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LEGAL FRAMEWORK OF THE GAS MARKET LIBERALISATION IN EUROPE AND IN ITALY

By

Doristella Fiore

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Supervisor: Giacomo Luchetta

Reviewer: Alexander Gusev

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ABSTRACT

The thesis offers a review of the natural gas market and its legal framework in the EU, with an emphasis on the Italian situation, illustrating the level of liberalisation and competition that has been reached. The ultimate goal of liberalisation is to create a single EU gas market, making a full shift from a system based on the presence of the State to one based on the freedom of private initiative and multiple operators. As a result, the competition will cut inefficiencies and encourage a better allocation of resources, reducing prices and benefiting consumers. The main question of this research is if the liberalisation process can be considered as complete.

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INTRODUCTION

The specified thesis seeks to offer a complete review of the natural gas market, with an emphasis on the Italian gas industry, illustrating the level of liberalisation and competition that has been reached.

This examination begins by providing a comprehensive and logical overview of the natural gas industry and market in Europe. To better understand the current market environment, the thesis traces the key stages of market liberalisation. The ultimate goal of liberalisation is to create a single gas market, making a full shift from a system based on the presence of the State to one based on the freedom of private initiative and multiple operators. As a result, competition will cut public inefficiencies and encourage a more systematic allocation of resources in the consumer's favour, resulting in reduced pricing. The main question of this research is if the liberalisation process can be considered as ultimately complete.

The present thesis is divided in three chapters, with the first section describing the characteristics of the product of natural gas. This is followed by an overview of the chain, which represents the entire production cycle. Afterwards, there is a general overview of the gas market. The second chapter provides an overview of the European framework, highlighting several key policies, their purpose and intended effectiveness. A third and final part examines the Italian legal framework for the transport, distribution, and sale of natural gas, as well as how the main targets of the Italian legislative decrees have changed over time. In order to better comprehend the current market situation, the dissertation also stresses the main regulatory measures, by analysing the strengths and relevant weaknesses.

A conclusion will then be made, if the regulations set forth by the Italian government have or have not been achieved and how the previous data analysed supports this position.

The idea for this thesis came from my course of education. During my undergraduate studies in law, I worked very closely with environmental and energy law. In the last year

of the program, I enrolled in a course which focused specifically on the liberalisation of network industries and found it very interesting. The decision to approach this particular thesis topic came whilst attending a lecture presented by Professor G. Luchetta during the course of my master's in EU Trade and Climate Diplomacy.

That lecture further strengthened my interest in the gas theme and my understanding of how vital gas is as an energy source. Its abundance, its competitive supply costs, its availability, and the flexibility with which it can supply renewable energies make it one of the most suitable energy sources for achieving the objective of reducing greenhouse gas emissions. Unfortunately, the current long-term energy mix used in Europe does not recognise the central role of natural gas, which represents one of the most efficient, cleanest, and versatile solutions of all fossil sources. For this reason, it is important to examine its regulation. However, the continuous evolution of gas regulation and policy makes it difficult to critically analyse and evaluate the progress made in achieving the liberalisation of the gas market. This is why there was some difficulties encountered when finding recent sources on the subject.

Methodology

As previously stated, the methodology of this dissertation consists of a variety of techniques. As the primary goal of this research is to assess the effectiveness of Italian policies regarding the liberalisation of natural gas, the overall methodology can be considered to be a descriptive policy analysis and evaluation.

This was achieved by analysing secondary data, primarily the published policies by both the EU and Italy. Policies were reviewed to establish the purpose of their creation, ensuring the aims of each policy were clearly defined, as well as determining any strengths and weaknesses each policy may have had.

Then effectiveness indicators, both qualitative and quantitative in nature, were analysed to verify if the aims of said policies were reached, particularly in Italy. This included, but

not limited to, inspecting changes in market pricing, consumer opinion, and environmental sustainability.

Literature Review

As all of the research comes from secondary data, the relevance, accuracy, and quality of the sources used should be noted.

As gas regulation on the EU and Italian level continues to adapt and evolve, many resources have become outdated. Current and recent references were attempted to be used whenever possible, but sometimes this proved to be difficult.

For the policy analysis, all policies (and relevant amendments) mentioned are cited and sourced in their complete and authentic form, made available by both EU and Italian lawmakers/government.

For the evaluation of those policies, primary sources in the form of public records and company data were used when possible. However, the vast majority of sources are secondary, in the form of published and electronic academic articles.

Scholarly sources, such as encyclopaedias and manuals, were used to provide definitions and background information on natural gas and the market in general.

CHAPTER 1 – NATURAL GAS

This chapter describes the characteristics of the product of natural gas, what natural gas is, and where it comes from. This will be followed by an overview of the supply chain, which represents the entire production cycle. After this, an analysis of the market will be made.

1.1 General Notions

Natural gas, also known as fossil gas, is an odourless, colourless, flammable natural hydrocarbon gas mixture, consisting mainly of methane (CH_4). Natural gas, as the name suggests, is completely natural. It is derived from plants, dead animals lying under the Earth's surface, and microorganisms that lived millions of years ago. Natural gas is therefore considered a fossil fuel, similar to oil and carbon.[1]

Even though natural gas is not a renewable source, it is one of the cleanest energy source derived from fossil fuels. Since "the simple molecular structure of natural gas enables a clean burn" in a way that does not yield solid particles or sulphur during combustion, "it emits less pollutant gas per unit of energy produced." [2] Furthermore, natural gas has other advantages, such as its reliability, the ease of transportation over long distances, and the ability to store in large quantities.

A fossil fuel like natural gas is essential for generating electricity for factories, domestic heating and cooking, and to certain types of vehicles. Furthermore, it is also used in the manufacturing of plastics as a chemical feedstock and for many other types of chemical products, such as fertilisers and dyes.[3]

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[1] National Geographic. (n.d.). *Natural Gas.* National Geographic Resource Library, Encyclopedic Entry. https://www.nationalgeographic.org/encyclopedia/natural-gas/

[2] Nedgia. (n.d.). *Characteristics of natural gas.* https://www.nedgia.es/conocenos/en/characteristics-of-natural-gas/

[3] Atwater, G., et al. (n.d.). *Natural gas.* Encyclopedia Britannica. https://www.britannica.com/science/natural-gas

Natural gas can be found "from a few meters to over 5,000 meters underneath the surface." It is brought up to the surface via drilling processes.[4] Once extraction has taken place and following natural gas purification, it "is transported to different places to be processed, stored, and then finally delivered to the end consumer."[5]

1.2 Supply Chain

The natural gas pipeline is made up of sections which constitute separate industries, each of which is capable of independent and cost-effective management. These sections, or industries, are usually structured together in two stages: up-stream and down-stream. The up-stream includes production (which contains the exploration, extraction and natural gas processing) and importation, while the down-stream includes transportation, storage, distribution, and sale.[6]

Up-stream

Exploration of Natural Gas

Geologists and geophysicists use cutting-edge technology and advanced methods to locate natural gas deposits. In the last 20 years, through the use of extremely modern technology, tools like sound waves, aerial photography, and 3D projections are used to get an idea of the size, shape and consistency of natural gas that is located underneath before drills are put in the soil or seabed.[7]

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[4] Met Group. (2020, Apr 4). *What Is Natural Gas? Meaning, Definition & Description.* https://group.met.com/energy-insight/what-is-natural-gas/2

[5] Student Energy. (n.d.). *Natural Gas Transport.* https://studentenergy.org/transport/natural-gas-transport/

[6] Giustiniani, G. (2012, Aug 8). *Il Mercato del Gas Naturale.* Translated from Italian. http://www.dirittodeiservizipubblici.it/articoli/articolo.asp?id=499

[7] Energy Infrastructure. (n.d.). *Natural Gas Supply Chain.* https://energyinfrastructure.org/energy-101/natural-gas-supply-chain

Natural Gas Extraction

Once a test confirms that there is enough natural gas located underneath and it can be removed cost-effectively, the extraction can take place and new production wells are drilled.[8]

Natural Gas Processing

Processing plants purify raw natural gas by separating impurities, different hydrocarbons, and fluids to produce pipeline-quality dry natural gas that can be used as fuel by commercial, industrial, and residential consumers.

Down-stream

Natural Gas Transport

There are two ways to transport natural gas: on land via international gas pipeline systems to national gas transmission systems or on water via ship. The vast majority of the world's natural gas is delivered by pipeline. Extensive networks of pipelines deliver natural gas to processing facilities and, ultimately, to consumers. According to their intended use, modern gas pipelines are built in different measures or either the transmission, distribution, gathering, or production of natural gas. [9] In order to move natural gas along the pipeline, it must be pressurised through compressor stations placed at "intervals along the pipeline."[10]

Natural gas can be liquefied and delivered by ship if it cannot be delivered on land. Unlike gas pipelines, liquefied natural gas (LNG) shipping is favoured for international transport because it occupies less volume. For this reason, it is also preferred for shipment and storage. LNG infrastructure is composed of "a gas pipeline leading to the seaside, a gas liquefaction plant, storage facilities and a LNG terminal for shipment." Once natural gas is liquified and transported to its destination, regasification plants at the location

[8] Met Group. (2020, Sept 30). *How is natural gas extracted? The process explained.* https://group.met.com/energy-insight/how-is-natural-gas-extracted/13

[9] Pipeline Safety. (2015, Sept). *Pipeline Basics & Specifics About Natural Gas Pipelines.* Pipeline Briefing Paper #2. https://www.pstrust.org/wp-content/uploads/2015/09/2015-PST-Briefing-Paper-02-NatGasBasics.pdf

[10] Student Energy. (n.d.). *Natural Gas Transport.* https://studentenergy.org/transport/natural-gas-transport/

covert LNG back to its gas form. Natural gas may also be stored underground in vast storage reservoirs for subsequent use.[11]

Natural Gas Distribution

The event of gas distribution includes a “secondary" natural gas transport from a point of interconnection along the distribution network with the National Transportation Network to the ultimate user, as well as carrying out, on behalf of such user or the seller, all operations related to gas management down to each residence's gas meter.[12]

Natural Gas Sale

The activity of retail is managed by selling companies or Traders. This event consists of purchasing gas from wholesalers and delivering it to the final customer. The sales companies use local distribution networks to do so. Local distribution networks are used by retail companies “to withdraw (points of delivery) and provide gas to their ultimate customers (redelivery points).”

1.3 Natural Gas Market

After oil and carbon, natural gas represents the third-most used primary energy source in the world with a percentage of 23%. Among sources used in the generation of electricity, it represents the same share, after coal and renewable sources. And almost at the same level of coal, it is the second-most used source for heat uses with a percentage of 42%. During the years of 2000 to 2018, natural gas production in the world continued to increase at an average annual rate of 2.6%.[13]

With regard to the EU, natural gas represents 22% of the primary energy mix (1.4 percentage points more compared to the year 2000). That’s second only after oil, whose

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[11] Ibid.

[12] Giustiniani, G. (2012, Aug 8). *Il Mercato del Gas Naturale.* Translated from Italian. http://www.dirittodeiservizipubblici.it/articoli/articolo.asp?id=499

[13] iCom. (2020, Oct 16). *A half-gas transition. Natural gas and hydrogen procurement, transport and distribution scenarios in Europe and Italy.* https://www.i-com.it/2021/01/08/una-transizione-a-mezzo-gas-scenari-di-approvvigionamento-trasporto-e-distribuzione-di-gas-naturale-e-idrogeno-in-europa-e-italia-2/

share over the primary energy mix has decreased by 4.6 percentage points in the last 18 years. Only renewable energies have grown more than natural gas. However, energy dependence on the imports from other countries is constantly increasing.[14]

Indeed, for its own energy, the EU needs energy supplied by third countries. In 2019, petroleum represented the principal imported energy products, "followed by gas (27%) and solid fossil fuels (6 %)."[15]

While the EU's overall energy consumption is expected to remain stable over the next three decades, the International Energy Agency (IEA) predicts that the EU's electricity demand will rise by 12–26% by 2040. To address this rising need for electricity, the EU will need to diversify sources of energy supply through sustainable energy and modern technologies, such as renewable sources. However, these tools are not enough to meet the EU energy requirements. For this reason, the natural gas will play an essential part. Data from the last decade, in addition to short- and medium-term forecasts, suggest that natural gas will remain the most used energy source for a long time to come. In 2019, the IEA (International Energy Agency) confirmed this statement. It also predicted that gas will continue to dominate over other fossil fuels, such as coal and oil, until at least 2040.

Although gas demand is predicted to stay stable, lower European gas output will necessitate more imports. Furthermore, natural gas will improve energy security, accessibility, and affordability in Europe, while also aiding the energy transition, particularly when coal-fired power production will gradually be phased out.[16]

Moreover, switching fuel sources from coal to natural gas will allow a reduction in CO_2 emissions and air pollutants. In fact, since natural gas emits less greenhouse gases, "the coal-to-gas switching has saved around 500 million tonnes of CO_2." An analysis

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[14] Ibid.

[15] Eurostat. (n.d.). *From where do we import energy?* https://ec.europa.eu/eurostat/cache/infographs/energy/bloc-2c.html

[16] Khakova, O., et al. (2020, Jan 9). *European energy diversification: How alternative sources, routes, and clean technologies can bolster energy security and decarbonization.* Atlantic Council. https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/european-energy-diversification-how-alternative-sources-and-routes-can-bolster-energy-security-and-decarbonization/

conducted by the International Energy Agency (IEA) shows that "an estimated 98% of gas consumed today has a lower lifecycle emissions intensity than coal when used for power or heat." This research has taken into account "both CO_2 and methane emissions," concluding that, "on average, coal-to-gas switching reduces emissions by 50% when producing electricity and by 33% when providing heat."[17]

However, in order to maximise natural gas's position in the European market, a number of concerns must be solved. The main issues involve gaps in key infrastructure, the need to implement member states' regulatory framework, the reduction of methane emissions originating from the natural gas sector, sociocultural perceptions about fracking, as well as challenges posed by geopolitical rivalry.[18]

The real breakthrough concerning gas would be getting member states to stop using coal. In order to achieve this goal, diversifying supplies of natural gas is essential. This also prevents dependence on a single dominant supplier, like Russia. Indeed, if a large percentage of imports are concentrated in the hands of a few foreign partners, there is a high risk that the EU energy stability may be undermined.

"Three-quarters of the EU's natural gas imports come from Russia (41%), Norway (16%), Algeria (8%), and Qatar (5%)."[19] In 2018, 200.8 billion cubic meters of gas were supplied from Russia's state-owned gas monopoly, Gazprom, to Europe. [20] In the same year, after the Russian invasion of Crimea, the EU imposed a sanction on Russia, hitting the European Union financial and energy sectors. The huge dependency on Russian gas increased energy prices, thus hampering economic growth.[21] For this reason, the EU is

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[17] IEA. (2019, July). *The Role of Gas in Today's Energy Transitions*. https://www.iea.org/reports/the-role-of-gas-in-todays-energy-transitions

[18] Khakova, O., et al. (2020, Jan 9). *European energy diversification: How alternative sources, routes, and clean technologies can bolster energy security and decarbonization.* Atlantic Council. https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/european-energy-diversification-how-alternative-sources-and-routes-can-bolster-energy-security-and-decarbonization/

[19] Eurostat. (n.d.). *From where do we import energy?* https://ec.europa.eu/eurostat/cache/infographs/energy/bloc-2c.html

[20] Gazprom Export. (2019) *Delivery Statistics: Gas Supplies to Europe.* http://www.gazpromexport.ru/en/statistics/

[21] Bahramian, P. et al. (2015, Apr 21). *Price modelling of natural gas for the EU-12 countries: Evidence from panel cointegration.* Journal of Natural Gas Science and Engineering Volume 24, p. 464-472. https://www.sciencedirect.com/science/article/pii/S1875510015001523

trying to diversify sources of energy supply to reduce its dependence on Russian gas. For example, the EU is focusing its attention towards natural gas from the Middle East, which has more than 43% of the world's proven natural gas reserves. However, geographical and political issues surrounding the Middle East make this alternative difficult. From a geographical point of view, the distance between the EU and Middle East means an increase in costs. With regard to the political aspect, the Arab states are extremely vulnerable due to domestic social turmoil and the intervention of foreign entities. [22]

Another option for the European Union is provided by the Eastern Mediterranean. Off the coasts of Egypt, Israel, Cyprus, and Lebanon, gas deposits have been discovered. These substantial natural gas reserves will be made accessible for exportation, according to forecasts of domestic natural gas demand for the years 2017-2042. This resource might assist in the diversification of natural gas supplies in the EU.[23] The EU, in particular, should actively pursue the development of its own gas resources, like those discovered in Cyprus, and support the creation of a liquified natural gas terminal [24] that can be used for the exportation of the deposits to the entire region.[25]

Another valid alternative is the United States's LNG. However, similar to previous options, additional costs and politics are involved. Even though US energy would be able to meet all of Europe's energy needs, a transfer of dependence on the US would leave the EU equally vulnerable.

Over the past decade, LNG has not been a real candidate to replace Russian supplies via gas pipeline, both because of a lack of regasification infrastructure and because the East Asian market attracted more than the European one with spot prices higher. There is still

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[22] Houshisadat, M. (2015). *Persian Gulf Gas and LNG in the EU's Goals for Security of Gas Supply by 2030.* Polish Quarterly of International Affairs, p.17-18. https://www.researchgate.net/publication/288823987_Persian_Gulf_Gas_and_LNG_in_the_EU%27s_Goals_for_Security_of_Gas_Supply_by_2030

[23] Ruble, I. (2017, Mar 3). *European Union energy supply security: The benefits of natural gas imports from the Eastern Mediterranean.* Energy Policy, Volume 105, p.351. https://www.sciencedirect.com/science/article/abs/pii/S0301421517301507?via%3Dihub

[24] Natural gas terminal: "a facility for regasifyng the liquefied natural gas (LNG) shipped in by LNG tanker from the production zones." https://www.elengy.com/en/lng/what-is-an-lng-terminal.html

[25] European Parliament. (2016, Sept 29). *EU strategy for liquefied natural gas and gas storage.* https://www.europarl.europa.eu/doceo/document/A-8-2016-0278_EN.html

no global gas market for oil, although it is slowly going through an evolution at the regional market level.
For Europe, the path of autonomous shale gas production does not seem to be viable either, which has raised doubts because of its environmental impact, the high exhaustion rates, and the difficulty of recreating the conditions of the flexible and peculiar US market in other regions.

Recently, in 2019, LNG became much more competitive, with Qatar and Australia being the first countries for its production and export. In fact, in November 2019, a project was launched by Qatar Petroleum for major investments in the North Field off the peninsula of northeastern Qatar. Eni was also involved, but Doha was reluctant to start the project already in the first months of 2020 due to the collapse in gas prices. At the moment, therefore, LNG does not seem to be an immediately viable alternative.

The IEA states that, by 2040, the market share of LNG could double, reaching 40% of total gas demand. However, the market still presents great uncertainties which render the forecast more difficult to picture.

Though all the above examples demonstrate the availability of different sources, they also indicate that they are not without political dangers and high costs. As a result, despite the different options, the European Union is still partly dependent on Russia for the importation of natural gas for the time being.

1.4 Competitiveness and Costs

New market systems are leading to commercial growth. The worldwide gas trade is facilitated by a combination of market deregulation, the establishment of trading centres, and the growth of financial derivatives. Various markets, including China, are pushing for tertiary access to GNL transportation and import infrastructure. The Indian government recently unveiled a gas trading card with three delivery locations, while Spain is attempting to become a virtual trading hub this year. With the creation of new

hubs and price benchmarks, the liquidity of financial derivative contracts for gas prices has increased significantly. These efforts will support gas and GNL efficiency while also assisting in risk management.[26]

In most parts of the world, supply is increasing and producers are making final investment choices on a record 97 billion cubic meters of LNG liquefaction projects each year. LNG trading increased by 13% in 2019, the highest rate since 2010, owing to increased demand in new areas such as South Asia and more liquidity in the spot and derivatives markets. Moreover, the commissioning of major new pipelines, including a new link between Russia and China, has taken place.[27]

In 2019, the global gas industry continued to strongly grow. The worldwide consumption increased by 2.3% compared to 2018, setting a new record. Prices have reached an all-time low as a result of the plentiful supply, which has helped to maintain gas's competitiveness.

In this scenario, the impact of COVID-19 cannot be overlooked, given that, several months into the pandemic, demand for gas drastically decreased, with consequences affecting prices. In particular, natural gas markets are experiencing a situation characterised by broad price volatility.

In March 2020, the spread of the pandemic in Europe and Italy had hit a market situation already marked by a strong imbalance between weak demand and abundant supply, especially thanks to a large international availability of LNG. During the year 2020, a decrease of 2% in consumption of natural gas in both large industry and civil sectors was registered in Italy. The fall in consumption caused by the lockdown, the mild temperatures, and the relative low demand for heating constituted a combination of factors led to the collapse of prices to historic lows in mid-2020. Therefore, prices fell for months, creating a very unstable scenario.

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[26] SNAM. (2020, August 24). *Global Gas Report 2020.* https://www.snam.it/it/transizione_energetica/report/global_gas_report/

[27] Ibid.

In the second half of 2020, a rebound from summer lows could be considered a foregone conclusion. But subsequently, the return of winter allowed the gas demand to record a slight recovery in the latter part of the year. "The PSV price has also started to rise again (with an average 16.5 €/MWh in December 2020) after reaching a historical low of 5 €/MWh during the month of May 2020."[28] After that, an important rise in prices began over the following months and then, during the first half of 2021, became increasingly significant and absolutely unexpected in its size.[29]

The recent drop in petrol costs in key worldwide hubs, which has been attributed in part to the pandemic, drew a lot of attention. However, the increased supply and cheap costs have already resulted in a record-breaking gas demand in major growing countries, such as China, in 2019. LNG imports have also hit new highs in Europe, owing to rising coal costs. The move from coal to gas in key countries like the United States and China accounts for a considerable portion of growth.

The price of natural gas is particularly important for worldwide competitiveness. In fact, natural gas may account for a large part of overall energy expenditures for industrial and service-oriented enterprises. As opposed to the price of other fossil fuels, which are generally sold on worldwide markets with relatively consistent pricing, natural gas costs vary significantly among EU Member States.

The shale gas novelty in the United States represents a great opportunity for the EU. Hub-priced LNG exports from the United States are causing the global gas market to become more liquid, assuring a higher competitiveness by lowering natural gas costs, and expanding the destination flexibility.[30]

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[28] ANSA. (2021, Jan 7). *Consumi gas, il 2020 si chiude con un -4,2%.* Ambiente & Energia. Translated from Italian. https://www.ansa.it/canale_ambiente/notizie/focus_energia/2021/01/07/consumi-gas-il-2020-si-chiude-con-un-42_7011257a-20dc-4efb-aa49-be4a3db290db.html

[29] GME. (2021). Volatilita' dei prezzi sui mercati del gas: dai minimi del 2020 agli attuali rialzi, n. 149, pg. 1. https://www.mercatoelettrico.org/Newsletter/20210615Newsletter.pdf

[30] European Parliament. (2016, September 29). *EU strategy for liquefied natural gas and gas storage.* https://www.europarl.europa.eu/doceo/document/A-8-2016-0278_EN.html

However, despite the fact that global gas markets are becoming more linked, a global gas price does not exist yet. Because gas has a lower energy density than oil or coal, transportation via pipeline or as a LNG accounts for a significant portion of the supply costs, making proximity to resource-rich locations a critical deciding factor in cost-effectiveness.[31]

[31] IEA. (2019, July). *The Role of Gas in Today's Energy Transitions*. https://www.iea.org/reports/the-role-of-gas-in-todays-energy-transitions

CHAPTER 2 – EUROPEAN FRAMEWORK

This chapter is aimed at presenting an overview of the European framework. Common regulations for the transmission, distribution, supply and storage of natural gas have been introduced at the EU level with the goal of providing market access and allowing fair and undistorted competition.

2.1 History

The right of free movement of goods and the freedom to provide services guaranteed by the Treaty on the Functioning of the European Union (TFEU)[32] can only be reached in a market without barriers, where the citizens of member States can freely pick their providers, and suppliers have the freedom to deliver to their customers.[33]

Since the latter half of the 1990s, the EU has taken steps to liberalise the gas markets with the objective to provide a real choice for all EU consumers (private or public businesses), as well as create new business opportunities, increase cross-border trade, achieve greater efficiency and quality, encourage competitive prices, and improve security of supply and sustainability.

Directive 98/30/EC

In May 1998, the Directive 98/30/EC[34] was adopted. Such directive progresses with the liberalisation of the gas sector, which began with Directive 94/22/CE[35], extending it to storage, transport, distribution and sales activities. The main objective of Directive 98/30/EC is to create a single European gas market and initiate an opening up to

[32] The free movement of goods: Article 26 and Articles 28-37 of the Treaty on the Functioning of the European Union (TFEU); The freedom to provide services: Articles 56 to 62 of the Treaty on the Functioning of the European Union (TFEU). https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12012E/TXT:en:PDF

[33] European Parliament. (2011, Oct 6). *Common rules for the internal market in natural gas and repealing.* Directive 2003/55/EC. https://www.energy-community.org/dam/jcr:004b3ca7-fa52-4633-875e-8ac1b2cea021/Directive_2009_73_GAS.pdf

[34] Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas OJ L 204, 21.7.1998

[35] Directive 94/22/EC of the European Parliament and of the Council of 30 May 1994 on the conditions for granting and using authorisations for the prospection, exploration and production of hydrocarbons

competition. This legislative act includes mandatory and optional provisions. The mandatory provisions include common principles which Member States must comply with. These common principles incorporate the suppression of all types of monopolies within the stages of production, importation, transportation, and distribution; the right for operators to access infrastructure networks under identical and non-discriminatory conditions, as defined by the Third Party Access principle; homogeneity toward the opening of national markets and gradual application of the directive to allow States to receive it in a proper manner and the European Commission to verify it. With regard to the optional provisions, Member States have the choice of defining particular modalities by which it might comply to these common principles and, as a result, choose the most appropriate organisational model for its national context. Moreover, Directive 98/30/EC stipulates that, in order to open the market to competition, Member States must establish criteria for selecting eligible clients in order to comply with the minimum liberalisation requirements. In addition, every gas company operating in the gas sector must devote time to reviewing and publishing its yearly financial statements, while vertically integrated businesses[36] must do a monetary unbundling, i.e. keep separate accounts for each of their activities to prevent inconsistent outcomes and market distortions, minimising the competitive advantage possessed by ex-monopolists.[37]

In addition, the directive under consideration identifies two options for third access to the gas network: negotiated access and regulated access, giving Member States the freedom to choose one or both options. In the case of negotiated access, Member States must take the necessary provisions to allow transportation companies and eligible clients to conclude voluntary contract arrangements between themselves. Regulated access, on the other hand, grants clients access to the transportation company's proprietary system, allowing them to enter into supply contracts with different companies other than the

[36] Vertically integrated company: "has expanded into different steps along production, manufacturing, and distribution."
Quain, S. (2018, Nov 26). *Examples of Vertically Integrated Companies.* https://smallbusiness.chron.com/examples-vertically-integrated-companies-12868.html

[37] Fantini M.G. (2017, Jul 7). *La liberalizzazione del mercato dell'energia elettrica e del gas naturale: il caso italiano nel panorama europeo.* Translated from Italian. p.7. https://iris.uniroma1.it/retrieve/handle/11573/1131610/731800/Giachetti%20Fantini_Liberalizzazione_2017.pdf

system's owner and/or manager, which refers to the transportation company's symmetrical obligation to grant access on the basis of regulated tariffs.[38]

The final result achieved with the 98/30/EC Directive was below expectations, since the regulation of the gas market lacked clarity and uniformity. One of the main causes of this failure was the recognition of excessive discretionary power to member states in relation to "common rules" and the achievement of "economic comparable results." In fact, while some countries went forward and broke earlier integrated agreements, others made gradual adjustments. According to the European Commission's annual comparative analyses of the state of implementation of the directives for liberalising the gas market, there is a widespread dissatisfaction with the lack of competition and higher-than-expected prices, particularly among families and small businesses. This dissatisfaction turned into an arduous attempt by the European Commission to remove barriers to national market integration through the adoption of EU directives, which has resulted in a never-ending reform process.[39]

Gas Directive 2003/55/EC

Subsequently, Gas Directive 2003/55/EC [40] of the European Parliament and of the Council, adopted on 26 June 2003, addresses uniform norms for the internal market of natural gas and has contributed significantly to the development of internal natural gas markets. [41] Deadlines were established for expanding markets and allowing clients to pick their own supplier: starting from 1 July 2004 for corporate clients, and for all customers (including households) from 1 July 2007. Furthermore, the directive required the improvement of management unbundling, the separation of subsidiaries for transportation and supply, and an impartial authority to implement regulation. While some EU member states anticipated the process of liberalisation, others took more time in adopting the

[38] Ibid.
[39] Ibid.
[40] Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC
[41] European Parliament. (2011, Oct 6). *Common rules for the internal market in natural gas and repealing.* Directive 2003/55/EC. https://www.energy-community.org/dam/jcr:004b3ca7-fa52-4633-875e-8ac1b2cea021/Directive_2009_73_GAS.pdf

necessary measures. In fact, as seen by the number of markets still controlled by "(near) monopoly suppliers," considerable hurdles for entry exist in most of natural gas sectors.[42]

Additionally, Regulation 1775 was enacted in September 2005. It established specific rules for third-party access, capacity distribution principles, congestion management methods, and transparency criteria.[43]

2.2 Third Energy Package

In 2009, the European Union's Third Energy Package was adopted with the purpose of strengthening liberalisation and completing Europe's energy markets. This Third Energy Package consists of two directives: the Electricity Directive, formally Directive 2009/72, on common rules for the internal market in electricity, and Directive 2009/73, also known as the Gas Directive, regarding common rules for the internal market in natural gas.

Directive 2009/73/EC of the European Parliament (EU) and of the Council of 13 July 2009 repealed Directive 2003/55/EC (The Second Gas Directive) and laid down common rules for the transmission, distribution, supply, and storage of natural gas. The main goals are to provide market access and enable fair and non-discriminatory competition.

The Third Energy Package aims to integrate the European Union's Internal Energy Market (IEM) and includes five areas: unbundling; enhancing regulator independence; creation of the Agency for Energy Regulators Cooperation (ACER); improving cross-border cooperation between transmission system operators; and increase transparency, openness, fairness of retail markets.[44]

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[42] Eurostat. (2021, April). *Natural gas price statistics.* https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Natural_gas_price_statistics#Natural_gas_prices_for_household_consumers

[43] Rogers, H., et al. (2014, December). *The Dynamics of a Liberalised European Gas Market: Key determinants of hub prices, and roles and risks of major players.* The Oxford Institute for Energy Studies. p.53. https://ora.ox.ac.uk/objects/uuid:66b7bc5e-209f-433e-92fc-33efd1b6117c/download_file?file_format=pdf&safe_filename=NG-94.pdf&type_of_work=Working+paper

[44] European Commission. (2021, Mar 5). *Third energy package.* https://ec.europa.eu/energy/topics/markets-and-consumers/market-legislation/third-energy-package_en

2.3 Unbundling

The separation of energy supply and generation from transmission network operations is known as unbundling. If one company runs a transmission network while also generating or selling energy, it may hinder competitors from accessing infrastructure at fair terms. This inhibits fair market competition and may result in higher costs for consumers. Unbundling's main aim is to avoid "network operators from favouring their own energy production and supply companies."[45]

Unbundling, can be applied in three different ways, depending on individual EU countries' preferences:

1) *Ownership unbundling*: The gas and electricity networks of all integrated energy firms are sold off. In this situation, no supply or production firm may own a majority stake or affect a transmission system operator's activity.
2) *Independent system operator-ISO*: Although energy supplier firms may still officially control gas or electricity transmission networks, they must delegate all grid operations, maintenance, and investment to a separate entity.
3) *Independent transmission system operator-ITO*: Energy supply firms are still allowed to own and operate gas and electricity networks, but only through a subsidiary. All major decisions must be made without regard to the parent company.[46]

The European Commission issued guidelines that describe how to use these unbundling methods.

Operators who follow the unbundling requirements can apply to their national energy regulator for accreditation. All operators in Europe are required to be certified by the

[45] European Commission. (2011, Mar 2). *Questions and Answers on the third legislative package for an internal EU gas and electricity market.* https://ec.europa.eu/commission/presscorner/detail/en/MEMO_11_125

[46] European Commission. (2021, Mar 5). *Third energy package.* https://ec.europa.eu/energy/topics/markets-and-consumers/market-legislation/third-energy-package_en

Commission, which offers its judgment on the certification process. The Commission publishes and updates these opinions regularly.[47]

2.4 *Independent Regulators and ACER*

Independent Regulators

Without independent regulators, who verify that the rules are followed, a competitive internal energy market cannot exist. A number of adjustments have been made to the requirements for national regulators, including:

- The independence of regulators from government and industry interests. Regulators must represent a separate legal body with control over their own budget. National governments shall provide them adequate funding to perform their missions.
- Regulators have the power to make legally binding judgments and impose fines on companies who fail to meet their legal duties.
- Electricity generators, gas network operators, and energy suppliers are expected to deliver precise data to regulators.
- To foster competition, market openness, and an efficient and secure energy network infrastructure, regulators from different EU nations are required to work together.[48]

Agency for the Cooperation of Energy Regulators (ACER)

Over the years, it has become obvious that national energy regulators alone, as well as the previous advisory body – the European Regulator Group for Electricity and Gas (ERGEG), were unable to deal with the regulatory tasks at the EU level. For this reason, the Agency for the Cooperation of Energy Regulators (ACER) was created in order to guarantee the proper functioning of the internal energy market, to ensure constructive decision-making on cross-border matters, and collaboration between national regulatory

[47] Ibid.
[48] Ibid.

authorities. Such new body is autonomous from "the Commission, national governments, and energy companies."[49]

ACER's Tasks

- Developing framework rules for cross-border gas pipelines and power network operations. Pipeline and power network providers will therefore create concrete restrictions based on these framework rules.
- Examining how EU-wide network development plans are being implemented.
- Decision on cross-border issues if national authorities are unable to reach an agreement or if they request ACER intervention.
- Checking the internal market's operation, such as retail pricing, network entry for renewable power, and the protection of consumer rights. [50]

2.5 Cross-border Collaboration

National transmission system operators have the task of ensuring that electricity and natural gas are transmitted efficiently through pipelines and grids.

Because of the cross-border character of Europe's energy market, national operators must collaborate to guarantee that EU networks are managed optimally. The European Network for Transmission System Operators for Electricity (ENTSO-E) and the European Network for Transmission System Operators for Gas (ENTSO-G) are responsible for this (ENTSOG).

To adjust the flow of energy and gas across diverse transmission networks, these organisations create criteria and write network codes. They coordinate network investment plans and keep an eye on the development of new transmission capacities.

[49] European Commission. (2011, Mar 2). *Questions and Answers on the third legislative package for an internal EU gas and electricity market*. https://ec.europa.eu/commission/presscorner/detail/en/MEMO_11_125
[50] Ibid.

This also involves releasing 10-year investment plans for electricity and gas across Europe to aid in the identification of investment gaps.[51]

2.6 Transparent, Open and Fair Retail Markets

The third package also covers the improvement of the protection of European energy consumers' rights. This means the possibility to choose or change suppliers without extra charges, the right to access energy consumption information, and fast and affordable dispute settlement.[52]

In terms of consumer protection, according to the Third Energy Package, the EU Member States are required to establish the notion of vulnerable customers at the national level, implement measures to safeguard such consumers, and to tackle energy poverty.[53]

2.7 Further Requirements

According to the Third Gas Directive's minimum criteria, "the building, ownership, operation, and interconnection of natural gas transportation pipelines and storage" are all authorized at the national level. The Third Gas Directive, in addition to the unbundling provisions, mandates that transmission systems and storage operators act in a safe, efficient, transparent, and nondiscriminatory way. It further stipulates that permission refusals must be justified and should be appealable to an independent judicial authority. In addition, before being recognised and identified as TSOs, undertakings must be verified. The transfer of property rights to build a natural gas transportation and storage

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[51] European Commission. (2021, Mar 5). *Third energy package.* https://ec.europa.eu/energy/topics/markets-and-consumers/market-legislation/third-energy-package_en

[52] Glowacki, M. (2021, Apr 21). *Energy Package.* https://www.emissions-euets.com/third-energy-package

[53] Ibid.

facility, as well as natural gas distribution network infrastructure, is governed solely by national legislation.[54]

Furthermore, Regulation 2017/1938,[55] which guarantees the security of natural gas supplies, requires member states to ensure minimum requirements so that transportation pipelines and storage facilities (as well as other gas infrastructure) can meet total gas demand during peak periods, prevent possible supply interruptions, and to make sure that households and other fragile consumers are always furnished.[56]

2.8 Access to Natural Gas Transportation and Storage Infrastructure

Third-party access to transmission (and distribution) networks and third-party access to storage facilities are regulated differently under the Third Gas Directive. All qualified customers must be allowed third-party access to transmission and distribution systems based on objective and non-discriminatory criteria, and authorized prices. Furthermore, the Gas Regulation establishes minimum standards to allow shippers effective access to different transmission networks. Tariffs for access, for example, must be transparent, represent actual costs, and be approved by national authorities. Capacity allocation at key interconnection points is regulated by a network code, as well as provisions for cross-border (bundled) capacity products.[57]

Moreover, ACER's non-binding framework recommendations provide a basic set of guidelines for "capacity allocation at interconnection points," natural gas balancing, and

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[54] Filippitsch, C. (2020, Mar 10). *At a glance: Natural gas pipeline transportation and storage in European Union.* Lexology. https://www.lexology.com/library/detail.aspx?g=37f9795e-d671-454f-ad8e-35600f04a8dd

[55] Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010

[56] Eur-Lex. (2018, Aug 30). *Gas supply security in the EU.* https://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32017R1938

[57] Eur-Lex. (2011, Mar 16). *Commission Regulation (EU) 2017/459.* https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017R0459

European gas network connectivity and data sharing. [58] Accessibility to storage facilities can be denied under Article 35 of the Gas Directive for the same reasons as access to the network system, namely "a lack of capacity, public service obligations (PSOs)," and take-or-pay issues.[59]

[58] Filippitsch, C. (2020, Mar 10). *At a glance: Natural gas pipeline transportation and storage in European Union.* Lexology. https://www.lexology.com/library/detail.aspx?g=37f9795e-d671-454f-ad8e-35600f04a8dd

[59] European Commission. (2010, Jan 22). *Interpretative Note on Directive 2009/73/EC Concerning Common Rules for the Internal Market in Natural Gas.* https://ec.europa.eu/energy/sites/default/files/documents/2010_01_21_third-party_access_to_storage_facilities.pdf

Chapter 3 – Italian Legal Framework

The focus now shifts to the Italian experience using the same two-step method as the first chapter. Beginning with an overview of the Italian gas market and then moving on to the examination of the Italian liberalisation plans for gas, which have frequently chosen measures that are more advanced than the European Directives' norms and show several novel and innovative methods, including an analysis of the strengths and relevant weaknesses of the Italian legal framework.

3.1 Italian Gas Market

Gas is an essential energy source for Italy. Indeed, in terms of primary sources, natural gas highly contributes to meeting current national demand, thanks to the important contribution of the residential, tertiary, and industrial sectors. Moreover, in the last decade, its contribution to thermoelectric production has also increasingly assumed a dominant role compared to other fossil sources, following the increase in the size of the gas-fired combined cycle power plant. In the mix of primary consumption and the electric generation, natural gas is the main source of energy. In the final consumption mix, gas represents the second primary energy source after oil. Moreover, Italy is Europe's second largest gas importer behind Germany and accounts for 17% of EU gas imports. In fact, Italian dependence on gas, both from EU and non-EU countries, [60] increased from 81.1% (in 2000) to 92.9% (in 2018).[61]

[60] More than 90% of the gas comes from non-Italian sources, especially from Russia, but also from Algeria, Libya, Norway and the Netherlands
Europa Today. (2017). *Gas, ecco perché l'Italia dipende dalla Russia. E perché le rinnovabili non bastano (per ora).* Translated form Italian. https://europa.today.it/euro-fake-fact/gas-ecco-perche-l-italia-dipende-dalla-russia-e-perche-le-rinnovabili-non-bastano-per-ora.html).

[61] SNAM. (2020, Oct 20). *I Vantaggi Del Gas Naturale.* Translated from Italian. https://www.snam.it/it/transizione_energetica/il_contesto/vantaggi_gas_naturale/ ;
iCom. (2021, Jan 8). *Una transizione a mezzo gas. Scenari di approvvigionamento, trasporto e distribuzione di gas naturale e idrogeno in Europa e Italia.* Policy Brief. Translated from Italian. https://www.i-com.it/2021/01/08/una-transizione-a-mezzo-gas-scenari-di-approvvigionamento-trasporto-e-distribuzione-di-gas-naturale-e-idrogeno-in-europa-e-italia-2/

In 2019, the highest gas consumption may be attributed, first to the rise in gas demand in the termoelectric sector (+2,4 Gm3; +10,1%), where gas generation has partially replaced carbon generation, thanks to favourable gas prices which favoured the economic "switching". In fact, the year 2019 has been marked by very low gas prices, with a reduction of 37% compared to 2018.[62]

More recently, natural gas consumption in Italy has increased by 15% compared to the low level recorded in May 2020, the last month of lockdown. In the double digits, consumption growth in the civil and industrial sectors was more moderate, while that of the thermoelectric sector was more moderate (+5%); imports rose on an annual basis (+16%), only via gas pipeline to Mazara and Tarvisio, also in the face of injections in significant recovery (+9%). Also, gas markets managed by Gestore dei mercati energetici (GME) [63] saw a rise of the volumes traded. Growth concentrated in the day-ahead and MGS markets, in correspondence with widespread price increases.[64]

Furthermore, according to a 2018 report by the Eurogas Association, which brings together gas producers, consumption will continue to rise: from 438 million cubic meters in 2005 to 535 million cubic meters in 2015, and then to 578 million cubic meters in 2020 and 625 cubic meters in 2030, when gas is expected to account for 30.7% of Europe's primary energy.[65] The domestic market is therefore characterised by a constantly growing role for gas.

Furthermore, the position of Italy in the natural gas market and its network extension makes it a latent Mediterranean energy hub. Indeed, the completion of infrastructure projects would make Italy an increasingly emerging country, no longer only of consumption, but also in the transit of natural gas. This could lead to a more competitive

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[62] MDSE. (2020, Jun). *La Situazione Engergetica nazionale Nel 2019.* https://dgsaie.mise.gov.it/pub/sen/relazioni/relazione_annuale_situazione_energetica_nazionale_dati_2019.pdf

[63] A company based in Italy that is responsible for the organisation and management of the energy market, ensuring adequate energy availability and constant price monitoring.

[64] GME. (2021). *The trends of the gas market in Italy*, n.149, pg. 12. https://www.mercatoelettrico.org/Newsletter/20210615Newsletter.pdf

[65] Eurogas. (n.d.). *Long Term Outlook for Gas Demand and Supply.* https://eurogas.org/uploads/media/Statistics_Eurogas_long_term_outlook_to_2030_-_16.11.07_01.pdf

gas price, giving a great economic benefit to the user/consumer. And as has already been mentioned, it will play a fundamental role in achieving sustainability and efficiency objectives.[66]

In accordance with this premise, given the evolution of national gas production and the sharp increase in demand there are different critical elements that need to be considered in relation to the ability of infrastructures to import natural gas. Indeed, the infrastructure capacity of gas in Italy can create serious risk for the security and, above all, the flexibility of the gas market in Italy.

This situation was critical between 2015 and 2020, when the lack of new gas reception infrastructure in Italy and the fall in national production put at risk the coverage of a rapidly growing demand for gas. [67] For this reason, according to Davide Tabarelli, president of Nomisma Energia, new infrastructure for imports are needed in Italy "to differentiate the gas-supplying countries and put them in competition with each other, resulting in lower and more stable prices, avoiding unpredictable price fluctuations." [68]

Until today there have been many various initiatives, on paper, aimed at increasing the capacity to import gas into Italy. For example, given that Italy could become Europe's gas hub, different projects have been proposed, such as the Galsi, which runs from Algeria to Sardegna, and the Poseidon, which runs from Greece to Italy in exchange for supplies from the Black Sea or Cyprus. However, only a few were considered feasible, while many other projects are not yet defined, of which the relative feasibility in terms of implementation and the related "time out" were not yet performed. In addition to the initiatives undertaken, many of which, as mentioned, difficult to achieve, it was necessary to make choices based on assessments of economic convenience and industrial policy.

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[66] Ibid.

[67] Curcio, E. (n.d.), *Il mercato del gas naturale al 2020: Una analisi dell'Associazione Italiana Economisti dell'Energia*. Ambiente Diritto. Translated from Italian. https://www.ambientediritto.it/dottrina/Politiche%20energetiche%20ambientali/politiche%20e.a/mercato_gas_curcio.htm

[68] Codegoni, A. (2018, Jan 22). Ci servono veramente più gas e infrastrutture per l'import? Una diatriba europea. QualEnergia. https://www.qualenergia.it/articoli/20180122-ci-servono-veramente-piu-gas-e-infrastrutture-per-import-diatriba-europea/

According to Tabarelli, "the wisest choice" for Italy would be to necessitate the development of new gas terminals that would allow the importation by sea from different countries. Indeed, the lack of gas terminals is particularly acute in Italy, which is Europe's second largest gas consumer. There is only one large capacity gas terminal, that of Rovigo, which in order to meet environmentalist demands has been placed in Adriatic's open sea, tripling the costs.[69]

Moreover, in 2010, some individuals believed that given the increase of gas demand, the decade leading up to 2020 would undoubtedly be characterised by intense commercial activity in order to be able to secure transport capacity on the infrastructure and related import contract volumes. At that stage, it was believed there would have been real competition between operators, provided that the import barriers were removed. It is, however, essential to look at the gas market increasingly from a European level, rather than just a national perspective. In fact, in a context in which all or even many of the gas reception infrastructures (pipelines and LNG terminals) planned in Italy were built, the capacity could be much higher than the internal needs.

In this case it would be useful, indeed appropriate, to evaluate the possibilities that can arise from the dynamics of demand-supply of gas at a European level, offering space to transform Italy from a net importer of gas to a transit country, and therefore a re-export of gas to Continental Europe, where a supply deficit is expected. There are, in fact, excellent possibilities for a country which become a "hub" and therefore a gas transit area, which coming from the South and the East (that is, from North Africa and the Balkans) could be resold to the gasmen of Continental Europe. Another alternative for operators would be to carry out swap contracts,[70] which would make the whole European system cheaper by leaving as much gas as possible closer to the areas of consumption. In this case, it may be possible for the North Sea production to go to the countries of north-

[69] Ibid.

[70] Swap contracts: "a contractual agreement whereby a floating (or market) price is exchanged for a fixed price or a fixed price is exchanged for a floating price, over a specified period(s) of time. Swaps are called such because the transaction involves buyers and sellers "swapping" cash flows."
Mercatus. (n.d.). *An Introduction to End-User Natural Gas Hedging.* https://www.mercatusenergy.com/blog/bid/105249/an-introduction-to-consumer-natural-gas-hedging-part-ii-swaps

central Europe and the export from North Africa and the Middle East go to the countries of Central Europe and the Mediterranean. Of course, back-up contracts are needed in the event of a supply interruption and long-term contracts between operators.

On these topics, however, there are studies in progress and the same Authority for electricity and gas (AEEG) and the Ministry of Production Activities make no secret that the solution of using Italy as a gas sorting center exceeding our needs to other continental markets, would represent a great opportunity. In this perspective, there is a possibility that a part of the gas infrastructures that will be built in Italy, can maintain a high level of use, by virtue of the fact that a part of their capacity could be destined for the European market.[71]

In conclusion, it seems necessary to achieve a robust increase in import capacity to guarantee the country security and flexibility of the gas system, which has a fundamental role in the civil and industrial sector. Therefore, to improve the safety of natural gas supply, it is necessary to invest in new transportation infrastructure as well as promote the construction of production sites in exporting countries. Moreover, it is essential to find effective solutions for advancing infrastructure development in the future. In assessing the infrastructural adequacy of the gas sector, it cannot be forgotten that if on the one hand it is not possible to plan such important and expensive infrastructures as pipelines and gas terminals in a short-term perspective and therefore in relation to a safe forecast of annual growth of the gas transported, on the other hand it is always possible to use margins of infrastructural capacity of the Italian gas system for export to other European countries bordering Italy. The natural gas market must, in fact, be seen more and more in a European rather than a national key, as indicated by the EU's policies and by the requirements related to the opening up and liberalisation of energy markets.[72]

[71] Curcio, E. (n.d.), *Il mercato del gas naturale al 2020: Una analisi dell'Associazione Italiana Economisti dell'Energia*. Ambiente Diritto. Translated from Italian. https://www.ambientediritto.it/dottrina/Politiche%20energetiche%20ambientali/politiche%20e.a/mercato_gas_curcio.htm

[72] Ibid.

3.2 The Liberalisation Process in Italy

The liberalisation process of the natural gas industry in Italy was a process that has seen the passage from a system based on the presence of the State to one based on private initiative and a diverse range of market players. The Italian legislator has always taken all the necessary measures to improve the transposition of EU Directives in order to promote a fair competition. In fact, it has always tried to ensure the free exercise of competition in both the up-stream and down-stream stages of the gas supply chain. Today, more than twenty years after the introduction of natural gas market reforms, it is still necessary to explain why the achievement of liberalisation is so important. Additionally, we need to understand whether the liberalisation process can be considered complete, what is the relationship between the state and the market, in what measure the expected results were pursued, and what were the economic and social consequences.

The Italian liberalisation of the natural gas industry began with the adoption of the Community Directive 98/30/CE [73] and Legislative Directive 144/1999 [74] (enabling act) which were followed by D.Lgs n. 164/2000 [75] (also known as Decreto Letta). The latter has incorporated a liberalisation principle that, unlike public service commitments, applies to the different aspects of the gas industry in a differentiated and distinct direction: sales activities are subordinate to approval, storage activities are subject to concession, and distribution activities are entrusted solely through a competitive process. Therefore, there was a transition from a vertically integrated and completely concentrated market in the hands of Eni's state-owned monopoly to a market open to competition. In this case, the Italian legislation did more than just transpose the minimum EU requirements in the area of unbundling, which were limited to requiring the accounting separation of the gas supply chain's activities. Indeed, such a separation was unable to handle all of the issues

[73] Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 concerning common rules for the internal market in natural gas

[74] Directive 2005/33/EC of the European Parliament and of the Council of 6 July 2005 amending Directive 1999/32/EC

[75] Attuazione della direttiva n. 98/30/CE recante norme comuni per il mercato interno del gas naturale, a norma dell'articolo 41 della legge 17 maggio 1999, n. 144.

associated with vertical integration in some of the industry's companies.[76] In the next section, different stages of the gas supply chain in Italy and subsequent regulatory measures, will be described.

3.3 Phases of the Gas Supply Chain in Italy

The production of gas which is regulated through public concession is a free activity, and the main operator is Eni Spa (90% of total production). [77] The importation deals with the emission of produced gas coming from abroad. Within the Italian supply chain, there are 25 active operator-importers from European countries and 15 from non-European countries. Only 10% of domestic demand is produced in Italy, while the remaining 90% is imported from the rest of the world (such as Libya, Algeria, Russia, North Africa, etc.) via pipeline or via ship (LNG). Importation is also considered a free activity and Eni, the main importer, imports 47.1% of the total gas imported into the Italian network. Edison, on the other hand, imports around 21.3%. [78] Gas imports founded on contracts of a duration longer than one year also require authorisation and may be subject to public service requirements.

Since "technical and environmental issues," as well the high costs of natural gas pipelines, do not allow the duplication of activities carried by network infrastructure, Italian lawmakers have created a special legislation for gas transportation and distribution activities and, through this direction, have tried to achieve two objectives. First is to make it possible to carry out the liberalised activities and, second, to ensure effective competition in the respective markets.

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[76] Fantini M.G. (2017, Jul 7). *La liberalizzazione del mercato dell'energia elettrica e del gas naturale: il caso italiano nel panorama europeo.* Translated from Italian. p.61. https://iris.uniroma1.it/retrieve/handle/11573/1131610/731800/Giachetti%20Fantini_Liberalizzazione_2017.pdf ;

[77] Utilità.. (n.d.). *La struttura del mercato.* http://utilita.com/gas/mercato/mercato-gas.html

[78] ARERA. (2020, Oct). *Primi venti importatori in italia nel 2019.* https://www.arera.it/it/dati/gm51.htm ; LuceGas. (2021, Dec 7). *Filiera del gas naturale: Dalla produzione al contatore.* https://luce-gas.it/guida/mercato/filiera-gas

Natural Gas Transport

Natural gas transport (natural gas hosting via a network of national and regional gas pipelines) and dispatch (direct to provide directions on how to use and coordinate exercise of planting system, storage facilities, transportation and distribution networks, and additional services)[79] are supremely important activities, since they are instrumental to the supply of gas to final customers. Indeed, in compliance with article 8, comma 1, of the Law Decree n. 164/ 200, it considered an "activity of public interest" and it is subject to public service obligations derived from EU and national law.[80]

In Italy, the use of a natural gas transportation network is entrusted in concession to Snam Rete Gas,[81] which possesses 94% of the transmission network and manages the points of connection with the border countries. Snam's monopoly is the result of different factors, both "technical and environmental," as well as high costs of natural gas pipelines, thus preventing duplication and competition in the market. Therefore, in a market, a company that employs a section of the transportation network to conduct transportation operations has monopolistic power. It is, in fact, the only one capable of offering transportation services along that particular stretch of network.

Regarding the activity of natural gas storage, it is granted in concession by the Administration to those who demonstrate that they have the necessary technical, economic, and organisational capabilities and that they can carry out a stocking program in the public interest.

The Distribution of Natural Gas

The distribution of natural gas is a public service activity managed by 700 distributors, with concessions granted in a public auction and regulated by a service contract.

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[79] Piron, F. (2014). *Gas. Disciplina pubblicistica.* Diritto on line. https://www.treccani.it/enciclopedia/gas-disciplina-pubblicistica_(Diritto-on-line)/

[80] Gazzetta Ufficiale. (2019, Apr 16). *Decreto 2.* https://www.gazzettaufficiale.it/eli/id/2019/04/16/19A02464/sg

[81] Snam Rete Gas: an energy infrastructure company operating in the transportation, storage, and regasification of natural gas. It is one of Italy's biggest publicly traded firms, by market capitalisation. https://www.snam.it/en/about-us/

Local gas distribution is defined by Directive 30/98/UE as the activity of "transporting natural gas through local or regional gas distribution networks for delivery to customers." The Letta Decree issued in response to this directive, has resulted in the selection of a public tender. Indeed, despite the fact that duplicating infrastructure is not economically viable, local distribution is treated as a "natural monopoly" and therefore the impossibility of ex post competition (on the market) is compensated by the introduction of ex ante competition forms. Indeed, article 14 stipulates that the public gas distribution service must take place exclusively through public tender for periods of not more than twelve years.

Moreover, in Italy, the separation between the act of sourcing and the act of distribution is a central element in the Letta Decree. In the Letta Decree, the distributor offers its services to local distributors in order for them to sell the products to the final consumers.

The Evolution of Natural Gas Distribution Regulation After the Letta Decree

In the aftermath of the Letta Decree, the legislation adopted several Ministerial Decrees in order to promote a more effective regulation of the gas market. With the Law Decree 1 October 2007, no. 159,[82]it has entrusted, to the Ministers of Economic Development and Regional Relations, the task of issuing a decree defining the minimum territorial areas for the conduct of tenders for the assignment of the gas distribution service and a decree that identifies the criteria for tendering and evaluation of tenders.

Various decrees have been issued on tenders for the distribution of natural gas: the "Areas Decree" (Ministerial Decree of 19 January 2011), structured to obtain a reorganisation of the concessions from which a significant reduction in the number of active operators will result; the "Protection Decree" (Ministerial Decree of 21 April 2011), issued by the Ministry of Economic Development and the Ministry of Labour and Social Policies, which concerns the safeguarding of employment in gas distribution companies; the "Decree of Municipalities" (Ministerial Decree of 18 October 2011), which defines the territorial boundaries of the 177 areas for the conduct of tenders for the assignment of the

[82] Decreto-legge del 01/10/2007 n. 159 - Interventi urgenti in materia economico-finanziaria, per lo sviluppo e l'equita' sociale.

gas distribution service; the "Criteria Regulation" (Ministerial Decree 12 November 2011, n. 226), which completes the rules relating to the announcement of tenders for the gas distribution area, governed according to criteria established by law and homogeneous (suitable for regulating the calculation of the redemption value, the charges for the successful tenderer, the award criteria, the service contract, etc.); and its "Corrective Regulation" (Ministerial Decree 20 May 2015, n. 106), introduces changes to the previous Ministerial Decree no. 226/2011 to make it congruent with the legislative innovations that have occurred after its enactment and with the regulation of the period 2014-2019, and defines the operating methods to be followed for compliance with the tender criterion relating to energy efficiency interventions in the field.

The standard service contract scheme relating to the natural gas distribution activity was approved by decree of the Ministry of Economic Development of 5 February 2013, as further amended.

In the aftermath of the issuance of the ministerial decrees, a stalemate had been created that delayed the start of the tenders.[83]

The Competition Act (Law no. 122/2017, art. 1, paragraphs 93-97) finally introduced simplifications of the procedures for evaluating the repayment values that the incoming operator must correspond to the outgoing and of the calls for tenders. In implementation of these provisions, with a 2017 Resolution, ARERA approved the Integrated Text of the Authority's provisions on the determination and verification of the reimbursement value of natural gas distribution networks for the purposes of field tenders; the Integrated Text of the Authority's provisions on calls for tenders for the natural gas distribution service for the purpose of scope tenders.

Finally, it should be noted that, following the new regulations contained in the Procurement Code (Legislative Decree no. 50/2016), as supplemented by the subsequent

[83] *La distribuzione del gas e le gare d'ambito: gli interventi nella XVII legislatura,* in Camera.it, https://temi.camera.it/leg17/post/la_distribuzione_del_gas_e_le_gare_d_ambito__gli_interventi_nella_xvii_legislatura.html?tema=temi/mercati_energetici

corrective measure (Legislative Decree no. 56 of 19 April 2017), the minister for the Economic Development published on 23 March 2017 a circular on the applicability of the aforementioned code to tenders for the assignment of the gas distribution service. Article 92 of Legislative Decree corrective to the new Code of Public Contracts has in fact been without prejudice to the application, to tenders for the assignment of the gas distribution service, of Legislative Decree no. 164/2000, as well as article 46-bis, paragraphs 1-3 of Legislative Decree no. 159/2007 because, and to the extent that, these rules are compatible with the new code of contracts, and specifically with Part III of the code relating to concessions.

In a systematic reading of the rule, the ministerial circular states, it is therefore without prejudice to the current regulatory framework for field tenders, in particular the territorial areas as already outlined, the tendering schemes, the type of disciplinary and the service contract, adopted by the Ministry in implementation of the aforementioned legislation. [84]

The Natural Gas Sale Activity

The sale of natural gas is governed by Articles 17 and 18 of the Legislative Decree 164/2000, as well as the Ministerial Decree 29 of December 2011.

At both the wholesale and retail levels, gas supply is completely liberalised. Domestic customers and small companies, on the other hand, are still entitled to a "safeguarded service" under affordable prices set by the Authority for Electricity Gas and Water (AEEGSI).

The sale is, today, available only to those able to have access to storage systems. Through these activities, tariffs have undergone a change justified by the division between the shares of the cost borne by the supplier and for the services offered by the distributors. However, these prices are regulated by the presence of the Authority, which is charged

[84] Ibid.

with ensuring the correct performance of the market and free and regular competition between the entities.[85]

In the period prior to the implementation of Directive 98/30/EC, and within the companies which carried out both the distribution and the sales to final customers in an integrated form, each of these undertakings had a local monopolist in the approximately 5,700 municipal areas with a natural gas distribution network, with a number of users connected to the networks ranging between a minimum of 200 and a maximum of one million. The result of this extremely jagged structure has been a retail system characterised by an absolute majority presence of municipal-based companies. There were just over 300 direct municipal managements, about 300 private companies (of which very few were national in size), and about 150 public and joint-stock companies with a local public majority.

Between the end of 2000 to 2003, a process of seeking agreements, alliances, aggregations and acquisitions was triggered, which involved, in particular, a large number of former municipalized. There has therefore been an intense process of industrial concentration in the downstream phase of the sale of natural gas which has resulted in the progressive reduction of the number of operators present in the gas sales market.

3.4 Italian Gas Market, a Regulated Market

The Italian natural gas market is almost fully liberalised. However, it bound by rigorous regulations and public service obligations. The regulation closely resembles legislation passed by EU institutions with the goal of promoting the establishment of a unified energy market for gas, as well as guaranteeing supply security across the EU. The institutional system, which regulates the natural gas sector, is characterised by the cooperation of the Italian Regulatory Authority for Electricity and Gas (AEEG) and the Minister of

[85] (2020, May 5). *Decreto Letta: La Liberalizzazione del Mercato del Gas.* https://fornitori-luce.it/filiera/guida/mercato/decreto-letta

Economic Development - Directorate-General for Energy and Mineral Resources (DGERM).

Additionally, the AEEG is an impartial agency that regulates, manages, and supervises the electricity and gas markets in Italy. It is constituted under Law No. 481/1995 to safeguard the interests of customers, promote competition, and ensure the quality, efficiency, and cost-effectiveness of energy services. It is managed by a committee of five members who are chosen to serve for seven years. On one hand, the AEEG is responsible for defining the economic and technical conditions for access to infrastructure, as well as creating unbundling regulations. On the other hand, it establishes the qualitative and quantitative objectives for the execution of supply activities, by determining prices for gas supply, as well as identifying cases in which the network's administrator is obliged to compensate users for the dysfunction of the service. Moreover, the AEEG has been tasked with developing a transparent tariff structure that balances the commercial interests of operators with broader social goals. It gives guidance to the government and Parliament on issues in the regulated gas sector, as well as makes observations and suggestions. In addition, the AEEG plays an essential role in promoting environmental protection and energy efficiency.[86]

The concept of the independence of the authorities must be carefully qualified. It must be emphasised that "independent" means independent of the interests of industry, and not necessarily independent of the executive power, which in many countries maintains, and is expected to maintain, direct control of the sector. The presence of several situations, including the Italian one, where the State maintains control of the main company makes the interpretation of the rule less obvious, although it is typically implicitly assumed that a public body is, "by definition," above the parties.
In contrast, the Minister is responsible for political functions, such as coordinating activities related to national and regional programming, as well as maintaining

[86] D'Ostuni, M. et al. (n.d.). *Chapter 19: Italy.* The Energy Regulation and Markets Review, 5th Edition. https://www.clearygottlieb.com/~/media/organize-archive/cgsh/files/italy-chapter-the-energy-regulation-and-markets-review-5th-edition.pdf

relationships with the EU and international organisations. [87] Moreover, the Minister establishes strategic goals and broad guidelines for the organisation and operation of gas markets (e.g., new capacity generation, gas efficiency measures, security of supply). They also establish gas efficiency certification systems and develop agreements with Italian regions with the goal of ensuring minimum quality standards for gas delivery throughout Italy.[88]

Application of vertical integration and disaggregation in Italy

After the liberalisation process and the implementation of unbundling obligations on vertically integrated energy operators began at the beginning of 2000, the monopolistic system of the Italian electricity and gas markets, which were controlled by ENEL and Eni respectively, began to change. For natural gas transportation, Legislative Decree No. 93/2011 gave the option of certifying gas transmission providers according to the ownership unbundling (OU), the independent transmission operator (ITO), or the independent system operator (ISO) model. Snam was initially recognised as an ITO since, at that time, it was part of a vertically integrated undertaking (VIU). After the implementation of the OU system, Snam was classified as OU. Distribution system operators (DSOs) that are part of a VIU must be organised as separate legal organisations with their own decision-making procedures. DSOs must also undertake functional and accounting unbundling in order to promote competition and provide impartiality in distribution facility management, preventing inequalities in the access to commercially sensitive information and cross-subsidisation among the various components of the gas or electricity supply chain. Moreover, DSOs that service a small number of clients (less than 100,000 supply points) are subject to less restrictive regulations.

Transmission, transportation and distribution access in the Italian Natural Gas Market

Gas transmission and distribution are completely regulated and subject to non-discriminatory third-party access (TPA) principle. When the system has adequate

[87] Giustiniani, G. (2012, Aug 8). *Il Mercato del Gas Naturale.* Translated from Italian. http://www.dirittodeiservizipubblici.it/articoli/articolo.asp?id=499

[88] D'Ostuni, M. et al. (n.d.). *Chapter 19: Italy.* The Energy Regulation and Markets Review, 5th Edition. https://www.clearygottlieb.com/~/media/organize-archive/cgsh/files/italy-chapter-the-energy-regulation-and-markets-review-5th-edition.pdf

capacity and the connection is economically and technically viable, gas transmission and distribution operators then give access to companies requesting it on equal terms and conditions. The National Regulatory Authority for Electricity and Gas (AEEGSI) may order the network operator to connect other operators in situations of unlawful rejection of connection. To guarantee the grid's effective and safe operation, network operators must also supply appropriate information.

Tariffs

The responsibility of setting transmission, dispatching, transport and distribution tariffs both for electricity and gas falls under the jurisdiction of the AEEGSI. Tariffs are based on predetermined criteria and must be transparent in order to safeguard competition and the interests of customers.

All tariffs produced by the AEEGSI are considered maximum tariffs and do not include taxes. They are also required to allow for a fair remuneration of the invested capital and full coverage of system costs (operational costs). As there are many potential conflicting interests (e.g. network viability, promoting investments, general social and environmental protection objectives, as well as efficient use of energy sources, customers and, ultimately, consumers' interest not to pay excessively burdensome prices), the tariffs created must balance. There is also a specific process the AEEGSI uses to determine the time frame of each tariff (usually revised every four years). TSOs and DSOs must submit the tariffs determined on the basis of the above-mentioned methodology for the AEEGSI's prior approval.

There is a list of objectives and variables taken into consideration when determining the cost of tariffs. It is based on a price-cap mechanism, applicable to operation costs, as well as the following: remuneration of inputs (e.g., return on investments, computed on the weighted average cost of capital); incentives linked to efficiency and investments; and performance objectives. The AEEGSI Resolution No. 654/2015/R/eel also introduced a 50 per cent profit sharing mechanism, which applies to foster efficiencies. In addition, tariffs are charged based on an entry-exit mechanism and operational costs are allocated only to the capacity component. However, the tariff structure for the transmission of

natural gas is likely to change when the Network Codes on Harmonised Transmission Tariff Structures for Gas are adopted by the European Commission.[89]

Gas Sale Contracts

The purchase and sale of electricity and gas may occur "over the counter" at the wholesale level. This happens by means of bilateral non-standard contracts concluded outside organised markets. Parties may also enter into spot bilateral contracts through the virtual trading point, which is managed by Snam, when purchasing and selling natural gas. These wholesale bilateral contracts are not subject to restrictions, apart from compliance with technical requirements stated in the regulations issued by GME.

At the retail level, final customers are free to enter into individual contracts when obtaining a supply of natural gas and power with energy traders. While traders are subject to transparency and information obligations, they have the power to define the rates and the contractual terms. It should be noted that household customers and small businesses who have not entered into any contract on the free market are still granted the safeguarded service.

In the gas sector, a gas tariff is set by the AEEGSI for households and small business customers. Customers can choose to remain with the safeguarded service and pay this pre-set tariff, or they may purchase natural gas in the free market.

3.5 The Liberalisation Process in Italy, a critical overview

The legislators ruled that the transition of consumers to the free market was not drastic, but accompanied by the State. This is because, for many, especially the elderly, moving from the old Enel to a system where dozens of companies act in competition, with complex offers and contracts to understand, can represent a difficulty, and be an easy hunting ground for companies that have no qualms with dishonesty.

[89] Ibid.

This is the reason why the Service of Greater Protection, or protected market, was born. Unlike in the free market, prices are established by the State, through the ARERA (Regulatory Authority for Energy and Environment Networks), which updates them on a quarterly basis depending on the change in the cost of raw materials. Contracts are simple and cannot include services other than supply.[90]

The liberalisation of the Italian gas market represents one of the most advanced experiences of market opening in a country structurally dependent on imports. The liberalisation experiences successfully completed in the UK, the USA, and Australia concerned countries with a large national natural gas production endowment and dependent on imports only for lower shares of consumption. This is a difference that has proved increasingly considerable as the market has opened up in Italy and has probably been overlooked in the design of a European market for natural gas that was to be built through the liberalisation of individual national markets. Dependence on imports proves to be a constraint to competition on the wholesale market for at least two reasons, one of a general nature and the other particularly emerging in Italy.[91]

Therefore, despite the formal liberalisation of the market, in reality gas trade is not coordinated by a price system, but by a system of hierarchical relations which does, however, risk being socially less efficient than that which characterised complete vertical integration into a single company. In fact, there can be no talk of real liberalisation until a gas market similar to the market for other commodities has been developed with a price dependent on the supply and demand of gas, capable of signalling the actual scarcity or abundance of raw material and, therefore, guaranteeing an optimal allocation of resources in this sector.

Although a virtual hub for network gas exchanges has also been created in Italy, a hub known as "Virtual Exchange Point" (VEP), the gas flows that pass through this point still represent a negligible part of the total gas exchanges that take place in Italy. Moreover, the VEP in its current form does not yet represent a centralised market, as there is no

[90] Arera. (n.d.). *Verso la fine del mercato tutelato.* https://www.arera.it/it/consumatori/finetutela.htm
[91] Confindustria.

Clearing House that functions as a counter-party to the exchanges and one that provides the determination of the price on an anonymous and multilateral basis, according to the quantities traded daily. Prices to the VEP are set separately in each bilateral transaction and remain reserved.

However, this possibility again meets a limit in the two obstacles already mentioned, which are the saturation of the market by long-term contracts and the saturation of import capacity in foreign pipeline. The first one, however, does not seem plausible. In fact, the overcoming of long-term contracts would be very difficult since many of these contracts involve non-European countries, such as Russia and Algeria.

To this point, the biggest challenge in the policy of liberalisation remains the improvement of infrastructures. This is based on the principle of separating structurally monopolistic activities (networks) and potentially competitive activities (sales) on the assumption that more and more entities are using the same network infrastructure to trade natural gas. In this respect, it can only seem contradictory that, in order to remedy the lack of capacity, investment is being incentivised by measures that are at odds with another principle of liberalisation - the so-called TPA (Third Party Access), or third-party access to essential infrastructures.

The companies that supply the energy are private, but they are not in competition with each other and act on a territorial basis. All supply contracts in the old monopolistic regime have automatically passed to the Service of Greater Protection since 2007. [92]

The transition to the free market for gas, after numerous postponements, has been further moved from 1 July 2020 to 1 January 2022, when “the greater protection for civil customers and micro-enterprises will end,” as stated by Alberto Chiarini, GM of Eni. Chiarini highlighted that a pre-liberalisation phase is now in place, in which there is a high rate of fragmentation, with 641 operators in gas (including 420 sellers). Liberalisation does not, however, mean fragmentation. Today's high number of operators

[92] The Service of Greater Protection will be further analysed.

is not necessarily an advantage for the consumer. [93] The establishment of a register of sellers could be a solution, as well as the launch of economic mechanisms that avoid "surprises," since the market in Italy already has high prices for taxation. Finally, there needs to be an increase in customer awareness. With a view to liberalisation, commercial margins will be reduced and the drivers for competition will be services, on which Eni has been working for some time, also with a view to sustainability.

As explained by the manager, the important steps in view of liberalisation would in fact be the establishment of a list of sellers, with the double opportunity that it would represent (for the consolidation of the market to protect the certainty of supply and to qualify the sales activity to protect end customers) a greater awareness of customers (to be increased with the launch of an institutional television information campaign on liberalisation and the end of protection) and the separation of the gas market from that of electricity.

Another issue addressed is the need for a greater professional qualification of door-to-door sales. "This type of sale today is not of high quality and the stop imposed by COVID has shown it," explained Chiarini. "Very often it is poorly qualified. Of course, we must not generalise but, in the evolution of the liberalised market, this type should be qualified more and not prohibited, as it happens in some countries."

Moreover, COVID-19 and the consequent lockdown have created greater awareness in the consumer for domestic users both of services related to digital communication and for the supply of electricity and gas. "COVID has changed something in the dynamics of consumer behaviour. We have seen greater digitalisation with the increase in the use of communication platforms during the lockdown. By staying many hours at the computer, mobile phone or iPad, the consumer has become more practical and has had more time to check and verify consumption and tariffs. There has been a greater awareness and we have found a growth in consumption in homes that has consequently increased the consumer's interest in opportunities to reduce costs. Digitisation once again plays a fundamental role today and we cannot ignore innovation and technology. For this reason, as Eni gas and electricity, we have started or participated in various initiatives that have

[93] Further comment on consumers protection will be examined *infra*.

allowed us to get in touch with start-ups that, if deemed of interest, have become part of our ecosystem and a particularly innovative start-up active in the sale of electricity and gas exclusively online."

Chiarini believes that liberalisation is a great opportunity. It means moving from an obsolete world, with issues such as the fragmentation of many entities, the lack of transparency, and the lack of awareness of the consumer to a new world in which there is greater awareness, greater digitalisation and a step forward in the process of energy transition. This would make tomorrow's world much more virtuous than yesterday's. In conclusion, this new asset would offer great opportunities for the consumers.[94]

3.6 Final Considerations - Successes and Failures of Gas Market Liberalization

Having considered the actual framework from a supply chain, legislative and local point of view, it is crucial to critically review the current gas market in the light of liberalisation.

In relation to the market, after twenty-one years from the initial implementation of Legislative Decree 164/00, Letta Decree, which gave way to the liberalisation of the natural gas market, the indices have shown encouraging statistics from various standpoints. For example, the number of subjects who have transferred capacity to the entries and those who have requested authorisation to import natural gas has increased, as well as the number of transactions within the networks.

Moreover, in recent years, the Italian energy industry has experienced major transformations, with the implementation of important liberalisation policies. The introduction of regulations to assure full impartiality of DSOs towards retail traders is one of the most beneficial achievements in Italy's energy market. Moreover, with regard to the transmissions system, the creation of regulated and (almost) completely

[94] Rosa, G., (19 June 2020) *Chiarini (Eni gas and light): "Liberalisation is a great opportunity"* https://www.affaritaliani.it/economia/chiarini-eni-gas-e-luce-la-liberalizzazione-e-una-grande-opportunita-679697.html

independent companies from the previous monopolist has allowed a substantial liberalisation of this sector.

Despite these positive signs, the liberalisation of the gas sector is still a profoundly incomplete process, due to the strong weight of dominant operators, which make the market scarcely liquid. Therefore, the need arises to find suitable solutions to give liquidity to the market as a mere renewal of the antitrust ceilings placed at the expense of the dominant operators does not seem sufficient for the system, since they have long since shown that they are not able to improve the competitiveness of the gas market.

The natural gas distribution and retail sector are the ones where liberalisation has been somewhat unsuccessful. Starting from February 2007, all clients (including private households) had the option to switch to the open market. According to Arera's data for 2019, 50% of gas users (both household and commercial) have not yet moved to the free market. The reasons for the liberalisation's partial failure are numerous. First of all, many customers are unaware of the opportunity to switch to a free market. Furthermore, many customers are uninterested in the free market, due to the polemics that arise even at the level of mass media, when in some period the price on the free market is sometimes higher than the Enhanced Protection Market. Moreover, there is an aggressive use of telemarketing, with frequent calls each month proposing a change of provider, which irritates and indisposes potential customers. Finally, there is the lack of an institutional-level public awareness campaign that can reach all families with a clear and objective message.[95]

It appears that the obligation imposed on the Member States by the Community directives, which is the responsibility to liberalise the natural gas markets to guarantee international service to residential consumers, has been disregarded. National and Community entities has responded to this commitment with much indifference, sacrificing fairness with regard to the requirements of efficiency. In fact, many experts are recently discussing a

[95] Di Eugenio, F. (2017, Apr 29). *Storia dell'incompleta liberalizzazione del mercato elettrico italiano.* Formiche. Translated from Italian. https://formiche.net/2017/04/storia-dellincompleta-liberalizzazione-del-mercato-elettrico-italiano/

so-called “energy poverty” affecting consumers, produced by the lack of benefits in liberalisation of natural gas market.

Customer protection is therefore one of the most pressing issues when it comes to the liberalisation of the natural gas market. When the first phase of the process of reforming the gas market was implemented, there was an emphasis placed on the supply side of liberalisation. This means that the primary focus was on the promotion of competition and the regulation of legal monopolies. During the second phase, the focus was then shifted to the demand side, prompting a refinement in consumer protection techniques over time and introducing introducing empowerment instruments alongside traditional protection instruments. This aimed to give the final customer a sense of power, attempting to make them an active player in the market, and to rebalance demand with respect to supply in market dynamics. It also strived to inform and educate the consumer, in order to reduce the uneven distribution of market positioning between the operators and consumers.

The liberalisation of the natural gas market in Italy is looming on the horizon with the forthcoming adoption of annual law for the market and competition (although the latter has been indicated as the final step in the process of opening up the gas market), but it does not allow for a formulation of completely optimistic assessments with regard to consumer protection.

However, the discussion as to whether or not the enhanced protection plan should be abolished cannot be solely determined by the issue of possible “consumer laziness,” in which the consumer would have too many options and would not be able to properly choose the best option of gas supply.[96]

Indeed, in cases where the consumer is presented with a large number of alternatives, when it is very difficult for them to carry out an examination of those choices, or when the information is simply incomplete or inaccurate, their choice is not directed by a

[96] Giachetti Fantini, M. (2017, Jul 7). *La liberalizzazione del mercato dell’energia elettrica e del gas naturale: il caso italiano nel panorama europeo*, in Aperta Contrada, pp. 93 – 99.

process of optimisation, or the maximisation of utility (even in conditions of limited rationality), but by sub-optimal rules. The choice of provider for a greater protection of electric power is, in fact, a default choice, and thus sub-optimal. In addition, the conditions for switching to a free market without allowing gas retailers to make extra profits are burdensome for consumers, both in terms of opportunity costs (the time spent searching for the best contract) and direct costs (the average cost of a free market is currently higher than that of a protected market). Yet despite the constant reduction of wholesale gas prices, retail prices increase due to distortions and market failures.

However, it would be impossible to declare that consumers would reap benefits from both the abolition of the more protected service in the gas sector and the elimination of the single buyer, since the most important buyer would be also be removed from the demand side in an oligopolistic wholesale market, thus strengthening the exercise of market power and allowing sellers to more easily engage in opportunistic behaviour.

Despite the previously mentioned issues, the reform of the natural gas industry in Italy must not be denied, nor must any institutional and regulatory provisions that can be categorised as generally positive or "sufficiently efficient" be hastily canceled.

The preservation of users' rights in the energy sector falls upon the Authority for Electricity, Gas and Water, which is responsible for ensuring a competitive market is functioning correctly and is free from the abuse of the business system that is detrimental to consumers, and requires perceptive action on their end. This responsibility places the Authority in a vital role for guaranteeing the effectiveness of the liberalisation of energy markets. In doing so, they are ensuring that the full opening up to the energy market for both companies and end customers is not only formally declared, but also implemented to the appropriate standards. In this sense, the sector regulator makes a fundamental contribution to building on the strengths of the process of liberalisation of the energy sector, preserving the competitiveness of the market and the protection of the universal service. The authority's influence in regulation assists in making the liberalisation design consistent with the necessary objectives of general economic interest.

In the gas sector, liberalisation and pro-competitive regulation are therefore not alternative instruments, but complementary. Over time, the gas regulation has reached a high, although unfinished, degree of development. This status imposes the need for greater maintenance, which includes updating as the regulation is ageing early, and checking for compliance with the regulation. These forms of maintenance can be considered the two new frontiers of natural gas regulation because, without diligent updating and thorough surveillance, even the best laws are rendered useless and, consequently, prove harmful to the market.

Upon the completion of liberalising the gas market, regulators are not presented with an opportunity to lower their level of involvement, but are actually challenged with the need to intervene even more in order to find a working balance between regulation and competition. This necessity creates a paradox: liberalisation signifies the switch from a legal monopoly to an open market and, therefore, serves to ensure that the market is both competitive and no longer administratively regulated; however, with liberalisation, the amount of regulators multiply and their entry into the market runs the risk of over-regulation and, therefore, creates a situation that is incompatible with the advancement of competition.

Integrating both competition and regulation in a cohesive manner is a challenge that must be addressed through the predisposition of a series of tools and actions, such as continuously analysing the degree of competitiveness of the market, rigorous economic evaluations of the effects of regulation, as well as a greater simplification of the policies that strive to diminish administrative and economic liabilities at the expense of companies.[97]

To this date, the Italian gas market does not seem to be effectively competitive just yet, which can be confirmed by the presence of two phenomena. First, the completion of the liberalisation process questions the effectiveness of economic regulation itself and asks if the time has come for deregulation. This would mean the gas market is left to free

[97] Giachetti Fantini, M. (2017, Jul 7). *La liberalizzazione del mercato dell'energia elettrica e del gas naturale: il caso italiano nel panorama europeo*, in Aperta Contrada, p. 102.

competition and given to the sole *ex post* protection of the antitrust authority, as this ideation supports the notion that the best kind of regulation sets up a market with the proper conditions to be able to continue without further regulation. Second, there is a continual and growing overlap of intervention between the Authority for Electricity, Gas and the Water System and the Authority for Competition and the Market Authority, which also performs regulatory functions.

Because of these phenomena, the proven crucial impact of economic regulation needs to be stressed, even after the formal opening of gas market to competition. The highly involved nature of regulation shows that laws alone are not enough to create a truly competitive market. It is true that the "regulation of the transition to the market" does not end once the market has been liberalised, but rather begins after the completion of the liberalisation process. It is at this point, the formal opening up to competition (when all customers can decide to switch suppliers), when the hypothesis of a competitive market failure in the transition from a public monopoly to a private dominance, or in any case of the establishment of a highly concentrated market, actually materialises.

The liberalisation of the gas sector does not, therefore, automatically result in the need for deregulation. The liberalised natural gas market requires structured rules as long as they are compatible with the conditions of competition, meaning that the economic regulation provided is effective and not unnecessarily intrusive. Therefore, with the development of competition, the type of regulation changes. This implies that, in a liberalised market, the physiological boundaries of regulation are respected by monitoring compliance and conducting careful analyses of the inability of the market to produce the benefits of competition on its own.

As the boundaries are narrower in a liberalised gas market, regulation operates in a more limited area of discretion. As such, the more effective competitiveness is in the market, the less discretion sector regulators need when acting. There is also the "zero option," which is the choice not to intervene if the regulation does more harm than good.[98]

[98] Ibid.

CONCLUSION

As a result, it is reasonable to conclude that the natural gas market liberalisation has been a batch process. Indeed, some sectors or portions of the supply chain have been opened to the market, while others have remained enslaved to the old system, ensuring monopolies or dominant positions at the expense of free competition. Moreover, the rules of the gas market are still based on the traditional imposition founded on the principle of centralisation and on a market focused entirely on the supply side. Furthermore, the ongoing postponements of the free market's adoption have posed serious risks to competition, endangering final customers and mortifying competition among businesses. Lastly, the liberalisation of the gas market has not allowed the development of a truly competitive system capable of ensuring the protection of users. This limit is partly due to the fact that it is not yet fully understood that the function of services of general economic interest, such as natural gas, is not limited to only achieving the objectives of the single market. In fact, this function must be defined on the basis of the consideration that these services are essential also for the realisation of the core values of the EU, such as the promotion of a harmonious, balanced and sustainable development of economic activities, ensuring solidarity, a high level of employment, the protection of environment, health and consumers, which are all constitutive elements of a highly competitive market model accepted by the Lisbon Treaty.

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