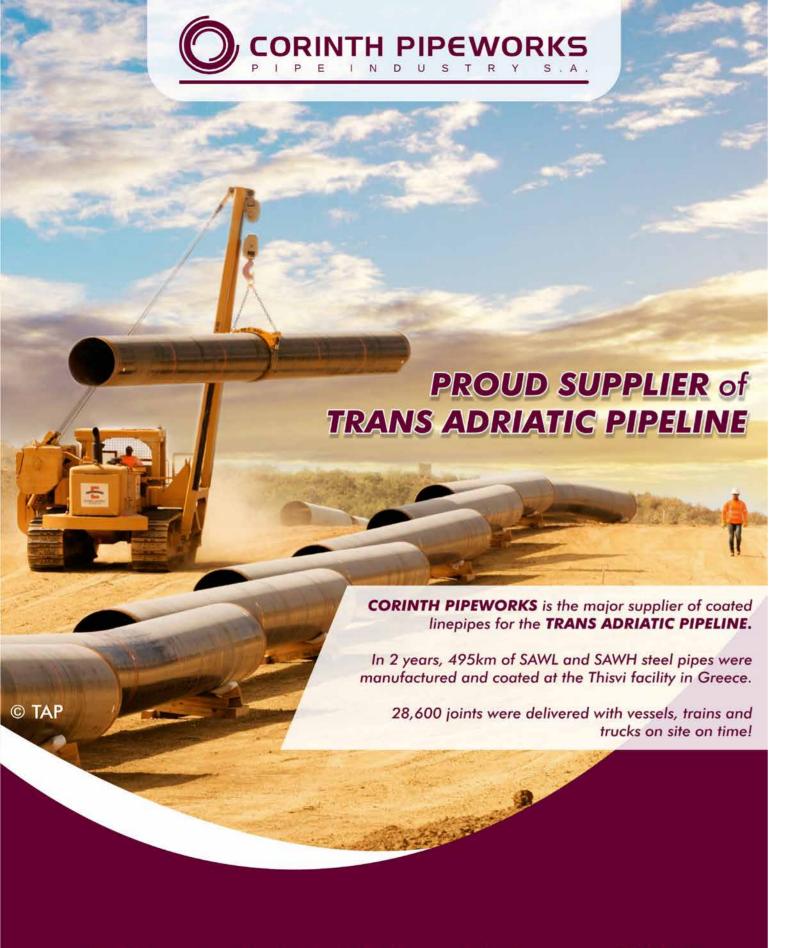
his is an unprecedented operational challenge; the world effectively needs to be weaned off sources of energy on which it has become dependent over the past 150 years, over the space of a few years. The potential rewards of doing so are enormous, not only in terms of cost and environmental sustainability, but also energy security - the 'uninterrupted availability of energy sources at an affordable price.'

Several initiatives have already been undertaken to achieve these goals with one of

the highest profile examples being the Trans Adriatic Pipeline ("TAP"), the European leg of the Southern Gas Corridor. TAP has been designed to transport natural gas from the Shah Deniz II field in Azerbaijan to Europe. TAP will contribute to the diversification, decarbonisation and security of Europe's energy supply.

Luca Schieppati, Managing Director of TAP AG, and Walter Peeraer, TAP President, were kind enough to take some time out to discuss the significance of TAP on the future of energy "Several initiatives have already been undertaken to achieve these goals with one of the highest profile examples being the Trans Adriatic Pipeline" in Europe. With more than 25 years in the European gas sector and possessing extensive knowledge of European gas markets, Mr. Peeraer and Mr. Schieppati are the ideal candidates to navigate the operational and political challenges that TAP will encounter before becoming a reality.

Mr. Peeraer began by discussing the purpose of the 878 km-long TAP: "TAP will connect with the Trans Anatolian Pipeline (TANAP) at the Turkish-Greek border at Kipoi, cross Greece and Albania and the Adriatic Sea,



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before coming ashore in Southern Italy, where it will connect with the Italian gas transmission network (Snam Rete Gas)."

Mr. Schieppati adds: "In a nutshell, we are not only focusing on realizing a strategic piece of natural gas infrastructure, but a pipeline that: safely delivers Caspian gas to Europe, has minimal environmental, cultural and socioeconomic impacts during its construction and operations and respects and cares for the communities along the route."

The long-term importance of TAP to Europe's energy security cannot be overstated. The European Commission's Energy Security Strategy, drafted in 2014, proposes that each member state of the EU should have access to at least three different sources of supply. Some of the more striking statistics serve to underline the importance of TAP to achieving the goals of this strategy:

Presently, much of Europe is dependent on coal - a source of power which emits twice as much CO₂ as natural gas. The closure of coal-fueled power plants over the next 5 years creates a natural opening for natural gas usage.

As renewable energy's share of total energy out in Europe doubled from around 8.5% in 2004 to 16% in 2016, renewable energy output is notoriously intermittent volatile and natural gas can provide a cleaner hedge than fossil fuels for the sake of energy security.

According to one study, energy consumption in South East Europe in particular depends on oil and coal - with these constituting over 60% of these countries' energy mix.

"The long-term importance of TAP to Europe's energy security cannot be overstated"

CORINTH PIPEWORKS

Corinth Pipeworks is proud to be the major supplier of coated linepipes for the Trans Adriatic Pipeline.

In 2 years, 495km of SAWL and SAWH steel pipes were manufactured and coated at the Thisvi facility in Greece.

28,600 joints were delivered with vessels, trains and trucks on site on time!

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Deliver what we promise

"Twenty-five months without a recordable incident on TAP project Fifteen years without a recordable injury on various projects"



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DELTA MARITIME

Delta Maritime is proud being part of the successful Logistics delivery process of the TAP project as a sub-contractor in Section I and partly in section 2!

Approximately 32000 pipes delivered to Greece out of which 10.262 pipes, hot bends, elbows, large valves and fiber optic drams have been received, stowed and re-delivered to the construction site and /or to the Pipe Yards through the TAP's Main Marshaling Yard in Kavala (MMYI) in Greece, managed and operated by Delta Maritime.

In the 4rth of May 2016 the first hot bend arrived from Germany by truck to the MMYI followed by 100+ trucks and 49 vessels calls!

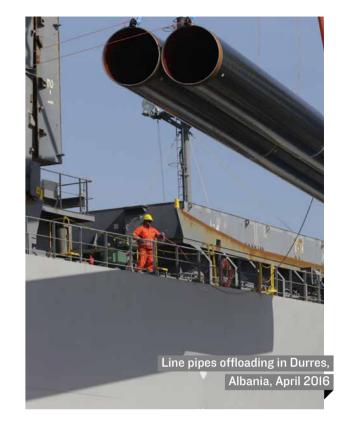
The pipes stowed on 15 sand berms, at 4 high, at an area of aprox 68000 sq meters

The weight of a single 18-metre pipe ranges from 9.3 tonnes to 16.3 tonnes, depending on the wall thickness.

The duration of our engagement lasted in total 22 months including our participation on the logistics of the Section 2, the heavy duty machinery and the Interconnector between TANA-TAP at the Greek -Turkish borders.

Twenty two (22) Months without a recordable incident adopting the highest standards of the industry!

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Quite clearly, the introduction of TAP is an imperative for Europe. Of this, Mr. Peeraer says: "Europe has declining production and needs new sources of natural gas to meet its long-term demand, fuel economic recovery and diversify energy supply. Gas - as the cleanest fossil fuels - will continue to play a key, strategic role in the energy mix for decades to come, contributing to decarbonisation across the continent."

Several countries stand to benefit as TAP lays a base for future infrastructure such as the Ionian Adriatic Pipeline (IAP) and the Interconnector Greece Bulgaria (IGB). As Mr. Schieppati points out, many of

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Supporting your construction projects

In an era when the environmental burden has reached critical levels, to achieve acceptance of a major technical work, the project-affected population should be convinced for the necessity of the project, its contribution to the public interest, the fair compensation for any impact, and the implementation of every possible mitigation measure.

In the context of the Trans-Adriatic Pipeline Project, all Contractors of TAP AG are committed to the Principles and Values of the Company, which has as a benchmark the Performance Requirements of EBRD. This commitment generated brilliant results in the acceptance of the project by the Stakeholders, and to the

"TAP is an international best practice in terms of technical excellence, quality of procedures, and respect to the environment, the local communities and all the personnel involved with the high levels of Health and Safety rules it has established"

Project itself. TAP is an international best practice in terms of technical excellence, quality of procedures, and respect to the environment, the local communities and all the personnel involved with the high levels of Health and Safety rules it has established.

Our three companies, MTC - Makedoniki (Engineering Consultancy), INFODIM (IT and



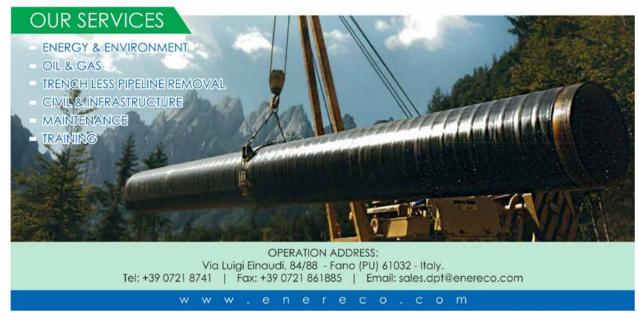
GIS) and ENY (Law Firm) had the privilege to be awarded the Land and Easement Acquisition (LEA) activities along TAP's route in Greece (550 km - 13,000 directly affected persons), in an excellent collaboration with the Management and Executives of TAP (TAP LEA team).

In the context of LEA activities, the local unique characteristics have been treated by our 3 Companies with professionalism and respect, with ingenuity in coming up with original solutions and with the use of every modern technology. The high rate of acceptance and voluntary agreements with the project-affected persons is a result of keeping Stakeholders informed, resolving issues (e.g. cadaster) as they arise, offering fair compensation, and providing support whenever needed. All these based on meticulous and transparent documentation with the use of specialized IT and GIS tools and, constant and responsible on-site presence of experts eager to engage in a meaningful and transparent manner, with a view to resolve issues and address requests and concerns in the best possible way.

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development, renewable energy and environmental project







"This means that between Greece and Albania, TAP has now cleared and graded 96% of its corridor. Additionally, we have welded 93% of steel line pipes and around 80% pipes are already in the ground (back-filled)"

the countries along these routes currently depend on a single energy source or have no access to natural gas at all - hindering development and creating huge price volatility for the end consumer.

It will come as some relief then that real progress is being made on TAP since construction began in 2016. Mr. Schieppati says: "TAP is on schedule. In terms of overall project progress, we are approximately 75% complete - including all engineering, procurement and construction scope." Huge progress in particular has been made across Greece, Albania and Italy.

Mr. Peeraer adds: "In Greece, as of

early June, 540km of our right of way have been cleared, approximately 530km line pipes strung, 525km welded, 451km back-filled and approximately 365km are being reinstated.

In Albania, approximately 200km of our right of way have been cleared and graded, 193km line pipes strung, 186km welded and approximately 168km back-filled. Circa 123km are being reinstated."

Mr. Schieppati says: "This means that between Greece and Albania, TAP has now cleared and graded 96% of its corridor. Additionally, we have welded 93% of steel line pipes and around 80% pipes are already



LOCAL Knowledge, GLOBAL Standards

Abkons owes its success to its business philosophy, innovative style and its team of ambitious and well-educated professionals. Our business philosophy goes beyond traditional consultancy and our broad range of services makes Abkons a One-Stop-Shop for innovative and sustainable consultancy. Our team consists of young, highly motivated specialists who bring with them a broad local knowledge and international professional experience, as well as a flexible and creative approach that drives them to embrace new experience and challenges

Abkons principles:

- Delivery Oriented: always on time and on budget Local capability: in all locations we make this a
- strength.

 Multi-functional: we employ specialists from over
- Adaptive: the world is complex, projects are complex

Abkons Business Areas:

- Land Management consultancy
- Engineering Services
 Environmental, Social and Cultural Heritage

Excelling at offering LOCAL Knowledge of services. with GLOBAL Standards of business practices, Abkons has for several years partnered with the pioneering and cross-border Trans Adriatic Pipeline (TAP) Project, for hich it has provided a number of integral professional services:

- Permitting Support
- Construction Project Management Company (CPMC) Environmental and Social Impact As
- Land Easement and Acquisition Compensation Values Studies
 Environmental and Archaeological Monitoring 📣 abkons



"TAP will contribute to the development and expansion of the gas infrastructure in South East Europe, ultimately boosting the countries' roles as energy hubs"

in the ground (back-filled). In Italy, in line with the Single Authorisation permit granted by the Ministry of Economy on 20 May 2015, TAP continues to progress its secondary permitting activities. We have finished digging the pit so as to enable the building of the micro-tunnel, which will connect the offshore section of the pipeline with the 8km onshore part in Southern Italy. This state-ofthe-art technical solution enables the pipeline to bypass the beach completely and has the least environmental impact."

When asked about the difference between TAP and others in the industry, Mr. Peeraer says: "Compared to the major international companies, TAP is a relatively small company. But whatever we lack in size, we make up for it in dedication, hard work and excellence." Despite its size, it's able to compete with the biggest and best by carefully selecting partners and suppliers to deliver its project on time.

These companies come from across Europe, representing the fact that above all, TAP is a Europe-wide effort. They include Volvo (Sweden), Spiecapag (France), Delta Maritime (Greece), Corinth Pipeworks S.A. (Greece), Bonatti S.p.A (Italy), ABKons (Albania), PSI Software AG (Germany) and Aktor (Greece), who all contribute, in addition to smaller suppliers called in along the phases of the pipeline construction.

Conclusion: A lasting impact on **Europe's Energy Infrastructure**

In addition to promising a bright future for European energy security, TAP has already made an impact on the local infrastructure in areas where it passes. By way of example, it has improved local infrastructure via the rehabilitation of access roads and bridges in Albania with the first phase alone benefitting over 200,000 people - nearly 10% of the country's population. Additionally, TAP is investing over 55 million Euro in other projects along the pipeline route, including the renovation of several schools in Albania, cleaning marine litter in Italy, donating equipment to emergency services in Greece, to name just a few.

As Mr. Peeraer says, it's just the beginning. "TAP will contribute to the development and expansion of the gas infrastructure in South East Europe, ultimately boosting the countries' roles as energy hubs. TAP remains committed to contributing to the Albanian Gas Master Plan through technical expertise as well as by enabling two gas exit points."

Ultimately, its impact will be felt way beyond energy security - something which can appear intangible to many. Mr. Schieppati adds: "Our example can also encourage other international investors to invest in these countries." The arrival of TAP, then, is set to bring a long-lasting positive impact to this corner of Europe both above and below ground. **B**

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