GME
Gestore
Mercati
Energetici

ANNUAL REPORT 2017

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EXECUTIVE SUMMARY

2017 shows the first signs of a recovery on the energy markets that occurs in a context characterized by the positive effects generated by the European integration process, now consolidated in the day-ahead electricity segment and in progress in the intraday segment.

Indeed, fuel prices are once again on the rise, recovering from the historical lows of the previous four-year period, and pushing up the prices of electricity, also supported by a demand slowly recovering from stagnation. This phenomenon does not seem to affect the solid balance of a European electricity market characterised by well-defined macro-regional settings and mainly dependent on structural aspects linked to national production plants, in which however - this is the major innovation - the synchronisation of the markets through coupling mechanisms and the guarantee of optimised management of cross-border energy flows, favor the development of commercial opportunities, highlighted especially in the presence of intense seasonal phenomena or extraordinary events, such as the reduced availability of nuclear French plants.

In the stable segmentation of the European electricity market in a German-Scandinavian area (29/34 €/MWh) and in a Mediterranean block including Spain and Italy (49/54 €/MWh), with France close to the latter (45 €/MWh) and increasingly distant from Germany (+10 €/MWh, highest level ever recorded), the price analysis therefore becomes more interesting especially in its micro dynamics. In particular, with reference to the Italian-French border, also considering a growing spread between the two countries (9 €/MWh, +3 €/MWh), it is possible to note a remarkable recurrence of convergence of the two prices and a reversal of their differential, absolutely not to be underestimated (29% and 2% of the hours), with consequent export opportunities for Italy that can be efficiently and fully exploited thanks to the synchronisation mechanisms provided by the coupling.

The trends observed on the Italian day-ahead market, the third biggest market in Europe also thanks to the historical maximum level of liquidity (72%), fit consistently in the European framework outlined above, showing a new increase in prices after years of heavy decline and a consolidation of volumes at the highest level of this five-year period (292.2 TWh, +1.1%). The rise in the national supply structure was crucial for the recovery of prices, induced by the increase in gas costs (PSV: 19.9 €/MWh, +25.7%) and the recovery of market shares in the combined-cycle plants (119.3 TWh, maximum level since 2012), called to offset the drastic reduction in hydropower and, at the beginning of the year, lower imports from France. Annual prices not only higher, but also more volatile, mainly due to sudden seasonal spikes, which also favor the formation of a "peaked" price profile and a decrease in the frequency of day/night inversion. On a local level, new elements emerge in Sicily, where the upgrading of the Sorgente-Rizziconi cable leads to a substantial "freezing" of the spread with Europe on the levels recorded in the "regulated prices" phase, thus facilitating a profound transformation of the island supply and making it less dependent on domestic supply.

The success of European market coupling is deeply rooted in the context of common rules and principles designed and constantly updated by the stakeholders (Authorities, Stock Exchanges, TSOs) on the tables promoted at a Community level, to which GME actively participates, also by virtue of its appointment, by the Ministry of Economic Development, as single *Nominated Electricity Market Operator* for Italy (NEMO). The activities carried out by the NEMO Committee, the competent body for cooperation between NEMOs that in 2017, following its mandate and in compliance with European Regulation no. 2015/1222 (CACM), has: *i)* prepared the MCO Plan, the document approved by the National Authorities for the definition of the modalities through which the NEMOs intend to establish and perform the functions of *Market Coupling Operator*; *ii)* drawn up the "methodologies" regarding specific procedures of coupling implementation; *iii)* started negotiations for the revision of contracts governing cooperation between NEMOs and TSOs; *iv)* promoted a research and development activity to increase the performance of algorithms used on day-ahead markets and soon to be implemented on intra-day markets.

The positive experience of integration of the day-ahead markets is a good approach to the next extension of the project to the intra-day markets, within the XBID project that will experience its first go-live, extended to the central and northern Europe countries and Spain, in the second half of 2018. In line with the Target Model provided for by the CACM, the project provides the possibility to implicitly allocate the transport capacity between national and infra-national areas according to the rules of the continuous trading and in *portfolio bidding* mode. In Italy, whose operational entry into XBID is expected in the following expansion

phase, this market would support the current intra-day auctions in the definition of the so-called "hybrid model", proposed by the European TSOs as a methodology to ensure efficient valorisation of the cross-border capacity allocated in the intra-day markets.

In 2017, GME also confirms its strategic role at the national level alongside the institutions and an increasingly large set of participants registered in its markets, which reached an all-time-high of 2,153 units. In addition to the aforementioned electricity markets, positive signs of the activity carried out by GME are observed especially in the gas markets, redesigned in order to favor a more efficient use for balancing the system and characterised by a growing liquidity even for the introduction of the market making function. Alongside the traditional sectors of interest, the commitment made by GME to facilitate the supply/demand meeting was also extended, between 2017 and early 2018, to the new areas: *i)* regasification, with the implementation of the PAR platform. ; *ii)* fuel logistics, with the launch of the P-Logistics and PDC-Oil platforms; *iii)* biomethane, of which GME will define, in 2018, the market structure in implementing the provisions of the Interministerial Decree of 2 March 2018.

Like the electricity sector, also in the gas sector, the analysis of the main dynamics of the markets managed by GME derives from the compliance with the regulatory framework defined on a European basis by Regulation (EU) no. 312/2014, pursuant to which the supply of the Person Responsible for the Balancing (RdB), aimed at the management of national systems, must be carried out using priority methods of spot trading. Together with the consolidation of consumption that is once again a common element between the gas and electricity systems, the reorganisation of the markets by GME favored, in the first full year, an increase in total volumes traded, slightly higher than 6% of the domestic demand, concentrated on the title products traded on the MI-Gas (23.8 TWh) and on the MGP-Gas (3.3 TWh). The level on the latter market, however, is expected to increase further, due to the launch of the market making mechanism in February 2018 that, in the first quarter of the year, has already pushed the share of MGP-Gas to 16% (4% in 2017).

In the environmental sector, in a changed regulatory context defined by the Interministerial Decree of 11 January 2017, which set, among others, the national energy saving targets for the period 2017-2020, the dynamics recorded on the TEE market should be considered and evaluated in light of the particular condition of scarcity of certificates, spread over time within the incentive system when several combined events occurs. The growth of the obligations up to the historical maximum of 2016, the greater delay of cancellation of such obligations by the participants, while respecting the deadline for compliance provided by the mechanism, and finally, the reduced number of certificates issued connected to the introduction of stricter criteria for evaluating projects, have in fact favored a progressive erosion of the demand/supply margin, fueling tensions that have gradually affected the market, where prices have gone from 148 €/tep in 2016, up to 479 €/tep in the first two months of 2018. Consequently, the Ministry of Economic Development, in agreement with the Ministry of the Environment, requested GME to reduce the frequency of market sessions, thereby limiting the effects on the calculation of the tariff-based contribution of high levels of price volatility. A sharp reversal of the trend in the market then occurred, which, in both April and May 2018, has priced the traded certificates 311 €/tep.

Record levels on the TEE market have been achieved not only by prices, but also by volumes and liquidity, at their highest level or at least close to it, and by trading, within a trading mechanism simplified by the unification of all types of TEEs, made effective by GME according to the implementation procedures defined by ARERA with Resolution 514/2017/R/EFR.

Finally, trades recorded on the GO market are growing, although still far from the amounts recorded on the bilateral platform.

The increase in the number of participants and volumes traded on GME's platforms, along with the progressive extension of its scope of action, makes, even more crucial the monitoring function carried out in coordination with the competent national and European institutions in order to ensure transparency to its markets. In this regard, in 2017 GME was appointed by ARERA, with Resolution 308/2017/R/GAS, as the body responsible for monitoring the competitive dimension of the wholesale gas market, thus strengthening a measure already well consolidated by the activities carried out pursuant to REMIT, TIMM and law no. 161 of 30 October 2014.

Chairman and
Chief Executive Officer

Prof. Pietro Maria Putti

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The Company

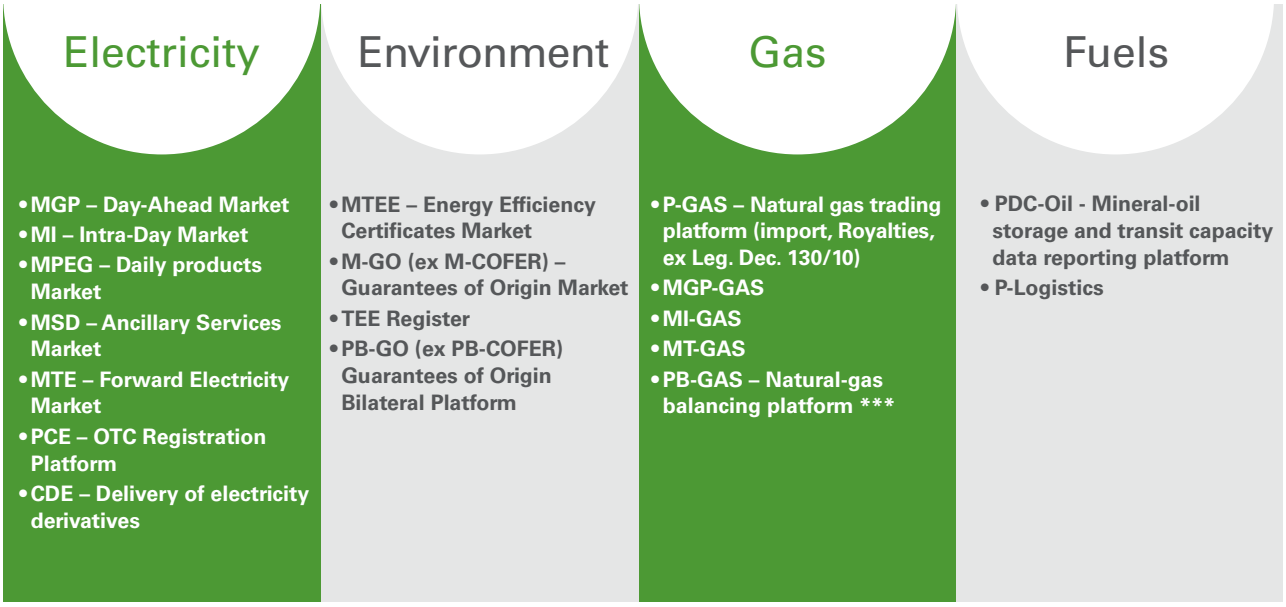
1.1 COMPANY PROFILE

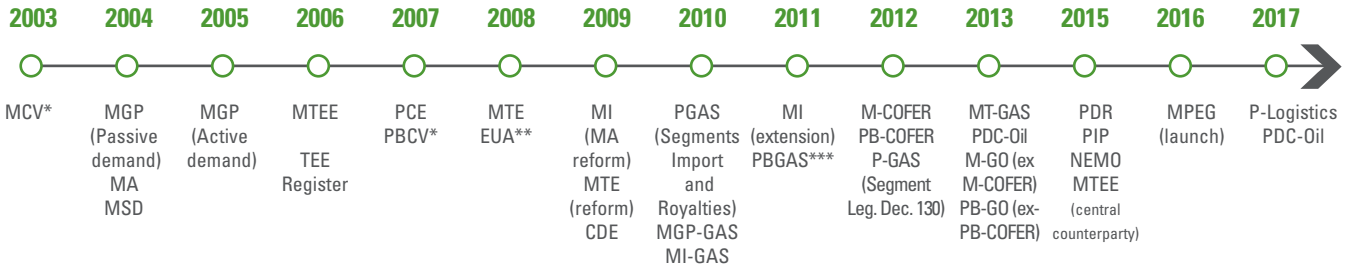
Property and Governance. Gestore dei Mercati Energetici S.p.A. (GME) is a joint-stock company established in 2000 as part of the process of liberalisation of the energy sector, promoted in the Community by Directive 96/92/EC and subsequently implemented in Italy with Legislative Decree 79/1999 (so-called "Bersani Decree"). GME is owned by Gestore dei Servizi Energetici S.p.A. (GSE), whose shares are held by the Ministry of Economy and Finance (MEF). The company operates in compliance with the guidelines of the Ministry of Economic Development (MiSE) and the regulatory provisions defined by the Regulatory Authority for Energy, Networks and the Environment (ARERA).

A multi-commodity company. Over the years, GME has progressively expanded its range of activities from the organisation of electricity and environmental markets to natural gas and fuel markets[1]. In particular, in the electricity sector, GME manages*: i)* the Sport Electricity Market (MPE) - which in turn is divided into the Day-Ahead Market (MGP), the Intra-Day Market (MI) and the Daily Products Market (MPEG) -, *ii)* the Forward Electricity Market (MTE), *iii)* the Delivery of Electricity Derivatives Platform (CDE), the latter aimed at allowing participants to manage, with physical delivery through the OTC Registration Platform (PCE), the contracts concluded on IDEX (the electrical derivatives segment managed by Borsa Italiana SpA) and *iv)* the PCE for the registration of forward electricity purchase/sale contracts concluded off the bidding system. In the electricity sector, GME also manages the operation of the Ancillary Services Market (MSD), whose economic management is responsibility of Terna S.p.A..
Similarly, in the gas sector, GME manages the Gas Market (MGAS), which is made up of the Spot Gas Market (MP-GAS) - in turn organised in the Day-Ahead Market (MGP-GAS), the Intra-Day Market (MI-GAS), the Locational Products Market (MPL) and in the Regulated Market for the trading of gas stored (MGS) - and the Forward Gas Market (MT-GAS). In the gas sector, GME also manages the operation of the gas platform for the fulfillment of the sales obligations relating to domestic production, import and virtual storage as referred to in the Ministerial Decree of 18 March 2010 (P-GAS).
Furthermore, GME organises and manages the Environment Markets, namely the Energy Efficiency Certificates Market (MTEE) and the Guarantees of Origin Market certifying the production of energy from renewable sources (MGO), as well as the related registration of bilateral trades (TEE Register and PB-GO).
GME was also entrusted with the task of collecting data on mineral oil storage and transit capacities (PDC-OIL), as well as the management of the oil market logistics platform for mineral oils (P-LOGISTICS) and the future wholesale oil products platform for the transport sector that GME is called to organise and manage pursuant to Legislative Decree 249/2012.
GME also manages two additional platforms for supporting its participants in fulfilling obligations arising from European Regulation no. 1227/2011, concerning the transparency and integrity of wholesale energy markets (REMIT), in terms of data reporting to ACER (PDR platform) and publication of inside information (PIP platform).

1 The complete list of markets and platforms managed by GME as at 2017 is shown in Fig. 1.1.1.

Fig. 1.1.1 - Markets and platforms





* Trading closed in 2016
** Trading closed in 2014
*** Platform closed in 2017 and at the same time replaced by the MPL and MGS markets, which became part of the MGAS.

Central counterparty and physical delivery. The markets managed by GME have a physical nature: all products traded, both spot and forward, provide the obligation of physical delivery and access to trading is allowed only to those who, directly or through an appropriate authorisation, may physically deliver these products. GME operates as a central counterparty on its markets, with the sole exception of the MSD (where the central counterparty is Terna SpA). On the other hand, on the P-Gas (where the trading counterparts are directly matched as a result of the transactions) and on the registration platforms of the bilateral contracts of the GOs and the TEEs[2], GME does not act as central counterparty.

1.2 PARTICIPANTS AND MARKETS

The relevant production chains. The markets managed by GME in the power, gas and environment sectors have different figures, due to their different nature and/or degree of maturity achieved. The power markets, because of the high average size of their participants and the relevant perimeter of the reference sector, rank first for volumes traded (76% of the total), ranking second only for registered participants (18%). On the contrary, the environmental markets, characterised by a more fragmented presence of participants and a smaller sector size, show lower shares of volumes (10% of the total) but a much higher presence of participants (85%). Finally, the gas markets show intermediate values in terms of both volumes (14%) and registered participants (8%)[3].

Power markets. Power markets are confirmed as the most significant ones in terms of volumes traded (241 TWh), with a leading role played by the MGP (211 TWh) and the Intra-day markets (25 TWh), both achieving historical records, despite a slight decline in the MI, and with the liquidity of the MGP at its historic record of 72% under the impetus of the so-called "non-institutional" participants, whose volumes traded on the MGP are at historical highs, both in percentage and absolute terms (43%, 126 TWh), and a recovery of the Acquirente Unico (51 TWh, +10 TWh) (Fig. 1.2.3). GME is confirmed as the third European exchange for volumes traded on both the Day-Ahead Market, after the two supranational exchanges Epex and NordPool and together with Iberia Omie, and on the Intra-Day Market (Fig. 1.2.4).

Gas markets: net of the transition between PB-Gas and M-Gas occurred in 2017, gas markets are confirmed as the second largest sector of GME, with volumes traded slightly down (44 TWh) compared to the previous two-year period and concentrated mainly on the MI-Gas (24 TWh) and on the MGS (17 TWh). The contraction mainly reflects the reduction in the total movements of the RdB (23 TWh, -34%), which cover 57% of the volumes traded (-18%)[4].

2 The registration platforms for bilateral contracts managed by GME are: *i)* the PCE, for the electricity market; *ii)* the PB-GO and the TEE Register, for environmental markets. In particular, the PCE is distinguished from other registration platforms and more generally from the nomination platforms existing in other European countries because, through the transfer of transactions in the form of virtual offers on the MGP and the possibility to specify the related offer prices, ensures not only the simple registration of bilateral transactions, but also the implicit allocation of transport capacity on the national network.

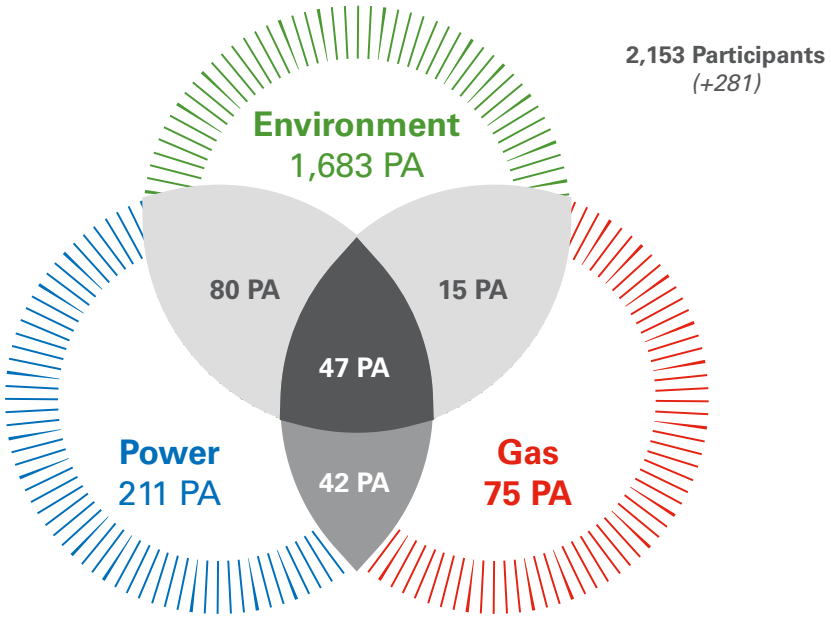
3 The percentages relating to volumes refer to the data in TWh reported in the rest of the paragraph, calculated with reference to ME and PCE, for the power sector, to MGAS, for the gas sector, to MGO and MTEE, for the environmental sector. The figures relating to the number of participants registered in the above markets do not add up to 100% due to the presence of participants simultaneously registered in the same markets, as shown in Fig. 1.2.1.

4 The comparison with the previous year is made considering the sum of the total volumes traded by the RdB in order to balance the gas system, for 2016, on the PB-GAS (up to 30 September), on the MI-Gas and on the MGS (the latter starting from 1 October) and, for 2017, on the MI-Gas and the MGS.

Environmental markets. A further increase is recorded in the role of environmental markets, reaching a total of 34 TWh[5], thanks to the growth of the MTEE (33 TWh), which has now become the second largest GME's market by volumes, also driven by the increase in purchasing obligations established by law (+5.34 TWh) and the increase in the trading share within the market (+1.4 TWh, representing 11.2% of the total). The liveliness of the MTEE is also witnessed by a share of exchanges on the overall physical market[6] second only to the historical maximum recorded in 2016 (55%).

Registered participants. As for the markets, the importance in terms of volumes is not directly related to the number of registered participants, which mark the new historical peak at 2,153 (+281), especially Italian, but still connected to 30 different countries[7]. In this case, the environmental markets prevail, in terms of registered participants (1,825) and greater contribution to growth (+279), due to the presence of less participants and a strong inclination of traders to expand. Conversely, the energy markets, which are more mature and, on average, bigger, show a stable number of participants in the electricity markets and to the gas markets amounting, respectively, to 380 and 179 participants. Despite the differences in the number of participants between environmental and energy markets, there is a significant level of synergies between power and gas markets (89 participants registered in both), between power and environmental markets (127 participants) and between gas and the environmental markets (62 participants) (Fig. 1.2.1).

Fig. 1.2.1 - Participants registered in the GME's markets



5 Although TEEs are measured in tep, in order to be compared with other markets, volumes have been conventionally turned into TWh based on the conversion factor adopted by ARERA with Resolution EEN 3/08 (0.187 * 10-3 tep/kWh).

6 Physical market shall mean the sum of the volumes traded on the market and by bilateral trading.

7 The data includes Italy and is calculated starting from the registered office of the participant.

Fig. 1.2.2 - Volumes and participants registered by market/platform

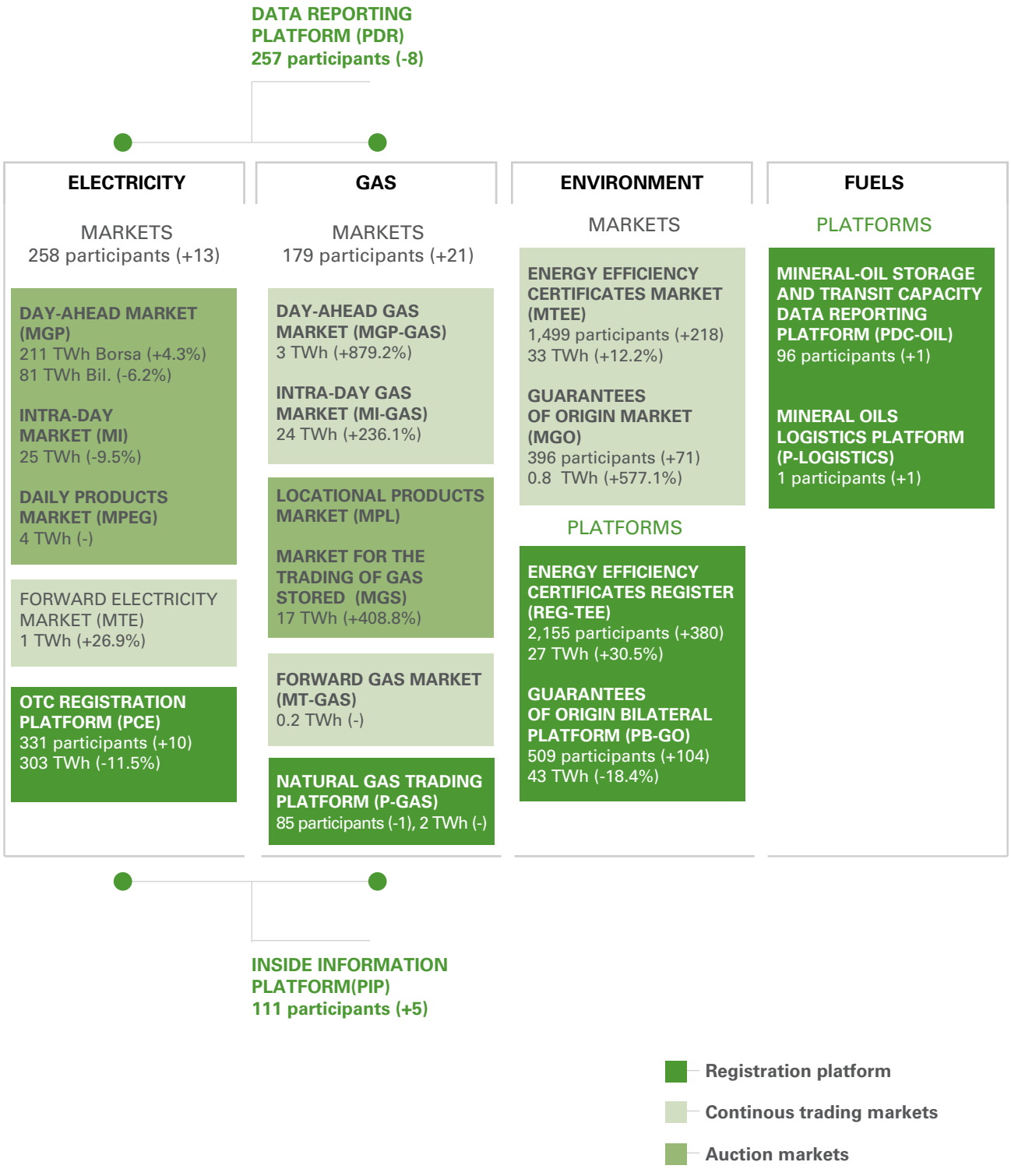


Fig. 1.2.3 - MGP liquidity

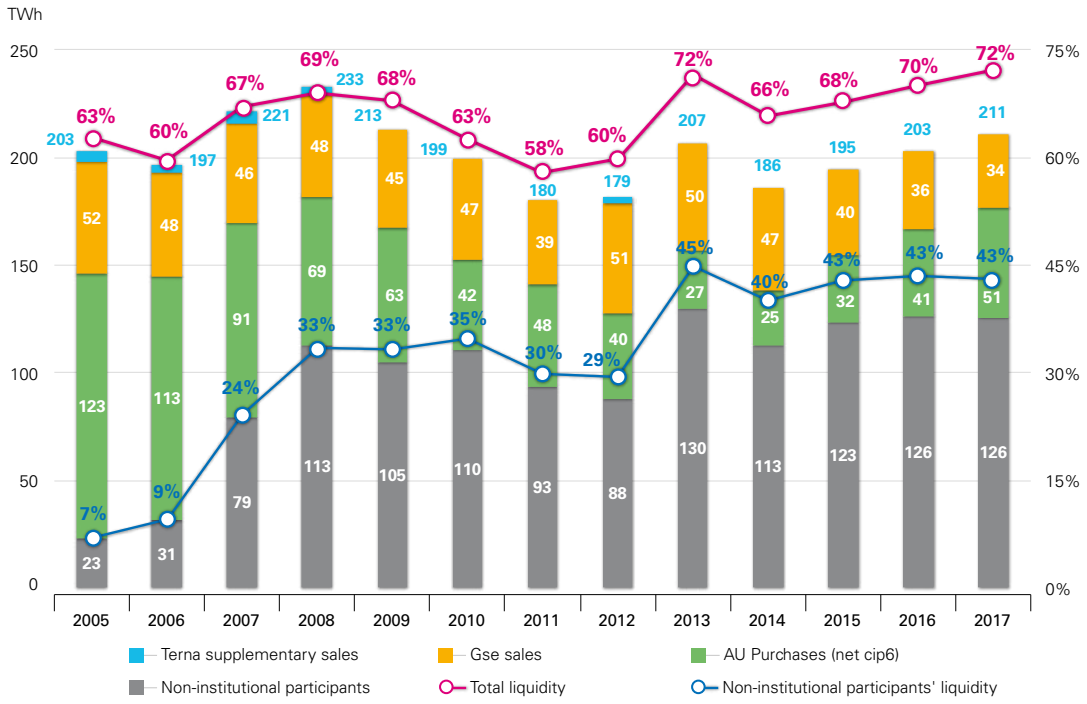
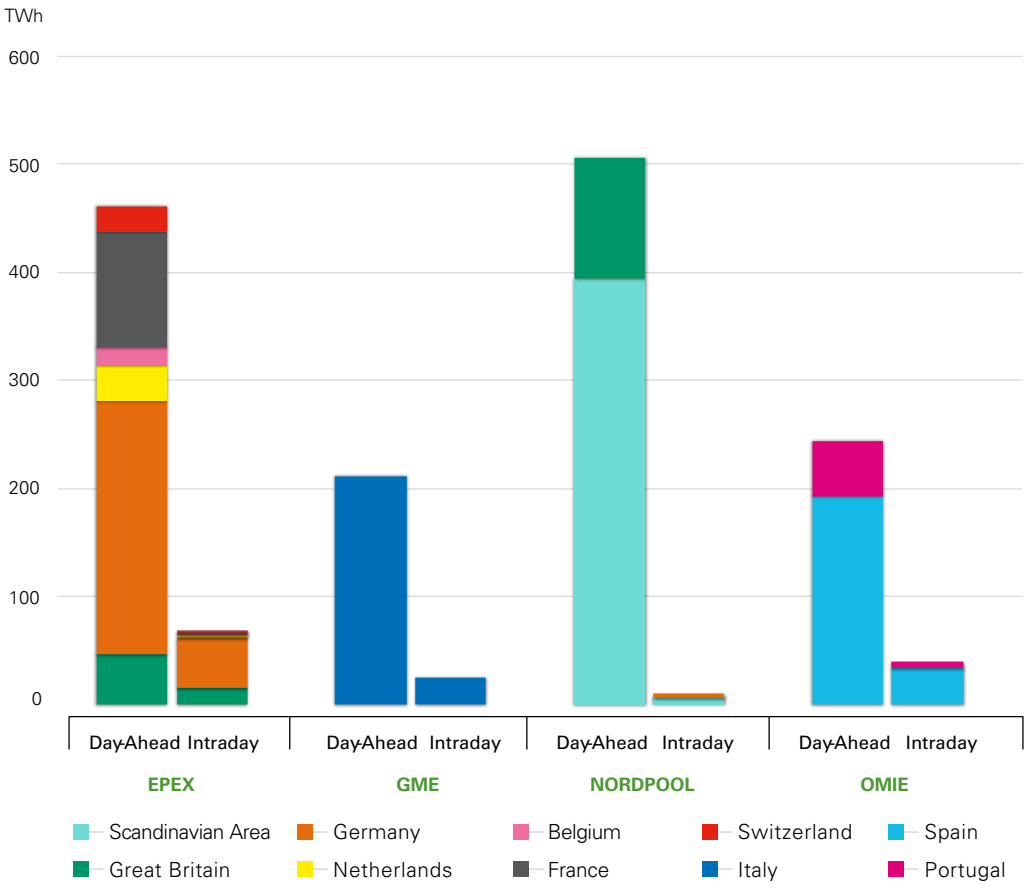


Fig. 1.2.4 - Comparison of international volumes on spot electricity markets (Day-Ahead and Intraday)



1.3. FINANCIAL RESULTS

Declines in margin profits (€32 million, - €1million) due, among other things, to the closure of the Green Certificates Market, only partially offset by the growth in volumes of traded TEEs, and the reduction in the other margin profits deriving from the lower fee related to the renewal, at the end of 2016, following a tender, of the agreement concluded between GME and its Treasurer Institute. In the power sector, margin profits on the Electricity Market increased (€21.9 million, + €0.6 million), while those on the PCE fell (€4.9 million, - €0.7 million).

Margin production costs substantially stable (€21.5 million, + €0.3 million) due to an increase in personnel costs linked, among other things, to the increase in average consistency, only partially offset by the reduction in amortisation, depreciation and provisions.

Results. By virtue of the above-mentioned dynamics on margin production profits and costs, the operating result declined (€10.5 million, - €1.3 million) which, added to the increase in net financial income and charges and to the decrease in income taxes for the year, leads to an increase in net income (€8.9 million, + €0.8 million)[8].

8 For more information, please refer to the GME's 2017 Financial Statements.

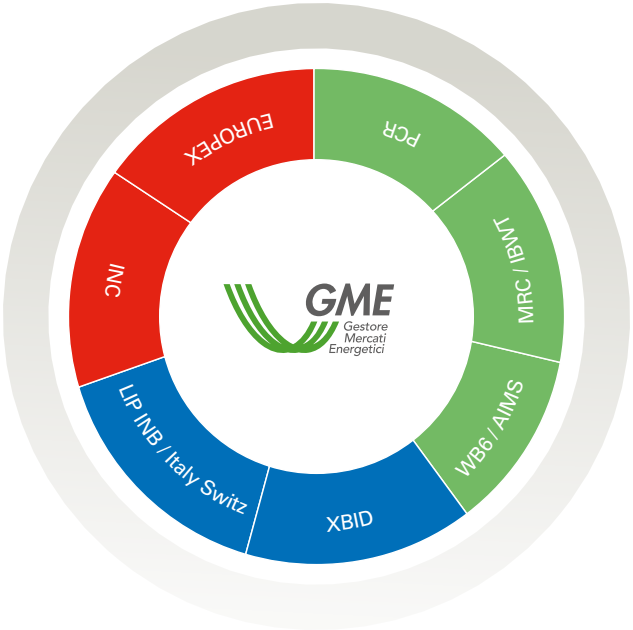
02

The Activities

2.1. INTERNATIONAL ACTIVITIES

NEMO COOPERATION. Following the approval of the European Regulation no. 2015/1222 (CACM), GME - appointed by the MiSE as the sole Nominated Electricy Market Operator (NEMO) for Italy pursuant to Article 5 of the CACM – took part in the establishment and operation of the **INC** (Interim Nemo Committee), the competent body for the cooperation among NEMOs in defining the rules for the exercise of the single European market coupling. As part of its activities, the INC: *i)* prepared and submitted to the National Regulatory Authorities, for its approval, the so-called MCO Plan[9] and the "methodologies" envisaged by the CACM[10]; *ii)* started the negotiation and drafting of new contractual structures for the cooperation among NEMOs and with TSOs; *iii)* started defining research and development activities aimed at increasing the potential of the algorithms already being produced (for the DA) and about to be started (for the ID).

DAY-AHEAD MARKET COUPLING. Since 2015, GME has guaranteed the integration of the Italian electricity market in the broader European market through participation in the various projects of which it is an active member: *i)* the **PCR** (Price Coupling of Regions), the initiative among exchanges that, starting from 2015, has ensured the integration of the Italian MGP with the other European markets in the context of the so-called DA market coupling; *ii)* the **IBWT** (Italian Border Working Table), the project between Exchanges and TSO bordering Italy with the aim of favoring the coupling with cross-border countries; *iii)* the **MRC** (Multi Regional Coupling), the pan-European project between PXs and TSOs which ensures the allocation of cross-border capacity for the MGP and incorporates the IBWT into the broader European coupling context.



9 The MCO Plan is the plan envisaged by the CACM by which the NEMOs indicate how they intend to establish and jointly perform the functions of "Market Coupling Operator" for the day-ahead (DA) and intraday (ID) markets. In particular, the MCO Plan was adopted by the National Regulatory Authorities at the beginning of 2017.

10 In particular, the methods relating to the back-up procedures and the definition of the products to be used for the DA and the ID have been approved by the National Regulatory Authorities at the beginning of 2018 and are currently in force. The methods relating to the definition of minimum and maximum price limits to be applied to all the offer points participating in the single day-ahead and intra-day coupling were instead approved by Acer at the beginning of 2018 and currently in force. The only algorithms to be used for the DA and the ID have been submitted to the Regulators at the end of 2017 and are currently being defined.

INTRA-DAY MARKET COUPLING. GME also takes part in the process of Community integration of intraday markets and, in particular, is an active member of several projects: *i)* the **XBID** (Cross Border Intra Day), the project that, starting from 2018, will integrate the European Intra-Day markets based on the continuous trading and will also be extended to Italy in 2019; *ii)* the **LIP-INB** (Local Implementation Project - Italian Northern Border), the project between the power exchanges and the TSOs bordering Italy, same as the one operating in the DA, which aims to adapt the local procedures in order to integrate the XBID on the Italian borders. These initiatives will lead to significant changes in the design of the intra-day national market that will be more widely discussed in Chapter 3.

BALKANS. Since July 2017, GME has joined - together with ARERA, Terna and MiSE - the MoU between the so-called WB6 (Western Balkans 6) countries[11], in order to promote the start of a regional coupling in the Balkan area through the use of their skills deriving from the experience already gained in the organisation and management of national markets and the European electricity market. Specifically, GME's initiative is aimed at promoting the operational start-up of a market-coupling project within the AIMS (Albania-Italy-Montenegro-Serbia) cluster, once the submarine cable between Italy and Montenegro has been completed.

2.2. COOPERATION WITH OTHER EXCHANGES

Power forward markets. Over the years, GME has granted third-party exchanges, by means of specific license agreements, the commercial use of the GME PUN (National Single price) Index. This happened in light of the need for these exchanges to offer, in the context of the exchange systems managed by them, forward financial products on the electricity market having the aforementioned index.

Nomination agent for the gas market. With reference to the gas market, GME acts as a nomination agent at the PSV, allowing third-party exchanges that use the service to perform physical delivery in Italy, through GME, of amounts of gas subject of the contracts concluded at the same third-party exchanges.

Service provider. Since 2011, GME has been providing a service provision to the Slovenian BSP stock exchange, aimed at supporting its market coupling with Italy and its integration in the MRC.

GME Service provider
GME Nomination Agent (Gas Hub Italia)
Agreements for commercial use (Power Future Italia)

11 WB6 is a cooperation between Regulators, Network Managers and Market Managers of Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro and Serbia for the creation of a regional electricity market in the western Balkan region, to be subsequently integrated with the energy market of the European Union. This project was supported by the European Union and by the Energy Community.

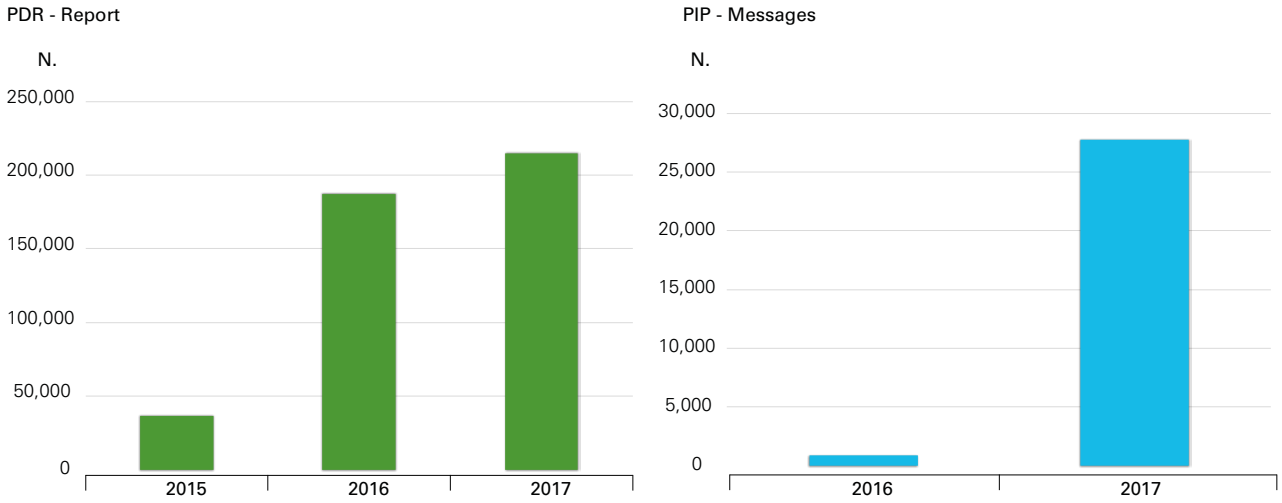
2.3. THE MONITORING ACTIVITY

Market monitoring and support to institutions. GME monitors the regularity of transactions on its markets with a monitoring activity carried out through formalised procedures and automated instruments, in compliance with international best practices. The market monitoring is also carried out in coordination with the main institutions responsible for the matter, for which GME is a contact point at both European level, through a data and analysis supply activity, as well as sharing practices and methodologies with the same institutions (ACER, DGCOMP, DGENER), both at the national level, where it confirmed the successful collaboration with ARERA[12] and with the institutions concerned (AGCM, MiSE).

2.4. REMIT SERVICES

"Data Reporting" and "Inside Information" platforms. GME manages two platforms for supporting its market participants in fulfilling the data reporting obligations to ACER (PDR platform) and the obligation of publication of inside information (PIP platform) pursuant to European Regulation no. 1227/2011 (REMIT).
Two years after their launch, the two platforms have reached a remarkable degree of maturity. The number of participants registered in the PDR is now stable, with values amounting to 257 and a number of transactions reported in 2017 close to 215 thousand (approximately +27 thousand compared to 2016). Similarly, the PIP shows a number of permanent participants amounting to 111, with a number of published messages increased from about 900 in 2016 to 28 thousand in 2017 (Fig. 2.4.1).

Fig. 2.4.1 - Messages and communications by participants registered in the PDR and PIP



12 GME carries out the activities crucial to perform the monitoring of the electricity market and of the natural-gas market by ARERA pursuant to the Resolution ARG/elt 115/08 (so-called "TIMM") and Resolution 308/2017/R/GAS.

03

The New Initiatives

3.1. INTRA-DAY POWER MARKETS

XBID Project. In 2018, the "First Wave GoLive" of the XBID project will be implemented. This project will activate an intra-day market based on the continuous trading in central-northern Europe able to implicitly allocate the transport capacity between both national and international market areas, in line with the Target Model provided by the CACM. Italy, which through GME is already part of the development project, will join the XBID with the "Second Wave GoLive" expected in 2019. In this way, also in Italy will be introduced an intra-day market based on the continuous trading, which will integrate current areas of the domestic market in the wider European market. The market will operate in a portfolio-bidding mode, to ensure easier management of operations in real time and a more effective interaction with the supply modalities provided on the same cross-border platforms.

MI. In Italy, the introduction of an Intra-day market based on the continuous trading would go hand in hand with the current intra-day auctions, in a so-called "hybrid model" which should integrate the use of opening auctions followed by the continuous trading: the former would aim to provide an effective price indication for the start of continuous trading, as well as to enhance the capacity implicitly allocated; the second one would aim to ensure the adjustment of the positions up to the last useful interval before the real delivery time. The use of this "hybrid model", envisaged in the CACM Regulation - which provides for the possibility of supporting the "complementary regional auctions" alongside the continuous trading - has been proposed by the European TSOs as a method to ensure an efficient use of the allocated cross-border capacity (so-called "capacity pricing").

Gate opening & gate closure. In line with the CACM provisions, the proposal submitted by GME in the LIP INB, to be evaluated also following the consultation launched by Acer on the gate opening and gate closure times in the continuous-trading ID market[13], provides that the start of the continuous trading shall open after the first auction session for the hours not subject to subsequent allocation in the second auction and before the second auction session for the hours allocated by it.

3.2. GAS MARKETS AND PLATFORMS

Market making. In order to promote the liquidity of the products traded on the MGAS, in December 2017 GME introduced the market making service. This service - activated for the first time on 1 February 2018 – allows, in its first phase, interested participants to carry out market making activities as a "Liquidity Provider" (LP). The LP participant undertake - on an ongoing basis and according to the "best effort" principle - to keep on the MGP-GAS purchase and sales offers in compliance with specific parameters related to the maximum spread allowed, the minimum offered amount and a minimum period of presence of offers on the order book. Since its launch, the initiative has been fully appreciated by participants.

Auctions for the allocation of regasification capacity. By Resolution 660/2017/R/GAS, ARERA has reformed the current regulation regarding access to regasification services, through the introduction of market mechanisms based on auction procedures for the allocation of regasification capacity. In the same resolution, ARERA has established that, for the management of capacity allocation procedures, the regasification companies may use the services provided by GME, which defines - with the support of the companies involved - a proposal to manage

13 ACER (January 2018), PC_2018_E_01 - Consultation on the cross-zonal gate opening and gate closure times for intraday coupling.

these services to be submitted for approval of the Authority. In 2018, following the approval of the aforementioned proposal (with Resolution 111/2018 R/GAS), GME launched the regasification capacity allocation platform (PAR).

3.3. ENVIRONMENT

Unified TEE trading. Starting from October 2017, GME has amended the Technical Rules of the MTEE and the TEE Register, in order to introduce the unified trading for all types of TEEs - both bilaterally and on the market - in compliance with the provisions of Article 16, paragraph 16.3 of the Interministerial Decree of 11 January 2017 and according to the implementing procedures defined by ARERA with resolution 514/2017/R/EFR.

Biofuels. In 2018, in implementing the provisions of the Interministerial Decree of 2 March 2018 ("*Promoting the use of biomethane and other advanced biofuels in the transport sector*"), GME will define an operation model of the "*Certificates of release to consumption of biofuels*" (so-called CIC) and will start all the activities aimed to the activation of the aforementioned market. Through the new market, which will be included in the broader set of environmental markets managed by GME, participant may fulfill their regulatory obligations through the purchase and sale of CICs, benefiting from a market managed according to criteria of transparency, neutrality and efficiency.

3.4. FUELS

P-LOGISTICS. In October 2017, the transitional trial period of the Mineral Oils Logistics Platform (P-LOGISTICS) was launched. In particular, the launch of this platform is one of the pro-competitive measures provided for by Legislative Decree no. 249 of 31 December 2012, aimed at promoting the level of competition in the oil sector, expanding the offer and supply opportunities for logistics and oil products through the establishment and development of specific markets managed by GME.

PDC-OIL: starting the reporting of monthly data. Starting from April 2018, GME has started the data reporting on the monthly storage and transit capacity of mineral-oils - notified by the obliged parties referred to in the Ministerial Decree of 5 July 2017 - on the basis of the directions of Ministerial Circular no. 1612 of 19 January 2018.

3.5. OTHER

Gas Monitoring. In 2017, by Resolution 308/2017/R/GAS, ARERA adopted provisions aimed at strengthening its monitoring function on the wholesale market of natural gas and identified GME as the person in charge of carrying out the activities functional to the monitoring function relating to the so-called "competitive" dimension of the wholesale market[14]. The functions assigned to GME include: *i)* the acquisition, organisation, storage and sharing with the Authority of the data necessary for monitoring, *ii)* the development of indexes, analyses and periodic reports, *iii)* the proposal of monitoring methodologies, *iv)* reporting of unusual behavior of market participants, *v)* support to ARERA requests with prompt analysis and data processing.

14 ARERA Resolution 308/2017/R/GAS also provided the major transport company (SRG) with the performance of the activities functional to the monitoring function relating to the so-called "structural" dimension of the wholesale natural gas market.

04

Markets Trend

4.1. ELECTRICITY MARKETS

4.1.1. Fuels

Crude oil, derivatives and coal. The price of Brent returns to slightly exceed 54 $/bbl (+25%), reversing the downward trend recorded since 2012. The recovery started in the late 2016, continued in January and then dwindled until June, bouncing back strongly in the second half of the year, touching its maximum level recorded from the end of 2014 (around 65$/bbl) in December. Similar trends are reported on diesel fuel (480$/MT, +23%), while the increase in fuel oils (302$/MT, +47%) and coal (84$/MT, +44%) was more intense, with the latter at the highest levels since 2013. Impact on these changes in the exchange rate $/€ was very low, showing a growing trend (1.13, +2%) by virtue of a boost concentrated in the second part of the year and which continued in the first quarter of 2018 (1.23$/€ the value reached in March 2018) (Fig. 4.1.1).

Gas. The prices on the main European gas hubs are once again on the rise, reaching values that in the last decade are only higher than the lowest levels recorded in 2016. The price range fluctuates between 17 €/MWh of the Dutch TTF (+25%) and almost 20 €/MWh of the Italian PSV (+26%), with a spread between the two prices growing by about 1 €/MWh. On our national benchmark, we notice the same levels reached in January and December during particularly critical conditions of the gas system (24 €/MWh and 28 €/MWh, respectively). In this regard, 12 December was a significant date as, following an accident occurred in Baumgarten and the following reduction in gas imports from Tarvisio, the PSV reached a value of 75 €/MWh (+53 €/MWh on the TTF) (Fig. 4.1.2).

Fig. 4.1.1 - Prices of the main European fuels. Annual average

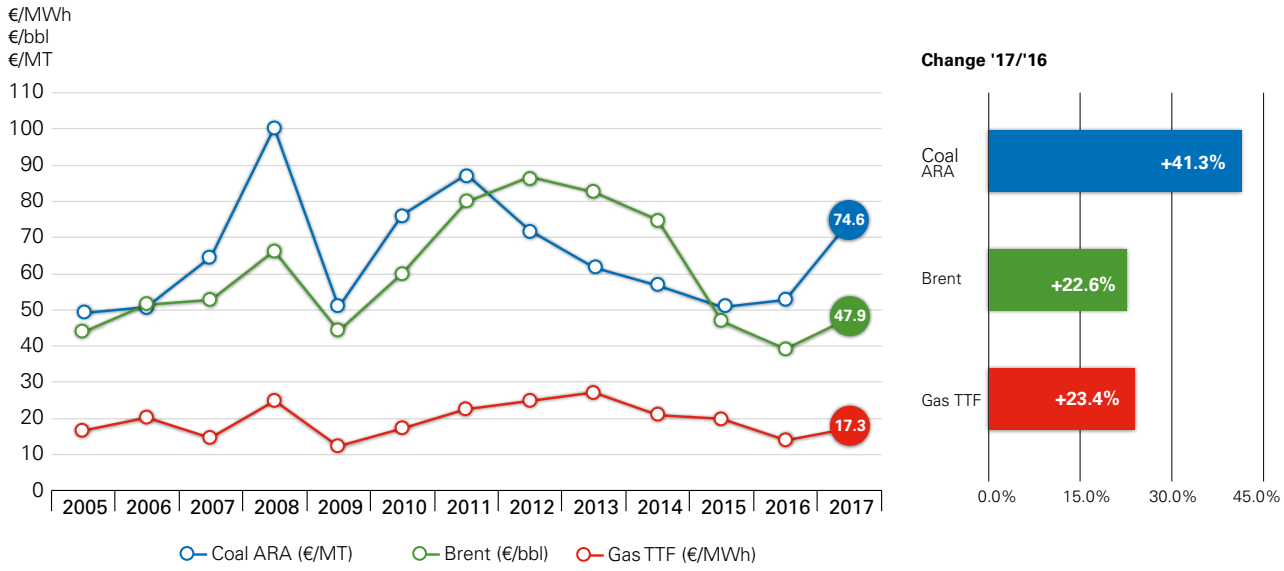
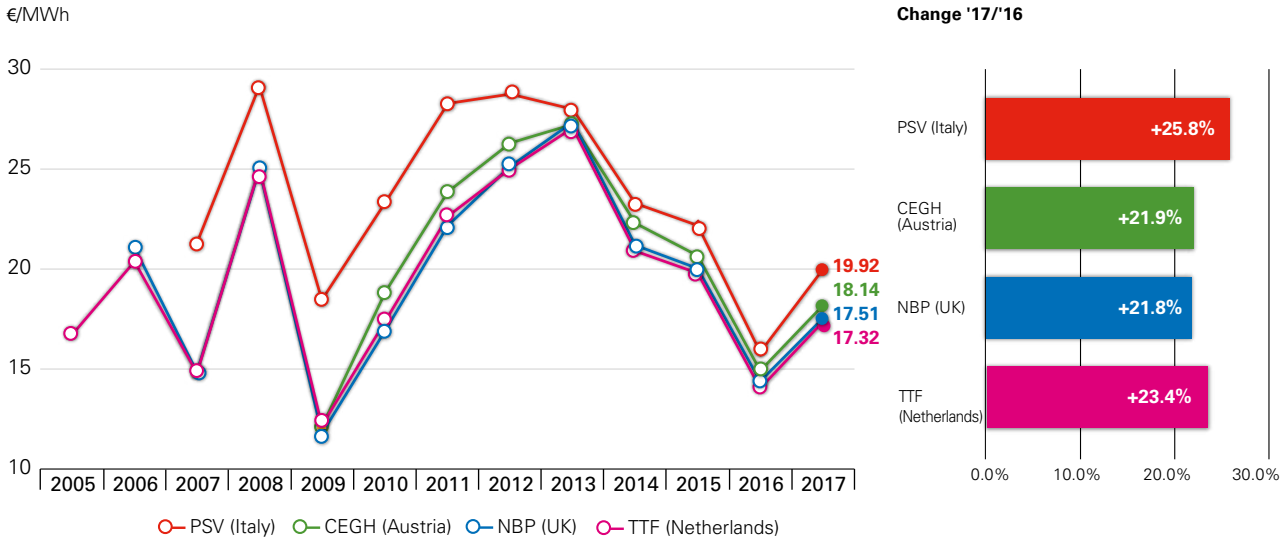


Fig. 4.1.2 - Prices on the main European gas hubs. Annual average



4.1.2. Electricity European market

Prices and zonal settings in the day-ahead market. Electricity prices are affected by fuel increases, showing a general recovery compared to the low levels recorded in 2016, fueled also by the seasonal problems noticed in the French national power plants. These problems triggered the very high prices recorded in Europe at the beginning and at the end of 2017, when the synchronisation of the markets through coupling mechanisms was crucial for ensuring the cheap and optimised management of cross-border energy flows and the creation of import/export opportunities thanks to the frequent inversions of the typical price differentials observed between countries. In general, in 2017, the European day-ahead market shows a lower price convergence[15] (65 hours compared to 180 in 2016), again divided into two macro-regions: the northern one, including Scandinavia and Germany (29/34 €/MWh) and the southern one, including Italy, Spain and Slovenia (49/54 €/MWh), with France (45 €/MWh) converging to one or the other block depending on seasonal phenomena or reduced availability of the local nuclear plants, often replaced by the Italian thermoelectric supply (Fig. 4.1.3).

The microstructure of prices. Confirming the above information, in 2017 we observe: *i)* a frequency of alignment[16] and an inversion of the differential between Italy and France, respectively amounting to 29% (-6%) and 2% (-2%), concentrated in the quarters of greatest scarcity recorded in France (first and fourth quarters); *ii)* a convergence between France and Germany amounting to 41%, higher in the central semester of the year (April - September), usually characterised by lower demand and prices in continental Europe. In general, on an annual basis, both the spread between Italy and France (9 €/MWh, +3 €/MWh) and the one between France and Germany widen again, with the latter exceeding for the first time in 2017 10 €/MWh (+2 €/MWh).

15 Convergence shall mean the simultaneous differential between countries of less than 1 €/MWh. As for Italy, the borders taken into consideration for the elaboration are: North-France, France-Germany, Germany-Scandinavian area.

16 See note 15.

Coupling volumes on the Italian border. In 2017, the market coupling allocates on the northern frontier, on average every hour, a 2,838 MWh import capacity (+330 MWh compared to 2016) and a 1,201 MWh export capacity (+101 MWh compared to 2016). The increase is concentrated on the French border on the import side (2,185 MWh, +340 MWh) and on the Slovenian side for exports (358 MWh, +88 MWh). By implicit auction, over 80% and 90% of the available capacity is allocated on the French and Austrian borders respectively, around 20% more than in 2016, by compressing the share of capacity awarded in explicit auction and the capacity not used.

Forward markets. Conflicting price expectations emerge from the forward markets of individual countries for 2018[17], with Italy being stable at the values recorded in 2017 and France, slightly down, closer to Germany, expected to recover (Fig. 4.1.4).

Fig. 4.1.3 - Day-ahead prices on the main European power exchanges. Annual average

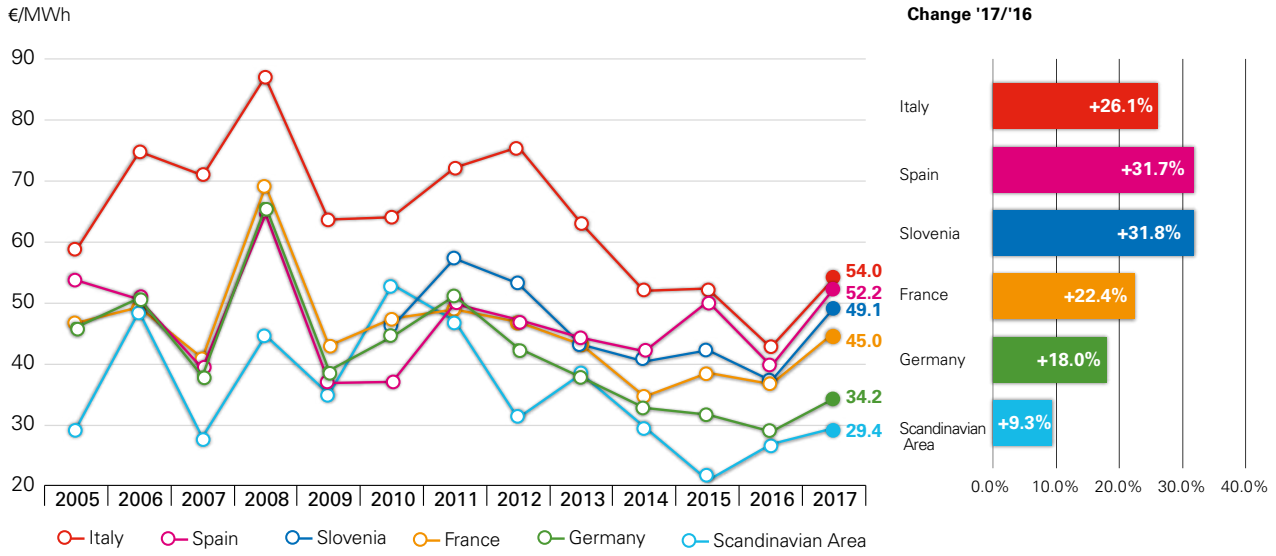
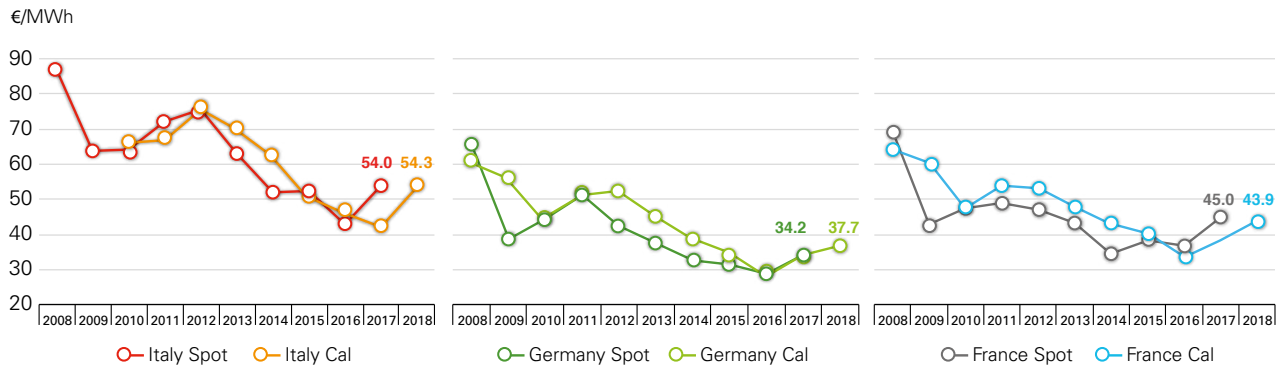


Fig. 4.1.4 - Day-ahead prices and corresponding calendar baseload prices[18]



17 Reference is made to the settlement price of the Calendar product on its last trading day.

18 The chart shows the settlement price of the Calendar product on its last trading day.

4.1.3. Day-Ahead Market (MGP)

Volumes and liquidity[19]**.** Electricity trades in the MGP rose to 292.2 TWh (+1.1% compared to 2016), the highest level in the last five years and equal to 91.2% of Terna's request, due to a very strong trend in first eight months of the year (+6.2%) and weaker in the remaining part of the year (+0.4%). Against a growth in purchases, the market demand fell to its lowest since 2010. The liquidity reached its highest level, at 72% (+2%), thanks to the increase in volumes of the power exchange at the highest level since 2010 (211 TWh, +4.3%) and a simultaneous contraction of the "bilateral" component at its lowest level (81 TWh, -6.2%)[20] (Tab. 4.1.1).

Pun and fundamentals. The Pun stands at 53.95 €/MWh, moving back to the low values recorded in the two-year period 2014/2015, by virtue of an increase of around 11 €/MWh compared to the 2016 historical lowest level (+11.1 €/MWh, +26.1%). The growth reflects an upward trend fueled by the recovery in generation costs (PSV: 19.9 €/MWh, +4.1 €/MWh, 25.7%), by a further slight increase in purchases (292.2 TWh, +1.1%) and by the increased use of combined cycle plant sales, at its third consecutive increase and at its highest levels since 2012, replacing a hydroelectric availability decreased to the lowest levels of the last five years and the lowest French imports in the first two months (Fig. 4.1.5).

Groups of hours, volatility and intra-annual trends. Both the peak/off peak ratio of the Pun (1.21, +2.7%), with a bullish dynamic, slightly more intense at the peak (62.34 €/MWh, +28.9%), and the volatility (10.1%, +1.3%), started to grow again at the highest levels in recent years marking a further increase in a consolidated long-term trend. The latter, in 2017, mainly incorporates the effects generated by the sudden spikes induced by external events that affected the Pun during the year, concentrating its growth *i)* in the first two months characterised by tensions on the French market (max. hourly PUN 162.4 €/MWh), *ii)* in the first week of August, thanks to the exceptional levels of demand linked to high temperatures (max. hourly PUN: 138.2 €/MWh), *iii)* in December, especially in relation to the severe criticalities recorded on the gas system on 13 December and the following declaration of the state of emergency by the MiSE (max hourly PUN: 170 €/MWh, maximum level since August 2012) (Fig. 4.1.7, Fig. 4.1.9, Fig 4.1.10).

Prices and zonal dynamics. Similar dynamics recorded on zonal prices, standing between 49.80 €/MWh in the South and 60.76 €/MWh in Sicily, again on the levels of 2014/2015 and up compared to the last year's lows (+23/+28%). In the local peninsular areas, the increases reflect the increase made in specific zones and the changes observed in the structure of increasing local sales, with hydroelectric generation replaced almost everywhere by combined-cycle plants, affected by the already mentioned rise in their variable costs. In particular, the contribution of the hydroelectric power to the North (3,126 MWh, -12.3%), the area with the greater installed capacity on this technology, dropped to the minimum levels in the decade. On the other hand, the recovery in prices in the South, due to a bearish fundamentals (decrease in purchases, increase in renewable sales), is affected by the greater alignment to the northern areas (63% of the hours, +6%), occurred at rising prices (49.53 €/MWh against 39.73 €/MWh in 2016)[21]. Finally, on all the areas, as observed on the Pun, the increase in prices is slightly higher in peak hours, as indicated by the general increase in the peak/off peak ratio and the decrease in the number of sessions with night prices higher than day prices (North excluded) (Fig. 4.1.8, Fig. 4.1.10, Tab. 4.1.2, Tab. 4.1.3, Tab. 4.1.4).

19 Further information available in par. 1.2 "Participants and markets" of this Report.

20 "Bilateral" component shall mean the OTC traded volumes registered on the PCE and subsequently listed on the MGP.

21 Zonal price calculated in the North-South convergence hours.

The strengthening of the cable and the strong Sicilian variability. In a context of recovery in purchases and a sharp decline in wind energy availability, Sicily is once again the area with the most extreme dynamics: the one with the highest average price (60.76 €/MWh), but also the only one, together with Sardinia, in which null prices (15 hours) become to appear again; the one with the lowest day/night variability (1.01 peak/off peak ratio), the highest frequency of day/night price inversion and at the same time the maximum annual volatility (16.9%), the latter supported by strong fluctuations of wind energy availability. This happens in the first full year of operations of the Sorgente-Rizziconi cable with increased capacity and a spread with the other areas that returned to increase slightly after the "regulated prices" phase (6.35 €/MWh compared to almost 5 €/MWh of the previous two-year period)[22], remaining however very far from the 2007-2014 levels (11/36 €/MWh). The strengthening of the cable and the increased ability to import energy at better prices have inevitably fostered a profound transformation in both the supply methods of the island, bringing the share of purchases concluded thanks to domestic sales to 65% (93% in 2014)[23], both in the supply and sale chain, reducing the space available for the more expensive combined cycle plants, whose success rate falls to 34% (it was 60% in 2014)[24] with values above the annual average concentrated between hours 6pm-11pm (maximum at 9:00pm equal to 55%) (Fig. 4.1.8, Fig. 4.1.10, Tab. 4.1.2, Tab. 4.1.3, Tab. 4.1.4).

The sources and the generation mix. The growth in purchases in the Italian system appears to be satisfied mainly by sales of traditional-source units (162.7 TWh, +6.5%), and, in particular, combined-cycle plants, whose volumes continue to grow, returning to their highest levels since 2012 (119.3 TWh, +11.0%, less than 75.1 TWh in 2014). A slight positive sign also comes for coal (21.5 TWh, +0.4%) which interrupts a declining trend that lasted four years. The thermoelectric plants balance the drop in imports (44.1 TWh, -1.2%), at their historical low, and above all the already mentioned significant drop in hydroelectric generation (38 TWh, -11.4%). Finally, the volumes of solar and wind renewable sources, which have now reached their full capacity, show an overall slight annual increase at levels lower than those observed in the three-year period 2013-2015 (39.7 TWh, +1%) (Tab. 4.1.4).

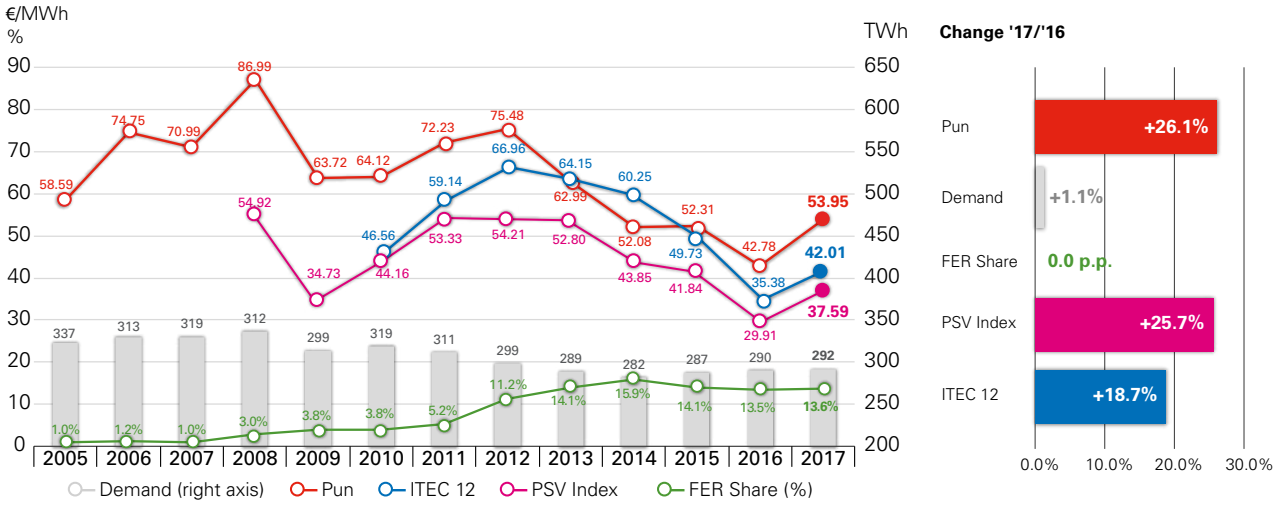
Market concentration. The further slight drop in indicators confirms the picture of a market that has achieved a good degree of competition both at the System level and in its largest area (North). In the rest of the market, even with the structural limitations that such indicators face in smaller areas, positive performances are still reported especially in the South, both in the market shares (CR3: 61%, -8,1%) and in the residual supply index (IOR: 6.9%, -2%). On the other hand, a significant impact connected to the recovery of traditional sources, is observed on the IOM, the only indicator that has been growing and at the highest levels since 2009 (32.5%, +6.8%): considering a decline in imports and hydroelectric sales, the first participant strengthened its position, especially in the North. (Fig. 4.1.11, Tab. 4.1.5).

22 The spread is calculated as the difference between the prices in Sicily and the prices in the North.

23 The comparison was made with 2014, as in the last year no regulatory or structural actions took place. The comparison, however, is also made with 2015, when, under conditions of regulated prices, the sales/purchases share was even higher than 100% and with 2016, the year of introduction of the new cable, where the share, while decreasing compared to the previous years, was still 89%.

24 See note 20. Again, the comparison also takes into account the previous two-year period (in 2016 the rate was 44%).

Fig. 4.1.5 - PUN trend and its determinants[25]



Tab. 4.1.1 - Volumes trend on the MGP

TWh	2010	2011	2012	2013	2014	2015	2016	2017	Change '17/'16
Request of Terna	**330.5**	**334.6**	**328.2**	**318.5**	**310.5**	**316.9**	**314.3**	**320.4**	**2.2%**
Demand	**345.1**	**338.2**	**330.5**	**329.8**	**318.2**	**305.3**	**301.5**	**297.4**	**-1.1%**
with indication of the price	28.3	28.2	34.8	46.5	44.8	36.8	33.0	20.1	-38.9%
rejected	*26.4*	*26.6*	*31.8*	*40.6*	*36.0*	*18.1*	*11.7*	*5.2*	*-55.3%*
Purchases	**318.6**	**311.5**	**298.7**	**289.2**	**282.0**	**287.1**	**289.7**	**292.2**	**1.1%**
% upon request of Terna	96.4%	93.1%	91.0%	90.8%	90.8%	90.6%	92.2%	91.2%	-0.8%
Supply	**509.5**	**538.1**	**555.4**	**532.1**	**511.7**	**500.2**	**502.4**	**489.9**	**-2.2%**
Sales	**318.6**	**311.5**	**298.7**	**289.2**	**282.0**	**287.1**	**289.7**	**292.2**	**1.1%**
at zero price		210.0	201.8	214.7	212.7	190.5	172.2	162.6	-5.3%

25 The data relating to the RES share refers to wind and solar sources.

Fig. 4.1.6 - Offer on the MGP

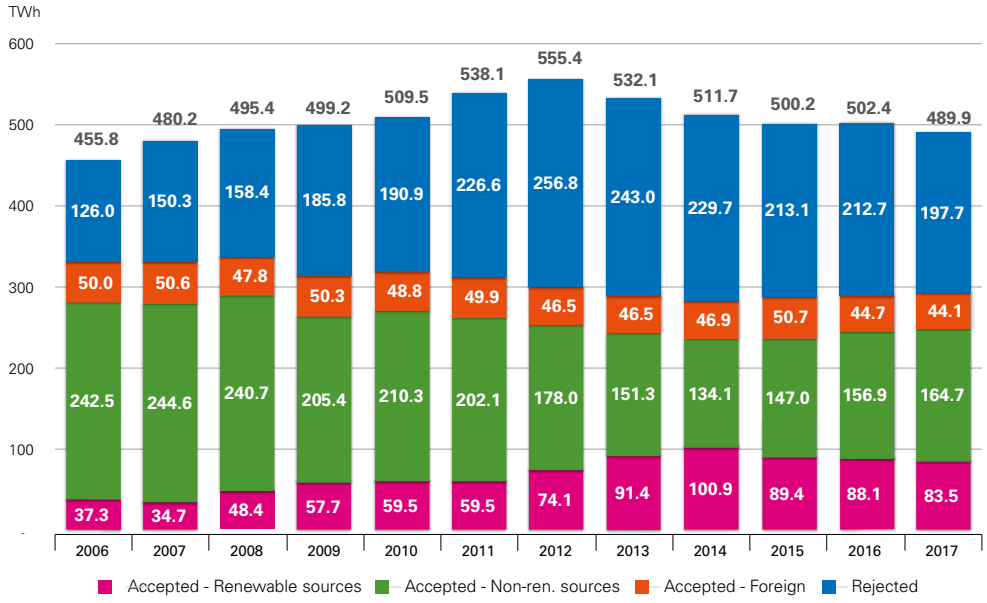


Fig. 4.1.7 - PUN by groups of hours. Annual average

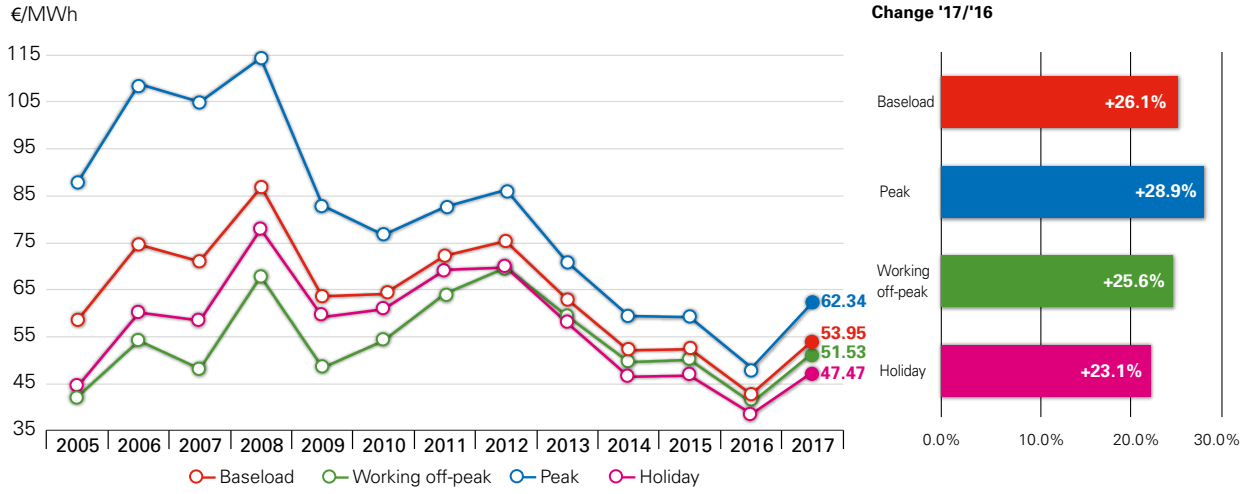


Fig. 4.1.8 - Average zonal prices on MGP

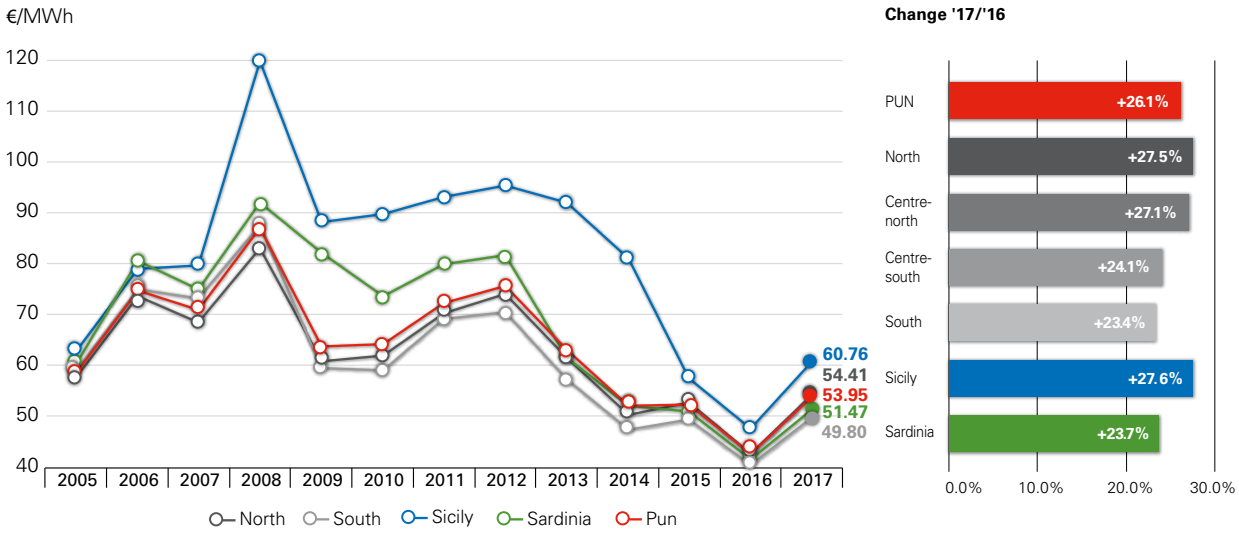


Fig. 4.1.9 - Price volatility

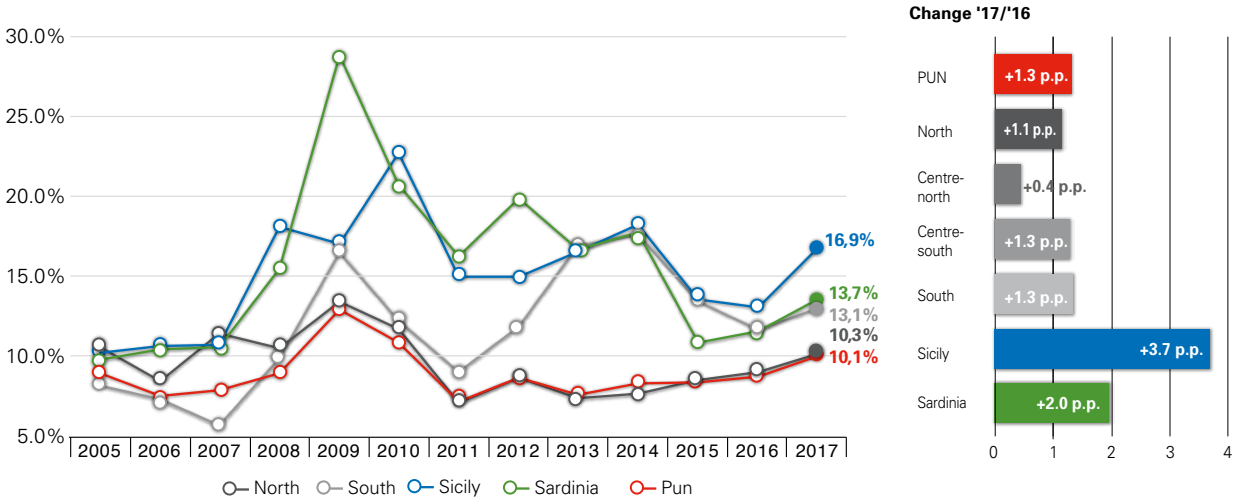
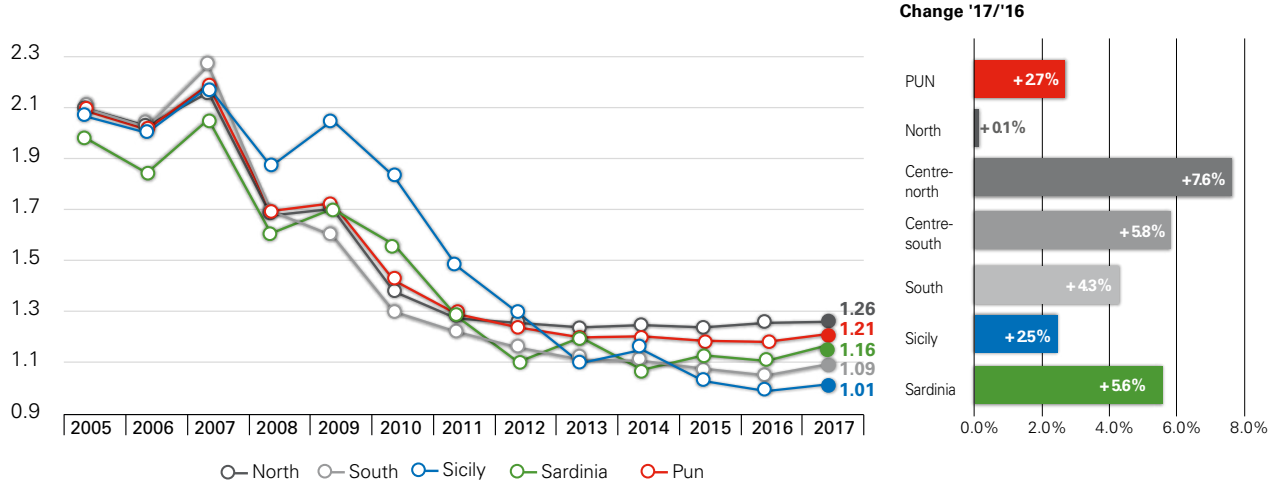


Fig. 4.1.10 - Peak/off peak price ratio on working days



Tab. 4.1.2 - Zero prices and day-time/night time price reversals on the MGP. Year 2017

	PUN	North	Centre/ North	Centre/South	South	Sardinia	Sicily
N° hours with price equal to zero	- *(0)*	- *(0)*	- *(0)*	- *(0)*	- *(0)*	2 *(0)*	15 *(0)*
N° sessions with at least a hourly price equal to zero	- *(0)*	- *(0)*	- *(0)*	- *(0)*	- *(0)*	1 *(0)*	4 *(0)*
N° sessions with day-time prices<night-time prices	70 *(82)*	55 *(44)*	72 *(100)*	92 *(123)*	114 *(151)*	100 *(124)*	193 *(216)*
% sessions with day-time prices<night-time prices	19.2% *(22.4%)*	15.1% *12.0%)*	19.7% *(27.3%)*	25.2% *(33.6%)*	31.2% *(41.3%)*	27.4% *(33.9%)*	52.9% *(59.0%)*
Average difference in sessions with day-time prices <night-time prices €/MWh	-4.65 *(-3.62)*	-4.61 *(-3.41)*	-4.39 *(-5.61)*	-4.05 *(-5.25)*	-4.47 *(-4.72)*	-4.71 *(-5.44)*	-9.48 *(-6.07)*

() The values of the previous year are shown in bracket

Tab. 4.1.3 - Zonal volumes on MGP. Year 2017

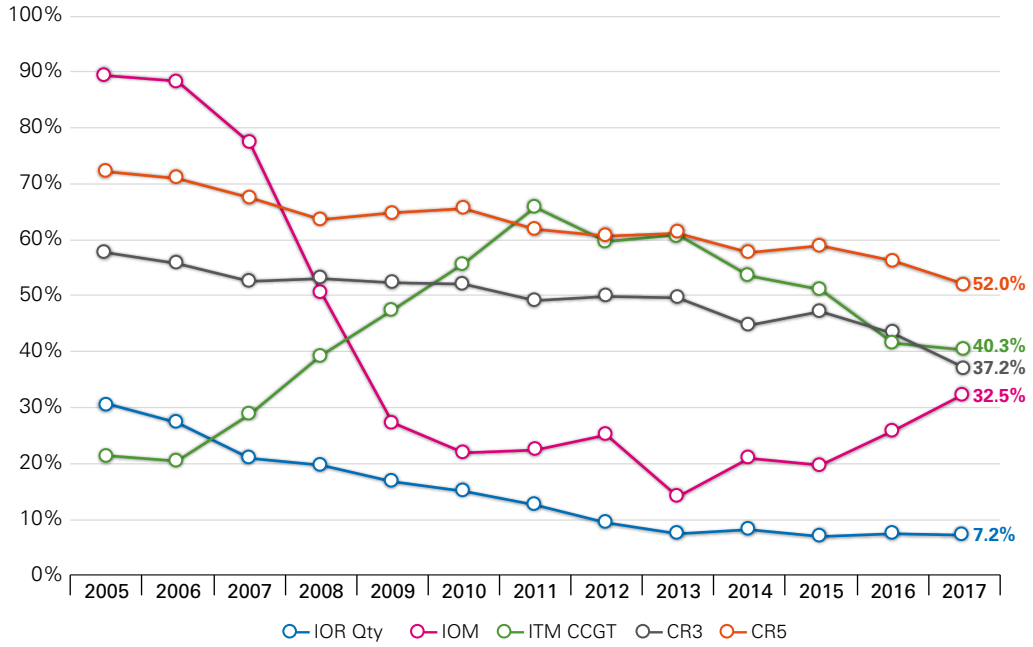
Zone	Purchases		Sales		Supply		Demand		Rejected offers	
North	159.24	*(+2.8%)*	123.01	*(+3.4%)*	233.09	*(-3.8%)*	160.55	*(+1.8%)*	110.08	*(-10.8%)*
Centre/North	31.25	*(+4.9%)*	19.19	*(+1.6%)*	29.09	*(-0.1%)*	31.52	*(-0.9%)*	9.90	*(-3.4%)*
Centre/South	46.58	*(+1.2%)*	32.26	*(+0.8%)*	52.33	*(-3.2%)*	46.82	*(+0.1%)*	20.07	*(-9.0%)*
South	23.17	*(-9.6%)*	51.27	*(+2.2%)*	79.22	*(+8.8%)*	23.31	*(-11.1%)*	27.96	*(+23.4%)*
Sicily	17.09	*(+3.1%)*	11.14	*(-24.3%)*	32.02	*(-15.8%)*	17.18	*(-4.7%)*	20.88	*(-10.4%)*
Sardinia	8.81	*(+1.0%)*	11.28	*(+17.3%)*	18.41	*(-1.1%)*	9.04	*(-2.4%)*	7.13	*(-20.8%)*
Foreign	6.06	*(-16.4%)*	44.05	*(-1.2%)*	45.70	*(-0.8%)*	9.01	*(-16.1%)*	1.65	*(+11.6%)*
Italy	292.20	*(+1.1%)*	292.20	*(+1.1%)*	489.88	*(-2.2%)*	297.44	*(-1.1%)*	197.68	*(-6.8%)*

() The values of the previous year are shown in bracket

Tab. 4.1.4 - Zonal sales by source and technology. Year 2017

	North		Centre/North		Centre/South		South		Sicily		Sardinia		Italian System	
	MWh	*Var*	MWh	*Var*	MWh	*Var*	MWh	*Var*	MWh	*Var*	MWh	*Var*	MWh	*Var*
Traditional sources	**9,043**	***+13.9%***	**915**	***+7.9%***	**2,691**	***+2.0%***	**4,195**	***+0.3%***	**753**	***-27.5%***	**972**	***+24.5%***	**18,569**	***+6.5%***
Gas	7,317	*+21.9%*	856	*+12.2%*	1,112	*+8.6%*	3,217	*+4.8%*	692	*-25.1%*	474	*-9.9%*	13,668	*+11.0%*
Coal	668	*-19.8%*	1	*+7.6%*	1,364	*-3.3%*	-	-	-	-	421	*+111.3%*	2,453	*+0.4%*
Other	1,059	*-4.1%*	58	*-31.0%*	214	*+5.3%*	978	*-12.2%*	61	*-46.8%*	78	*+39.3%*	2,448	*- 8.5%*
Renewable sources	**4,812**	***-8.2%***	**1,276**	***-2.5%***	**949**	***-3.2%***	**1,657**	***+7.6%***	**519**	***-19.2%***	**315**	***-0.4%***	**9,528**	***- 5.0%***
Hydraulic	3,126	*-12.3%*	303	*-14.0%*	360	*-12.0%*	387	*+2.9%*	103	*-26.3%*	56	*+14.1%*	4,335	*- 11.4%*
Geothermal	-	-	662	*-1.3%*	-	-	0	-	-	-	-	-	662	*- 1.3%*
Wind	6	*+12.4%*	18	*+5.8%*	275	*-1.3%*	864	*+11.7%*	278	*-25.2%*	169	*-6.0%*	1,610	*- 0.9%*
Solar and others	1,680	*+0.6%*	293	*+9.0%*	315	*+7.3%*	406	*+3.8%*	139	*+5.3%*	90	*+3.1%*	2,922	*+2.8%*
Pumping	**188**	***-53.2%***	**-**	**-**	**43**	***+30.2%***	**-**	**-**	**0**	***+135.1%***	**0**	***-10.1%***	**230**	***46.9%***
Total	**14,042**	***+3.4%***	**2,191**	***+1.6%***	**3,682**	***+0.8%***	**5,852**	***+2.2%***	**1,272**	***-24.3%***	**1,287**	***+17.3%***	**28,327**	***+1.6%***

Fig. 4.1.11 - Competitiveness indicators on an aggregate basis



Tab. 4.1.5 - MGP concentration indexes on MGP. Year 2017

Indicator	Total	North	Centre/ North	Centre/ South	South	Sicily	Sardinia
HHI Offers		1,649 *(1,771)* ▼	2,887 *(3,026)* ▼	3,678 *(3,698)* ▼	1,886 *(1,594)* ▲	3,434 *(2,645)* ▲	2,835 *(2,958)* ▼
HHI Sales		1,048 *(1,190)* ▼	2,800 *(2,750)* ▲	2,785 *(2,962)* ▼	1,445 *(1,442)* ▲	1,901 *(1,819)* ▲	3,319 *(4,658)* ▼
CR3	37.2% *(43.2%)* ▼	40.9% *(47.6%)* ▼	80.0% *(78.6%)* ▲	66.1% *(67.0%)* ▼	47.2% *(51.6%)* ▼	54.4% *(55.4%)* ▼	81.3% *(82.7%)* ▼
CR5	52.0% *(56.3%)* ▼	60.8% *(65.8%)* ▼	88.2% *(85.0%)* ▲	79.1% *(77.7%)* ▲	61.0% *(69.1%)* ▼	75.1% *(72.5%)* ▲	89.5% *(91.8%)* ▼
IOR Quantity	7.2% *(7.5%)* ▼	0.2% *(0.7%)* ▼	20.2% *(21.9%)* ▼	29.1% *(25.9%)* ▲	6.9% *(8.9%)* ▼	2.8% *(2.2%)* ▲	4.4% *(2.6%)* ▲
IOM 1° Oper	32.5% *(25.7%)* ▲	28.2% *(19.5%)* ▲	31.9% *(27.3%)* ▲	36.5% *(29.8%)* ▲	38.6% *(32.7%)* ▲	38.6% *(52.4%)* ▼	35.6% *(29.8%)* ▲
ITM Ccgt	40.3% *(41.4%)* ▼	36.9% *(37.1%)* ▼	40.1% *(43.5%)* ▼	41.3% *(44.5%)* ▼	42.4% *(44.3%)* ▼	65.2% *(63.0%)* ▲	41.6% *(43.8%)* ▼

() In brackets, the change compared to the previous year

4.1.4. Intra-Day Market (MI)

Increase in sessions and volumes. Starting from February, the MI has incorporated two new sessions, which are now seven, thus increasing the trading options available to participants and their ability to act increasingly close to real time[26]. At the same time, the total volumes of energy traded amounted to 25.3 TWh, resulting only lower than the historical maximum recorded in 2016 (-2.7 TWh). The downturn affected particularly MI1 (13.8 TWh, -1.2 TWh) and MI2 (5.5 TWh, -1.5 TWh), concentrating between 10:00 am – 6:00 pm (approximately -450 MWh) (Fig. 4.1.12, Tab. 4.1.6).

Prices. Against an average annual level again slightly lower than the PUN, the dynamics

26 Starting from the flow date day 1 February 2017, the following markets are open:
- MI1 and MI2, with relevant tradable periods 1:00 am- 00:00 am (unchanged);
- MI3, with relevant tradable periods 5:00 am – 00:00 am;
- MI4, with relevant tradable periods 9:00 am – 00:00 am (ex MI3)
- MI5, with relevant tradable periods 1:00 pm – 00:00 am (ex MI4);
- MI6, with relevant periods 5:00 pm – 00:00 am (ex MI5)
- MI7, with relevant tradable periods 9:00 pm – 00:00 am

observed in 2017 on the "MI single price"[27] (52.58 €/MWh, -1.4 €/MWh compared to the PUN) generally reflect those recorded on the MGP prices, showing an annual increase (+25%), slightly more intense during peak hours (peak/off peak ratio: 1.2, +0.3%), and a further growth volatility (14.7%, +1%). The intra-annual trend was similar to the MGP, with general increases over the months, but concentrated in the first two months and in August.
In the individual sessions, annual prices range between 53-57 €/MWh, lower than the PUN for the same period (1/-3%) and marked by a minimum-maximum differential for the first time lower than 5 €/MWh[28]. The lowest values are recorded on MI1 and MI2 (53 €/MWh, +25%), including in their trading a greater number of hours typically traded at lower prices, while in other sessions the price rises slightly between 54 €/MWh on MI3 and MI5 and over 57 €/MWh on MI6. The sharp increase in prices on MI1 and MI2 was also matched by higher volatility, which has been rising in recent years, and once again reached its highest level since 2011 (respectively 13.1% and 14.1%), although once again significantly lower than that recorded in the other sessions (16.8%/23.1%) (Fig. 4.1.13, Fig. 4.1.14).

Zonal dynamics. Also on a local basis, prices remain lower compared to those on MGP, confirming the ranking placing the South at the lowest price (around 49 €/MWh) and Sicily the highest (58 €/MWh)[29]. The differential with the MGP is again negative in all the sessions, showing in all areas, a progressive growth when approaching the real time. In particular, in the North the MI-MGP spread, amounting to -0.8 €/MWh on MI1, reaches -4 €/MWh on MI7, while in Sicily it starts from -2.4 €/MWh on MI1 and reaches -6.3 €/MWh on the MI7. In terms of price fluctuations among sessions, in all areas the maximum variability occurs between 9:00-10:00 am and between 7:00-10:00 pm touching the highest levels in Sicily, the only one in which even in 2017 prices went up to the Value of Energy Not Supplied - VENF[30] (twice, MI4). In the other areas the maximum hourly prices stand at 250 €/MWh (twice, MI1) with the only exception of the South, rising to no more than 195 €/MWh (twice, MI4).
Overall, on the seven markets of MI and on the national zones, sales and purchases, respectively equal to 23.8 TWh and 23.7 TWh, are both lower than in 2016 (around -10%). The decline, with a few exceptions related to the contingencies of the period, occurred in all the months of the year, affecting especially the local peninsular areas, with the only exceptions of sales in the Centre/North and purchases in the South, both at reaching their historic levels. The North is once again a net exporter, above all in the Centre/South, the South and Sardinia. The amount of imports and exports, supported by Greece, net importer, and Slovenia, net exporter, reach once again their historical maximum levels (Fig. 4.1.15, Tab. 4.1.6).

Sources and wholesalers. The structure of sales/purchases by type of plant confirms the indications for 2016, showing a substantial increase in the programs, post-MI, in thermoelectric plants, although to a lesser extent compared to the previous two-year period, and a reduction in renewable energy plants. The drop in the sales-purchases gap in thermal plants reflects a decrease in sales (13.3 TWh, -1.7 TWh) and a simultaneous increase in purchases to the highest level recorded in the last four years (9.5 TWh, +1,0 TWh). On the other hand, the

27 The "MI single price" is an elaboration carried out by aggregating the hourly prices obtained by weighting the average zonal hourly prices of each session through the arithmetic average for the related purchases.

28 On each session, price aggregates on "time" and "zone" are calculated as the average of the zonal price weighted for purchases.

29 Also on a zonal basis, the aggregation of hourly prices on the individual MI sessions is obtained through average weighted by purchases. The following aggregation of zonal prices on an annual basis is instead obtained through the arithmetic average of the hourly valuations calculated as described above.

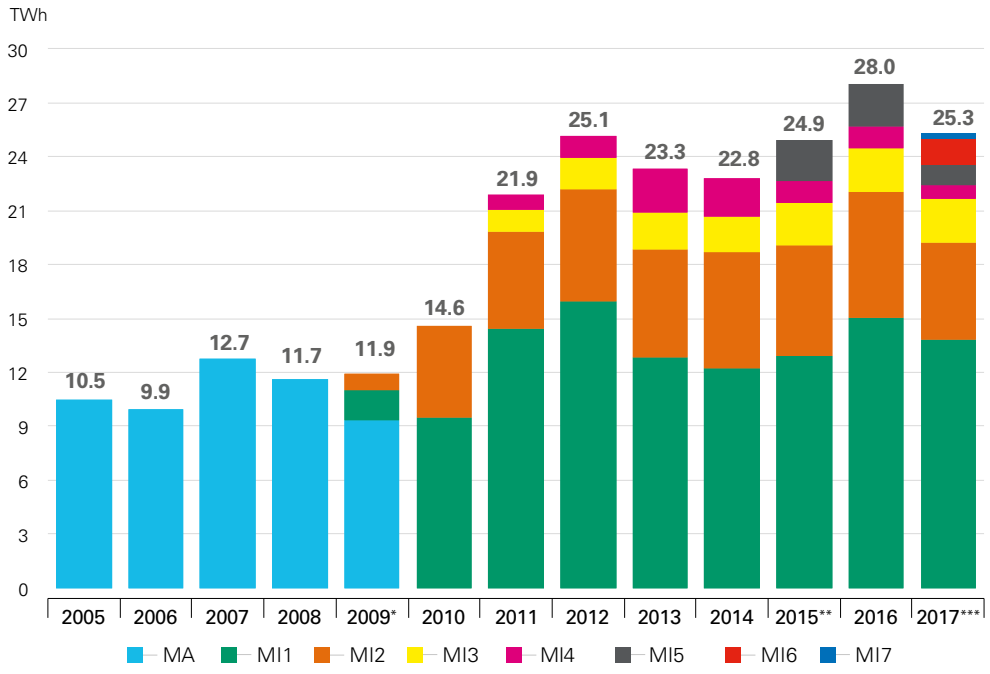
30 This is the valuation of the energy not supplied, amounting to 3,000 €/MWh. This value represents the price of energy valuation when, in the market, the supply of an internal market zone is not sufficient to meet the inelastic demand of the market area.

wind plants purchases mark an all-time-high (2.3 TWh), which more than all, among the renewable ones, use the MI for a reduction in the program resulting from the MGP. Lastly, the wholesalers' volumes on both sides of the market fell sharply: the drop in purchases was particularly significant (5.9 TWh), with a following increase in the post-MI withdraw programs at the lowest levels since 2012 (Tab. 4.1. 7, Fig. 4.1.16, Fig. 4.1.17).

Concentration. Competitiveness, measured with the percentage of the volumes traded by the first three participants (CR3), is between 31% of MI2 and 47% of MI1 (+4/5%) on the purchase side and, with less pronounced dynamics, between 36% of MI3 and 63% of MI1 on the sales side (Fig. 4.1.18).

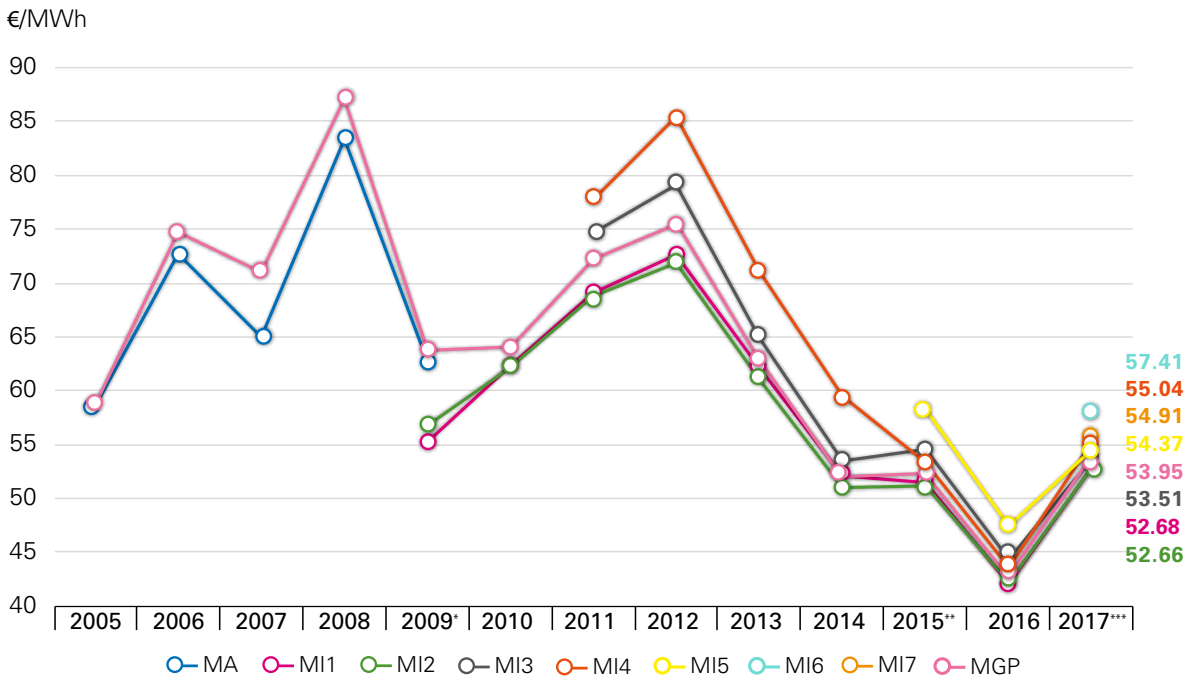
Italy-Slovenia coupling. In the first year of its full operation, the coupling project on the Slovenian border operating on the MI2 and MI6 markets (MI5 until January 2017) allocated a total of 228.7 GWh in imports (9% of the corresponding value observed on the MGP) and 164.8 GWh in export (18% of the corresponding MGP value observed on the MGP), in both cases 100% of the amount traded on the Slovenian border on MI. In general, by analysing the flows along the market chain, it is possible to note a post-MI2 reinforcement of the program following the MI1 in 25% of the hours, a reduction in 27% of the hours and a share of remaining hours, equal to 3%, where the flow is reversed (no variations in the flow in the remaining hours). The same analysis carried out on the MI6 and relating to the relevant trading periods on this market (5pm-00am) shows values equal to 20% (increase), 21% (reduction), 2% (inversion) respectively.

Fig. 4.1.12 - Volumes traded on MI



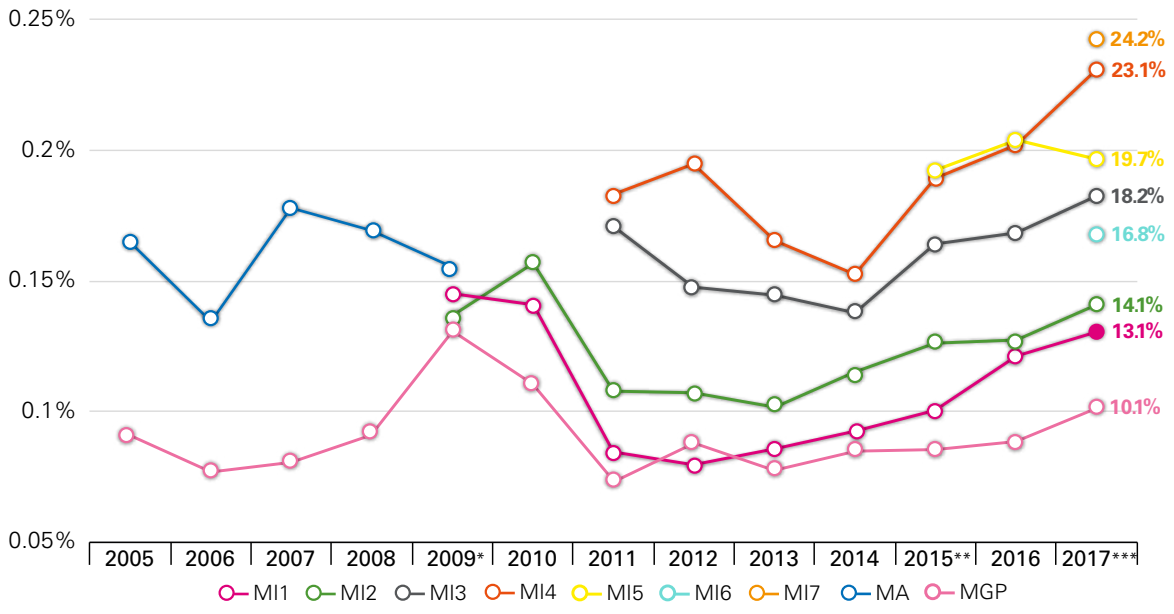
* The data relating to MI1 and MI2 refer to the last two months of the year
** Launch of the new MI5 market starting from February
*** Launch of the new MI6 and MI7 markets starting from February

Fig. 4.1.13 - MI price: annual trend



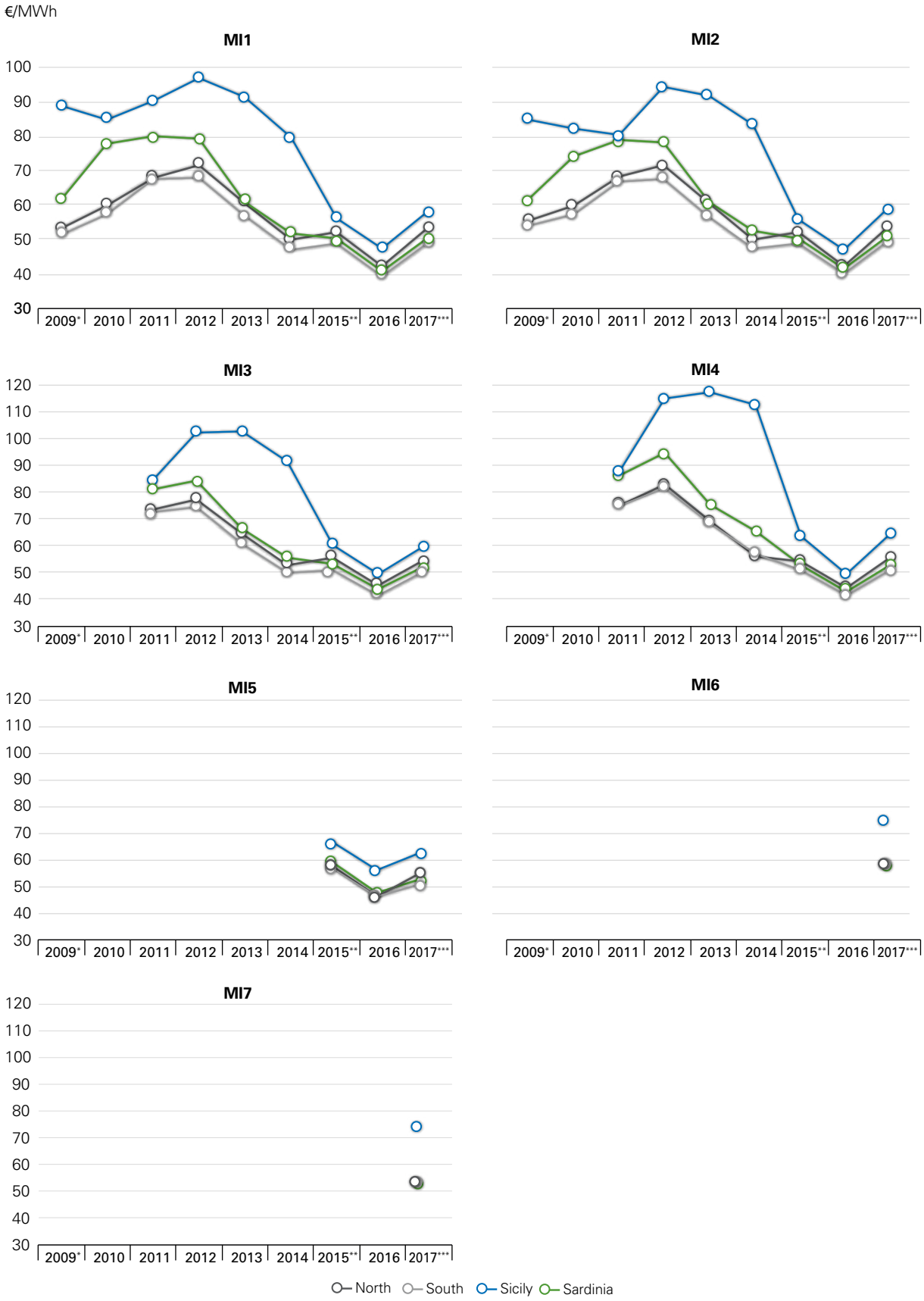
* The data relating to MI1 and MI2 refer to the last two months of the year
** Launch of the new MI5 market starting from February
*** Launch of the new MI6 and MI7 markets starting from February

Fig. 4.1.14 - MI price volatility: annual trend



* The data relating to MI1 and MI2 refer to the last two months of the year
** Launch of the new MI5 market starting from February
*** Launch of the new MI6 and MI7 markets starting from February

Fig. 4.1.15 - MI zonal prices. Annual average



* The data relating to MI1 and MI2 refer to the last two months of the year
** Launch of the new MI5 market starting from February
*** Launch of the new MI6 and MI7 markets starting from February

Tab. 4.1.6 - Zonal volumes

TWh	2011		2012		2013		2014		2015		2016		2017			
	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales		Purchases	
North	13.2	12.4	15.4	14.4	10.9	10.7	10.5	11.2	12.0	11.7	13.2	12.5	11.8	*(-10.9%)*	10.7	*(-14.0%)*
Centre/North	1.3	1.3	0.7	1.6	0.9	1.3	1.2	1.4	1.1	2.2	1.4	2.4	1.5	*(+10.4%)*	1.5	*(-40.1%)*
Centre/South	1.8	2.1	2.6	2.6	3.1	3.0	3.0	2.3	3.4	3.1	3.4	3.6	2.8	*(-16.6%)*	3.3	*(-6.8%)*
South	3.0	3.9	3.9	3.7	5.3	4.6	4.5	4.3	5.0	5.0	6.4	5.7	5.6	*(-13.0%)*	5.8	*(+1.4%)*
Sicily	1.8	1.0	1.5	1.3	1.6	1.4	1.9	1.8	1.6	1.4	1.6	1.4	1.6	*(+3.9%)*	1.5	*(+2.1%)*
Sardinia	0.5	0.6	0.3	0.5	0.4	0.9	0.5	1.0	0.8	0.6	0.6	0.7	0.5	*(-15.2%)*	0.9	*(+22.2%)*
Italy	**21.7**	**21.2**	**24.4**	**24.3**	**22.2**	**22.0**	**21.6**	**22.0**	**23.8**	**23.9**	**26.5**	**26.4**	**23.8**	***(-10.2%)***	**23.7**	***(-10.2%)***
Foreign	0.2	0.6	0.7	0.9	1.2	1.3	1.2	0.8	1.1	1.0	1.5	1.6	1.5	*(+2.9%)*	1.7	*(+1.5%)*
Total	**21.9**	**21.9**	**25.1**	**25.1**	**23.3**	**23.3**	**22.8**	**22.8**	**24.9**	**24.9**	**28.0**	**28.0**	**25.3**	***(-9.5%)***	**25.3**	***(-9.5%)***

()Changes compared to the previous year are shown in bracket.

Tab. 4.1.7 - MI volumes by source

TWh	2011		2012		2013		2014		2015		2016		2017			
	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales	Purchases	Sales		Purchases	
Thermoelectric	**15.5**	**13.8**	**18.7**	**13.6**	**15.2**	**10.9**	**12.4**	**9.3**	**13.6**	**8.7**	**14.9**	**8.5**	**13.3**	**(-11.2%)**	**9.5**	**(+11.9%)**
Gas	12.8	8.1	15.9	9.1	12.2	7.0	10.0	5.2	10.6	5.6	11.4	4.8	10.1	*(-11.9%)*	4.9	*(+2.5%)*
Coal	1.3	2.1	1.2	1.7	1.5	1.4	1.1	1.6	1.9	0.7	1.1	0.8	1.1	*(+1.4%)*	1.0	*(+31.7%)*
Other thermal	1.5	3.6	1.6	2.8	1.5	2.6	1.3	2.5	1.0	2.4	2.4	3.0	2.1	*(-13.3%)*	3.6	*(+21.8%)*
Renewable sources	**2.9**	**1.4**	**2.4**	**1.5**	**3.3**	**2.6**	**3.8**	**2.8**	**4.6**	**5.3**	**5.9**	**6.8**	**5.7**	***(-2.2%)***	**6.8**	***(-1.1%)***
Geothermal	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*(-32.6%)*	0.0	*(+23.8%)*
Natural hydroelectric	2.9	1.4	2.4	1.4	2.7	2.0	2.9	2.1	3.5	3.8	4.3	4.6	4.2	*(-1.6%)*	4.3	*(-6.3%)*
Wind	0.0	0.0	0.0	0.1	0.6	0.6	0.8	0.7	1.0	1.3	1.5	2.2	1.4	*(-7.1%)*	2.3	*(+6.4%)*
Solar and other	-	0.0	-	-	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	*(+114.8%)*	0.1	*(+147.0%)*
Pumping		***2.8***	**2.5**	***2.3***	**1.7**	***1.6***	**2.0**	***1.4***	**1.7**	***1.1***	**1.9**	***2.7***	**2.2**	***(+12.4%)***	**1.5**	***(-43.4%)***
Wholesalers		***3.2***	**0.7**	***6.9***	**1.9**	***6.8***	**3.3**	***8.4***	**4.0**	***8.9***	**3.8**	***8.3***	**2.6**	***(-30.5%)***	**5.9**	***(-29.6%)***
National total		***21.2***	**24.4**	***24.3***	**22.2**	***22.0***	**21.6**	***22.0***	**23.8**	***23.9***	**26.5**	***26.4***	**23.8**	***(-10.3%)***	**23.7**	***(-10.2%)***

()Changes compared to the previous year are shown in bracket.

Fig. 4.1.16 - Sales/purchases balance by type of plant. Hourly average

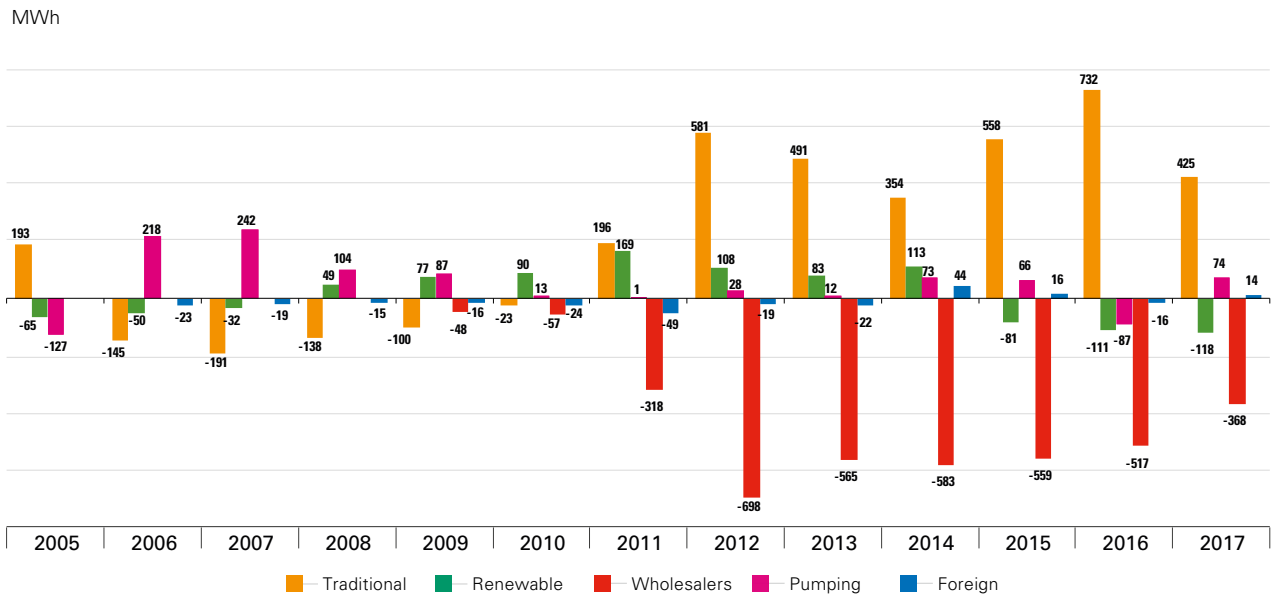


Fig. 4.1.17 - Sales and purchases of wholesalers and changes in the injection programs after of the MI

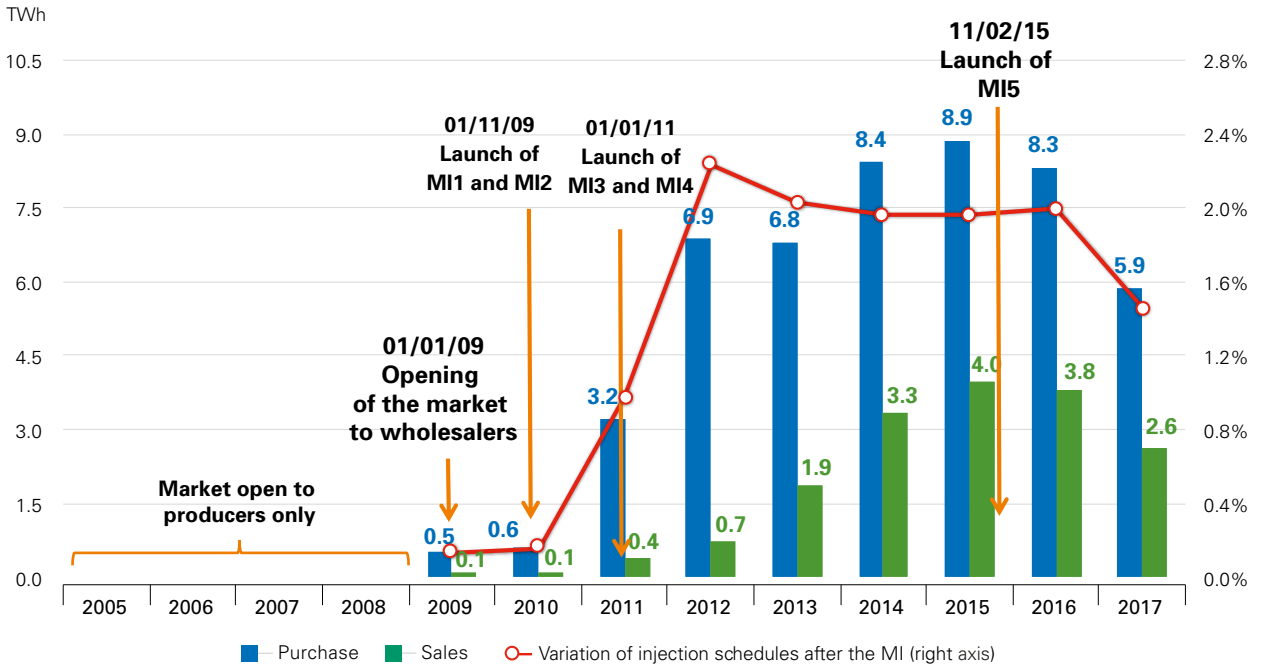
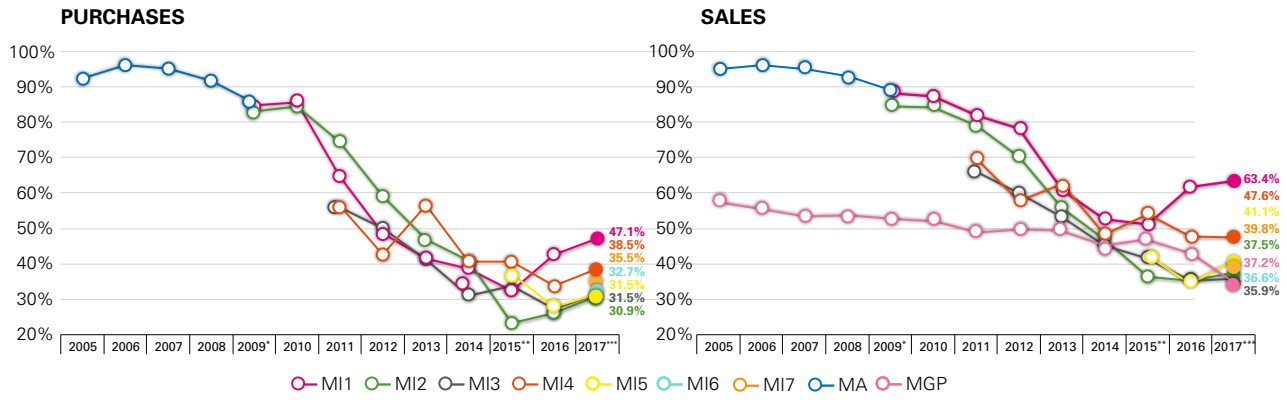


Fig. 4.1.18 - Market concentration



* The data relating to MI1 and MI2 refer to the last two months of the year
** Launch of the new MI5 market starting from February
*** Launch of the new MI6 and MI7 markets starting from February

4.1.5. Daily products market (MPEG)

Volumes. In the daily products market (MPEG), in the first year of full operation, 2,966 trading sessions on the product 'unit price differential', of which about 75% with baseload profile, were carried out using the continous trading method. 93% of the sessions available for the baseload product and 89% for the peakload product recorded at least one exchange. The volumes underlying these transactions amount to 3.9 TWh (of which 3.7 TWh purchased from the Acquirente Unico), 90% of which with a baseload profile, traded mostly between August and November (Fig. 4.1.19).

Prices. The price of daily products is around 0.24 €/MWh for the baseload type and 0.26 €/MWh for the peakload type. The intra-annual trend shows, for both products, an initial drop in prices from 0.5 €/MWh to 0.2 €/MWh, which is the stable level reached between June and November. A new recovery was recorded in December, intense above all on peakload, although linked to a much lower trading volume (Fig. 4.1.19).

4.1.6. Forward trading (PCE and MTE)

PCE registered transactions. The registered transactions, with delivery/making taking in 2017, continue and speed-up the downward trend recorded in the last two years, reaching their lowest level since 2012, equal to 311.9 TWh (-10.8% compared to 2016). Specifically, transactions deriving from bilateral contracts mark a second and more intense decline since the launch of the platform, falling to 307.0 GWh (-11.0%). Non-standard contracts are once again the most used by participants (73% of the total) and only show a slight decrease (-2.6%) while the contraction of the standard ones was much more intense (-28.7%). The transactions registered on the PCE deriving from trading sessions concluded on the Forward Electricity Market (MTE) amounted to 1.0 TWh. On the platform, 3.9 TWh derived from transactions concluded on the Daily Products Market (MPEG), equal to only 2,485 MWh in 2016, also due to the market start-up in October. There are no transactions deriving from the Delivery of electricity derivatives platform (CDE). The increasingly reduced activity of the Acquirente Unico on the platform, which in 2017 only recorded transactions concluded on the MPEG (Fig. 4.1.20, Tab. 4.1.8) contributed to the continuous reduction in the total transactions.

Net position and PCE turnover. The third consecutive year-on-year fall in the net position of the energy accounts determined by the total number of registered transactions, amounting to 164.9 TWh, (-4.0%), which marks a new record in the minimum level recorded in the last seven years. Therefore the turnover, namely the ratio between registered transactions and net position, falls once again compared to the historical record of 2015, standing at 1.89 (Fig. 4.1.20).

PCE schedules. The registered schedules show their third consecutive decrease, amounting to 81.3 TWh (-6.2%, lowest level since 2008) in injection accounts, and to 125.8 TWh (-6,5%, lowest level since 2011) in withdrawal accounts. The scheduled unbalancing of bilateral sellers, at its fourth consecutive decrease, reaches 83.6 TWh (-7.0%); on the other hand, the scheduled unbalancing on the withdrawal accounts grows again, reaching 39.0 TWh (+ 5.0%). The ever-decreasing use of imbalances is reflected in the concentration index values on both injections and withdrawals that reached their historical lows or the lowest levels ever (Tab. 4.1.8, Fig. 4.1.21).

MTE volumes and prices. GME Forward Electricity Market (MTE), which has been progressively reduced in recent years, also has a very small trading volume in 2017 (1.4 TWh, +0.3 TWh). For the third consecutive year, no bilateral registration for clearing purposes was carried out on the platform, while the matchings registered rose to 139 (85 in 2016). Baseloads products are once again the most used products, by profile, which are also those on which most of the increase concentrates (123 matchings, +50 on 2016), and, by duration, the annual baseload, on which about 20% of the total contracts overall traded concentrates. The trend in control prices of the annual baseload for 2018 shows values lower than 45 €/MWh up to July and a subsequent progressive increase in the following months until exceeding 54 €/MWh and aligning with the final market spot price in 2017 (Tab. 4.1.9).

Fig. 4.1.19 - MPEG prices and traded volumes by type

	Trading	Traded products	Price			Volumes	
			Average	Minimum	Maximum		
Type	**N°**	**N°**	**€/MWh**	**€/MWh**	**€/MWh**	**MWh**	**MWh/g**
Baseload	2,156	339/365	0.24	0.10	0.80	3,526,056	10,401
Peakload	810	231/260	0.26	0.19	1.00	402,336	1,742
Total	**2,966**					**3,928,392**	

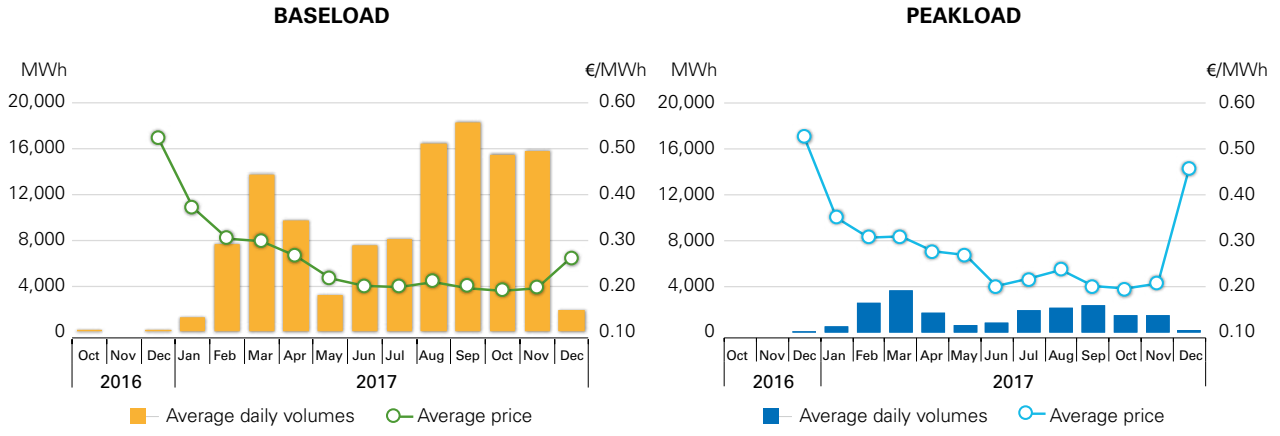
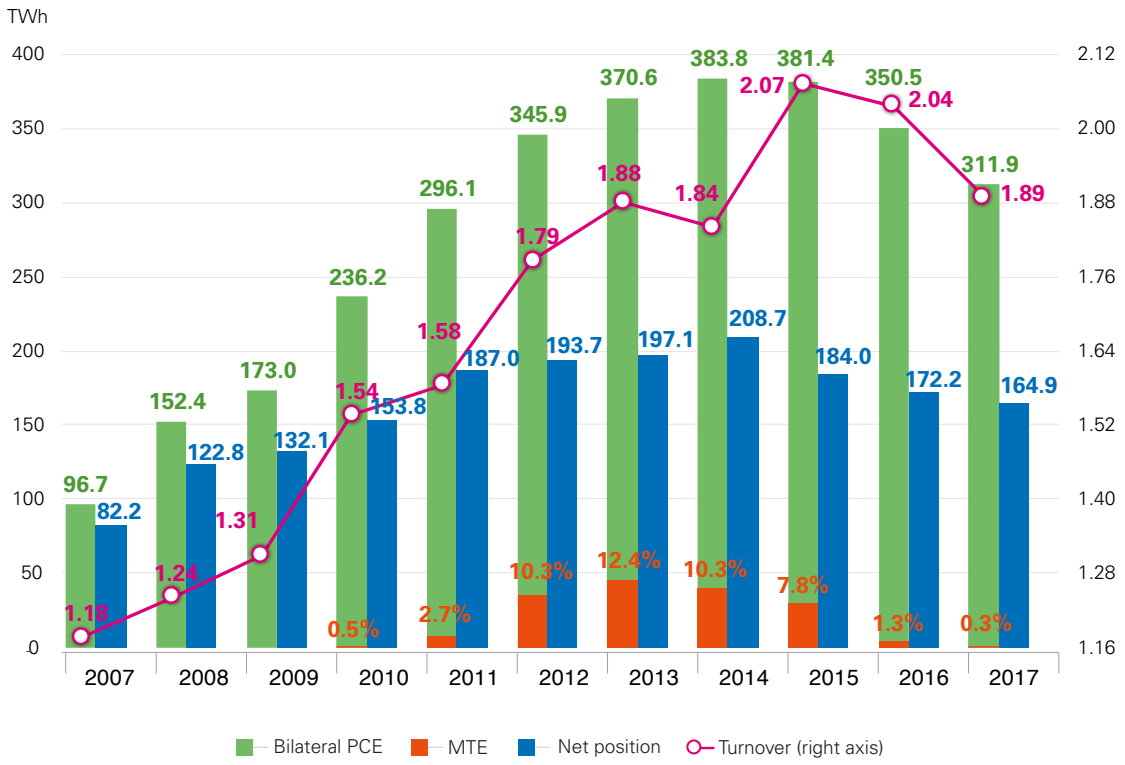


Fig. 4.1.20 - Registered transactions, net position and turnover



Data starting from May 2007

Tab. 4.1.8 - Profile of registered transactions and schedules

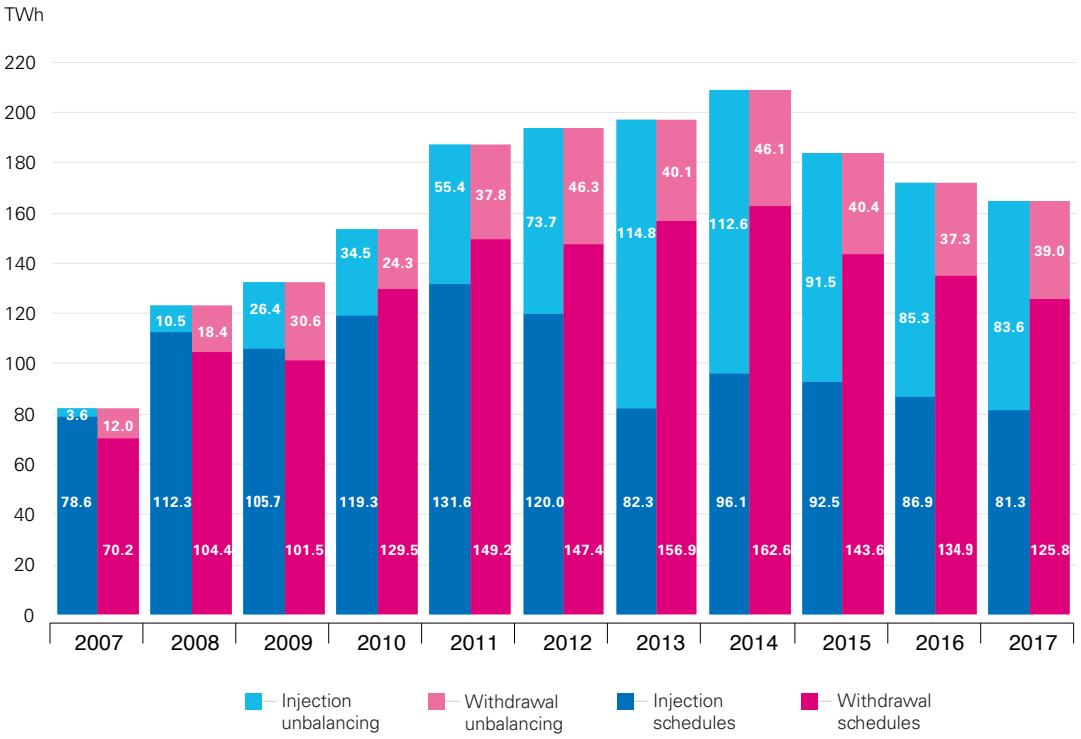
REGISTERED TRANSACTIONS

Profile	MWh	Change	Structure
Baseload	76,135,147	*-24.3%*	*24.4%*
Off Peak	1,623,578	*-64.3%*	*0.5%*
Peak	1,341,598	*-77.3%*	*0.4%*
Week-end	-	-	*0.0%*
Standard Total	**79,100,322**	**-28.7%**	**25.4%**
Non-standard Total	**227,911,075**	**-2.6%**	**73.1%**
Bilateral PCE	**307,011,397**	***-11.0%***	***98.4%***
MTE	**975,356**	***-78.4%***	***0.3%***
MPEG	**3,924,312**	***158252.7%***	***1.3%***
CDE	**-**	**-**	***0.0%***
Total	**311,911,065**	**-10.8%**	**100.0%**
Net position	**164,857,977**	**-4.0%**	

SCHEDULES

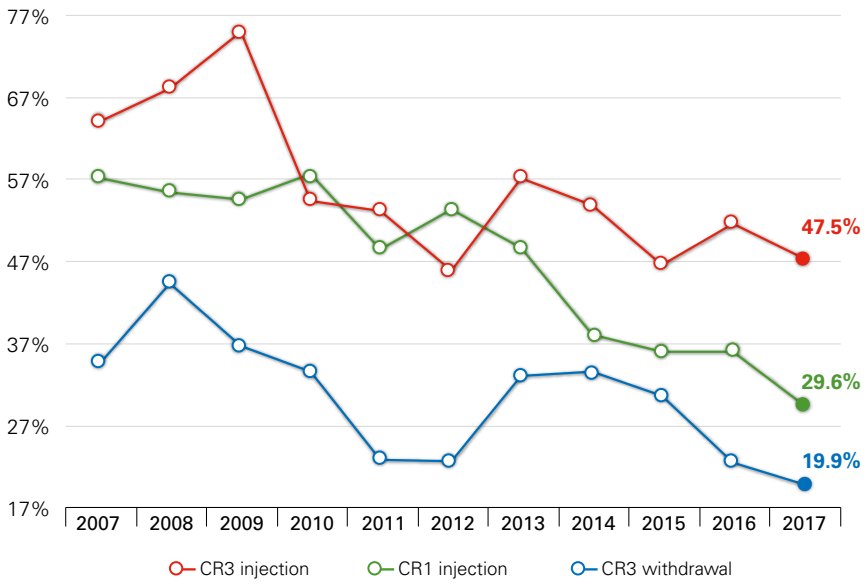
	Injection			Withdrawal		
	MWh	**Change**	**Structure**	**MWh**	**Change**	**Structure**
Requested	102,999,869	*-6.2%*	*100.0%*	127,887,714	*-5.0%*	*100.0%*
of which with indication of price	*47,589,766*	*-5.4%*	*46.2%*	*153,370*	*494.1%*	*0.1%*
Registered	**81,279,313**	***-6.2%***	***78.9%***	**125,819,747**	***-6.5%***	***98.4%***
of which with indication of price	*25,883,119*	*-5.0%*	*25.1%*	*153,120*	*524.6%*	*0.1%*
Rejected	21,720,556	*-6.1%*	*21.1%*	2,067,967	*1460.1%*	*1.6%*
of which with indication of price	21,706,647	*-5.8%*	*21.1%*	251	*-80.7%*	*0.0%*
Scheduled unbalancing	**83,578,664**	***-1.8%***		**39,038,231**	**5.0%**	
Schedules balance	**-**	**-**		**44,540,434**	**-7.0%**	

Fig. 4.1.21 - Physical programs registered and scheduled unbalancing



Data starting from May 2007

Fig. 4.1.22 - Scheduled unbalancing: participants' shares



Data starting from May 2007

Tab. 4.1.9 - MTE: volumes traded per trading year

	2010	2011	2012	2013	2014	2015	2016	2017	Δ% 2017/2016
Contracts (MW)									
Total	**2,366**	**8,228**	**12,697**	**6,096**	**4,550**	**1,004**	**411**	**518**	**26%**
Baseload	1,146	6,018	11,633	4,604	4,410	899	323	449	39%
Peakload	1,220	2,210	1,064	1,492	140	105	88	69	-22%
Volumes (TWh)									
Total	**6.3**	**33.4**	**953**	**41.1**	**32.3**	**5.1**	**1.1**	**1.4**	**27%**
Baseload	5.0	29.8	884	36.7	32.2	5.0	1.0	1.3	33%
Peakload	1.3	3.7	69	4.4	0.1	0.1	0.1	0.0	-68%
Number of matchings									
Total	**360**	**665**	**953**	**342**	**500**	**252**	**85**	**139**	**64%**
Baseload	177	478	884	136	488	239	73	123	68%
Peakload	183	187	69	206	12	13	12	16	33%
OTC volumes share									
Total	**0%**	**5%**	**45%**	**81%**	**43%**	**0%**	**0%**	**0%**	**+0 p.p.**
Baseload	0%	6%	45%	90%	43%	0%	0%	0%	+0 p.p.
Peakload	0%	1%	46%	0%	29%	0%	0%	0%	+0 p.p.

4.2. GAS-MARKETS

4.2.1. The context

Demand. Consumption of natural gas recorded the third upward trend and increased to 790.4 TWh, confirming the gradual recovery over the lowest value reached in 2014 and remaining at levels below nine years ago, when they began to decrease. The growth is particularly driven by consumption in the thermoelectric sector, which rose to the highest levels since 2012, amounting to 269 TWh (+9.0%), mainly due to the reduced renewable production observed since 2014 and the decrease in electricity imports in the last two years. The consumption of the industrial sector (+7.2%), at the highest levels of the last nine years, also shows signs of recovery after a long period of production crisis, while the increase in consumption in the civil sector is less significant (+3.5%)), mainly driven by moderately colder temperatures in the first months of the year (Fig. 4.2.1).

Supply. The increase in consumption was mainly absorbed by higher imports of natural gas, which are once again the main source of supply, accounting for over 80% of the total input into the system. Also in 2017, gas flows from Russia (+7%) and from Northern Europe (+8%) consolidate, while those from North Africa decrease. Conversely, the supply from the storage systems, marks the historical maximum (118.9 TWh, +2.5%) for the second year in a row, reaching 13% of the total gas injected; this percentage, particularly in the last three years, appears to be inversely correlated with the developments of national production, still declining in 2017. Against an almost stable share of imports and a long recession in consumption from 2009 to 2014, the movements in storage (injections/supplies) in the period 2015-2017 are at

the highest levels of the last ten years, around 116 TWh, showing an annual net balance of around 2-3 TWh, values among the lowest ever recorded (Fig.4.2.2, Fig. 4.2.3).

European prices on the rise. The natural-gas price at the PSV reverses the downtrend recorded in recent years, rising to 20 €/MWh and marking an increase of over 4 €/MWh from the minimum level of the previous year (+26%). In a European context where both the prices of oil and the prices of the main hubs follow upward trends (TTF: 17 €/MWh), the Italian one is once again the highest, but with a differential with the TTF at 2.63 €/MWh, down compared to 2016.

Fig. 4.2.1 - Evolution of natural gas consumption

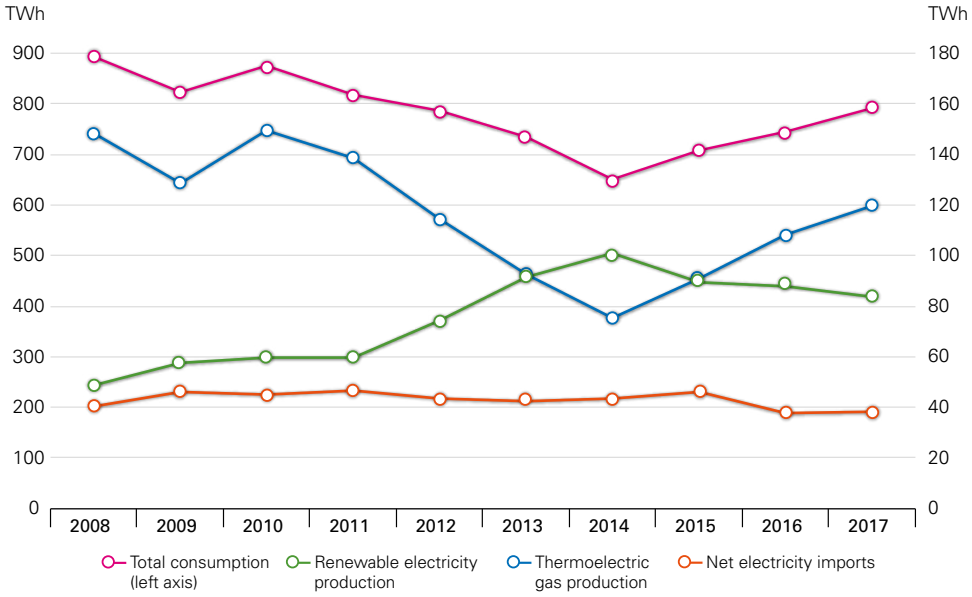


Fig. 4.2.2 - Share of the main supply sources

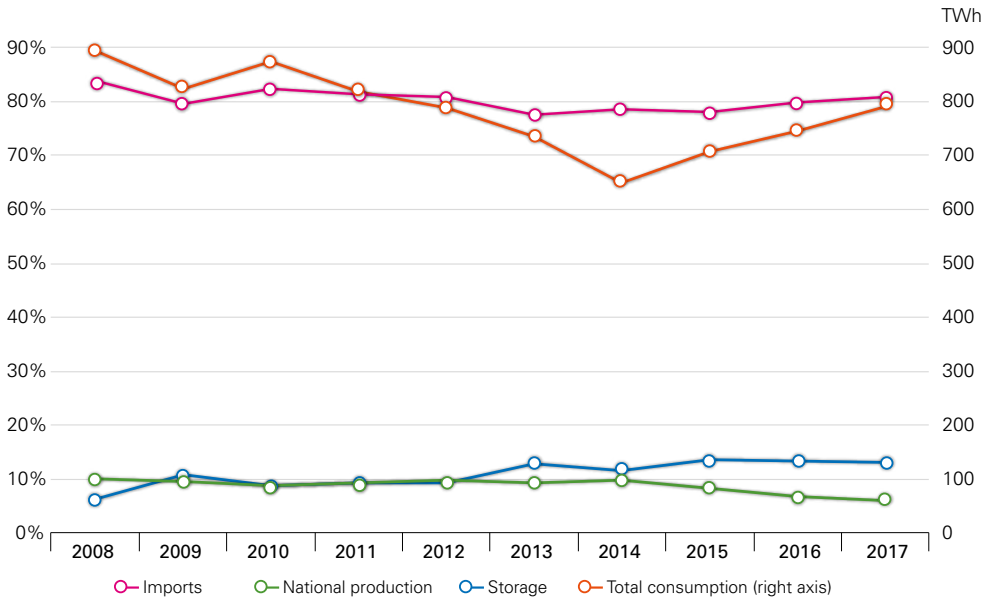
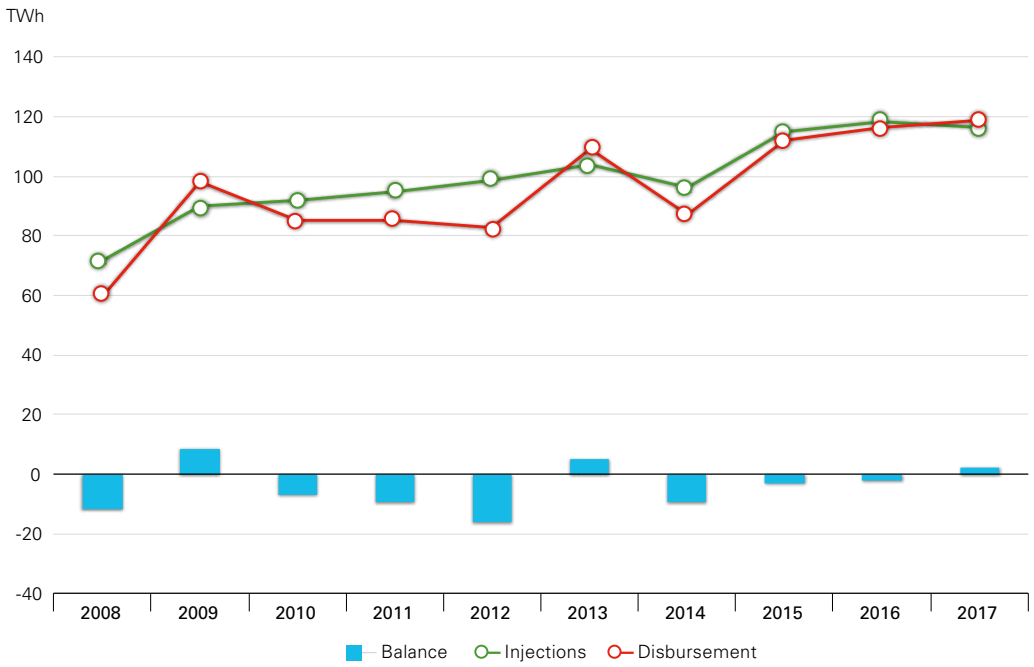


Fig. 4.2.3 - Storages evolution



4.2.2. SPOT GAS MARKET

New market structure. In 2017, markets managed by GME conclude their first year of full operation in the new regulatory framework referred to ARERA Resolution 312/2016/R/gas. In this new structure the Regulated Market for the trading of stored gas (MGS) and the Market for the trading of the Locational Products (MPL) joins the Day Ahead Market (MGP-Gas), the Intraday Market (MI-Gas) and the Forward Market (MT-Gas). Furthermore, with the entry into force of the ARERA Resolution 312/2016/R/gas, the *title products* offered on the MGP-Gas and the MI-Gas have become the main source of supply by Responsible for the Balancing (RdB) for the purpose of the activity performed for system balancing.

Volumes. In the first year of full operations, the volumes traded on the spot market overall equal to about 6% of the total gas demand, a share in line with 2016, show clear signs of recovery. The growth of the liquidity of the markets managed by GME pushes the exchanges on the two title markets at historic highs; the operations on MI-Gas (23.8 TWh), which represents the main trading platform (53% of the total) and, among the continuous trading markets, the one used by Snam for its functions as responsible for the balancing. Then we find MGS, with 16.6 TWh, with smaller amounts traded but also at highs, and MGP-Gas (3.3 TWh). On the latter market, in the first quarter of 2018, the number of trades increased (+324% on an annual basis) in conjunction with the launch of the Liquidity Providing mechanism relating to the gas day in d+1 trading; this dynamic pushes the market share from a weak 4%, in the first three months of 2017, to a more significant 16%. No session was activated on MPL (Fig. 4.2.4).

Prices. Weak increases on an annual basis on all markets, with levels ranging between 19.26 €/MWh of MGS and 19.67 €/MWh of MI-GAS, all slightly lower than the average price at the PSV. The inflation concentrates in the last two months of 2017 and is ascribable to the

increase in consumption in the two months and the events recorded in December following the accident in Austria, all in a bullish European context and in connection with activation by the Ministry of Economic Development of the Pre-Alarm state provided for by the Gas Emergency Plan (Fig. 4.2.5, Tab. 4.2.1).

Prices microstructure. In 2017, the high correlation between the prices recorded on the title markets, represented by the System Average Price (SAP), and the listing on the PSV, already proven in the last quarter of 2016, is ascribable to the peculiar role of the market, aimed at providing users with clear price indications induced by the RdB so as to promote balancing actions by the individual users. When considering only the gas days in which the prices at the PSV are available, we note a substantial alignment, both in terms of prices and volatility, between the SAP and the price at the PSV; these results show a higher level and volatility in the last quarter of the year, along with the appreciation on the various platforms. Conversely, on MGS prices and volatility always stand at significantly lower levels, both compared to the other two spot markets and to PSV prices (Tab. 4.2.1).

The operation by Snam. The RdB confirms the predominant role on both the title and MGS markets, representing the first participant in both contexts and holding a share of the total traded amount respectively of 25% and 35%. The position of the RdB is low on MGP-GAS due to the provisions of EU Regulation 312/2014 regarding the hierarchy among market resources for balancing purposes, according to which, during the exchange of short-term standardised products, the manager of the transport system shall favor the use of intra-day products over day-ahead products. The function performed by the RdB on MI-GAS is different, mainly focused on providing price indications through interventions during the gas day, also affecting the price dynamics on the main hubs, also taking into account the differentials between the PSV and TTF prices. When analysing the interventions by Snam on MI-GAS with respect to the sign of the System Residual Imbalance, in the months of 2017 when this value was made available, we note that the RdB operated mainly in purchase, with 169 offers accepted at an average price of 21 €/MWh (+1.1 €/MWh compared to the PSV) above 64 registered on the sales at an average price of 17 €/MWh (-5 €/MWh compared to the PSV). On MGS, on the other hand, around 80% of the volumes managed by Snam both for sale and for purchase were intended for balancing; however, the annual figure hides a trend reversal in the last period of the year where Snam operates mainly for *Other* and *Neutrality* purposes (Tab. 4.2.2, Tab. 4.2.3).

Fig. 4.2.4 - Trades trend

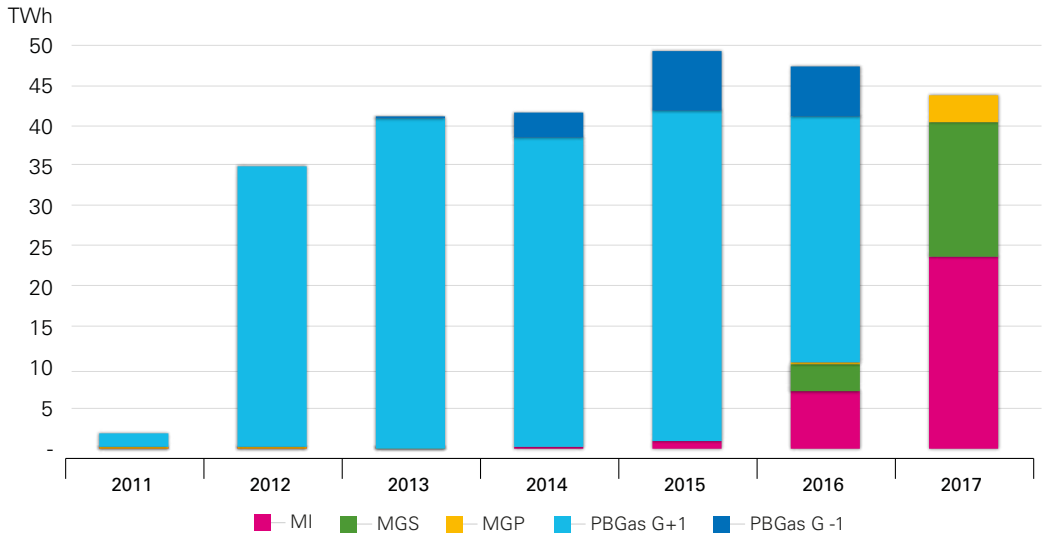
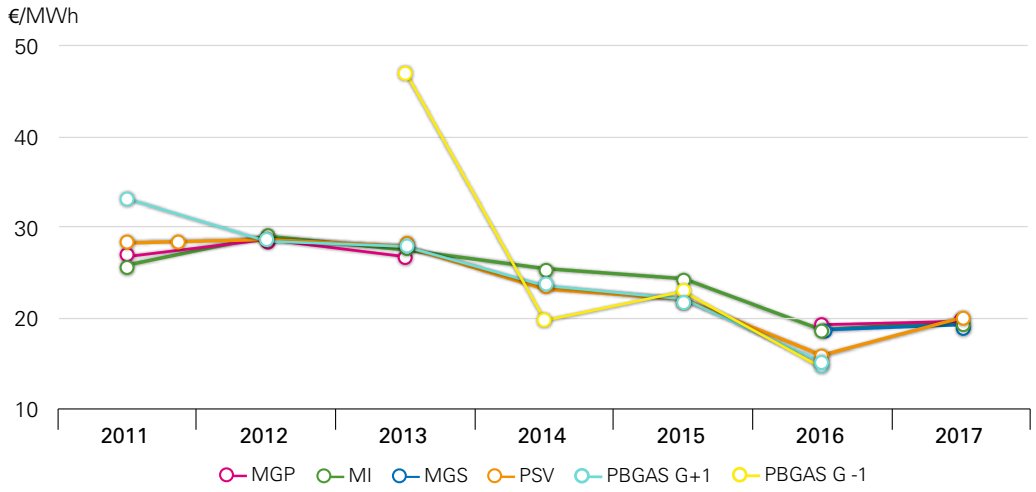


Fig. 4.2.5 - Prices trend



Tab. 4.2.1 - Average prices and volatility

	Average price. €/MWh				Volatility			
Year	Title Markets (SAP)	MGS	PSV	TTF	Title Markets (SAP)	MGS	PSV	TTF
2016 (Oct-Dec)	19.42	18.74	19.13	17.25	3.17%	0.51%	1.07%	0.90%
2017 (Oct-Dec)	22.34	20.79	22.62	19.09	2.62%	0.58%	3.88%	0.73%
2017	19.93	19.27	19.92	17.32	1.63%	0.52%	1.68%	0.72%

Tab. 4.2.2 - Market shares

	Title Markets			MGS		
Participants	Purchases	Sales	Total	Purchases	Sales	Total
SNAM RETE GAS	35.5%	15.1%	25.3%	36.4%	33.2%	34.8%
A2A S.P.A.	19.4%	0.3%	9.9%	-	-	-
ENET ENERGY SA	4.7%	10.0%	7.4%	8.4%	4.8%	6.6%
ENGIE ITALIA SPA	3.8%	7.0%	5.4%	4.1%	2.9%	3.5%
CURA GAS E POWER SPA	3.3%	7.5%	5.4%	-	-	-
DUFENERGY TRADING SA	2.3%	6.0%	4.2%	1.2%	5.7%	3.5%
BURGO ENERGIA SRL	2.0%	3.9%	3.0%	1.6%	1.0%	1.3%
ENOI S.P.A.	1.2%	4.4%	2.8%	1.2%	2.1%	1.7%
ENI S.P.A.	1.3%	4.3%	2.8%	-	0.4%	0.2%
SORGENIA S.P.A.	5.1%	0.4%	2.7%	0.0%	-	0.0%
Other	21.3%	41.0%	31.2%	47.0%	49.8%	48.4%

Tab. 4.2-3 - Interventions of Snam on MI-Gas

	RdB INTERVENTIONS							
	Purchase				Sale			
Sign of the Residual unbalance	Offers *N.*	Average price *€/MWh*	Share on residual unbalance *%*	Average PSV price *€/MWh*	Offers *N.*	Average price *€/MWh*	Share on residual unbalance *%*	Average PSV price *€/MWh*
Negative *(short system)*	129	20.81	37.8%	19.72	13	17.79	52.1%	37.37
Positive *(long system)*	40	20.96	94.3%	19.90	51	16.93	16.7%	18.86
Total	**169**	**20.84**	**44.6%**	**19.76**	**64**	**17.10**	**20.2%**	**22.12**

4.2.3. Other gas markets

MT-GAS. In the Future Gas Market (MT-Gas), 57 trades were recorded in 2017, mainly relating to monthly products and BOMs, for a total amount of 186 GWh. The most traded products were the BoMs and accounted for 76% of the contracts traded, equal to 54% of total MWh volumes. The open position at the end of the year amounted to 14.4 GWh. This result highlights the presence of more favorable trading conditions than in the past, mainly due to the revision of the method for calculating the control price on this market in January 2017 (Tab. 4.2.4).

Tab. 4.2.4 - Exchange structure on MT-GAS

	Matchings			Volumes	
Products	**N.**	**MW**	**%**	**MW**	**%**
BoM	16	8,220	*75.5%*	100,740	*54.1%*
Monthly	32	2,609	*23.9%*	79,478	*42.7%*
Quarterly	9	65	*0.6%*	5,874	*3.2%*
Half-yearly	-	-	-	-	-
Annual	-	-	-	-	-
Total	**57**	**10,894**	**100.0%**	**186,092**	**100.0%**

Natural gas trading platform (P-GAS). After four years, trading in the Royalties segment of the P-GAS restart. In the trading period begun in August 2017 and ended in January 2018, 2.4 TWh were traded, with reference to the delivery period *October 2017 - March 2018*, at an average price of 20.01 €/MWh lower than the level in the PSV in the same trading period (20.85 €/MWh). If we consider only the products delivered in 2017, the volumes traded amount to 1.1 thousand MWh. On the other hand, the other sub-segments remain illiquid except for orders periodically submitted and determined mainly by the bid obligation.

4.3. ENVIRONMENTAL MARKETS

4.3.1. Energy Efficiency Certificates (TEE) Market

The new regulatory context. In 2017, the TEE purchase and sale activity was carried out within a regulatory framework renewed by the approval of the Interministerial Decree of 11 January 2017. In particular, this decree: *i)* set the national energy savings targets for the 2017-2020 period and the related obligations for electricity and gas distributors aimed at achieving them; *ii)* established the new guidelines for the evaluation of energy efficiency projects and for the definition of the criteria and procedures for issuing White Certificates; iii) ordered the introduction of unified trading for all types of TEE, launched by GME according to the implementation procedures defined by ARERA with Resolution 514/2017/R/EFR; *iv)* provided ARERA with directions for determining the tariff-based contribution. In relation to the latter, ARERA approved with Resolution 435/2017/R/efr the revision of the rules for determining the tariff-based contribution to be paid to the distributors subject to the obligations, defining the formula for determining the "relevant reference price of the session", functional to the calculation of the above contribution.

Demand and supply in the system. The analysis of the context shows, over the years, a gradual erosion of the margin between supply and demand of certificates linked to the *i)* increase in obligations up to the historical highs observed in 2016[31], *ii)* the gradual inclination shown by the obliged parties to delay the annulment of their obligations, albeit always within the time frame envisaged by the compliance mechanism, *iii)* the increasing reduction of the number of certificates issued, as a consequence of the stricter evaluation criteria provided for by the legislation for the admission of projects to the incentive mechanism. The increasing scarcity induced by these factors has favored tensions that have affected the market, favoring an increase in prices over the years, from around 148 €/tep in 2016 to 267 €/tep in 2017.

Volumes and liquidity in the market. In this context, in 2017 the volumes traded on the regulated market strengthen their long-term growing trend, recording a new significant increase after the one observed in 2016 and reaching the historical highs of 6.2 million tep (+12.2%). This dynamic confirms the liquidity of the market close to its maximum levels (55%, -4%), albeit slightly lower than in 2016, due to the greater recovery in bilateral transactions that, amounting to 5.0 million tep (+30.5%), are still far from the record value of 2014. Trading volumes increased in the last two years: in absolute terms, the movements recorded on the market amounted to 699,000 tep in 2017, an increase of 25% compared to 2016. In this context, it is interesting to note the data observed in the last quarter of the year, with the trading volumes recording their historical highs in October reaching almost 120,000 tep and with a trading share of 20.8% in November, close to the June 2016 record (-1.6%) (Fig. 4.3.2).

Prices. In a context of general scarcity, there is a new significant growing trend in the average annual price recorded on the MTEE, which in 2017, regardless of the type, rises to 267.02 €/tep (+81.0%) further strengthening the growing trend in progress since 2016. Similar situation on the bilateral platform where the average price, also at historic highs, is up to 209.95 €/tep, around 60 €/tep lower than the related market value; this spread decreases to 44 €/tep when excluding transactions recorded at a price lower than 1 €/tep, which represent 6% of the total trading. With regard to the year of obligation 2017, the average spread between market prices

31 Year of obligation.

and the estimated tariff-based contribution amounts to 38 €/tep: this differential of around 54 €/tep in the last two months of 2017 increases progressively in the first sessions of 2018 up to 167 €/tep after the session held on 13 February 2018. Lower prices in the first five months of the year compared to the second part (221.50 €/tep against 304.47 €/tep), with three peaks between February and March around 260 €/tep and the remaining prices below 245 €/tep. Starting from June, when the new year of obligation started, we notice a progressive rise, temporarily interrupted at the end of September, which led to a more stable prices around 350 €/tep in December and then up to 478,79 €/tep in the first two months of 2018 (Fig. 4.3.3, Fig. 4.3.4).

Volatility. The volatility is again on the highest value of the last nine years (5%), thanks to a more marked dynamics in the first half of the year, when prices showed greater variability both between the different sessions and within the single session (the spread between the minimum and maximum price reaches 75 €/tep in the first session). As typically noted, the volatility of bilateral prices is higher, as it stands at 35%, net of zero-price registrations, a sharp increase compared to 2016 (+16%). As a consequence of this trend and of the price dynamics previously described, the Ministry of Economic Development, in agreement with the competent offices of the Ministry of the Environment, requested GME to reduce the frequency of market sessions to one per month until the end of the obligation year 2017, in order to protect the correct functioning of the incentive mechanism and reduce the impacts on the calculation of the tariff-based contribution of the high levels of price volatility (Fig. 4.3.5).

March - April 2018. The two market sessions held in March and April, the first following the reduction of their weekly to monthly frequency, show a significant inversion of the price trend which, from around 479 €/tep of the last February session, decreases to 311 €/tep in April. This trend also leads to a drastic decrease in the share of relevant volumes[32] (zero in April), with a consequent reduced variation in the tariff-based contribution estimated for the year of obligation 2017, down between February and April by about 3 €/tep (from about 314.58 €/tep to 311.45 €/tep). Lastly, the total volumes traded in the two sessions in question were very high, amounting to about 825,000 tep, both due to the effect of the unified trading concentrated in a single monthly session, and due to the approach of the end of the year of obligation (Fig. 4.3.4).

Market concentration. The picture on the regulated market in terms of concentration seems to consolidate both on the purchase side and on the sales side, and due to the physiological structure underlying the incentive mechanism, it is not very competitive in the first case and more competitive in the second. Competitiveness rates, calculated by means of the Concentration Ratio (CR), are high on the demand side and in line with the previous two years (77%), showing however, for the second consecutive year, a slight worsening on the supply side (CR3 : 22.1%, +5%; CR10: 39.9%, +5%) (Fig. 4.3.6).

32 Volumes needed for the calculation of the tariff-based contribution, calculated as the sum of the amounts of the transactions carried out during the market session and concluded at a price not excluded from the interval between the value referred to in paragraph 3.1, subpara. a) and the value referred to in paragraph 3.1, subpara. b) of article 3 of Resolution 435/2017/R/efr.

Tab. 4.3.1 - Requirements for fulfilling the obligation

Year of obligation	Actual obligations Total Distributors (Mtep/a)	Actual obligations Electricity Distributors (Mtep/a)	Actual obligations Gas Distributors (Mtep/a)	Cumulative total for fulfillment (Mtep/a)	Certificates issued from the launch of the mechanism (Mtep/a)
2005	0.16	0.10	0.06	0.16	-
2006	0.31	0.19	0.12	0.47	-
2007	0.64	0.39	0.25	1.11	1.79
2008	2.20	1.20	1.00	3.31	3.73
2009	3.20	1.80	1.40	6.51	6.63
2010	4.30	2.40	1.90	10.81	9.64
2011	5.30	3.10	2.20	16.11	14.74
2012	6.00	3.50	2.50	22.11	20.69
2013	5.51	3.03	2.48	27.62	28.17
2014	6.75	3.71	3.04	34.37	34.65
2015	7.75	4.26	3.49	42.12	40.04
2016	9.51	5.23	4.28	51.63	47.57
2017	**5.34**	**2.39**	**2.95**	**56.97**	**52.93***
2018	5.57	2.49	3.08	62.54	
2019	6.20	2.77	3.43	68.74	
2020	7.09	3.17	3.92	75.83	

*The data is calculated as at 30 April 2018

Fig. 4.3.1 - TEE obligations and cancellations

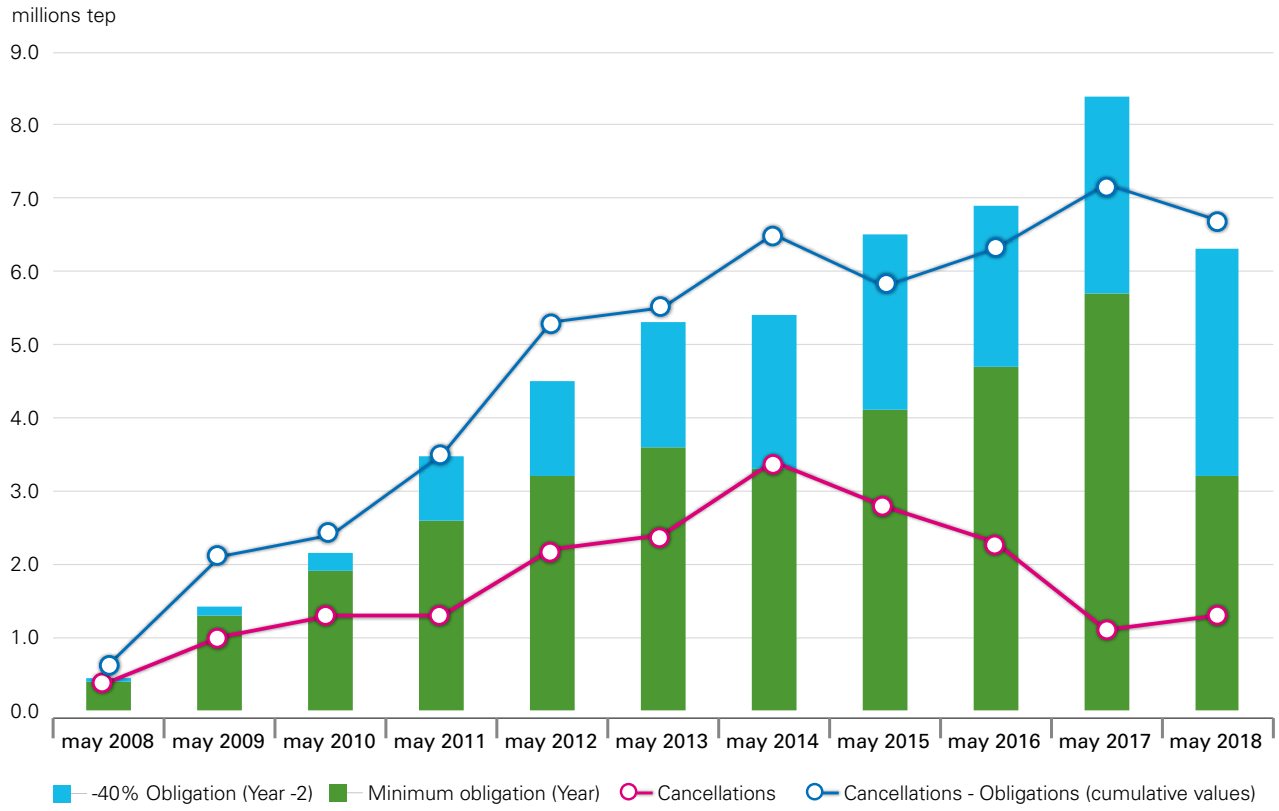


Fig. 4.3.2 - TEE volumes traded

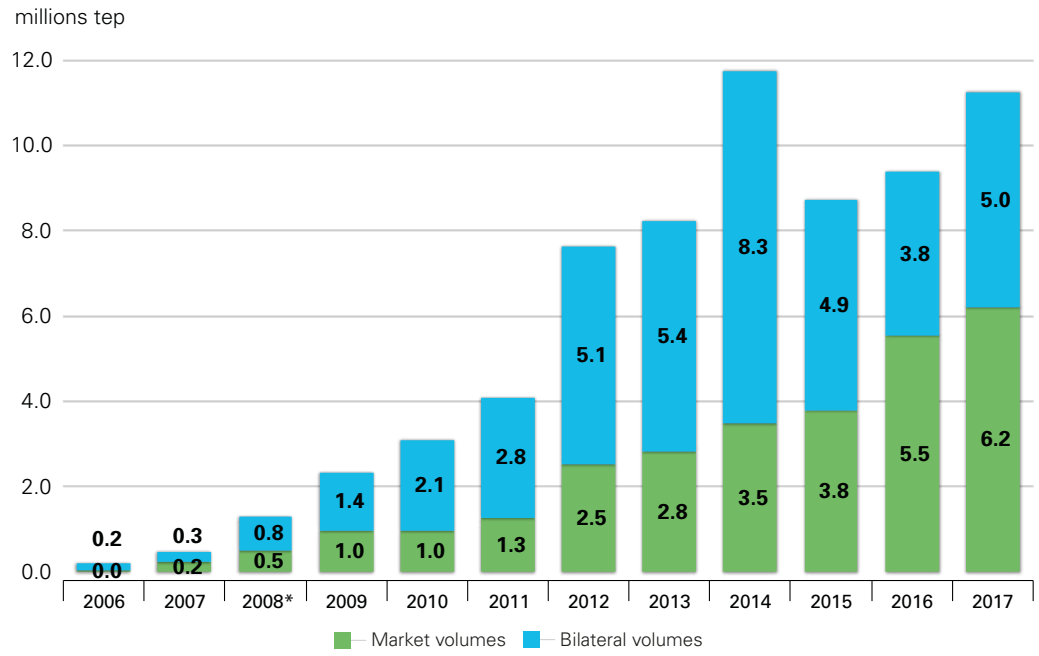
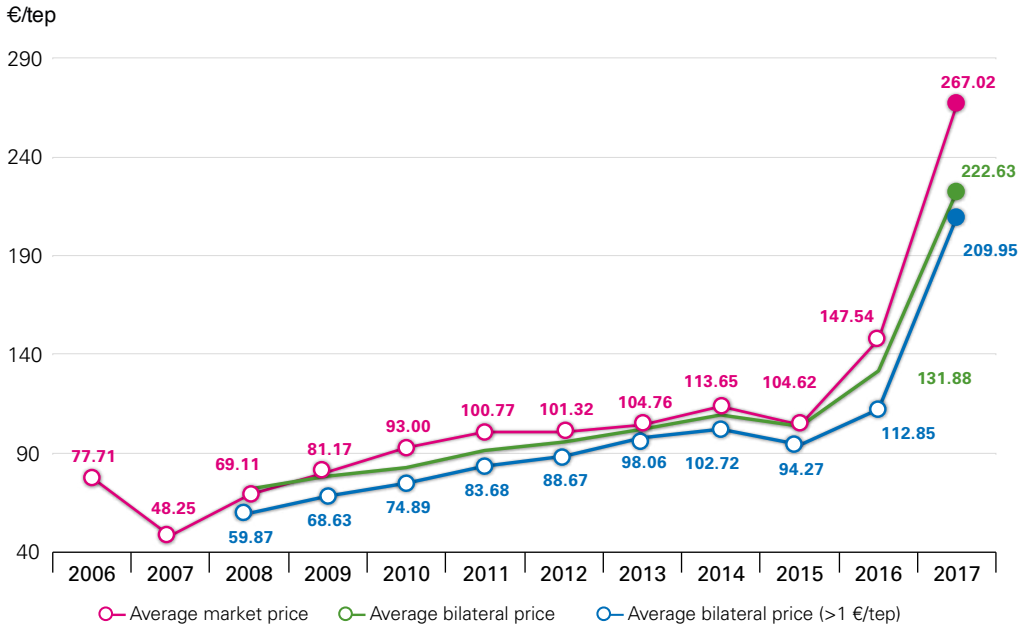


Fig. 4.3.3 - TEE prices. Annual average



The data on bilateral prices are available starting from 1 April 2008, when the obligation to communicate the price of bilateral transactions came into force through the TEE Register managed by GME, introduced by ARERA Resolution no. 345/07.

Fig. 4.3.4 - Session TEE price trend. Years 2017-2018

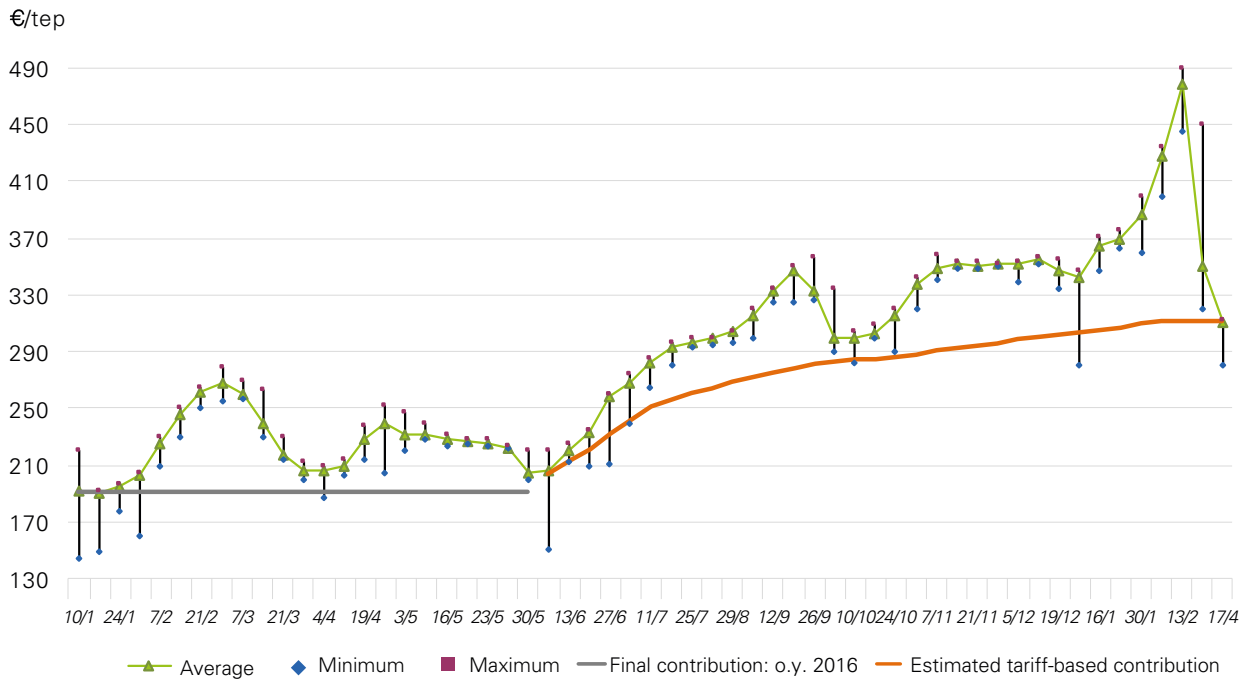
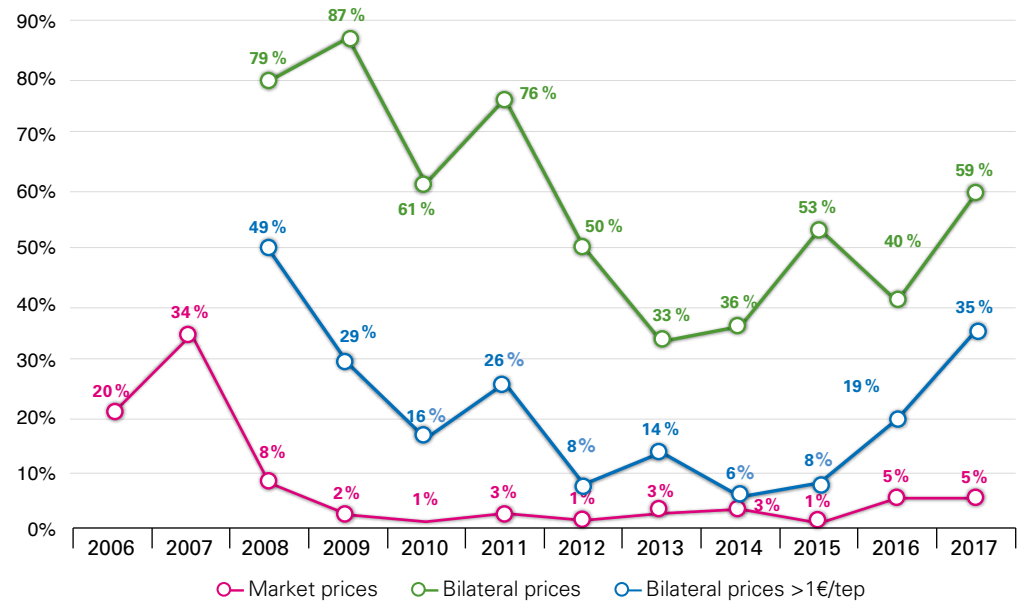


Fig. 4.3.5 - TEE prices volatility



The data on bilateral prices are available starting from 1 April 2008, when the obligation to communicate the price of bilateral transactions came into force through the TEE Register managed by GME, introduced by ARERA Resolution no. 345/07.

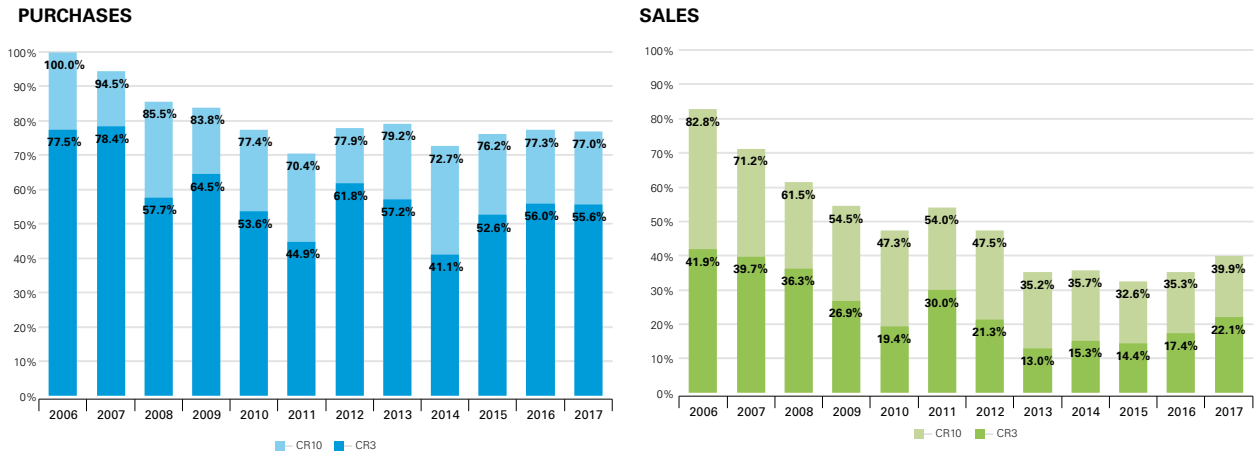
Tab. 4.3.2 - Year of obligation summary

	Average price	Traded Certificates	Relevant average price	Relevant volumes		Estimated tariff-based contribution*	Available certificates**	Issued certificates**
Period	**€/tep**	**tep**	**€/tep**	**tep**	**% on trades**	**€/tep**	**tep**	**tep**
June - April	317.88	4,843,044	313.45	3,932,672	81.2%	311.45	5,519,679	52,926,348
June - March	318.72	4,291,494	313.45	*3,932,672*	*91.6%*	311.45	4,751,337	52,157,554
	(-0.3%)	*(+12.9%)*	*(+0.0%)*	*(+0.0%)*	*(-10.4 p.p.)*	*(+0.0%)*	*(+16.2%)*	(+1.5%)

* The value is an estimate made on the basis of the formula defined by the ARERA with resolution 435/2017/R/EFR. Therefore, GMEdoes not provide any guarantee regarding the accuracy of this estimate, nor assumes any responsibility for any errors or omissions relating to it.

** The data is calculated from the beginning of the mechanism until the last day of the reference period; in addition, the issued certificates are calculated net of withdrawals.

Fig. 4.3.6 - Market concentration



4.3.2. Guarantees of Origin Market (GO)

Volumes and liquidity. The data from 2017 confirm the trend observed over the years, identifying in the bilateral trading the most used method to exchange guarantees of origin. In fact, trading on the GO (MGO) market stood at 0.76 TWh, on the rise compared to the previous year, but still very far from the volumes traded on the bilateral platform (PBGO) which, although down compared to the maximum level recorded in 2016, stand at 43.0 TWh (-18%). The use of the GSE auction mechanism, which seems to have absorbed the amounts sold by bilateral trading, has risen sharply, reaching 28 TWh (+ 50%) and consolidating its role within the certificate purchase/sale system (Fig. 4.3. 7).

Intra-annual exchange trend. The total volumes traded show a high concentration in the first quarter of the year and a weak liquidity in the rest of the year. This trend confirms the inclination of participants to trade, especially when approaching the expiry of the obligations, showing little interest in activities with trading purposes; therefore, over 80% of the total traded refers to the 2016 production period, both for the regulated market and for the bilateral platform. GSE auction sessions are an exception: starting from June 2017, there is a higher participation in terms of allocated volumes.

Prices. In 2017, the average price recorded on the MGO amounted to 0.19 €/MWh, down compared to the historical high recorded in 2016 (-10%), but on levels much higher than those observed until 2015. This dynamic favors the elimination of the differential with the bilateral prices which, in contrast, show a significant recovery (+35%). In this context, both in terms of level and intensity of the changes, the average price of the allocation through the GSE auction, amounting to 0.42 €/MWh (0.12 €/MWh two years earlier) stand out (Fig. 4.3.8, Fig. 4.3.9).

Intra-annual price trend. On the regulated market, the average price hides, however, a current upward trend in the last four months of the year, concerning guarantees for the 2017 production year. The prices recorded for this category are at the historical highs for each type of plant and for each trading platform. The appreciation on the MGO is more intense with prices are around 0.5 €/MWh and the same applies to GSE auction where the solar-type guarantees reach 0.6 €/MWh.

Types of plant. The structure of trading by type of plant at the end of the year of obligation for the certificates traded referred to the year of production in 2017, shows the different placement of guarantees of origin based on the platform used. The guarantees referring to production from hydroelectric plants are the most traded on both the regulated market and on the bilateral platform, respectively 52% and 64%, while in the GSE auctions the Other type is the most used (50%), followed by the Solar type (36%) (Fig. 4.3.10, Fig. 4.3.11).

Fig. 4.3.7 - GO volumes traded

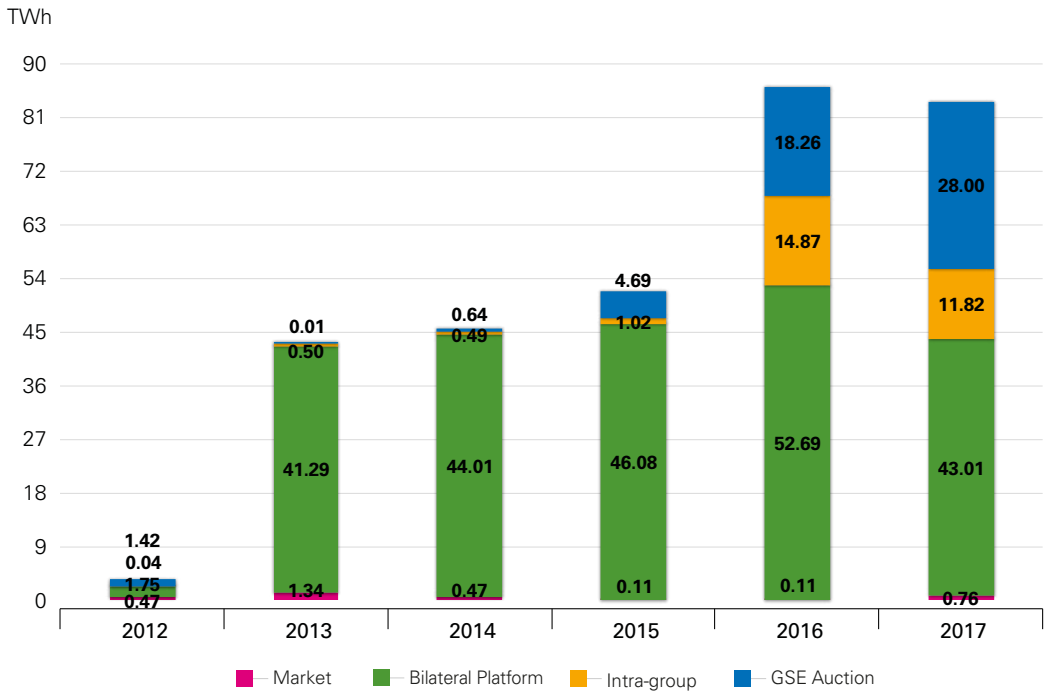


Fig. 4.3.8 - GO prices. Annual average

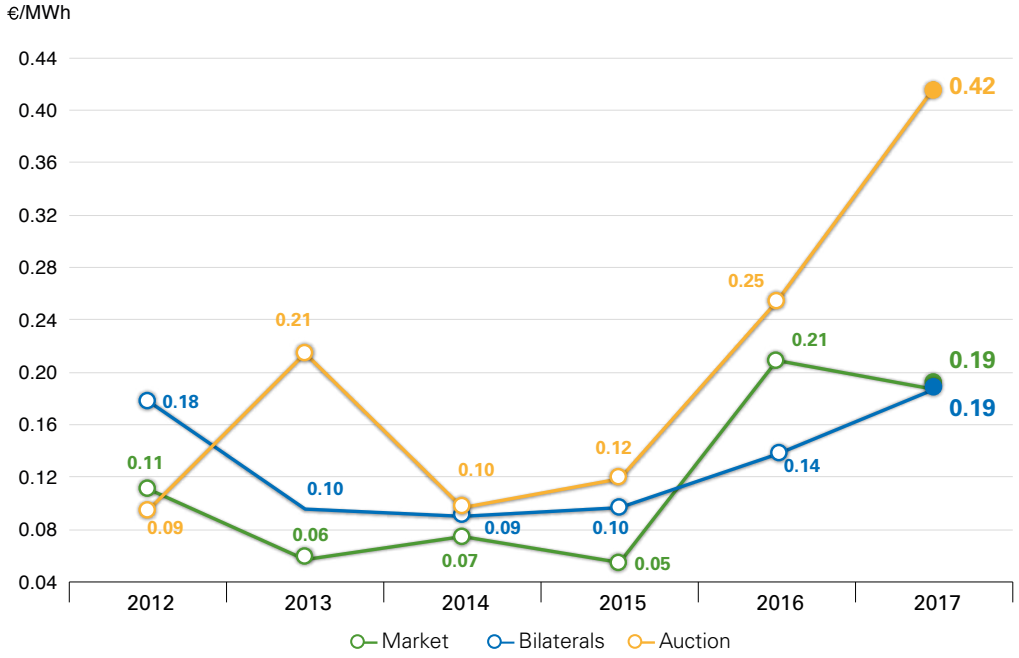


Fig. 4.3.9 - GO prices by type and year of production

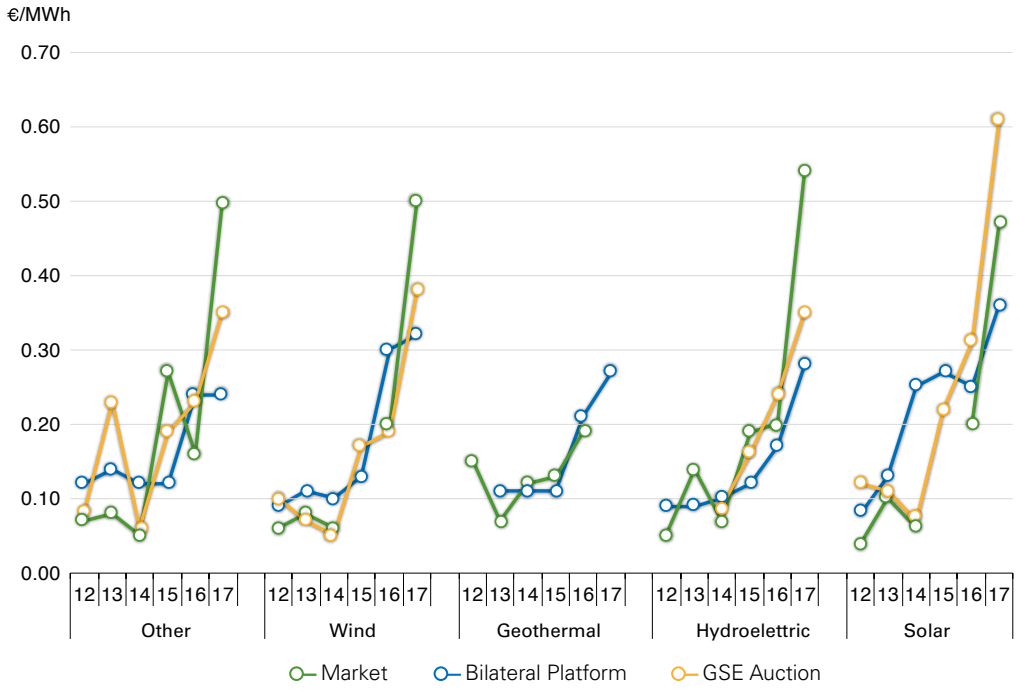


Fig. 4.3.10 - Structure of the volumes traded by year of production

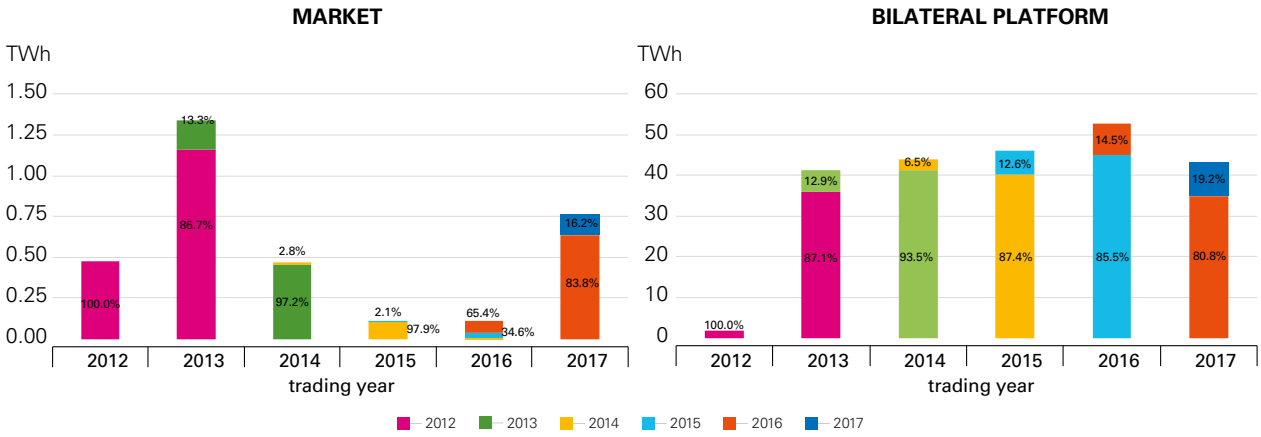
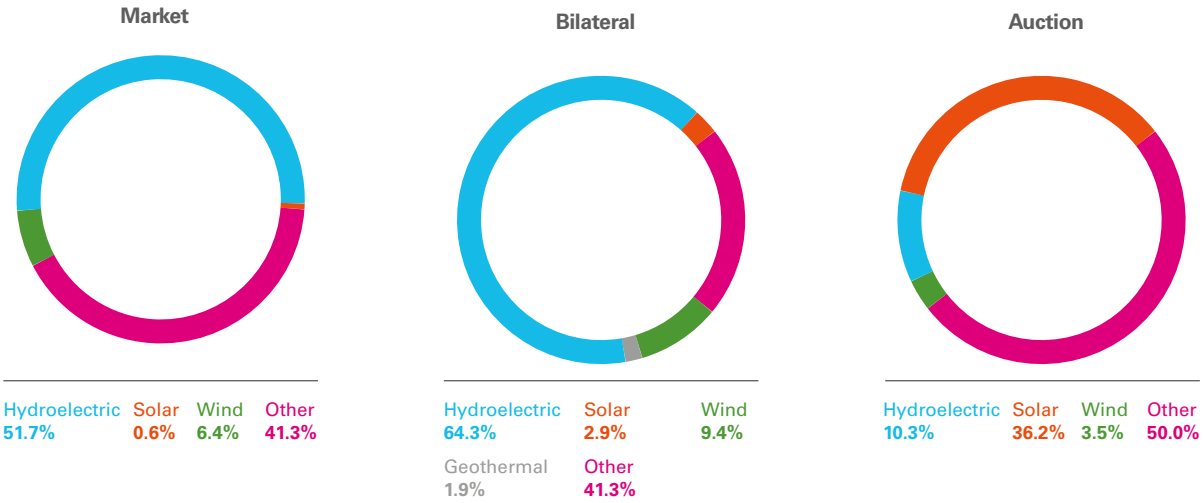


Fig. 4.3.11 - Structure of the traded volumes. Year of production 2017

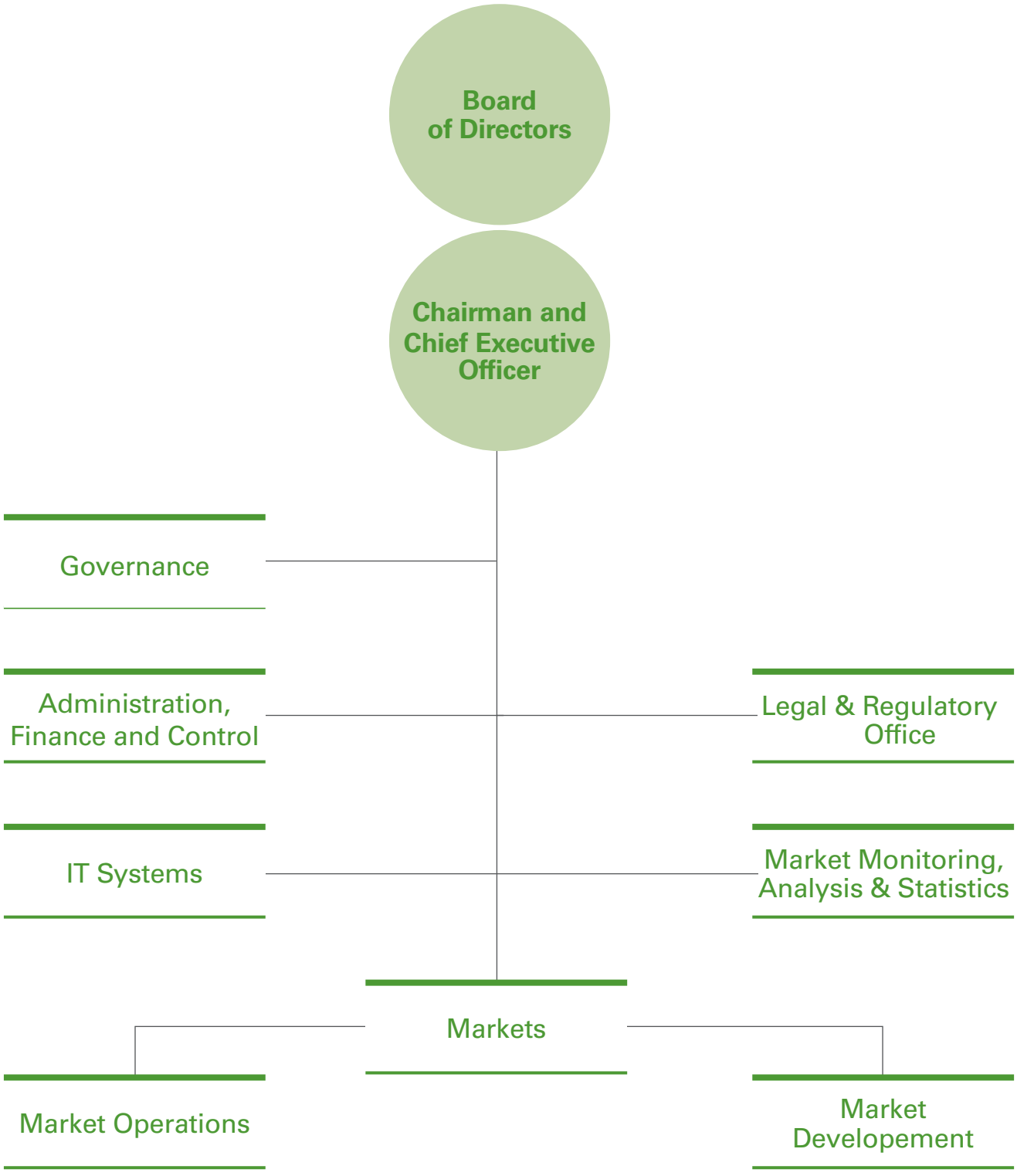


ACRONYMS AND DEFINITIONS

- ARERA – Regulatory Authority for Energy Networks and Environment
- CACM – European Regulation no. 2015/1222 (*"Capacity Allocation and Congestion management"*)
- DA – Day Ahead
- ID – IntraDay
- INC – Interim Nemo Committee
- MGP – Day-Ahead Electricity Market
- MI – Intra-Day Electricity Market
- MRC – Multi Regional Coupling
- NEMO – Nominated Electricity Market Operator
- PCR – Price Coupling of Regions
- RdB – Responsible for the balancing
- SRG – Snam Rete Gas
- XBID – Cross Border InfraDay

Appendix 1

GME Organisational Structure


Board of Directors
Chairman and Chief Executive Officer
Governance
Administration, Finance and Control
IT Systems
Legal & Regulatory Office
Market Monitoring, Analysis & Statistics
Markets
Market Operations
Market Developement

Appendix 2

Market Rules

Market Rules

	ELECTRICITY MARKET			GAS MARKET			
	MTE	MPE	PCE	MGP-GAS MI-GAS	MGS*	MPL*	MT-GAS
Participation	Voluntary	Voluntary on MGP, MI and MPEG Mandatory on MSD	Voluntary	Voluntary	Voluntary	Voluntary	Voluntary
Requirements for admission to markets and participation in trading (*)	Ownership of an energy account to deliver a net position required	Offer point to submit offers required	Only dispatching users and persons authorised by them are admitted	Need to be a PSV user to deliver a net position	Users of storage services, with the exception of transport companies and users of strategic storage service only	Users of the natural gas transportation and balancing service	Need to be a PSV user to deliver a net position
Traded product	Annual, Quarterly, Monthly	Hourly MGP, MI1: 1 am-00 am MI2: 1 am-00 am MI3: 4 am-00 am MI4: 8 am-00 am MI5: 12 pm-00 am MI6: 4 pm-00 am MI7: 8 pm-00 am MPEG Daily (with baseload and peakload profile)	OTC contracts	Daily	Daily	Daily	BoM, Monthly, Quarterly, Half-yearly, Annual (both thermal and calendar)
Trading method	Continuous trading	Auction	Bilateral trading	Continuous trading	Auction	Auction	Continuous trading
Price rule	Pay as bid	Marginal zonal price on MGP and MI Pay as bid on MSD	N/A	Pay as bid	Marginal price	Marginal price	Pay as bid
Guarantees	Surety and/or cash deposit		Surety. Cash deposit only in cases of necessity and urgency	Surety and/or cash deposit	Surety and/or cash deposit		Surety and/or cash deposit
Central counterparty	GME	GME on MGP, MI and MPEG Terna on MSD	GME (only for CCT)	GME	GME (from 1 April 2017)	GME (from 1 April 2017)	GME
Payments	M+2	W+1 (from 1 December 2016) for MGP and MI M+2 For MPEG	W+1 (from 1 December 2016)	W+1 for transactions (from 1 September 2016) M+3 for the closure of non-delivered positions	W+1 for transactions M+3 for the closure of non-delivered positions	W+1 for transactions M+3 for the closure of non-delivered positions	W+1 for transactions (from 1 September 2016) M+3 for the closure of non-delivered positions

(*) In addition to the provisions of the rules and regulations of the individual markets in terms of participation requirements, participants with appropriate professionalism and competence in the use of IT systems and related security systems or parties who have employees or auxiliary staff with this professionalism and competence may participate in the markets/platforms.

	PGAS			ENVIRONMENTAL MARKETS		
	Import	Virtual Storage	Royalties	MCV (operational until 30 June 2016)	MTEE	MGO
	Mandatory (sales side)	Mandatory (sales side)	Mandatory (sales side)	Voluntary	Voluntary	Voluntary
	PSV users subject to the obligation to bid for import shares	PSV users participating in the virtual storage service	PSV users subject to the obligation to bid for shares	GSE, domestic and foreign producers, wholesalers, importers, association pursuant to art. 2.23, first period, of Law 14/11/1995, no. 481, obliged operators pursuant to art. 11, Legislative Decree 16/03/199, no. 79	Need to register an account in the TEE Register for trading on the MTEE	Need to register an account in the GOs Register for trading on the MGO
	Monthly, Annual, Thermal	Monthly, Half-yearly	Monthly	Certificate referring to annual, quarterly periods	Certificate by type of intervention (1 TEP)	Certificate by type of source (1MWh)
	Continuous trading	Continuous trading	Auction	Continuous trading	Continuous trading	Continuous trading
	Pay as bid	Pay as bid	Marginal price	Pay as bid	Pay as bid	Pay as bid
	Defined by each seller participant	Defined by each seller participant	Defined by each seller participant	Cash deposit to cover total purchases	Cash deposit to cover total purchases	Cash deposit to cover total purchases
	N/A Invoicing and payments between	N/A Invoicing and payments between	N/A Invoicing and payments between	GME	GME	GME
	Deadline defined by each seller participant	Deadline defined by each seller participant	Deadline defined by each seller participant	D+3	D+3	D+3

Appendix 3

Volumes and Participants

Tab. 1 - Traded volumes

TWh	2009	2010	2011	2012	2013	2014	2015	2016	2017	Change 17/16
ELECTRICITY MARKETS										
MGP	**313.43**	**318.56**	**311.49**	**298.67**	**289.15**	**281.98**	**287.13**	**289.70**	**292.20**	**+1.1%**
Exchange	213.03	199.45	180.35	178.66	206.90	185.85	194.59	202.82	210.92	+4.3%
Bilaterals	100.39	119.11	131.15	120.00	82.25	96.13	92.54	86.88	81.28	-6.2%
MI/MA										
MI1	11.93	14.61	21.87	25.13	23.34	22.79	24.92	28.01	25.35	-9.5%
MI2	1.68	9.47	14.47	15.99	12.80	12.23	12.91	15.04	13.81	-8.2%
MI3	0.95	5.15	5.38	6.21	6.07	6.47	6.15	6.97	5.45	-21.8%
MI4			1.22	1.72	2.00	2.01	2.39	2.50	2.38	-4.7%
MI5			0.80	1.21	2.47	2.09	1.22	1.20	0.78	-35.0%
MI6							2.24	2.31	1.12	-51.6%
MI7									1.47	-
MA	9.30								0.34	-
MTE	0.12	6.29	33.44	54.96	41.10	**32.27**	**5.09**	**1.07**	**1.36**	**+26.9%**
Exchange	0.12	6.29	31.67	30.36	8.00	18.40	5.09	1.07	1.36	+26.9%
OTC clearing	-	-	1.77	24.60	33.10	13.87	-	-	-	-
MPEG								**0.00**	**3.93**	**+157984.2%**
PCE*	176.35	236.48	290.82	307.61	325.50	345.72	354.47	342.14	302.83	-11.5%
GAS MARKETS										
MGAS		**0.00**	**0.16**	**0.17**	**0.02**	**0.10**	**1.01**	**10.69**	**43.92**	**+310.7%**
MGP		0.00	0.15	0.14	0.01	0.00	0.00	0.33	3.28	+879.2%
MI		-	0.01	0.04	0.00	0.10	1.01	7.09	23.83	+236.1%
MTGAS					-	-	-	-	0.19	-
MGS								3.27	16.63	+408.8%
MPL								-	-	-
PB-GAS			**1.71**	**34.93**	**40.88**	**41.52**	**48.19**	**36.79**		
Segment G+1			1.71	34.93	40.83	38.58	40.86	30.57		
Segment G-1					0.05	2.94	7.33	6.22		
P-GAS		**2.14**	**2.91**	**2.87**	**0.62**	**-**	**-**	**-**	**1.95**	**-**
Import			-	-	-	-	-	-	-	-
Former Legislative Decree130/10				-	-	-	-	-	-	-
Royalties			2.91	2.87	0.62	-	-	-	1.95	-
ENVIRONMENTAL MARKETS										
CV	23.40	25.37	31.09	32.33	44.81	43.05	36.78	9.23		
Exchange	1.84	2.58	4.13	3.81	7.57	8.20	6.95	1.26		
Bilaterals	21.56	22.79	26.97	28.52	37.25	34.85	29.84	7.98		
TEE	12.49	16.51	21.91	40.73	44.04	62.88	46.67	50.15	60.04	+19.7%
Exchange	5.20	5.24	6.83	13.56	15.06	18.66	20.21	29.64	33.26	+12.2%
Bilaterals	7.28	11.27	15.08	27.17	28.98	44.22	26.45	20.52	26.78	+30.5%
GO				2.22	42.63	44.48	46.18	52.80	43.77	-17.1%
Exchange				0.47	1.34	0.47	0.11	0.11	0.76	+577.1%
Bilaterals				1.75	41.29	44.01	46.08	52.69	43.01	-18.4%

*Contracts registered in the PCE by trading year, net of the contracts related to the MTE (including OTC clearing) and to the CDE

Tab. 2 - Registered participants

Participants no*	2010	2011	2012	2013	2014	2015	2016	2017	Change 17/16
ELECTRICITY MARKETS									
IPEX	207	192	200	223	254	264	245	258	*+13*
PCE	205	208	259	287	317	321	321	331	*+10*
GAS MARKETS									
MGAS	20	33	42	66	71	88	158	179	*+21*
PB-GAS		60	65	74	86	96	107		
P-GAS	53	61	72	77	78	80	86	85	*-1*
ENVIRONMENTAL MARKETS									
MCV**	620	675	745	852	901	908	911		
PBCV**	969	1,082	1,177	1,381	1,466	1,509	1,509		
MTEE	334	379	447	588	838	1,055	1,281	1,499	*+218*
TEE Register	421	513	635	866	1,196	1,469	1,775	2,155	*+380*
MGO			180	262	291	299	325	396	*+71*
PBGO			219	324	359	374	405	509	*+104*

*The number of registered participants refers to the figure calculated as at 31/12 of each year.
**The number of registered participants for the year 2016 refers to the figure calculated as at 30/06

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Gestore dei Mercati Energetici S.p.A.
Viale Maresciallo Pilsudski, 122/124
00197 Rome - Italy
Ph.+39 06 8012 1
Fax +39 06 8012 4524
E-mail info@mercatoelettrico.org
www.mercatoelettrico.org