

REMIT Quarterly

ACER's quarterly report on its activities under Regulation (EU) No 1227/2011 (REMIT)

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About this edition

- The opening article presents the main takeaways from **the 2023 REMIT Forum**, which took place on 5 December 2023, and outlines the milestones of **the REMIT revision**.
- Two new REMIT Expert Groups have been established, following the publication of a call for applications on 23 October 2023: [the Expert Group on wholesale energy market integrity and transparency](#) and [the Expert Group on wholesale energy market data reporting](#). These expert groups will advise ACER and contribute to its work on issues related to REMIT surveillance, conduct, integrity, transparency and REMIT data reporting. More information is available in the **Stakeholder engagement** section of this edition.
- Following the provisional political agreement between EU Council and the Parliament on 8 December 2023 on a regulation that establishes common internal market rules for renewable and natural gases and hydrogen, this edition features an article on **hydrogen wholesale market and market surveillance** that examines the developments in hydrogen product markets in light of the envisaged expansion of ACER's market surveillance mandate to hydrogen and renewable gases.

The 7th REMIT Forum – REMIT II: Improving integrity and transparency in wholesale energy markets

On 5 December 2023, ACER hosted the 7th edition of the REMIT Forum. Welcoming over 600 participants, the event focused on the main changes that the revision of Regulation (EU) No 1227/2011 (REMIT) would bring, based on the provisional political agreement reached on 16 November 2023. It is worth noting that dialogues between the European Commission, European Parliament and the Council were still ongoing at the time of the Forum.

In the course of 2021 and 2022, energy prices in Europe experienced a significant surge as a result of various factors, including reduced gas supply following the Russian aggression towards Ukraine. Additionally, the post-COVID-19 global economic recovery led to an increased energy demand, further contributing to the spike in prices.

Against this background, the European Commission launched two legislative proposals in March 2023:

- the REMIT revision; and
- the revision of electricity market design rules.

The proposed REMIT revision aimed to align the scope of the regulation with evolving market developments. Key amendments included:

- Expanded scope of data reporting, encompassing new electricity balancing markets, coupled markets, and algorithmic trading.
- Extended scope of REMIT's market abuse provisions to wholesale energy products that are also financial instruments.
- Strengthened ACER oversight of Registered Reporting Mechanisms (RRMs) and Inside Information Platforms (IIPs) to improve the collection of inside information and increase market transparency.
- Harmonisation of fines across National Regulatory Authorities (NRAs).
- Reinforced cooperation between energy and financial regulators (ACER and the European Securities and Markets Authority (ESMA)), ensuring a robust regulatory framework for derivative wholesale energy products.
- Enhanced role for ACER in complex cross-border cases with a European dimension, reinforcing market integrity.
- Permanent extension of ACER's powers related to the implementation of the Liquefied Natural Gas (LNG) price assessments and benchmarks.

The Forum generally agreed that the REMIT I framework has delivered on its objectives of ensuring transparency and

market integrity in the wholesale energy markets. From the discussion, it appeared that the revisions envisaged in REMIT II were welcomed as important measures in addressing the evolution of the wholesale energy markets and incorporating the lessons learnt from the past 12 years of implementing REMIT I.

The Forum called for adequate implementation timelines and for a legal text allowing sufficient flexibility to account for the dynamic nature of EU wholesale energy markets. Furthermore, the REMIT revision was recognised as an opportunity for synergies on data reporting (avoiding double reporting, better data quality, etc.) and for the promotion of further use of REMIT data to foster market integrity and transparency besides market surveillance.

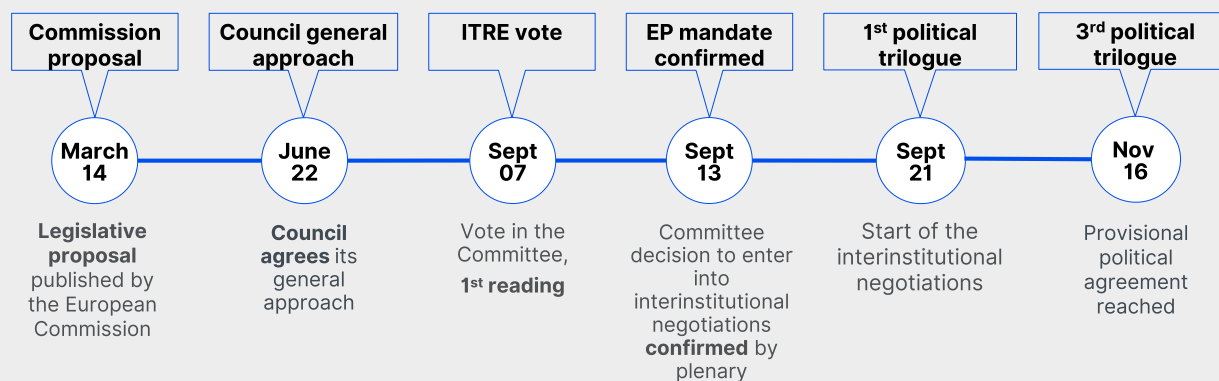
The Forum was organised in two virtual sessions. In the morning session, Professor Maria da Graça Carvalho, Member of the European Parliament and Rapporteur of the REMIT revision within the ITRE Committee, delivered an opening address. She shared additional insights into the interinstitutional negotiations and welcomed the good and balanced political agreement reached on 16 November 2023. Then, the European Commission presented the key amendments envisaged in REMIT II, followed by a high-level discussion between key stakeholders on the main proposed changes.

In the afternoon, ACER provided an overview on the status of REMIT data collection from the point of view of both data quality and usage, as well as on the recent activity related to LNG price assessments and benchmarks.

Access the main takeaways of the 2023 REMIT Forum [here](#).

The year in (REMIT) review

2023 saw both the start and the end of the revision of Regulation 1227/2011 on wholesale energy market integrity and transparency (REMIT). As ACER awaits the formal adoption and publication of the new legal act, it is well worth highlighting some of the milestones reached during the revision, which was completed in less than 12 months.



The provisional agreement reached on 16 November between the European Council and the European Parliament now needs to be endorsed and formally adopted by both institutions before it is published in the Official Journal of the European Union and can enter into force.

ACER guidance in the field of REMIT

ACER regularly publishes documents on [the ACER website](#) and organises meetings with REMIT stakeholders in order to provide guidance on REMIT-related matters.

ACER produces and updates [non-binding Guidance](#) for National Regulatory Authorities (NRAs) to ensure effective coordination and consistency in their monitoring activities under REMIT (particularly Article 2). Additionally, ACER regularly updates and publishes documents on [general REMIT policy](#) and [REMIT reporting](#).

ACER frequently and regularly conducts [meetings with stakeholders](#) to discuss relevant REMIT topics and address any questions and concerns from REMIT stakeholders. The current REMIT committees and task forces that meet several times per year are the ACER REMIT Committee (ARC), the REMIT Policy Task Force (RP TF), the Market Data Standing Committee (MD SC), the Market Monitoring Standing Committee (MM SC) and the REMIT Information Security Implementation Group (RISIG). Once per year, ACER organises its Roundtable meetings to discuss REMIT data collection and reporting, as well as its flagship REMIT event – the REMIT forum – which features both plenary and special interest group sessions and is attended by policy experts, energy traders and consumers, transmission system organisations, and NRAs from all over Europe.

ACER also establishes expert groups that provide ACER with ad hoc support and advice on REMIT topics. The current expert groups are [the two REMIT Expert Groups](#) and [the Expert Group on LNG Price Assessment/Benchmarks](#).

Updates of the ACER guidance on the application of REMIT

There were no updates of the ACER guidance on the application of REMIT in the fourth quarter of 2023.

Updates of the REMIT reporting guidance

ARIS Data Validation document

On 31 October 2023, the enabling of one validation rule on Field No 41 of REMIT Table 1, Total Notional Contract Quantity, in the Production environment of ARIS was reflected in the update of the ARIS Data Validation Rules Configuration document.

Access the ARIS Data Validation Rules Configuration document [here](#).

Annexes V.I and V.IV to the Manual of Procedures on Data Reporting

On 7 November 2023, Annexes V.I and V.IV to the Manual of Procedures on Data Reporting were updated to reflect the extended deadlines for the implementation of new electronic formats. In response to requests from reporting parties, the retirement dates of the outdated electronic format for the reporting of REMIT Table 1 and REMIT Table 4 contracts were postponed to 16 January 2024 and 16 December 2023, respectively.

Access the Manual of Procedures on Data Reporting and its annexes [here](#).

List of accepted EICs (Delivery Points or Zones)

At the end of 2022, there were 478 codes in the List of Accepted EICs. Throughout 2023, 27 codes were added and two removed. The fourth quarterly update of the List of Accepted EICs in 2023 was published on the REMIT section of the ACER website on 18 December 2023. No new codes were added. Two codes were updated: Melendugno (reclassified as a cross-border interconnection point) and NPTF-DK (the type of commodity was reclassified as natural gas). One code (Belgian Balancing H Zone) was marked for delisting. It will remain valid until 30 June 2024. The number of valid codes in December 2023 amounted to 503.

Access the latest List of Accepted EICs [here](#).

Stakeholder engagement

Roundtable meetings on REMIT data reporting

After holding Roundtable meetings on the potential revision of the REMIT legal framework in June 2023, ACER hosted another four Roundtable meetings on REMIT data reporting on 15 and 16 November 2023. Joint and individual sessions took place, bringing together a diverse group of ACER's stakeholders, including representatives from Associations of Energy Market Participants (AEMPs), Organised Market Places (OMPs), and Registered Reporting Mechanisms (RRMs).

Based on the positive experience over the past three years, the Roundtable meetings were once again conducted virtually, thereby broadening the event's audience. Over one hundred participants, representing six associations, 22 OMPs and 40 RRM, contributed to the discussions.

The joint Roundtable meeting with AEMPs, OMPs and RRM held on 15 November provided an opportunity for ACER to give the usual yearly update on the ongoing REMIT activities. Emphasis was placed on the continuous improvement in REMIT data quality and the exponential growth of the data received. Strategies for addressing the related challenges and enhancement measures were also discussed. Furthermore, ACER and stakeholders also deliberated on the outcome of the first round of the consultation on the updated REMIT transaction reporting guidance. In consideration of the ongoing dialogue between the European Commission, European Parliament and the Council on the revision of REMIT, the 2023 consultation addressed limited proposed updates of the reporting guidance on REMIT, mainly clarifications on the reporting of specific transactions, such as transaction related to local flexibility products, and the introduction of a new Annex to the Transaction Reporting User Manual (TRUM) on the reporting of LNG supply contracts under REMIT. The first round of the consultation on the transaction reporting ran from 27 October until 17 November 2023, followed by a second round launched in early 2024. The final version of the updated transaction reporting guidance is expected to be

published on [the REMIT Documents section](#) by the end of the first quarter of 2024.

As usual, the Roundtable meetings tabled topics for discussion proposed by the meeting participants, mainly related to the current data reporting requirements but also to the potential future implications of the revised REMIT legal framework for the different stakeholder groups.

During the Roundtable meetings with AEMPs (held on 15 November) and OMPs (held on 16 November), ACER and stakeholders exchanged views on the potential future revision of the REMIT data reporting framework. The discussion around this forward-looking topic focused on aligning regulatory practices with the evolving landscape of the energy market.

The minutes of the Roundtable meetings are available on the ACER website in the relevant sections dedicated to specific reporting parties: [AEMPs](#), [OMPs](#) and [RRMs](#). For additional information on Roundtable meetings, stakeholders can contact ACER at REMIT.Roundtable@acer.europa.eu.

In 2024, the active participation of different stakeholders in the Roundtable meetings will play a crucial role in facilitating the implementation of the revised REMIT legal framework and data collection.

Establishment of two new REMIT Expert Groups on wholesale energy market integrity and transparency and data reporting

In the fourth quarter of 2023, two new REMIT Expert Groups were established to advise ACER and contribute to its work under REMIT. The expert groups have been established for a period of two and a half years.

The Expert Group on wholesale energy market integrity

and transparency will advise on matters related to REMIT surveillance, conduct, integrity, and transparency (including assessing the obligation to disclose inside information), as well as on how other EU legislation, or new technologies, could impact energy trading and the functioning of the internal energy market. Following the publication of [the open letter for applications](#) on 23 October 2023, ACER received 42 nominations from individuals involved in the energy sector. After taking into consideration both the application criteria, in particular the background and experience of the various candidates, as well as the diversity of the expert group, ACER selected 10 members and four observers for this Expert Group.

More information and the full list of members for the Expert Group on wholesale energy market integrity and transparency can be found [here](#).

The Expert Group on wholesale energy market data reporting will contribute to improving data collection and data quality, in particular with regard to how market participants can better comply with the data reporting requirements foreseen by REMIT and the Commission Implementing Regulation (EU) No 1348/2014 (the REMIT Implementing Regulation). Following the publication of [the open letter for applications](#) on 23 October 2023, ACER received 21 nominations from individuals involved in the energy sector. After taking into consideration both the application criteria, in particular the background and experience of the various candidates, as well as the diversity of the expert group, ACER selected 10 members and three observers for this Expert Group.

More information and the full list of members for the Expert Group on wholesale energy market data reporting can be found [here](#).

The first meetings of the new Expert Groups will be held in the first quarter of 2024.

ACER's Market surveillance and conduct activities under REMIT

REMIT introduces a sector-specific legal framework for identifying and penalising insider trading and market manipulation in wholesale energy markets across Europe.

At ACER, the Market Surveillance and Conduct (MSC) department performs hands-on market surveillance to deter market abuse and foster confidence in the well-functioning of energy markets. The MSC department works in close cooperation with the Market Information and Transparency (MIT) department and with the responsible national authorities in energy, competition, and financial markets.

The MSC department is responsible for the market surveillance and market conduct tasks under REMIT. This includes:

- Monitoring and assessing market data in anomalous instances;
- Notifying suspected market abuse instances to national regulatory authorities (NRAs);

- Coordinating with NRAs during investigations;
- Providing guidance to NRAs on market abuse definitions;
- Ensuring consistency in the application of market abuse provisions.

Want to know more about ACER's market surveillance and conduct activities under REMIT?

- Check out ACER's [overview of enforcement decisions](#)
- Notify ACER of a suspected breach of REMIT through the [Notification Platform](#)

Overview of REMIT cases

ACER had 379 REMIT cases under review at the end of the fourth quarter of 2023. REMIT cases are potential breaches of REMIT that are either notified to ACER by external entities or identified by ACER through its surveillance activities.

A case could, after a thorough investigation by the relevant national authority, lead to sanctions. A case could also be closed without sanctions, for instance if the suspicions were unfounded.

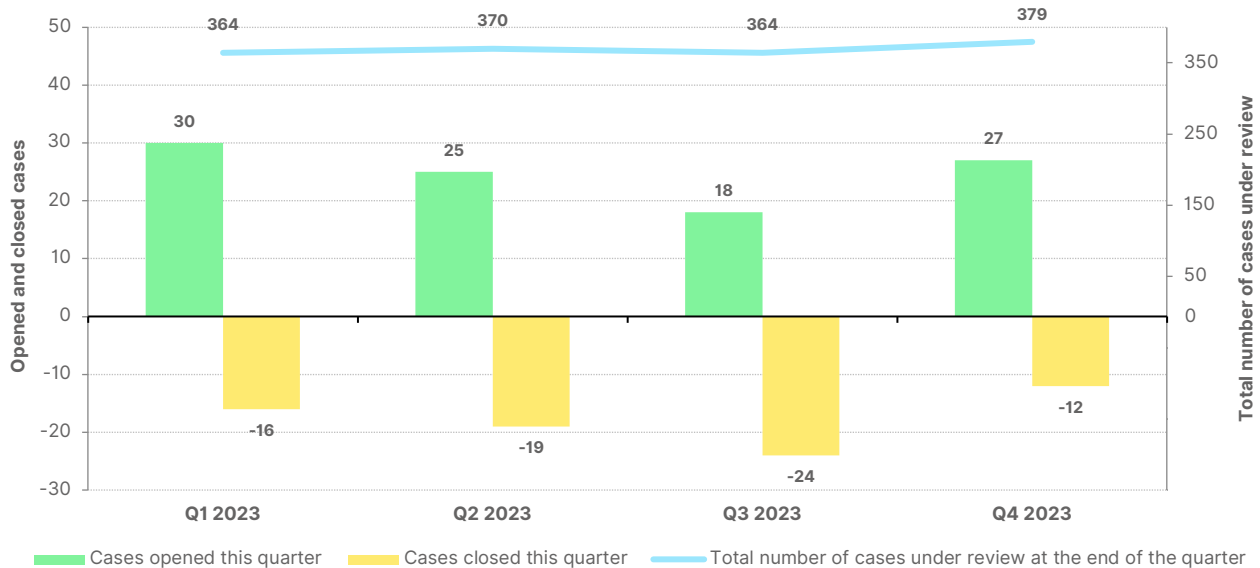
Figure 1 shows the number of cases that were under review by ACER at the end of the fourth quarter of 2023.

Table 1 lists the cases where a Decision imposing a sanction was published by the relevant national authority in the latest

four quarters. Some of these Decisions are currently under appeal. An overview of all sanction Decisions under REMIT made publicly available (breaches of Articles 3, 4, 5, 8, 9) can be found [here](#).

ACER is responsible for the monitoring of wholesale energy markets and aims to ensure that national regulatory authorities carry out their tasks in a coordinated and consistent way, but it is not, however, responsible for the investigation of potential breaches of REMIT.

Figure 1: Potential REMIT Breach Cases - Quarterly Statistics



Source: ACER (Case Management Tool).

Table 1: Overview of market abuse Decisions (breaches of REMIT Articles 3, 4, 5, 8, 9) imposing sanctions (last four quarters)

Decision date	NRA, Member State	Market Participant	Type of REMIT breach	Fine	Status	Source
14/11/2023	DKER (BG)	Most Energy AD, Kumer DOO	Article 5	BGN 2,114,052 (approx. EUR 1,080,914.8)	Appeal Possible	Link
27/07/2023	CRE (FR)	TotalEnergies Electricité et Gaz France	Article 4	EUR 80,000	Final	Link
02/06/2023	MEKH (HU)	Prvo Plinarsko Društvo d.o.o.	Article 5	HUF 500,000,000 (approx. EUR 1.4m)*	Under Appeal	Link
23/03/2023	DKER (BG)	Energy Supply Eood	Article 5	BGN 165,238 (approx. EUR 84,486)*	Appeal Possible	Link

Note: Article 18 of REMIT establishes that the rules on penalties for breaches of Articles 3 and 5 of REMIT are established by the Member States. The implementation regime is therefore different across Member States and some breaches of REMIT may be sanctioned under national provisions. Please consult the sources for the status of the proceedings and more information on the Decisions. Only the Decisions publicly announced by the NRAs are included.

*The fines expressed in currencies other than EUR are converted into EUR using the ECB exchange rate on the day of the Decision.

Updates on surveillance activities

Hydrogen wholesale market and market surveillance

On 8 December 2023, the EU Council and the Parliament reached a provisional political agreement on a regulation that establishes common internal market rules for renewable and natural gases and hydrogen¹. Although the final text of the regulation is not known yet², the main objective of the regulation is clearly to enable and facilitate the creation of an efficient market for hydrogen and renewable gases. In view of the envisaged expansion of ACER's market surveillance mandate to hydrogen and renewable gases, this article takes stock of the developments in hydrogen product markets.

Currently, not one but many hydrogen prices in the EU

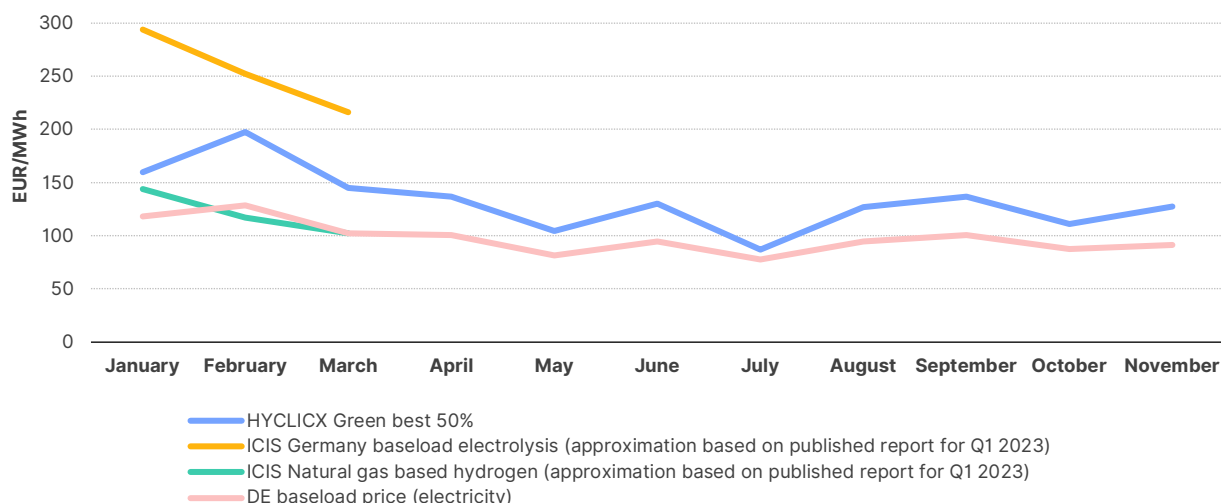
What is the price of hydrogen in the EU today? At this stage it is fair to say that there is not a clear EU wide wholesale price for hydrogen. However, to answer this question this article looks at (a) retail prices (not directly relevant for REMIT), (b) theoretical wholesale prices based on production costs, and (c) actual transaction prices for wholesale hydrogen for industrial purposes.

(a) Retail prices: At the retail level within the EU, hydrogen can be either purchased in specialised hydrogen gas bottles offered by companies specialising in industrial gases, or at a limited number of gas stations, for example as part of the H2 live project³. Currently, the 165 operational fuelling stations that offer hydrogen in Europe indicate prices in the range

of 15 EUR/kg to 25 EUR/kg. In energy equivalent terms, this translates to a range between 450 EUR/MWh to 750 EUR/MWh. For hydrogen in bottles, the prices vary by quantity and grade (i.e. the purity of the hydrogen). Not all providers publish prices online; however, those available are within a similar range to fuelling stations, namely between 18 EUR/kg to 25 EUR/kg.

(b) Theoretical wholesale prices: Some published price references are estimating the theoretical costs of producing hydrogen from natural gas or electricity and are based on the wholesale prices of the underlying products and carbon (in case of creating hydrogen from natural gas via steam methane reforming). An example⁴ for such a price reference is given by the analysis provider ICIS⁵, which estimated for the first quarter of 2023 that hydrogen production costs from electrolysis are in the range between 9 to 13 EUR/kg and in the range between 4 to 6 EUR/kg for hydrogen produced from natural gas. Another relatively recently added daily hydrogen price assessment published in EUR/MWh is the 'HYCLICX green daily 12h' published by the Dutch-based HyXchange, which relies on the short-run-marginal-costs of electrolysis from renewables using the 12 cheapest hours for wholesale electricity for the Netherlands during a given day. The 'HYCLICX green daily 12h' averaged 164 EUR/MWh in the first quarter of 2023, i.e. approximately 5.5 EUR/kg.

Figure 2: Published estimations for short-run marginal costs of hydrogen in 2023



Source: Hyxchange, ICIS and EPEX Spot (2024).

1 See <https://www.consilium.europa.eu/en/press/press-releases/2023/12/08/gas-package-council-and-parliament-reach-deal-on-future-hydrogen-and-gas-market/>.

2 The latest available draft text can be found here: <https://data.consilium.europa.eu/doc/document/ST-16522-2023-INIT/en/pdf>.

3 See the project webpage <https://h2.live/en/> (January 2024).

4 The price references mentioned here are not a complete list of all theoretical hydrogen price estimations published.

5 See [ICIS-Quarterly-European-Hydrogen-Markets-Q1-Update](#); prices after Q1 2023 are only available for subscribers.

(c) Actual wholesale transaction prices: According to the IEA Global hydrogen review 2022, virtually all of the hydrogen used in Europe in 2021 was for industrial purposes (57% in chemical industry and 43% in oil refining). Transactions for hydrogen for industrial use are generally bilateral contracts between companies and details are not disclosed. Terms and conditions can vary strongly by the duration of delivery contract, hydrogen quality, method of hydrogen production, point of delivery, and many other aspects. The theoretical price references mentioned above could be useful as input for price calculation for the actual bilateral transactions, but as the details are not disclosed, it cannot be verified if and to which extent the price references are being used.

Hydrogen demand development

In [ACER's REMIT Quarterly Q1 2022 report](#), the biggest challenge facing the growth of the hydrogen market was said to be the lack of commitment towards hydrogen demand other than in the chemical industry (ammonia/fertiliser and refineries). The development of the demand structure will likely define the nature of the hydrogen market. Three potential evolution stages of the demand development are foreseeable:

Stage 1: The current situation, in which almost 100% of hydrogen demand comes from the chemical and refining industry. Hydrogen is only required at a limited number of industrial sites.

Stage 2: Beyond the existing demand, additional industrial (e.g. steel production) and other large-scale applications for hydrogen (e.g. shipping industry) are likely to be commercially successful, but very limited retail applications for hydrogen will prove to be competitive. Hydrogen needs to be provided to an increased number of industrial sites, requiring a first level of strategic infrastructure investments.

Stage 3: A strong penetration of hydrogen emerges at the retail level, including household applications (e.g. heating and cooking) and private transport. An infrastructure ensuring a wide distribution network is needed.

The Fraunhofer Institute⁶ (2021) compared the hydrogen demand projections for various sectors and applications until 2050 across 12 different academic studies. The main conclusion is that there is a consensus that the hydrogen market will be developing from stage 1 to stage 2 within the next 15 to 20 years, with a role for hydrogen in iron ore reduction, an increased role in the chemical industry in all scenarios until 2040, and a significant role for hydrogen in aviation and shipping in some scenarios by 2040.

Regarding stage 3, most of the scenarios in the Fraunhofer meta-study do not show significant demand coming from

the above-mentioned applications in the next 30 years, meaning that hydrogen-powered fuel cell driven cars are not expected to be a competitive technology for private transport nor is household demand for hydrogen expected to bring a significant demand volume.

The current situation can be illustrated by using the example of cars using fuel cells powered by hydrogen, for which recent sales figures are not promising for the EU. Between January and April 2023, only 207 hydrogen-fuelled cars were sold, which was 27% lower than in the same period in 2022⁷. For comparison, in the same period in early 2023, approximately 900,000 battery-driven cars were sold, with an annual increase in sales of approximately 55%⁸.

Over the last years, the growth for new demand segments beside ammonia, fertiliser and refinery has not significantly picked up⁹, which has led to a period of stagnation for the total EU hydrogen consumption in the last 10 years. This is expected to change over the years to come. Using the average of the 12 studies in the Fraunhofer paper, the annual growth of hydrogen demand in Germany is expected to be around 12% in the period between 2025 to 2040. This average growth rate must be considered with caution, as variations in the hydrogen annual demand growth rate between the different scenarios are huge. A study from DNV¹⁰ assumes a similar growth rate for hydrogen, projecting a tripling of the EU hydrogen demand by 2033 (compared to the 2022 level) and an eightfold increase by 2050. This would signify that, by 2050, hydrogen could account for approximately 12% of the final energy consumption.

Hydrogen supply development needs the right incentives

The supply side of the EU hydrogen market will need to have the right incentives¹¹ to move from the current state of hydrogen production, which is mainly by steam methane reforming¹², to low or zero carbon solutions. This can be achieved within the EU (e.g. via electrolysis of renewable electricity) or via imports of green hydrogen in some form.

It is worth mentioning that there are links to other product markets. Links to the wholesale electricity and natural gas markets are mainly via (1) electrolysis, (2) steam methane reforming, and (3) electricity generation from hydrogen. These links could become important for the market and price dynamics for hydrogen. The degree of interlinkage will strongly depend on which hydrogen applications will be commercially competitive in the future. While steam methane reforming is a mature technology (but not carbon-neutral, unless carbon-capture-technologies prevail in the future), electrolysis capacity is still small compared to the overall hydrogen volume but is expected to increase in importance.

⁶ See the publication 'Metastudie Wasserstoff – Auswertunge von Energiesystemstudien' (2021) in German.

⁷ See <https://www.hydrogeninsight.com/transport/global-sales-of-hydrogen-powered-vehicles-fall-by-11-5-in-first-four-months-of-2023/2-1-1466755>.

⁸ See IEA statistics (April 2023).

⁹ See page 18 of IEA's [Global Hydrogen Review 2022](#).

¹⁰ See the publication: [Pathway to net-zero emissions \(2023\)](#).

¹¹ A comprehensive overview of current national hydrogen strategies can be found in '[National hydrogen strategies within the EU member states](#)' by FleishmanHillard.

¹² According to the IEA Global Hydrogen Review 2022, less than 1% of the global hydrogen production in 2021 was 'green hydrogen'.

Competition with high-voltage direct current (HVDC)

A major unknown for the future trajectory of available hydrogen supply is whether hydrogen will play a major role in transporting and storing renewable energy generated at remote locations. Electricity generated by offshore wind turbines could, for example, be either transported by HVDC lines and, if needed, stored by using batteries, or it could be transformed to hydrogen via electrolysis on-site and then transported via pipeline and, if needed, stored underground in hydrogen storage facilities.

A recently published research paper by the Oxford Institute for Energy Studies¹³ does not conclude which technology will eventually succeed in storing and transporting green energy. At present, HVDC lines are slightly more cost-efficient and, in the above example of offshore wind, the need for desalinated water for electrolysis remains an obstacle for the usage of hydrogen. If the competitiveness of hydrogen improves (in relation to HVDC), then this could lead to a boost in supply and could act as a catalysator for the use of hydrogen.

Seaborne hydrogen imports could link hydrogen markets with ammonia

There are several projects to import green hydrogen to Europe via ship envisaged in the next decade. The projects are in different stages, with some already being at an advanced stage (with a final investment decision) while others might eventually not be realised. According to an analysis¹⁴ by the International Energy Agency (IEA), almost all these projects are either envisaged to use ammonia as a hydrogen carrier, or the form in which the hydrogen should be imported is not known yet. Since there are no industrial-scale vessels available for other ways of transporting hydrogen (e.g. cryogenic vessels designed to transport liquid hydrogen), it is reasonable to assume that the bulk of hydrogen imports via ship in the near and mid-term future will arrive as ammonia, converted from hydrogen. Whether the imported ammonia will be transformed into hydrogen or consumed as ammonia is one of the current unknowns that depends on the development of the hydrogen/ammonia demand structure and transformation costs. Currently, the most efficient way would be to use imported ammonia directly for the chemical industry.

Challenges in establishing a reliable and trustworthy hydrogen wholesale market

The proposed directive of the internal market in gases (including hydrogen) envisages cooperation between ACER, national regulatory authorities, and transmission system operators in order to ensure a competitive internal market for

hydrogen. ACER shall make recommendations to establish rules for this cooperation¹⁵.

Today, there are still many unknowns for the future development of hydrogen. Most of the unknowns¹⁶ revolve around which technologies will be the most efficient to produce and transport hydrogen together with its costs in comparison to competing technologies. The answers to these questions will shape the specificities of a wholesale hydrogen market.

In the remainder of this article, some of the potential risk factors for the integrity of a developing wholesale hydrogen market are pointed out. It is important to note that a full analysis from a potential future REMIT perspective has not yet been completed.

a) Supply-side concentration

The supply side of hydrogen is currently characterised by a relatively strong concentration¹⁷ of producers offering hydrogen directly at industrial sites or for distribution via truck or to a limited extent via pipelines, which are owned by industrial hydrogen suppliers¹⁸. The relatively strong concentration on the supply side could potentially be further manifested by the ramping up of hydrogen imports via ship (as pure hydrogen, ammonia, or some other form); the seaborne imports require relatively large quantities in order to be competitive through the economies of scale and will likely be relatively concentrated in a small number of importing companies.

Due to the concentration on the supply side, the prevention of both insider trading and market manipulation will be of importance for a fair and transparent wholesale market for hydrogen.

b) Security and trust for the certifications for low-carbon hydrogen or certificates of origin

The EU hydrogen strategy envisages 10 million tonnes of domestic hydrogen production and 10 million tonnes of renewable hydrogen imports by 2030. This shows that, in terms of market integrity and potential insider trading, the production outside the EU is likely to be of high significance, similar to the current situation in the natural gas market¹⁹. In other words, the exact knowledge of the arrival of a vessel containing hydrogen (in some form) could be information with a significant price impact on the hydrogen wholesale market, and transparency of this kind of information would be needed to guarantee a fair market. In contrast to the current natural gas market, the certification of the origination of hydrogen will likely play a major role too, as the EU hydrogen strategy endorses the imports of hydrogen from renewable sources.

¹³ [‘Hydrogen pipelines vs. HVDC lines: Should we transfer green molecules or electrons?’](#) (November 2023).

¹⁴ See the ‘Hydrogen transport by ships’ chapter in the Global Hydrogen Review 2022 (IEA).

¹⁵ See Chapter II, Article 6 in the [draft text of the directive](#).

¹⁶ See section 4 of the [summary](#) of a meeting of hydrogen industry experts (September 2023)

¹⁷ See section 1 of the [summary](#) of a meeting of hydrogen industry experts mentioning the hydrogen incumbents Air Liquide, Air Products and Linde (September 2023)

¹⁸ See, as an example, Air Liquide’s privately owned and developed pipe system for industrial gases covering parts of Belgium, the Netherlands, parts of North-East France and the German Rhine-Ruhr area <https://blog.airliquide-benelux.com/belgium-netherlands-luxembourg/item/continuity/large-industries/how-air-liquide-guarantees-gas-supply-its-industrial-customers>.

¹⁹ The EU’s natural gas import dependency in 2022 was 97%, according to Eurostat.

A joint purchasing platform for hydrogen imports on which certification schemes for suppliers are validated (for example, via the recently established EU Energy platform) could be a solution to ensure an equal playing field between domestically produced and imported hydrogen.

For a functional hydrogen wholesale market, it is fundamental that there is a widely accepted certification scheme for green hydrogen. Without such a framework, the potential threat of importing 'non-green' hydrogen from outside the EU would compromise the overall goal of the EU hydrogen strategy and the various national support schemes²⁰ to increase the use of hydrogen for decarbonisation. For that reason, mechanisms for independent verification and auditing of hydrogen certificates need to be put in place. Auditors can validate the accuracy and authenticity of certificates, ensuring that they represent legitimate renewable or low-carbon hydrogen production. Auditing processes should be thorough, independent, and conducted by qualified entities. VAT fraud risk needs to be fully mitigated from the beginning.

c) Sufficient liquidity

As in other wholesale energy markets, the level of liquidity in hydrogen markets improves if market participants gain trust in market outcomes with prices reflecting the supply and demand fundamentals. Clear product standards are needed to avoid a fragmented product structure. In this context, it might be beneficial to have a liquid market that first covers a 'core area', representing a small geographical area, and can be used by market participants outside of this area to proxy-hedge positions (such as the Dutch TTF for EU wholesale natural gas). A logical choice for a core area could be an area with a significantly-sized grid in which a system operator has enough capacity to ensure a single price.

Together with liquidity and the maturity of the market, market models need to be adaptive in order to evolve. In the past, markets often evolved in different stages. In the beginning,

products are often traded purely bilaterally, followed by the involvement of intermediaries like brokers. With the help of brokers, products become more standardised, which allows them to be cleared through banks and clearing houses, reducing default risks. Once OTC-cleared products exist, these products may become listed by exchanges.

To generate liquidity, exchanges often use auctions to pool sufficient supply and demand in an early stage of the market development and to generate reliable price signals. Only sufficiently evolved markets may introduce continuous trading through electronic order books as the last step of development.

The different levels of market maturity and the corresponding market designs bring forth specific risks and challenges for adequate monitoring and surveillance. Specific types of market abusive behaviour depend on the way they are traded (i.e. auction-based markets) and the level of market liquidity. It is therefore likely that monitoring and surveillance of a future hydrogen wholesale market will also evolve in stages, adapting to the specific risks assessed. A common prerequisite across all stages of market development is the necessity for participants to trust in the validity of prices and the integrity of the market, as established, for instance, through frameworks like REMIT.

Conclusion

Hydrogen markets are growing and continue to have mainly a large industrial offtake. There are still unknowns related to the efficiency of technologies for producing and transporting hydrogen, which will likely impact the development towards an efficient hydrogen wholesale market. In view of this, it is fair to say that a full-fledged hydrogen economy with a developed decentralised demand is not yet in sight. ACER will continue to track its development, assess the potential risks for market abuse, and further identify what data is required to be delivered under its extended market surveillance mandate under REMIT.

ACER's Market information and transparency activities under REMIT

ACER's market information and transparency activities under REMIT are performed by the Market Information and Transparency (MIT) department and include data collection, data analysis (including data quality analysis) and data sharing.

REMIT data collection activities at ACER are based on ACER's REMIT mandate to collect records of wholesale energy market transactions, including orders to trade from EU market participants at pan-European level. ACER currently collects, via its REMIT Information System (ARIS), more than 7.2 million records of transactions on a daily basis.

ACER's REMIT data analysis helps to promote wholesale energy market integrity and transparency by supporting

ACER's and NRAs' market monitoring activities and case-work according to Article 7(1) and (2) of REMIT. They provide the infrastructure necessary for the collecting, handling, processing and analysing of information reported by market participants or by entities reporting on their behalf pursuant to Article 8 of REMIT.

In accordance with Articles 7(1) and 8 of REMIT, ACER also establishes mechanisms that enable data sharing with NRAs competent financial market authorities of the Member States, national competition authorities, ESMA and other relevant authorities. For the purpose of carrying out their market monitoring of wholesale energy markets at national level according to Article 7(2) of REMIT, NRAs have access to relevant information held by ACER which it has collected

20 See the [IEA policy database](#) for an overview of the existing national policies that are in force or planned to come into force.

in accordance with Article 7(1) of REMIT, subject to Article 10(2) of REMIT. ACER is currently sharing relevant REMIT information with NRAs on an ongoing basis and with other authorities at Union level on an ad hoc basis.

Want to know more about ACER’s market information and transparency activities under REMIT?

- Check out ACER’s three reference lists:
 - [The List of Organised Market Places](#)
 - [The List of Standard Contracts](#)
 - [The List of approved Registered Reporting Mechanisms \(RRMs\)](#)
- Check out [ARIS downtime announcements](#)

Data collection and data sharing

Relevant updates of REMIT documents

Questions and Answers on REMIT Fees

On 13 December 2023, ACER published an updated version of the Questions and Answers on REMIT Fees. The main update in this edition is an alignment between the identification of the market participant from which records stem and the valid ACER REMIT Transaction Reporting User Manual (TRUM) version and Article 6(1)(a) of the Commission decision (EU) 2020/2152. The alignment is taken into account for the REMIT fees charged in 2024.

Access the updated Q&As on REMIT Fees [here](#).

Registered reporting mechanisms

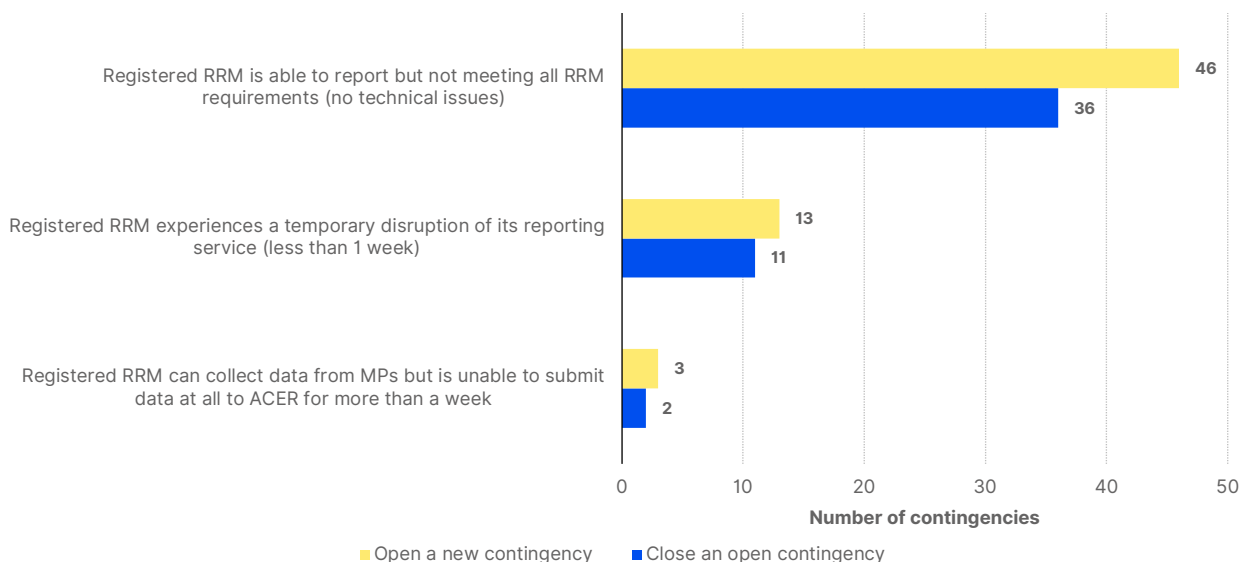
Overview of contingency reports opened by registered reporting mechanisms (RRMs)

Every quarter, ACER communicates the number and status of contingency reports opened by registered reporting mechanisms (RRMs), as well as the most common reasons for which RRMs resort to contingency in the first place. A contingency report is a notification by an RRM to ACER on issues related to data reporting (e.g. delayed reporting or temporary suspension in reporting, data quality issues, etc.).

The statistics for the fourth quarter of 2023 show that 25 different RRMs opened 62 contingency reports between October and December 2023. The most common contingency scenario indicated by RRMs in this period is being able to report but not meeting all the RRM requirements (such as completeness of data, timeliness of submission, accuracy of data, and validity). In particular, most of the incidents affect the reporting of the standard supply contract data type, as defined by REMIT and the REMIT Implementing Regulation.

Out of the 62 contingency reports opened during the quarter, 44 have already been closed (RRMs needed 6.5 working days on average to close them). The other 18 reports remain open.

Figure 3: Number of contingencies opened and closed in Q4 divided by scenario



Source: ACER (2024).

Disclosure of inside information

There were no updates related to the disclosure of inside information in the fourth quarter of 2023.

Assessment of the operation and transparency of different categories of market places and ways of trading

Trends in data reporting, market participants (MPs) and registered reporting mechanisms (RRMs)

The growing trend in the amount of collected data, observed since the launch of REMIT data reporting in 2015, continued in 2023 as well (Table 2). There was a dramatic, 87% increase

of collected records compared to 2022 (and a staggering 310% increase compared to 2021). In 2023, the ARIS system collected and managed around 8,265 million records of transactions, including orders to trade. As in previous years, the increase was mainly driven by records related to orders placed on OMPs, which continue to represent around 94% of all collected records.

Table 2: Transaction reporting trends over the last 3 years (MPs, RRM)s

		MPs				RRMs			
		2021	2022	2023	Δ	2021	2022	2023	Δ
Entities	Registered	15,186	16,110	17,481	9%	104	104	105	1%
	Table 1-4					97	97	98	1%
	Active 1-4	9,928	9,808	9,920	1%	92	88	88	0%
Records	Median	27	26	26	0%	17,094	26,447	15,226	-42%
	Average	268,168	451,787	833,149	84%	29M	50M	94M	88%
	Top 5	0,972M	2,119M	3,834M	81%	2,389M	4,137M	7,900M	91%
	All	2,662M	4,431M	8,265M	87%	2,662M	4,431M	8,265M	87%
	% Top 5	36.5%	47.8%	46.4%	-1%	89.7%	93.4%	95.6%	2%

Source: ACER, REMIT data (2024).

At the end of 2023, the number of market participants registered in the European Register of Market Participants (CEREMP) was 17,481, which is 9% more than in 2022. More MPs also actively reported records related to supply and transportation of electricity and natural gas (REMIT Table 1–Table 4 data), even if that increase is more subtle (1%). The gap between registered and reporting MPs may indicate entities that are non-compliant with REMIT reporting, MPs who are beneficiaries to the trade, MPs who are reporting under EMIR (European Market Infrastructure Regulation) and are MPs under REMIT, or inactivity. Furthermore, there may be entities that are considered market participants under REMIT but fail to register with their national regulatory authority as outlined in Article 9(1) or REMIT. ACER will therefore continue screening data and cooperating with national regulatory authorities and organised market places in order to further mitigate the risk of non-compliance with the data reporting obligation of Article 8 of REMIT.

In 2023 there were 105 RRM)s registered for the reporting of REMIT data, which is one more than in 2022. Out of these 105 RRM)s, 98 were registered for reporting REMIT Table 1–Table 4 data and 88 were actively reporting it.

Collected records of valid REMIT Table 1 transactions – statistics per contract type and commodity

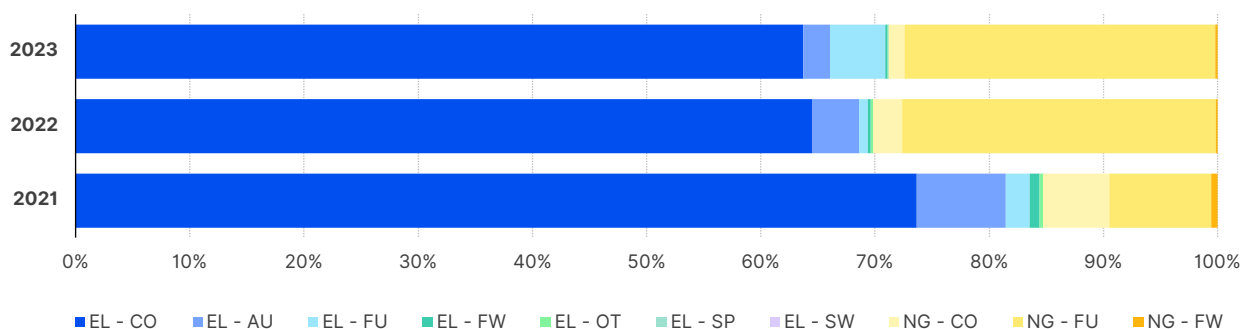
The number of valid REMIT Table 1 records of transactions reported in 2023 amounted to 8,066 million records, which represents an increase of 84% compared to 2022 (Table 3). The number of reported records thus continues to double on a yearly basis, with a similar growth rate for both commodities, namely 87% for electricity (EL) and 75% for natural gas (NG). As last year, most of the growth (in absolute terms) stems from the short-term EL markets (the EL CO contract type, for which an additional 2,307 million records were reported) and standardised long-term NG products (the NG FU contract type, for which an additional 991 million records were reported). In addition, considerable growth was also observed for standardised long-term electricity products (the EL FU contract type, for which there was a growth of 1058%) and bilaterally-settled long-term gas products (the NG FW contract type, for which there was a growth of 141%). While the number of reported EL FU records is unprecedented, the NG FW records merely returned to the 2021 levels.

Comparing relative contributions of all these contract types, the situation is similar to the one observed in previous years, with the exception of the increased number of records related to trading electricity futures (Figure 4).

Table 3: Absolute numbers of collected records of transactions – statistics per contract type and energy commodity

		AU	CO	FU	FW	OP	OP_FU	OP_FW	OP_SW	OT	SP	SW	Total
2023	Electricity	187,209,222	5,139,470,190	391,594,233	17,139,589	135	1,216	595	20	7,655,292	187,013	118,374	5,743,375,879
	Gas	311,981	110,716,618	2,196,924,362	14,908,821	11,375	357,947	401	1	6,378	98,276	287,541	2,323,623,701
2022	Electricity	177,578,680	2,832,845,259	33,823,794	12,643,027	370	1,744	575	9	8,052,200	124,775	94,718	3,065,165,151
	Gas	274,465	112,411,961	1,205,711,915	6,190,164	6,762	32,834	558	43	9,190	112,426	133,252	1,324,883,570
2021	Electricity	197,177,841	1,873,492,730	52,209,732	23,344,863	716	1,162	730	6	7,934,787	97,381	200,718	2,154,460,666
	Gas	249,583	146,207,876	224,020,739	14,958,150	2,907	77,188,582	852	14	12,985	310,739	128,039	463,080,466

Figure 4: Relative shares of collected records of transactions – statistics per contract type and energy commodity



Source: ACER, REMIT data (2024).

Notes: Abbreviations EL and NG denote electricity and natural gas commodity, respectively. Different contract types are indicated as follows: AU for auction, CO for continuous, FU for futures, FW for forwards, OP for options, OP_FW for options on forwards, OP_SW for options on swaps, SP for spread, SW for swap and OT for other types of contracts. The numbers used in Figure 1 are expressed in percentages and are based on the number of reported records of transactions. Types of contracts representing close to 0% of all records are excluded from the figure.

Overview of trading on organised market places

In 2023, market participants (MPs) reported trading 178,121 TWh of energy on organised market places (OMPs), indicating a 31% increase compared to 2022 and aligning closely with the levels observed in 2021 (Table 4). The majority of trading activities occurred in natural gas forward markets (84%),

followed by electricity forward markets (11%). The distribution of traded volumes among different market segments remained rather stable in the observed period. Similarly, the number of MPs entering the energy markets on OMPs remained consistent with previous years. A total of 2,024 MPs were active on OMPs in 2023, with 84% participating in electricity markets and 41% in natural gas markets.

Table 4: Traded volumes and active MPs per market segment (time frame)

	Total contract quantity (TWh)					Active MPs				
	2021	2022	2023	Q4 2022	Q4 2023	2021	2022	2023	Q4 2022	Q4 2023
EL	27,071	17,321	22,266	3,805	6,896	1,748	1,757	1,701	1,528	1,476
Forward	24,084	14,392	19,171	3,059	6,067	602	555	462	409	422
Day-ahead	2,595	2,515	2,560	636	688	1,525	1,530	1,527	1,383	1,300
Intraday	391	414	535	110	141	1,171	1,171	1,163	949	984
NG	147,799	118,136	155,855	26,595	43,252	797	822	810	693	749
Forward	143,795	111,068	149,439	24,477	41,538	567	553	492	399	419
Intraday	4,004	7,068	6,417	2,118	1,714	632	665	718	604	666
Total	174,870	135,457	178,121	30,400	50,148	2,027	2,093	2,024	1,809	1,774

Source: ACER, REMIT data (2024).

Disclaimer: The analysis uses the data reported by reporting parties under REMIT. The REMIT data may not be complete, fully accurate and/or reported in a timely manner. ACER thus reserves the right to update the figures and outcomes of the analysis in the event of newly identified data quality issues. Traded volumes are calculated as a sum of total contract quantity bought and total contract quantity sold in the given time period. Market segments/time frames are assigned based on the contract type, estimated time to delivery and duration of the contract traded.

Special attention should be paid to volumes reported for forward markets. In Table 4, the numbers are overestimated due to the double reporting of trades executed on broker

OMPs and cleared on exchange OMPs. For trades executed on broker OMPs or done bilaterally with subsequent clearing on an exchange, REMIT requires a comprehensive reporting

of the 'initial' trade event, including any related orders to trade and relevant lifecycle events. Once such a trade is cleared on the exchange OMP, and if the clearing event is not reported under EMIR, the exchange OMP is expected to report it under REMIT.

To allow for a better distinction between trades executed on exchange OMPs and trades that are solely cleared through exchange OMPs, [the Transaction Reporting User Manual \(TRUM\) version 5.2](#) introduced a so-called clearing flag, which was implemented by exchange OMPs towards the end of the second quarter of 2023. Consequently, the exchange

OMPs should report trades that are solely cleared through them with the specific flag reported in the 'Extra' field in accordance with ACER's [Frequently Asked Questions \(FAQs\) on REMIT Transaction Reporting](#).

Table 5 displays traded volumes on long-term markets for the third and fourth quarter of 2023, distinguishing among these three different trading styles on OMPs: (1) bilaterally settled on broker OMPs, (2) traded on broker OMPs and cleared on exchange OMPs, (3) traded on exchange OMPs where the trade stems from an exchange OMP's own order book.

Table 5: Trading on long-term market segment grouped by trading style and country

	Bilaterally settled volume on Broker OMP (TWh)		Broker OMP traded volumes cleared on Exchange OMP (TWh)		Exchange OMP traded volume (TWh)		OMP volume (TWh)	
	Q3 2023	Q4 2023	Q3 2023	Q4 2023	Q3 2023	Q4 2023	Q3 2023	Q4 2023
EL	488	457	1412	2199	1923	2395	3823	5050
DE	388	326	921	1356	1391	1689	2700	3371
FR	24	42	177	283	208	276	408	601
IT	25	16	162	273	114	160	302	450
Other*	51	73	152	287	210	270	413	629
NG	6995	7403	7718	8986	20751	21901	35464	38289
NL	4537	4714	7202	8475	20399	21469	32138	34658
DE	1079	1110	262	225	194	232	1536	1567
FR	378	542	153	181	25	42	556	764
Other**	1001	1037	100	105	133	158	1234	1300

* AT, BE, BG, CZ, DK, EL, ES, HR, HU, NL, NO-SE-DK-FI-LT-L, PL, PT, RO, SI, SK

** AT, BE, BG, CZ, DK, ES, HU, IE, NL, PL, RO, SK

Source: ACER, REMIT data (2024).

Disclaimer: The analysis uses the data reported by reporting parties under REMIT. The REMIT data may not be complete, fully accurate and/or reported in a timely manner. ACER thus reserves the right to update the figures and outcomes of the analysis in the event of newly identified data quality issues. Traded volumes are calculated as a sum of total contract quantity bought and total contract quantity sold in the given time period. Assignment of transactions in trading style categories is done based on the reporting of the so-called clearing flag as reported in the 'Extra' field.

The reporting of different contract types across different OMPs in 2023 is presented in Table 6. Except for the rare non-reporting of contract types observed for the data sent

via the parallel reporting channel, which is not in line with the TRUM, all recent data contains the mandatory contract type information.

Table 6: Overview of reported contract types indicating the OMPs

OMP	AU	CO	FU	FW	OP	OP_FU	OP_FW	OP_SW	OT	SP	SW	SWG	Unknown or blank contract type
42 Financial Services			X	X		X	X			X			
Aurel BGC SAS			X	X		X							
Balkan Gas Hub EAD		X		X									X
Braemar Securities Limited			X	X									
BSP d.o.o.	X	X											
BURSA ROMANA DE MARFURI SA ROMANIAN COMMODITIES EXCHANGE		X		X									X
Cavendish Markets B.V.				X			X						
CEEGEX Ltd.		X											
Corretaje e Información Monetaria y de Divisas Sociedad de Valores SOCIEDAD ANONIMA, CIMD SV (OTF)			X	X									
Croatian Power Exchange Ltd.	X	X											
EPEX SPOT SE	X	X											X
ETPA B.V.		X											
European Energy Exchange AG (OTF)			X	X									

OMP	AU	CO	FU	FW	OP	OP_FU	OP_FW	OP_SW	OT	SP	SW	SWG	Unknown or blank contract type
European Energy Exchange AG Regulated Market		X	X	X		X							X
Evolution Markets Limited				X									
EXAA Abwicklungsstelle für Energieprodukte AG	X												
FGSZ Kereskedési Platform Kft		X											
Gestore del mercati energetici spa (GME)	X	X											X
GFI EU, a trading name of Aurel BGC			X	X	X	X	X			X	X		X
Griffin Markets Europe SAS			X	X		X				X	X		X
HENEX SA	X	X	X										
HPC SA			X	X									
Hungarian Derivatives Energy Exchange			X										
HUPX Ltd.	X	X											X
ICAP Energy AS			X	X							X		
ICAP Energy Limited			X	X	X								
ICE Endex Markets BV		X	X			X							
ICE Futures Europe			X										
Independent Bulgarian Energy Exchange	X	X											
Marex SA			X	X									
Marex Spectron Europe Limited			X	X		X					X		X
MEFF Sociedad Rectora del Mercado de Productos Derivados, S.A.			X										
MIBGAS	X	X		X									
MIBGAS DERIVATIVES S.A.	X	X	X										X
Nasdaq OMX Oslo ASA			X										
New York Mercantile Exchange, Inc. (NYMEX)			X							X			
Nord Pool AS	X	X		X									X
OKTE, a.s.	X	X											X
OMIP - Pólo Português, S.G.M.R., S.A.			X										
OMI-Polo Español S.A. (OMIE)	X	X											
OPERATORUL PIETEI DE ENERGIE ELECTRICA SI DE GAZE NATURALE "OPCOM" SA	X	X		X									X
OTE, a.s.	X	X											
SEMO	X	X											
SPX, s.r.o.				X									
Towarowa Gielda Energii S.A.	X	X		X					X				
TP Icap (Europe) S.A			X	X	X					X	X		X
TP ICAP E&C Limited			X	X						X	X		
Tradition Financial Services Espana Sociedad De Valores SA			X	X		X	X				X		
Tradition Financial Services Ltd			X	X							X		
TSAF OTC				X							X		
UAB GET Baltic		X											

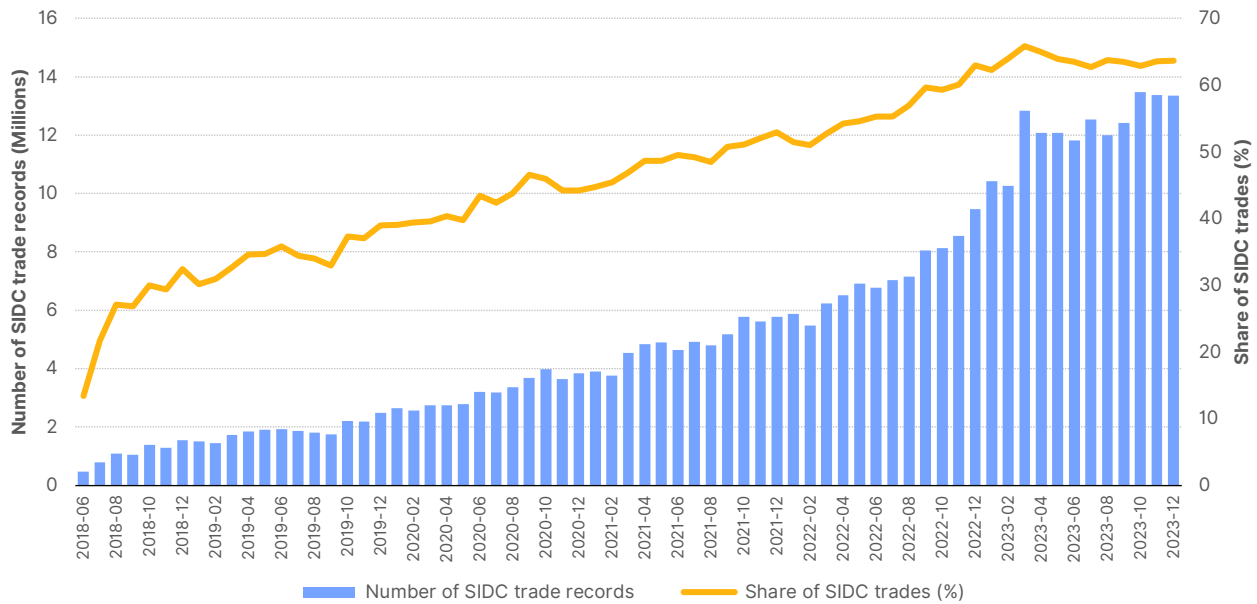
Source: ACER, REMIT data (2024).

Reporting of SIDC information to ACER

ACER has been collecting Single Intraday Coupling (SIDC) records of transactions under REMIT Table 1 since the go-live of the SIDC project in 2018. Since then, the number of reported records has grown steadily, even though the growth seemed to somewhat stabilise in 2023.

Throughout 2023, the number of SIDC trade records ranged between 10 to 13 million records per month. The ratio of SIDC trades compared to all electricity trades executed on organised market places (OMPs) in 2023 stabilised at roughly 63% (Figure 5).

Figure 5: Total number of SIDC trades collected per month between June 2018 and December 2023. The evolution of SIDC incidence over the collected electricity trades is reported on the secondary axis.



Source: ACER (2024).

Reporting forms

With the OMP form, ACER encourages OMPs to amend their OMP details whenever changes occur, including in their list of standard contracts, or to request the delisting of their market places if they no longer operate under REMIT. Additionally, the EICs Reporting form is used to map previously reported EICs, report new EIC Codes, and delist EIC codes from ACERs List of Accepted EIC Codes.

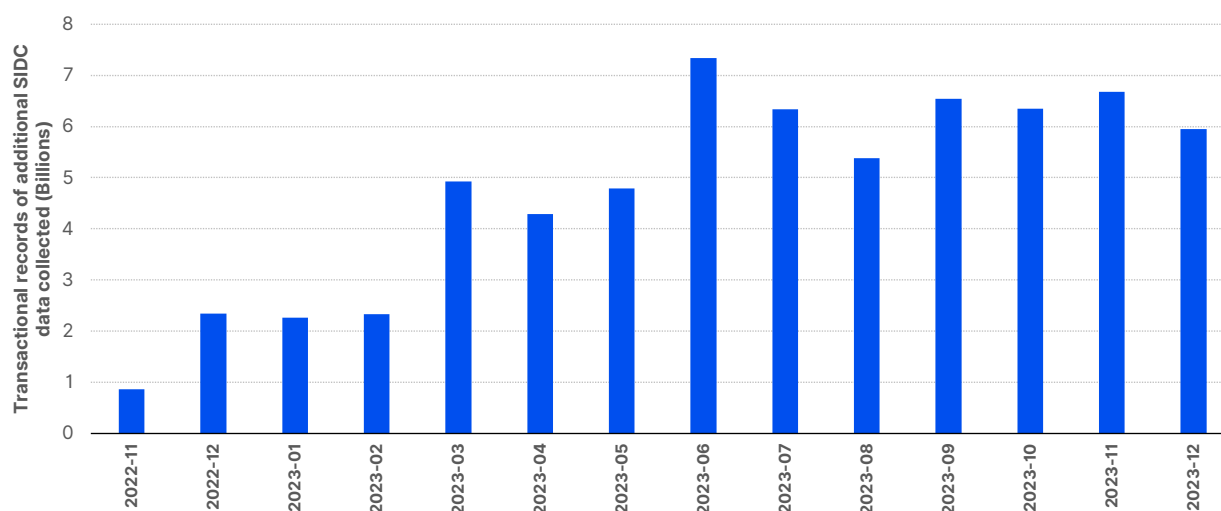
By regularly updating the List of Organised Market Places, the List of Standard Contracts and the List of Accepted EIC Codes, ACER aims to improve the transparency of the energy market. The lists facilitate reporting based on the REMIT Implementing Acts and ensure data quality. Moreover, the OMP list enables all market participants to identify relevant organised market places as reporting channels for transaction reporting.

With a view to delivering a consistent and updated version of the lists, ACER urges OMPs to use the OMP form to promptly submit any new or updated information regarding organised market place identifiers before reporting any transactions. In addition, all stakeholders (e.g. OMPs, RRM, TSOs) are asked to use the EIC reporting form to submit new or updated EIC codes referring to Delivery point or zones before reporting any transactions. It is important to note that transaction reports of standard contracts referencing a non-existent organised market place identifier or a delivery point or zone not included in the List of Accepted EIC Codes are rejected by ACER's data collection system (ARIS).

In the fourth quarter of 2022, ACER also started to collect additional information from the Nominated Electricity Market Operators (NEMOs) on orders executed in SIDC, following the adoption of [ACER Decision No 01-2022](#) (Requesting Additional Information in Relation to Single Intraday Coupling Data, see [REMIT Quarterly Q1 2022 report](#)). The collected data complements the Table 1 data reported under REMIT, enabling ACER surveillance teams to reconstruct the visibility of the SIDC order book per delivery zone at any given moment.

The setting-up of such an additional data collection required a notable cooperative effort between ACER, NRAs, NEMOs and TSOs active in SIDC. The amount of additional data received by ACER is significant and amounted to 66 billion records reported in 2023 (Figure 6). During the first months of collection, the amount of SIDC records tripled due to some tuning of the creation of the relevant files triggered by ACER's data quality checks. As of June 2023, the volume of SIDC data stabilised around 6 billion records per month. In comparison, the number of reported records (including both orders to trade as well as trade records, including all relevant lifecycle events) for the entire electricity market amounted to roughly 0.5 billion per month in 2023.

Figure 6: Number of records collected per month under additional SIDC data collection



Source: ACER, additional SIDC data collection (2024).

ACER is currently focusing on the comparative analysis of SIDC data reported via REMIT Table 1 and via the additional file, with the aim of improving data quality. This exercise has turned out to be particularly meaningful also in terms of assessing the data quality of SIDC data reported under REMIT, triggering some limited updates of the dedicated reporting guidance.

The additional SIDC data collection activated by ACER Decision 01-2022 is expected to continue until the revision of the REMIT data reporting framework, as defined in the REMIT Implementing Regulation. ACER will assess the purpose and the necessity of the additional SIDC data collection at least every year and, where appropriate, revise ACER Decision 01-2022.

List of Organised Market Places and List of Standard Contracts

- As of January 2024, there are 65 OMPs in the List of Organised Market Places, as opposed to 68 in January 2023. Throughout the first three quarters, one OMP was added and two were delisted.
- In the fourth quarter of 2023, one OMP (GMG Europe BV) was added, and three (Flow Brokers BV, Enterprise Commodity Services Limited and Ovovis GmbH) were delisted. One OMP (MEFF Sociedad Rectora del Mercado de Productos Derivados, S.A.) changed their contact details. This brings the yearly total to two added and five delisted OMPs.
- The List of Standard Contracts, which previously contained 18,143 contracts, now includes 18,301. A total of 275 new contracts were added, while 117 contracts were removed from the list.

In January 2023, the list of Standard Contracts contained 18,239 contracts. Throughout the last four quarters a total of 958 contracts were added, 243 were removed and 653 doubles were removed after a cleaning of the list.

Access the List of Organised Market places [here](#).

Access the List of Standard Contracts [here](#).

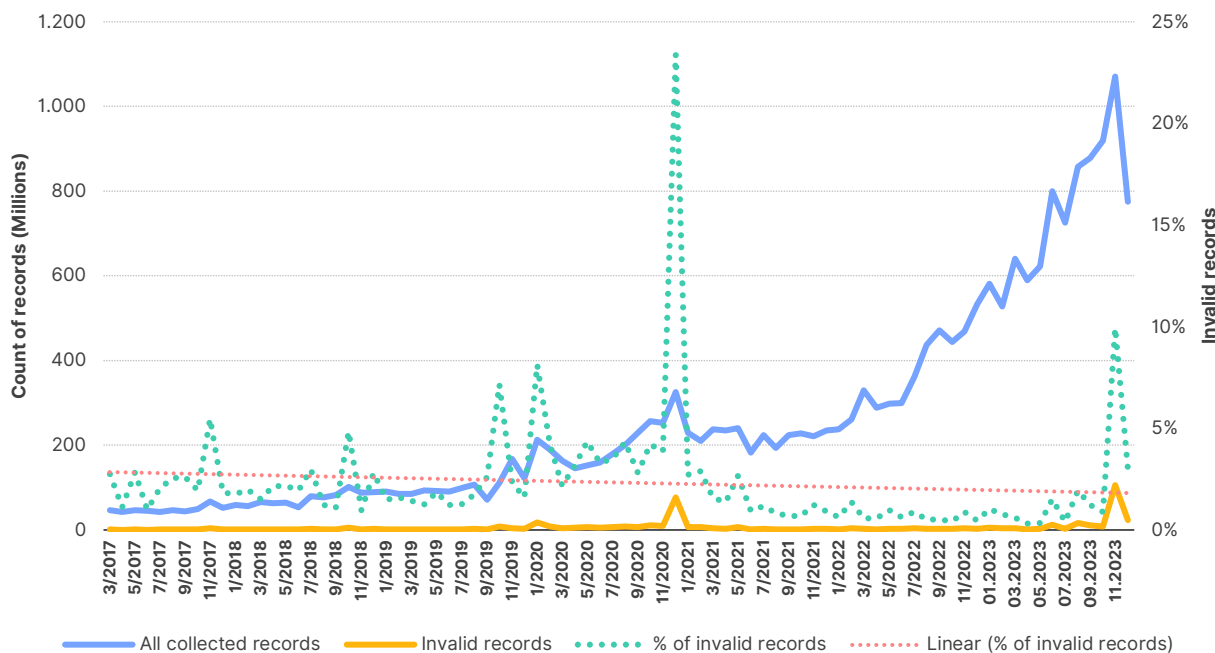
Validation rules statistics in 2023

Data validation is an important procedure, which ensures that the received data is of sufficient quality and can be stored in ACER's REMIT database. As such, data validation also enables further, business analysis of the data.

The reported REMIT data is automatically checked when uploaded to the ACER's REMIT information system (ARIS). Only data reported in the correct format and adhering to the specified naming conventions is processed and advanced to the staging area. There, the data is checked against validation rules, with a primary focus on the accuracy of individual reported fields, record uniqueness, and consistency across different fields. After a successful validation, the system stores the records, categorising them as either valid or invalid. Reporting parties receive pertinent feedback regarding the validation outcome. Additional information on ARIS validation rules can be found in [the ACER REMIT Information System Data Validation Document](#).

Figure 7 compares the number of collected records of transactions, including orders to trade, per month with invalid records in absolute and relative terms. Unlike in previous years, in 2023 there was a slight increase in the reporting of invalid records several times throughout the year, with a clear spike observed in November. These increases were due to some reporting changes observed on several OMPs and their RRM.

Figure 7: Number of collected records of transactions per month compared to invalid records in absolute and relative terms



Source: ACER, REMIT data (2024).

In 2023, the vast majority of validation rule breaches were related to uniqueness issues (90%), followed by completeness (9%) and accuracy (1%) issues. As in previous years, uniqueness issues were usually related to the duplications of records, while completeness issues stem from undefined prices or quantities, non-existent contract

reference and lifecycle events being applied to non-existent records. Accuracy issues were mainly related to submissions of records identifying non-accepted delivery point or zone codes ([Annex VI to the TRUM](#)) and non-registered market participants (CEREMP).

Recommendations to the Commission

On 14 March 2023, the European Commission proposed a reform of the EU electricity market in order to protect consumers and companies from high energy bills. The reform included a legislative proposal for an amending Regulation to improve the Union's protection against market manipulation in the wholesale energy market, which revises REMIT.

As mentioned in the opening article on the REMIT Forum, the amendments to the REMIT Regulation extend the scope of data reporting to the electricity market, enhance cooperation between energy and financial regulators on derivative wholesale energy products, improve the process of inside information collection and market transparency, and strengthen the supervision of reporting parties.

The amendments also outline a framework for the harmonisation of fines set by regulatory authorities at national level. The result of the trilogues was published in early January 2024²¹.

ACER welcomes the revision of REMIT and recognises its significance in updating the regulation 12 years after its adoption. ACER is currently carefully mapping the programming provisions for the implementation of the amendments and remains committed to assisting and consulting the Commission and the legislative bodies as required.

21 See: <https://data.consilium.europa.eu/doc/document/ST-16636-2023-INIT/en/pdf>.

Annex I – Background

The REMIT Quarterly provides updates on REMIT-related activities, guidance on the application of the REMIT framework, and assessments of the operation and transparency of different categories of organised market places and ways of trading. It is produced by **the Market Information and Transparency (MIT) and the Market Surveillance and Conduct (MSC) departments** of [the European Union Agency for the Cooperation of Energy Regulators \(ACER\)](#).

The two departments work closely together and share joint responsibility for tasks under [Regulation \(EU\) No 1227/2011 on Wholesale Energy Market Integrity and Transparency \(REMIT\)](#).

REMIT came into force in 2011 to support open and fair competition in the European wholesale energy markets. By prohibiting any trading based on inside information and deterring market manipulation, REMIT sets the ground for increased market transparency and integrity, and ultimately protects the interests of companies and consumers.

REMIT is supplemented by the [Commission Implementing Regulation \(EU\) No 1348/2014](#) (the REMIT Implementing Regulation), which was adopted on 17 December 2014 and entered into force on 7 January 2015. The Implementing Regulation defines both the scope and timeline for REMIT implementation. ACER is legally mandated to collect all relevant trading data in wholesale energy markets, to surveil the European wholesale energy markets, and to coordinate the follow-up of any possible REMIT breach to ensure consistency at European level.

The MIT department is responsible for general REMIT policy matters, market data reporting, data quality, data sharing, BI tools, and market data management tasks under REMIT. The MSC department performs market surveillance to deter market abuse and fosters confidence in the well-functioning of energy markets.

If you have any queries about this quarterly report, please contact remit@acer.europa.eu.

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Annex II – Abbreviations

ACER/Agency	European Union Agency for the Cooperation of Energy Regulators
AEMP	Association of energy market participants
ANUG	ARIS NRA User Group
ARC	ACER REMIT Committee
ARIS	Agency's REMIT Information System
BoR	Board of Regulators
CBWT	Cross-border wash trade
CEREMP	Centralised European Registry of Wholesale Energy Market Participants
CMT	Case Management Tool
DSO	Distribution System Operator
DQ	Data quality
EC	European Commission
EMIR	European Market Infrastructure Regulation (Regulation (EU) No 648/2012 on OTC derivatives, central counterparties and trade repositories)
ENTSO-E	European Network of Transmission System Operators for Electricity
ENTSOG	European Network of Transmission System Operators for Gas
ESMA	European Securities and Markets Authority
IIP	Inside information platform
LNG	Liquefied natural gas
MCM	Market correction mechanism
MDSC	Market Data Standing Committee
MiFID	Directive 2004/39/EC on Markets in Financial Instruments
MiFID II	Directive 2014/65/EC on Markets in Financial Instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast)
MiFIR	Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012 (Text with EEA relevance)
MMSC	Market Monitoring Standing Committee
MoP	Manual of procedures
MoU	Memorandum of Understanding
MP	Market participant
NP	Notification Platform
NRA	National Regulatory Authority
OMP	Organised Market Place
OTC	Over The Counter
PPAT	Person Professionally Arranging Transactions
REMIT	Regulation (EU) No 1227/2011 on Wholesale Energy Market Integrity and Transparency
REMIT Implementing Regulation	Commission Implementing Regulation (EU) No 1348/2014
RP TF	REMIT Policy Task Force
RRM	Registered Reporting Mechanism
SIDC	Single intraday coupling
STR	Suspicious Transaction Report
TP	Transparency platform
TRUM	Transaction Reporting User Manual
TSO	Transmission System Operator
UMM	Urgent Market Message

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