

Analysis No. 256, June 2014

CONTRIBUTION OF TAP TO THE ITALIAN ECONOMY

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The decision of building the Trans Adriatic Pipeline (TAP) represented a major breakthrough in the development of the European natural gas system. TAP is designed to transport the natural gas coming from the field of Shah Deniz, in the Caspian offshore, to the EU final markets. TAP's main destination will be the Italian market, which will be the largest and most important gas market connected to the pipeline. Despite a protracted crisis, indeed, in 2013 Italy consumed approximately 70 billion cubic metres (Bcm), remaining the second gas market in continental Europe after Germany.

TAP's impact on the Italian economy is consistently positive. During the construction period, it will provide small but still tangible positive effects on the territory where the infrastructure will be built (80 million euros per year), which will partially continue after its commissioning (12 million euros per year). Once operating, it will increase competition among the operators on the final markets, in theory reducing wholesale and final prices.

In the case of development of export capacity on the Italian gas system, TAP will provide the necessary volumes to preserve a security buffer on the Italian gas network and therefore allow significant export flows without endangering the stability of the final offer on the Italian market.

TAP's positive impact on the Italian economy is increased by the fact that the investment is completely covered by private capitals or, at least, not by the Italian public spending. Therefore, the Italian economy is benefitting from more security, more competition and potential price reductions without resorting to the economic distortions caused by taxation.

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The decision of building the Trans Adriatic Pipeline (TAP) represented a major breakthrough in the development of the European natural gas system. The pipeline will eventually materialise the Southern Gas Corridor, after a decade of public discussion but no actual investment decision, and it will allow a much-awaited diversification of the European import routes. TAP is indeed designed to transport the natural gas coming from the field of Shah Deniz, in the Caspian offshore, to the EU final markets.

TAP is not a stand-alone pipeline, but it is the final branch of a composed infrastructural system which will include the Southern Caucasus Pipeline (SCP) and the Trans Anatolian Pipeline (TANAP). SCP is an already existing pipeline, running for 700 km from the Azerbaijani production facilities through Georgia, up to the border with Turkey. SCP will be upgraded to transport additional volumes, through the laying of a second line along the same route of the existing one. TANAP will be the second section of the infrastructure and it will transport Azerbaijani natural gas across Turkey, following a new route of 1.700 km. TANAP will end at the border with Greece, where TAP will start¹.

This last section will run across Greek and Albanian territory, with a secondary branch directed from Greece to Bulgaria. TAP's main destination will be the Italian market, which will be the largest and most important gas market connected to the pipeline. Despite a protracted crisis, indeed, in 2013 Italy consumed approximately 70 billion cubic metres (Bcm), remaining the second gas market in continental Europe after Germany².

TAP will be a 760 km-long pipeline and its estimated construction costs amount to 5,7 billion euros, mainly concentrated in Greece and in the offshore between Albania and Italy. After its commissioning, TAP is expected to work for at least fifty years and the greatest share of its capacity will be devoted to supply the Italian gas system. In fact, out of a capacity of 10 Bcm per year, 8 will be marketed in Italy. As a consequence, the long term impact of the pipeline will be mainly concentrated in that country.

Contribution to the local economy

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¹ See TANAP website (<http://www.tanap.com/en/>) (accessed 30/04/2014).

² See Eurogas, *Drop in 2013 EU gas demand emphasises need for swift change*, 18/03/2014.

south-eastern region where the pipeline will join the Italian gas network. According to Nomisma Energia, a consultancy, the value of the activities directly related to the construction of the infrastructure will be approximately 80 million euros per year. At the same time, an average of 150 jobs will be created locally³.

Direct effects will continue during the whole life of the pipeline, with fixed operating costs related to the maintenance of infrastructures. The estimated impact is 4 million euros per year, with the creation of 30 permanent jobs. Indirect effects at local level will include further 8 million euros per year of turnover and 220 permanent jobs. The overall size of the impact is limited, but its local dimension and the long-term duration are a key part of the social acceptability of the infrastructure. Analogously, local taxation generated by property taxes on the infrastructures will be limited to less than half a million euros per year, but it will enhance local acceptance of the project, at least within local governments.

Contribution to the energy security

Besides its direct effects, TAP will have relevant indirect effects, beginning with the improvement of the Italian energy security. Natural gas represents one third of the Italian energy consumption and its supply depends on imports for more than 90%. As a consequence, a redundant and diversified natural gas import system is a priority for the reliability of the energy supplies to the Italian economy.

Natural gas is also the most important fuel for power generation (38%) and the stability of the electrical system has a relevance which is not limited to the economic dimension, but it also involving a strong security dimension. Consequently, any improvement of the Italian import capacity of natural gas has a political relevance.

During the past decade, State-owned Eni provided the strategy and investments for the development of the Italian natural gas system. The last major investment in import capacity made by Eni was the construction of the Green Stream, a pipeline linking Libya and Sicily, commissioned in 2004. After that period, Italian natural gas market adapted to the EU regulation and the central position of Eni was progressively dismantled, starting from the ownership of the transport infrastructure, which was completely unbundled in 2012.

As a consequence of the transitional period, no new international pipeline has been built in Italy and only two new liquefied natural gas (LNG) regasification facilities have been commissioned: Rovigo in 2009 and

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³ See TAP social responsibility website (<https://en.conoscitap.it/our-contribution>) (accessed 30/04/2014).

Livorno in 2013. At the same time the Italian market initially expanded, reaching its historical record of 84 Bcm in 2005, then stabilising above 80 Bcm, until the effects of the economic crisis reduced energy demand⁴.

During the past decade, the international context became more and more unpredictable, endangering the reliability of the flows directed to Italy. The single most important source of natural gas for the Italian market is Russia, which provides approximately one third of the consumption. Since all natural gas directed in Italy transits through Ukraine, economic and political instability in the country has created a potential risk for the stability of Russian supplies.

Algeria is the second source of natural gas for the Italian market, accounting for approximately one quarter of its consumption. Algerian gas reaches the Italian market through Tunisia and both countries are exposed to the risk of instability, due to the difficult regional context and to the evolution of the internal political systems, including a relevant terrorism threat. Considering the interaction of those factors, instability in Northern Africa is a very serious risk for natural gas supplies to the Italian market, as demonstrated by the unstable trend shown by exports from Libya, ravaged by the consequences of the civil war.

TAP will indeed provide a determinant contribution to increase the diversification, both in terms of suppliers and transit route. TAP's gas will indeed come from the Caspian region, which is a completely new source not only for the Italian market, but for the whole EU. Moreover, Caspian gas will come transiting through countries currently not included in other routes. This double diversification will reduce the risk level of the Italian imports. Albeit TAP's contribution to the Italian energy security cannot be directly translated into a monetary value, it probably represents the single most important contribution of the new pipeline to the Italian economy.

Contribution to the hub-strategy

According to the system operator Snam Rete Gas, Italian natural gas consumption in 2023 will be 73 Bcm per year, while domestic production will continue its slow decline⁵. The combined effect of growing demand and shrinking production will be an additional import demand of 7 Bcm compared with 2013 level.

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⁴ See Ministero dello sviluppo economico (MiSE), online database (<http://dgerm.sviluppoeconomico.gov.it/dgerm/bilanciogas.asp>) (accessed 30/04/2014). Figures are standardised to a gross calorific value of 39 MJ/cm.

⁵ Snam Rete Gas, *Piano decennale di sviluppo delle reti di trasporto di gas naturale 2014-2023*, 2014.

However, if we consider pre-crisis levels, expected import demand for 2023 is substantially at the same level of 2008, when new LNG regasification facilities were not online. Those infrastructures added a combined capacity of nearly 12 Bcm per year, substantially increasing spare capacity. As a consequence, existing infrastructural endowment is largely sufficient to ensure the reliability of the system, also considering the existing storage capacity, totalling more than 14 Bcm⁶.

Nevertheless, the existing import capacity could be not enough for the future needs of the Italian gas system. The Italian National Energy Strategy devises indeed a role of southern European hub for the Italian gas network⁷. In practice, the Italian network should become a transit point for the natural gas directed in other European countries, thus gaining a central position for exchange activities, but also gaining from the transit fees of the natural gas transiting on the Italian gas network.

In terms of infrastructural development, this strategy entails the creation of both exporting and importing capacity. According to current plans, exports in 2023 are expected to amount to approximately 8 Bcm per year, directed to Northern markets through Switzerland. In particular, the plans include a permanent flow reversal of the Transitgas, the pipeline currently transporting natural gas from Netherlands and Norway to the entry point of Passo Gries.

The role of TAP is therefore essential to provide new import capacity to the Italian system. Indeed, the additional capacity provided by TAP will be exactly the same size of the expected export flows, thus fully compensating them. Without TAP's capacity, instead, the Italian system would lack the necessary spare capacity to maintain an adequate level of security and flexibility.

From an economic perspective, the realisation of the hub-strategy would also create value for the state-owned Snam Rete Gas. Transit fees can be estimated approximately in 150 million euros per year for an export of 8 Bcm, which would not be possible to collect without the construction of TAP⁸.

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⁶ See MiSE, *Piano d'azione preventivo – Sistema gas Italia*, 19/04/2013.

⁷ See MiSE, *Strategia energetica nazionale*, 08/03/2013.

⁸ The estimate is based on current transit fee, but it is purely approximate since tariffs are regulated by the National Authority. Moreover, while the exit point is known (Passo Gries, at the border with Switzerland), entry point for the exported gas is unknown. Finally, tariffs for the entry point in Apulia are yet to be defined.

Contribution to the competitiveness of the market

Despite the progress achieved by the Italian market, its competitiveness is still limited by the role played by the incumbent, Eni, which controls a large share of the import capacity. The construction of TAP would contribute to reduce Eni's market power and to foster competition, by offering new volumes which can be used to compete and increase the market share of smaller operators.

Seven energy companies with long term interests in Italy have already signed the contracts for all the volumes imported through TAP⁹. And none of them has a market share above 7%¹⁰. Therefore, Azerbaijani gas will not entrench the position of the incumbent, but conversely will allow more competition and, in theory, a reduction of the wholesale prices. An important signal of the potential impact of those contracts is the pricing mechanism chosen by several operators, such as GDF Suez, to find innovative solutions non oil-indexed and increase the competitiveness of their volumes on the final markets¹¹.

TAP's positive impact on the competitiveness of the wholesale market is also a fundamental element in the decision of the Italian Energy Authority to grant to the pipeline a third party access exemption for 10 Bcm per year for 25 years, in cooperation with Albanian and Greek counterparts. Moreover, Energy Authority also expects a relevant effect in the final market: «due to the correlation between wholesale and retail gas prices in Italy, an improvement of the competitive structure at the wholesale level will most likely also have positive effects downstream at the retail level»¹².

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⁹ The companies are Gdf Suez of France (2,6 Bcm/y), E.ON of Germany (1,6 Bcm/y), Shell of Great Britain and Netherlands (1 Bcm/y), Hera of Italy (0,3 Gmc/a), Enel of Italy, Gas Natural Fenosa of Spain and Axpo of Switzerland (which haven't disclosed the exact volumes purchased). Staffetta Quotidiana, *Gasdotto Tap, chiusi contratti gas. In Italia arriveranno 8 mld mc/anno*, 19/09/2013.

¹⁰ Autorità per l'energia elettrica, il gas e il sistema idrico (AEEG), *Relazione annuale 2013*, 26/06/2013.

¹¹ TAP is indeed a joint-venture including BP of Britain (20%), SOCAR of Azerbaijan (20%), Statoil of Norway (20%), Fluxys of Belgium (16%), Total of France (10%), E.ON of Germany (9%) and Axpo of Switzerland (5%). About the pricing, see Sissi Bellomo, «Gas azero a prezzi sganciati dal petrolio. A Gdf Suez un contratto finora inedito in Europa», *Sole24Ore*, 11/04/2014.

¹² AEEG-RAE-ERE, *Joint Opinion of the Energy Regulators on TAP AG's Exemption Application*, 26/07/2013.

Besides the effects on competition, TAP's construction could also affect prices through a basic supply-demand mechanism, in the case of a mothballing of the hub strategy. Indeed, the hub-strategy could be delayed and TAP could start functioning before the commissioning of the exporting capacity at the border with Switzerland. Without relevant export flows, TAP's volumes would create a significant supply increase, which in turn would create a downward pressure on prices. TAP's volumes will amount to 8 Bcm, for a market between 70 and 80: a sudden 10% increase in the supply would be bound to have structural effects. A partial «over-supply effect» could also occur if the export capacity were only partially used, creating a minor but still significant downward pressure on prices.

In any case, TAP's positive effects on wholesale and final prices in the Italian market could be compensated by other factors. Rising demand at EU level, supply shortages, change in subsidisation policy for renewable energy sources are all fast-changing factors currently very hard to predict, but which could nullify any price reduction caused by TAP. In this case, TAP's positive effect would be less evident but not less important, since it would contribute to avoid or reduce significant increase of the energy prices.

The sheer size of the Italian market nonetheless provides a strong multiplier: even a small change has a remarkable effect in absolute value. In 2013, Italy imported 60 Bcm at an average price at the border of 330 euros per thousand cubic metre (kmc), equal to approximately 20 billion euros¹³. Considering that the average price of natural gas on the final market is 450 euros per kmc, the value of the Italian final market is approximately 30 billion euros, taxes excluded¹⁴. Each single percentage point of shift in the price is therefore worth 300 million euros and TAP's potential impact could be significant.

Potential TAP's expansion

TAP's first stage will have a capacity of 10 Bcm per years. However, the infrastructure is designed to expand up to 20 Bcm per year, by adding more compression capacity. The decision of expanding TAP's capacity will depend on the availability of competitive upstream capacity and by the expected levels of consumption in the final markets.

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According to current forecasts, the Italian final market is expected to grow very slowly during the next decade. Even considering a further decrease of the domestic production, additional volumes deriving from a TAP's upgrade would be largely redundant for the Italian market

¹³ See MiSE, *online database*, and Istituto Nazionale di Statistica, *online database* (<http://bit.ly/1hZcSMv>) (accessed on 30/04/2014).

¹⁴ See AEEG, *online database* (<http://bit.ly/PSAOtY>) (accessed on 30/04/2014).

considering a further decrease of the domestic production, additional volumes deriving from a TAP's upgrade would be largely redundant for the Italian market.

The viability TAP's expansion therefore will depend on the possibility of allocating a large share of the flows to markets other than the Italian one. A part of those flows could be allocated to the Balkan markets, also beyond Albania and Bulgaria. However those markets are unlikely to expand enough to absorb 10 Bcm of Azerbaijani gas, especially if the South Stream will be completed during the current decade.

In the end, the viability of TAP's expansion will depend on the possibility of symmetrically expanding the export capacity of the Italian gas network, in order to supply Northern European markets. If realised, the impact of TAP's expansion will be a further strengthening of the relevance of the Italian gas network as a transit route, with relative benefits for Snam Rete Gas. Clearly, additional import capacity will also improve the level of security of the Italian supply.

The relevance of TAP's expansion could be very different in the case of a structural reduction of flows coming from another source, due for example to enduring political instability in Northern Africa and lack of upstream investments in the region. In this case, TAP's additional capacity would replace missing volumes on a permanent basis and the Azerbaijani gas would substantially increase its share in the Italian supply.

TAP's current projects include only one expansion up to 20 Bcm per year. Despite its relevance for the countries directly involved, and especially Italy, without a further expansion TAP's impact at EU level is bound to remain limited. At the moment, constraints in the upstream and a weak demand on the final markets are limiting the viability of the second line. However, if the pipeline will be upgraded and its routes will include the Italian gas network, the impact for the Italian economy will be absolutely positive.

Final remarks

All in all, TAP's impact on the Italian economy is consistently positive. During the construction period, it will provide small but still tangible positive effects on the territory where the infrastructure will be built (80 million euros per year), which will partially continue after its commissioning (12 million euros per year). Once operating, it will increase competition among the operators on the final markets, in theory reducing wholesale and final prices.

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capacity on the Italian gas system, TAP will provide the necessary volumes to preserve a security buffer on the Italian gas network and therefore allow significant export flows without endangering the stability of the final offer on the Italian market. Therefore, TAP will be essential for the export flows which will allow Snam Rete Gas to collect estimated 150 million euros as transit fees. If the export capacity will not be realised on time, Azerbaijani gas will flood final market with competitive natural gas, further reducing final prices. Potential savings for the final consumers will be 300 million euros for each percentage point of price reduction.

TAP's positive impact on the Italian economy is increased by the fact that the investment is completely covered by private capitals or, at least, not by the Italian public spending. Therefore, the Italian economy is benefitting from more security, more competition and potential price reductions without resorting to the economic distortions caused by taxation.

Besides its measurable economic impact, TAP's construction will improve the Italian energy security. TAP will indeed provide an effective diversification of the Italian gas supply, considering both to the origin of the gas and to the route of the pipeline. For a country which imports 90% of its natural gas consumption, such diversification is a relevant achievement, whose economic value is difficult to assess. But which probably represents the most important contribution of TAP to the Italian economy.

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