

INTRODUCTION TO CRE'S POSITION PAPERS ON THE FUTURE OF EUROPEAN LEGISLATION

The European Commission has called for zero net greenhouse gas emissions by 2050. The energy sector currently accounts for the bulk of these emissions, and regulators – set at the intersection between law and the market – have a role to play in supporting its transformation. Beyond the implementation of the European Union legislation recently adopted with the Clean Energy Package, the *Commission de Régulation de l'Énergie* (CRE) intends to participate actively in the reflection on future legislative developments to best lead the transition to a carbon-neutral economy.

As a follow-up to the conference organised on 15 February 2019 on "France in the Europe of Energy" and the call for contributions that followed, CRE wishes to contribute to the debate on the coming challenges for the European Union's energy policy and the consequences of these changes for regulation.

To this end, CRE has defined 10 themes falling within its remit, on which it offers its expertise to support the invention of tomorrow's European energy system.

On all these topics, CRE positions itself with the constant concern to ensure that the European vision is consistent with national specificities. While a common approach and impetus at the European level are essential to the success of the transition to a secure, affordable and low-carbon energy system, it is essential that European rules take into account the strengths and constraints of national systems.

European Union legislation must therefore provide a framework that is sufficiently flexible to allow for innovation and experimentation at national or local level. The temptation to over-regulate and rigidify the current legal framework must be avoided to allow new models to emerge. To this end, the principle of subsidiarity ensures that Member States have the necessary leeway to choose the technical means adapted to the characteristics of their markets in order to best achieve the common objectives set by the European legal framework.

CRE recalls these principles of governance of European energy policy in its Position Paper no. 1.

Several position papers then set out CRE's position on the role of gas and the challenges facing the gas sector. CRE insists on the specific characteristics of the gas system and calls for any symmetry between European gas and electricity legislation to be reasonable (Position Paper no. 2). It insists on the relevance of the current model for organising the gas market based on the principle of transport pricing that reflects network costs (Paper no. 4). CRE also underlines the success of the gas storage regulation implemented in France. In this respect, European Union legislation must preserve the right amount of flexibility that made this new framework possible so that other countries can possibly draw inspiration from it (Paper no. 5). Finally, CRE stresses the opportunities offered by the necessary development of green gas and a cross-sectoral approach between the gas, electricity and even transport and agriculture sectors (Position Papers nos. 6 and 7).

Furthermore, as the networks play an essential role in the energy transition, CRE details its position on the means for better infrastructure planning and the relevance of investments in new gas and electricity networks (Position Papers nos. 3 and 8). It also shares its position on optimising the use of electricity interconnections (Paper no. 9).

Finally, CRE wishes to give its opinion on the methods for monitoring the integrity of wholesale energy markets, which have become a major factor in the formation of energy prices, in order to call for an assessment of the efficiency of the system set up by the European Union's REMIT regulation (Paper no. 10).

With these position papers, CRE wishes to make its contribution to the creation of European legislation that takes into account the history of the energy systems of each of the Member States. The European Union, with the upcoming "Green Deal," will thus be able to promote a model that can stand the test of decades while responding to the climate emergency.



POSITION PAPER NO. 1

Governance and subsidiarity of European energy policy

CRE wishes to draw attention to the counterproductive effects of overly detailed and technical legislation. It is important that European Union law sets common objectives while leaving Member States free to choose the technical means adapted to the specificities of their markets. European Union legislation should be balanced towards more subsidiarity and proportionality in accordance with the Commission's communication of 23 October 2018¹. We must learn the lessons of the “Clean Energy for all Europeans” package in this respect and avoid the same pitfalls when updating energy legislation, in particular, and any new piece of legislation more generally. It is important to assess the feedback before making new legislative choices. Finally, a regulation, and a directive, should not prescribe provisions that fall within the scope of a technical implementing act, as this would generate complexity without much added value. A certain hierarchy of norms should be respected.

A readable, predictable and functional institutional and regulatory framework

Adapting the energy sector to the challenges of the fight against climate change is a major issue, both in terms of its scale (development of renewable energies, emergence of new uses and new flexibilities, etc.) and its urgency. The upcoming overhaul of the rules governing the functioning of the European gas market is an opportunity to meet the EU's climate objectives while continuing to control the cost of the energy transition for consumers and helping to ensure the security and reliability of the Union's energy supply.

The trust and involvement of citizens and local actors in the energy market, which are essential to the success of the energy transition and the accompanying decentralisation of means of production, require a readable, predictable and functional institutional and regulatory framework. But it is imperative to ensure that it remains flexible enough to adapt to market developments and take advantage of feedback while providing an environment conducive to innovation.

CRE recalls that much progress has been made so far in harmonising market functioning rules and optimising the use of cross-border infrastructures thanks to the joint initiatives that European regulators have put in place within the Council of European Energy Regulators (CEER) and within the framework of the Agency for the Cooperation of Energy Regulators (ACER). The margin of manoeuvre left by European legislation to Member States to implement the most effective means in any given situation is essential to the achievement of European Union objectives. The complexity required to further integrate European energy markets implies a fine balance between setting ambitious European targets and affording Member States (and/or national regulators) the flexibility to take the measures best suited to national characteristics while actively cooperating with their neighbours.

Limiting legislative inflation

The considerable increase in the volume of proposals contained in the “Clean Energy for all Europeans” package and their level of detail raise the question of the proportionality of the measures envisaged, and the relevance of including highly detailed rules in legislative acts.

Some provisions of the Clean Energy Package now incorporate rules that were previously the subject-matter of implementing acts such as network codes. CRE considers that, in the future, it is necessary to carefully assess the

¹ COM/2018/703 final - COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS The principles of subsidiarity and proportionality: Strengthening their role in the EU's policymaking

reasons and proportionality of any change at the legislative level: not doing so may promote anti-European sentiment and would make any further development more difficult.

Promoting feedback as a driving force for any legislative development

The gradual approach by which the internal energy market has been built has proved its effectiveness. In view of the complexity of market integration at institutional, regulatory and technical levels, it is essential to ensure that Member States retain room for manoeuvre in order to amend these rules in the light of feedback, without destabilising the market.

While CRE understands the Commission's desire to maintain the momentum of integration of energy markets and therefore the rate at which new legislation is issued, it wishes to draw attention to the time needed to implement the often complex harmonisation measures provided for in European Union legislation (e.g. measures for the harmonisation of the operating conditions of European electricity infrastructure or rules on balancing). For example, 16 pan-European methodologies have yet to be approved by ACER on the basis of the 2009 Third energy package, whereas a new series of legislative measures, the Clean Energy Package, was adopted in June 2019. The credibility of the implementation work would suffer if some pieces of legislation were to be reevaluated prematurely.

CRE considers that feedback should be allowed to guide legislative choices. Too much haste in defining new obligations or objectives may prove counterproductive if the previous measures have not yet produced their full effects. It would also be useful to set up monitoring mechanisms to assess the effects of the legislation in force.

In the gas sector, efforts to implement the existing network codes should be followed up before anything else. CRE wishes to point out that the network code on balancing gas transmission networks has only been in force since 1 October 2015 and that the network code on interoperability and data exchange has been binding since 1 May 2016. Finally, the network code on the harmonisation of the tariff structures of transmission networks has only been fully binding since 31 May 2019. Therefore, it is necessary to have clear feedback before reopening discussions on these elements or introducing certain provisions of these codes into a directive or regulation.

Finally, it could be proposed that such feedback could systematically incorporate the added value that harmonisation of rules at European level could represent, taking into account on the one hand the complexity of the provision in question and its impact for the benefit of consumers and the internal market on the other hand. Thus, the proof of the added value of the European level should be, if not demonstrated, at least made explicit in the light of feedback in the field.

Translate the principle of subsidiarity into decision-making procedures at European level

The recast of the Regulation of the Agency for the Cooperation of Energy Regulators (ACER) as part of the Clean Energy Package has resulted in a change in the balance of powers between the Director of the Agency on the one hand, who is chosen from a list of candidates proposed by the European Commission, and the Board of Regulators on the other hand, where each of the national regulatory authorities is represented. CRE is convinced that the Board of Regulators must remain at the centre of the Agency's decision-making process and be able to provide its expertise and guide the Agency's decisions in an effective way. Although the new ACER Regulation gives regulators the right to amend ACER's proposed decisions - the consideration of which remains at the discretion of the Director -, the voting rules are defined in such a way (a 2/3 majority of regulators according to the principle of one regulator/one vote) that a decision can be legally adopted against the opinion of the regulators of the 9 largest EU Member States, representing nearly 80% of the EU's population.

Therefore, in the next pieces of European Union legislation, dealing possibly with the gas sector, it is essential that any new competence attributed to ACER is carried out in strict compliance with the principle of subsidiarity. Given the balance of powers, resulting from the new ACER Regulation, between the Board of Regulators and the Director of the Agency, it is essential that ACER's powers are limited to purely cross-border issues, which alone can justify decisions being taken without the full support of each of the national regulatory authorities concerned.

Finally, the pursuit of the objective of better and greater market integration does not necessarily imply the harmonisation in principle of technical parameters, which could reduce the possibility of taking into account national specificities. Indeed, the achievement of this objective is based on a fair balance between the setting of specific objectives at European level (without necessarily being prescriptive) and the definition of implementation measures at national level in a coordinated manner between Member States.



POSITION PAPER NO. 2

Mirroring: convergence and divergence of gas and electricity legislation

CRE calls for great caution with regard to the temptation of pursuing a systematic parallelism between the legislation on electricity and gas. Indeed, there are many differences between these two energy sources and between their respective sectors. Therefore, symmetry between European Union gas and electricity legislation should be limited to cross-cutting issues, in particular those related to the energy transition, namely: consumer interest and the role of network operators.

The “Clean Energy for all Europeans” package, which entered into force on 4 July 2019 for its final elements, brings a number of legislative advances in the electricity sector, both on wholesale and retail markets. The European Commission has expressed the wish, in a possible new piece of legislation on energy, to adapt its legislation on gas by mirroring certain elements of the Clean Energy Package.

Differences between gas and electricity

Gas and electricity are energy sources of a different nature: gas is a primary and substitutable source of energy while electricity is an "energy vector" or a "secondary" form of energy, not substitutable for many uses and resulting from the transformation of primary energy. The physical properties of electricity make it difficult to store on a large scale, and production must at all times correspond to consumption in order to avoid blackouts. Transport responds to specific physical laws, with the effect that commercial transactions generate flows that have effects on the entire network. It should also be added that long-distance electricity transmission is relatively inefficient due to physical losses on lines, even if significant technical progress has been made, particularly on direct-current lines. Electricity is therefore intended to be produced close to consumers. The organisation of the electricity market, on the other hand, consists in using the various production techniques according to their increasing cost. The European market thus consists of areas in which the wholesale market sets a price based on the level of supply/demand balance, which amounts to classifying the various means of production according to their marginal cost until all demand is satisfied at any given time.

Gas supplies, for their part, depend on the location of the natural resources exploited, which are mainly located outside of the European Union (Norway, Russia, Algeria, the Middle East, and the United States). Gas can be stored in underground geological structures, which makes it possible to cope with the sizable differences in consumption between winter and summer. Gas transmission offers more flexibility than electricity transmission: the short-term adequacy constraint between supply and consumption is less strict thanks to the gas contained in the pipes. The gas market is strongly influenced by external parameters, such as oil prices or prices in other geographical areas (North America, Asia), which may impact prices in Europe via trade in liquefied natural gas, which in turn can become the subject of arbitrage between continents. Long-term supply contracts and international long-distance transport are other strong features of the European gas market.

Finally, in terms of domestic uses, gas is mainly used for heating purposes (water, housing) while electricity is used to meet an ever-increasing number of needs resulting from developments in electromobility and the massive use of new information and communication technologies. Gas and electricity are two different products in terms of time, development and long-term growth potential.

A common legislative framework

In the Third energy package in 2009, gas and electricity were treated in parallel and symmetrically. The aim of this package was to create a level playing field in the Member States of the European Union with a view to completing the internal energy market. It consisted of two Directives on electricity and gas markets (2009/72/EC and 2009/73/EC), two Regulations on conditions for access to the network for cross-border exchanges in electricity (Regulation (EC) No 714/2009) and conditions for access to the natural gas networks (Regulation (EC) No 715/2009), and Regulation (EC) No 713/2009 establishing the Agency for the Cooperation of Energy Regulators (ACER).

The Third energy package's objective was to strengthen, at national level, the independence of Transmission System Operators (TSOs), which are subject to a certification procedure carried out by National Regulatory Authorities, and to increase the degree of harmonisation, independence and competences of these authorities. At European level, the Third energy package created the Agency for the Cooperation of Energy Regulators (ACER) and brought together Transmission System Operators within the European Network of Transmission System Operators (ENTSO) for electricity (ENTSO-E) and gas (ENTSO-G). Finally, it provided for the development of "network codes" to harmonise the conditions for energy trade between Member States.

The "Clean Energy for all Europeans" package, adopted in July 2019, focused on a revision of the electricity texts (Regulation and Directive) and ACER's governance in order to give more power to the consumer, better integrate renewable energies, remove obstacles to cross-border trade and strengthen ACER's powers on these issues. In order to maintain the consistency of the regulatory framework, some elements relating to gas should be updated. However, the symmetrical amendment of gas legislation should only be made in accordance with the specific characteristics of each of these sectors. It is therefore appropriate not to impose on the gas sector measures that are technically inapplicable or economically unjustifiable for the sole purpose of satisfying the symmetry of the respective rules.

A relevant adaptation to give new rights to consumers

Directive (EU) 2019/944 on common rules for the internal market in electricity consolidates the principle of free choice of supplier (Article 4), consumers' basic contractual rights (Article 10) and their rights regarding bills and billing information (Article 18). The Directive also guarantees customers access to price comparison tools (Article 14), smart meters (Articles 19 to 21) and dynamic contracts (Article 11).

These new rights could be adapted in a relevant manner also to the gas sector. The obligation to deploy smart meters, subject to a cost-benefit analysis, which is provided for in electricity in the Electricity Directive 2009/72/EC (Article 3 (11) and Annex I) and then in Articles 19 to 21 of Directive (EU) 2019/944, could be extended to the gas sector. In France, from 2016 to 2022, 11 million natural gas customers will be equipped with a smart meter. Therefore, if common functionalities for these intelligent measuring systems are envisaged at European level (as is the case in electricity in Article 20 of the above-mentioned Directive), it must be ensured that these functionalities are compatible with those of the meters already deployed. Finally, the information to be included on invoices must remain clear and concise so as not to create confusion for customers.

The provisions on self-consumption and renewable energy communities (Articles 21 and 22 of the 2018/2001 Renewable Energy Directive) as well as those on citizen energy communities (Article 16 of the 2019/944 Directive) and those on load management and aggregation are further removed from the characteristics of the gas sector and do not seem, at this stage, to be relevant in this sector.

Finally, dynamic price contracts do not seem likely to be extended to the gas sector.

Adapting the governance of the European market

The forthcoming gas legislation could usefully replicate the creation of a European entity bringing together European Gas Distribution System Operators (DSOs), along the lines of the EU DSO created by the Electricity Directive (Articles 52 to 57 of Regulation (EU) 2019/943 on the internal electricity market). However, this new entity will need to be given more flexibility in the choice of its governance model while providing for the same supervisory power of ACER. This new entity could allow for a collegial treatment of issues specific to the gas sector (development of network codes, network operation, integration of renewable energies and new gases, data management). It could also facilitate cooperation between DSOs and TSOs at European level (the latter being already represented in ENTSO-G) in order to facilitate in particular the drafting of investment plans on the networks. Finally, the EU DSO for gas could facilitate the dialogue between electricity and gas DSOs at European level.

The creation of Regional Coordination Centres for gas Transmission System Operators (Articles 35 to 47 of Regulation (EU) 2019/943 on the internal electricity market) does not seem relevant since the need for coordination for the management of gas networks in real time is much less pronounced than for electricity. Moreover, the responsibility for security of supply ultimately remains with the Member States.

Finally, Regulation (EU) 2019/942 establishing the Agency for the Cooperation of Energy Regulators will also need to be revised to include the supervision of a possible EU DSO for gas and the definition of its role in the development and implementation of new network codes. Moreover, it is important that the Agency's arbiter role is limited to the regulatory aspects of the implementation of network codes and does not interfere with the principle of subsidiarity. For example, with regard to gas tariffs, ACER's role must be strictly limited to what is defined in the 2017 Network Code on the Harmonisation of Tariff Structures (so-called "TAR" code - Regulation (EU) 2017/460 of 16 March 2017), namely to monitor compliance with certain principles, such as transparency, non-discrimination and the absence of cross-subsidisation between domestic and international flows.

A specific "market design" to the gas sector

The functioning of the gas system (see Position Paper no.4 on the gas market design) is very different from that of electricity. Caution should therefore be exercised with regard to the temptation to apply certain provisions governing the electricity system symmetrically to the gas sector.



POSITION PAPER NO. 3

Investments in trans-European energy networks

The purpose of the "Infrastructure Regulation"¹ is to develop the trans-European infrastructures necessary for the proper functioning of an integrated European energy market. Dating from 2013, this Regulation established a coherent framework for the identification and support of strategic projects at European level.

However, CRE considers that the regulation has certain weaknesses that should be corrected. In particular, it is essential to give regulators a greater role in the process of developing the tools on which the selection of projects of common interest (PCIs) is based; to ensure a more robust and transparent assessment of the economic merits of projects applying for PCI status; to allow possible European Union financing to be taken into account in cross-border cost allocation decisions; and, for the gas sector, to clarify the relationship between the Infrastructure Regulation and the capacity allocation mechanisms provided in the CAM Code.

CRE also considers that the status of PCIs can only establish a "presumption of utility" that must be open to reassessment by regulatory authorities when they receive a specific investment request for an infrastructure project classified as PCI.

The European Union's regulatory framework for energy infrastructure

Historically, the electricity and gas networks of European countries have been developed at national level. International interconnections were built as early as the 1950s and European integration has given new impetus to the development of cross-border infrastructure, with the aim of creating an integrated European energy market. In order to deepen the integration of electricity systems between Member States, the European Union has set Member States a target for the development of interconnection capacities: by 2020, a country's electricity interconnection capacities must reach a threshold of 10% of the country's generation capacity. By 2030, this target has been increased to 15%, provided that the potential benefits of the new interconnections outweigh their costs.

Also with a view to facilitating the development of these interconnections, the European Union has created a specific framework, Regulation (EU) No 347/2013 of 17 April 2013 on trans-European energy infrastructure (the "Infrastructure Regulation" or "TEN-E Regulation"). This Regulation establishes a procedure for the selection of projects of common interest (PCI) at European level and provides for several measures to facilitate the implementation of these projects: a one-stop shop and a time-limited authorisation procedure, the possibility of sharing investment costs between countries benefiting from the project, incentives and financing from the Connecting Europe Facility (CEF). The selection of PCIs is also based on various tools (gas and electricity network development plans and common cost-benefit analysis methodologies), developed by the bodies representing European network operators (ENTSO-E and ENTSO-G).

By the beginning of 2020, this selection procedure will have been completed for the fourth time, resulting in a new list of projects of common interest. These six years of experience should make it possible to draw an initial assessment of the application of the Regulation.

¹ Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure

The current European framework is appropriate to support the implementation of projects of common interest.

CRE considers that the Infrastructure Regulation provides a coherent framework for identifying and supporting strategic projects at European Union level.

- It has led to common rules and methodologies for the evaluation and selection of projects of common interest, thus structuring the dialogue at European level on the assessment of candidate projects.
- It has established a consultation process between all relevant stakeholders, including Member States, national regulatory authorities, network operators and other parties. This consultation allows for a dialogue between different stakeholders on the benefits of the projects for the community.
- It provides the necessary measures and incentives to facilitate the implementation of complex projects, and enshrines the principle that projects of European interest can receive financial support from the European Union, in particular through grants from the Connecting Europe Facility (CEF).

However, the European framework should be improved, in particular to ensure greater economic efficiency in the development of trans-European projects.

CRE considers that projects of common interest should be selected on the basis of rigorously identified needs and benefits, in order to avoid stranded costs resulting from non-essential investments.

In this respect, CRE believes that the Regulation has certain weaknesses that should be corrected in order to move towards greater flexibility and transparency.

- **Give regulators a greater role in the process of developing the tools on which selection is based:** Currently, the Regulation entrusts network operators, through their European organisations (ENTSO-E and ENTSOG), with the task of establishing scenarios, network development plans and methodologies on which the PCI selection process is based. Despite the recognised expertise of these organisations, CRE considers that this distribution of roles entails a risk of bias in favour of the construction of new infrastructures at the expense of alternative solutions, or other projects carried out by third parties. The role of regulators (as independent authorities serving the general interest) in the development of scenarios, network development plans and related methodologies should therefore be strengthened (ACER could thus have approval competence over these documents). The observations of national regulatory authorities should also be more systematically taken into account in the PCI selection procedure.
- **A more robust assessment of the merits of projects applying for PCI status:** In order to ensure the robustness of project evaluation, it is essential that such evaluation is based on a large number of sufficiently contrasting scenarios. These should include scenarios that fall short of the renewable energy development objectives, in order to take into account all the "possible futures", given the uncertainties regarding the evolution of the European energy system. In addition, the different modelling tools must better take into account the interdependency between the different candidate projects and alternative solutions, including the strengthening of existing infrastructures. In the context of the cost-benefit analysis, which is about the assessment of the soundness of the project, it is important that all the benefits taken into account are considered within the framework of a harmonised, shared and rigorous methodology. While it is important to capture the positive externalities that projects can generate, the PCI status cannot be based solely on qualitative criteria, which are difficult to assess, and must concern projects whose socio-economic interest has been conclusively proven. Finally, the current project evaluation process provided for in the Infrastructure Regulation introduces a risk of bias in favour of solutions favouring the construction of infrastructure where alternatives would be better suited, particularly in terms of flexibility and storage. A reflection should be carried out to encourage the consideration of these alternatives in the identification of needs and the analysis of the value of projects.
- **Greater transparency of the elements underlying the selection of PCI:** The data and models that are used to score and rank candidate projects according to their usefulness should be accessible to stakeholders or, where this is not possible for reasons of confidentiality, to regulators.
- **Clarify the regulator's investment approval competence:** The cost benefit analysis of a project is necessarily more limited and uncertain at the stage of granting PCI status than that carried out by the regulator when it receives an investment request (whereas the characteristics of the project, or the economic and energy context, may have changed significantly since its inclusion in the list of PCIs). As a result, the PCI status can only establish a "presumption of utility", which should be open to reassessment by regulatory authorities. Indeed, regulators are the custodians of the general interest and must be free to examine the costs and benefits claimed at the time of project selection, as well as the evaluation methodology used by project promoters. The possibility for regulators in the project's host countries to approve or reject an investment request (before deciding on a possible allocation of the project's costs) should be clearly spelled out in the Regulation in order to reduce confusion about the role of the different actors involved. Host country regulators should also be able to comment on third countries identified by investors as being affected by the project before starting cost allocation discussions.

- **Taking European Union financing into account in cross-border cost allocation:** Cross-border cost allocation is an effective way to facilitate the implementation of a project the costs and benefits of which are not shared symmetrically between the countries concerned. That said, the many uncertainties in assessing the respective benefits and cost burdens can make an agreement on an equitable allocation of costs difficult. Rather than making the award of a European Union grant conditional on the existence of a joint cost allocation decision, the Regulation should recognise that it is precisely the grant of European Union financing that will often make it possible to reach such an agreement. CRE therefore considers that it is better to take the regulators' decision on cost allocation and the granting of financing from the Connecting Europe Facility (CEF) in an integrated and simultaneous manner.
- **Clarify the link between the network code on capacity allocation mechanisms in gas transmission systems (Regulation (EU) 2017/459, known as the "CAM code") and the Infrastructure Regulation:** Some stakeholders expressed a preference for the economic test procedure, provided for in the CAM code, to greenlight the creation of new capacities on the basis of the interest of market players. The Infrastructure Regulation, for its part, provides for an evaluation on the basis of the cost-benefit analysis methodology developed by ENTSOG. The two procedures reflect different logics for the greenlighting of investments and can therefore lead to contradictory results. CRE considers that, at the very least, the relationship between these two procedures should be clarified, for example by adding a more explicit reference to the CAM code market test in the Infrastructure Regulation.



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POSITION PAPER NO. 4

What market design for gas?

CRE considers that the European gas market is functioning well, particularly in a large region in north-western Europe. It has a high level of security of supply, with a very good correlation between the different countries, a good level of resilience to accidents and climatic variations. CRE considers that the fundamental principles of the organisation of the European gas market must not be called into question by future legislative developments. In a system where interconnections are a major source of gas supply for European countries (unlike electricity interconnections), it is only logical that the cost of transmission influences the price of gas at each hub. This is in line with the principle of cost reflection enshrined in the rules of the European Union. Nevertheless, this subject may be open to further reflection. CRE also stresses the importance of a coordinated approach to national and regional decisions on the reorganisation of gas systems, such as mergers of market areas, where they have an impact beyond the country concerned.

The gas trade development model

Historically, international gas pipelines have been built under long-term contracts from European importers who provided the financing, thus creating the infrastructure on which the European market has been built. In recent years, under the impetus of the European Union, interconnections have been strengthened, in particular to increase liquidity on national markets, develop competition and facilitate network management through the implementation of mutual assistance in the event of a supply crisis. This is particularly the case in France, where significant investments in new interconnection capacity have been made with Belgium, Germany, Spain and Switzerland, mainly through open seasons, leading to a doubling of cross-border transmission capacity between 2005 and 2015. France now has a robust gas system, well integrated with the rest of the European market, ensuring a wide diversity of supplies.



Figure 1 Gas networks in Europe from 1970 to today

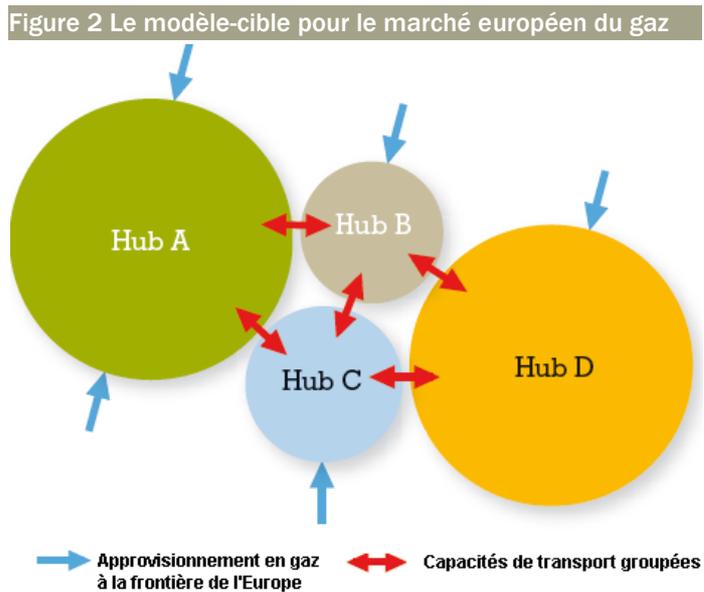
Since the first Directive, adopted in 1998, European legislation has evolved towards increasingly harmonised rules for the use of networks in the European Union, in particular in order to remove regulatory barriers to cross-border trade. The market model currently in place is based on entry/exit zones with virtual hubs linked by interconnections. It gives a central role to the wholesale markets on which reference prices are set, which make it possible to organise cross-border flows from areas where prices are low to those where they are higher. Border transmission capacities are allocated by auction and are subject to a usage tariff that serves as an auction reserve price.

France has played a leading role in the implementation of this market model, which has been adopted as early as 2003, gradually moving towards a single market area, in operation since 1 November 2018, which now allows for a liquid market that benefits all consumers. This transformation has required major investments, with a view to strengthening the main transport arteries, offering France a flexible gas system that brings benefits beyond its borders. Indeed, Spain is now interconnected with a large market and benefits from wholesale prices correlated with the rest of the European market. France has paid great attention to preserving interconnection capacity with its neighbouring countries. Thus, infrastructure improvements have made it possible to merge the two French areas without affecting transport capacity to Spain or to Switzerland or Italy.

The removal of obstacles to cross-border trade has been made possible by the development and implementation of European "network codes" and "guidelines" which define the operating rules for European gas interconnections. Five pieces of legislation have been adopted since 2013. They relate to the management of transmission capacity at interconnections, rules for balancing, network interoperability, harmonisation of tariffs structures and congestion management.

These reforms are a success. Most European countries have reliable price references and a plurality of suppliers. As noted by the Agency for the Cooperation of Energy Regulators (ACER), European Union regulation has allowed a gradual convergence of prices between gas hubs, particularly for countries in central Europe and the emergence of a European price that is representative on a global scale. Price differentials ("spreads") are higher with some peripheral countries, due to higher transport costs reflected in border "tolls", and/or a greater dependence on LNG.

This satisfaction is shared by the European Commission, which noted in its *Fourth report on the State of the Energy Union*¹ that 27 Member States have access to two independent sources of gas supply and that almost all Member States have access to the global LNG market. In addition, the Commission stresses that if the necessary commitment is maintained, Europe should have a well interconnected and fully resilient gas network by 2020 in the event of a shock.



What are the challenges for the next organisation of gas markets?

Two major developments could change the role of interconnections and the functioning of wholesale gas markets in the future: on the one hand, the increase in renewable gas production could lead to a change in the general organisation of the gas chain with the emergence of significant decentralised production. On the other hand, in the coming years, a large number of long-term import contracts will expire. These contracts shaped the functioning of the European market by providing guarantees of supply stability, and were associated with bookings of transmission capacity at interconnections. However, capacity bookings represent a fixed cost for shippers, relatively independent of the volumes actually transported, which means that this cost is not systematically reflected in price differences between wholesale markets. This has contributed to price convergence in Europe.

Thus, the termination of long-term contracts could lead to more short-term interconnection capacity bookings, depending on the transactions actually carried out on the hubs. This could result in a stronger integration of transport tariffs into wholesale prices and recreate moderate price differentials between European hubs. These differences would then better reflect the costs associated with gas transit. However, the decline in long-term capacity subscriptions must in no way lead to a reduction in the transmission capacity made available to the market at borders.

Role and prospects for LNG in the European Union

Liquefied natural gas (LNG) has emerged in recent decades as a key component of the global gas market. Historically, LNG exchanges have developed around the main consumption areas: North-East Asia, Europe and North

¹ « Fourth report on the State of the Energy Union » COM/2019/175 final – 9 April 2019



America. They developed on the basis of long-term contracts, which made it possible to finance the necessary infrastructure.

Today, LNG demand is driven by Asia, mainly China. With the growth in Asian demand and the development of transactions outside long-term contracts, Europe is increasingly assuming the role of a market of last resort, which has made it possible to redirect excess LNG to Europe in 2018 and 2019.

While gas production is tending to decline in Europe and in the face of dependence on Russia, access to LNG is an essential challenge for Europe in terms of competition and security of supply. In a context of growing global supply (development of liquefaction capacities in the United States), Europe has significant import capacities that can accommodate an increase in import volumes, provided that the attractiveness of the European market is maintained.

The quality of national market integration is crucial here. This integration must also encourage innovation, particularly around new, more flexible services (reloading, transshipment) or new uses, and call for the reduction of polluting emissions in the transport sector (bunkering and LNG trucks).

CRE position

CRE considers that the European gas market is functioning satisfactorily, particularly in a large region in north-western Europe. It has a high level of security of supply, with no significant congestion, a good level of resilience to accidents (as demonstrated by the continued security of supply in Europe in the wake of the explosion at the Baumgarten terminal in Austria in December 2017) and climatic variations (in particular the cold wave in winter 2016/2017), also demonstrating the flexibility and liquidity of the markets. The level of price convergence is very high in a very large Central-North-Western region of Europe, and network codes have facilitated trade. Improvements are also visible in other regions of the European Union, thanks to the implementation of the European Union market model. In particular, CRE sees the following advantages that should be preserved:

- Entry/exit zones are a very effective means of stimulating competition; infrastructures have been upgraded to make these zones work, so it is necessary to build on this *acquis*.
- Hubs now provide essential price references for estimating the value of gas and the various services associated with the operation of the network; wholesale prices provide the economic signals necessary for an efficient market organisation.
- Network usage tariffs are based on a cost-reflective principle; this approach makes it possible to allocate network operating costs fairly and to send relevant price signals to all market players.

In a few years, Northwest Europe has become a global gas price reference through the TTF hub, with other hubs varying very closely to the TTF. This is a major success of the European Union's gas policy.

Thus, CRE considers that **the fundamental principles of the organisation of the European gas market must not be called into question by future legislative developments**. In a system where interconnections are the main source of gas supply for European countries (unlike electricity interconnections), it is logical that the cost of transport influences the price of gas at each hub. This is in line with the cost-reflective logic enshrined in the rules for the harmonisation of gas transmission tariff structures in the European Union. As the main cost drivers are capacity and transport distance, the cost of gas transport must reflect the actual cost of gas exchanges and transit between marketplaces.

In response to questions from some countries about the level of pricing at national borders, CRE wishes to reiterate the importance it attaches to European solidarity. However, final consumers in transit countries cannot bear the investment costs associated with the firm capacity required for such transit alone. It is therefore not illegitimate for a discussion to begin on this subject, as some countries would like to do.

In addition, CRE stresses the importance of cooperation between authorities for the proper regulation of the European market. Whenever a national decision has an impact beyond the borders of the country concerned, it must be subject of ongoing dialogue and coordination between regulatory authorities. Thus the reorganisation of gas systems, such as the merger of market areas, must not call into question the existing trading capacities between gas hubs, in particular in order not to create stranded costs and recreate congestion between European countries. Any decision to reduce transmission capacity at borders must be subject to a coordinated procedure comparable to the existing one for investments in interconnections, and thus avoid unilateral decisions detrimental to the functioning of the gas market.



POSITION PAPER NO. 5

Gas storage

The reform of the French natural gas storage system on 1 January 2018 to regulate access to natural gas storage has been very positive: it has made it possible to strengthen security of supply while lowering unit costs. In addition to approving the terms and conditions for marketing storage capacity, CRE sets the level of charges to be covered (in particular the investments to be made), which makes it possible to control the storage costs borne by the community.

The two marketing campaigns for storage capacities were successful and ensured security of gas supply for the winters of 2018-2019 and 2019-2020. With this reform, France has achieved its objective of guaranteeing security of gas supply at a controlled cost to the community.

By guaranteeing a high filling level, the storage reform strengthens France's ability to cope with exceptional events. In addition, due to France's geographical position and the size of its gas system, this reform contributes directly to the security of supply of the European Union. The choice made by France shows the benefits that an innovative approach can bring, something which advocates for a reasonable level of flexibility in the European regulatory framework applicable to access to gas storage.

Natural gas storage is a key element of security of supply for France: French LNG interconnections and terminals alone cannot meet needs during winter consumption peaks. Thus, nearly 40% of the gas volumes consumed in France during the winter come from storage facilities owned by Storengy, Teréga and Géométhane. France has a total of 12 storage sites, representing a usable volume of 138.5 TWh and an extraction capacity of nearly 2,400 GWh/day.

The reform of the French gas storage regime is a success.

Until the end of 2017, natural gas storage sites were subject to a negotiated access regime. It included an obligation for gas suppliers to have a natural gas inventory corresponding to their customer portfolio at the beginning of winter. In order to comply with this obligation, suppliers had to book storage capacity from storage operators who, in accordance with the principle of negotiated access, freely set the prices of their products. This system, which was not very transparent and costly for the community, did not guarantee sufficient storage capacity, as the levels reached in recent years led to risks in terms of security of supply in the event of a very harsh winter.

This system was overhauled on 1 January 2018 with the repeal of the stockholding obligation and the introduction of a new regulatory regime:

- The storage sites considered necessary for France's security of gas supply are defined by the government in the Multi-annual Energy Programming (MEP).
- The sites in question are now regulated: storage operators are required to keep them in operation. In return, they are assured that the costs associated with their operation will be covered. The operators' authorised income is set by CRE.
- Storage capacities are sold by auction, according to specifications approved by CRE, which guarantees transparency and the adequacy between the value of storage and the prices paid by suppliers.
- The difference between the operators' authorised revenues and the revenues generated by the auctions is covered by a dedicated term in the gas transmission tariff, thus reflecting the general interest nature of natural gas storage.

First review of the reform

Carried out within tight deadlines, in consultation with storage operators and market players, the storage reform is a major success for the French gas system.

On the one hand, the two storage marketing campaigns that have taken place since the entry into force of the regulated regime in 2018 and 2019 have been fruitful: all the capacities offered have been booked, thus guaranteeing security of gas supply for the winters 2018-2019 and 2019-2020.

In addition, the storage reform has brought transparency on storage costs. Indeed, it is now CRE that sets the level of charges to be covered for the operation of storage sites by carrying out a market consultation process similar to that followed for other regulated infrastructures.

Finally, this reform has been carried out at a controlled cost for the community: when considering costs in relation to the volume stored, the unit cost of storage has fallen to €5.2/MWh in 2018, compared to an average of €7.5/MWh in 2016.

The reform of access to gas storage in France is good news for the European Union.

By guaranteeing a high filling level, the storage reform strengthens France's ability to cope with exceptional events (cold snaps, supply crises). It thus increases the robustness of the European gas system by providing guarantees regarding France's participation in the solidarity mechanisms designed under Regulation (EU) 2017/1938, given that expectations are high due to France's central position in the European gas system.

The regulatory choices made by France are adapted to its specific situation as an importer, and are possibly reproducible. They show the benefits that an innovative approach can bring, something which advocates for a reasonable level of flexibility in applying the rules of the European regulatory framework.



POSITION PAPER NO. 6

Green gas

There are several technologies for the production of gas from renewable sources (hereinafter referred to as "green gas"). However, they have varying degrees of maturity. CRE considers that these new technologies are an asset to decarbonise a still largely fossil sector. In particular, CRE is convinced of the need, in order to ensure the future of gas infrastructure, to successfully develop biomethane.

CRE considers that if support measures are implemented to stimulate the development of green gases, they must be designed in such a way as to encourage and support the reduction in, and the control of, production costs. These support mechanisms must also take into account, in a transparent manner, the positive externalities for the community, and must finally avoid overcompensation of producers.

Moreover, in view of the costs involved in adapting networks to green gases, it is crucial that this sector should develop in compliance with the principle of economic efficiency in order to achieve an optimised cost for society.

Finally, CRE considers that the current European regulatory framework allows stakeholders to launch pilot projects (in particular power-to-gas) without the need for amendments, but rather by applying it in a flexible and transparent manner.

The objective of developing green gas

While the EU has important infrastructure and imports a large proportion of the gas it consumes, substituting natural gas with renewable gases produced on European territory represents an opportunity to reduce CO₂ emissions, to enhance the security of the EU's supply and to contribute to rural development. Incidentally, it also contributes to agricultural income, the maintenance of farmland and waste treatment.

To implement this concept in France, the French legislature set a target of 10% renewable gas in gas consumption in 2015 in the Energy Transition for Green Growth Act (*Loi sur la transition énergétique pour une croissance verte*, LTECV). This raises the question of how to produce green gas and what type of regulation should be put in place to support its development.

Green gas production technologies

Several technologies exist to produce synthesis gases, but they do not all have the same degree of maturity with respect to process industrialisation:

- **Methanisation** is the most mature process. Many production units are already operational in Europe. Methanisation consists in producing biogas by anaerobic digestion of organic matter (dedicated crops, animal or vegetable agricultural residues, organic waste, sewage sludge). This biogas can then be purified to produce methane that is suitable for injection into the natural gas networks. Methanisation has positive externalities that are not yet fully monetised, including first and foremost the reduction of greenhouse gas emissions. But methanisation advocates also point to other benefits: the reduction of natural gas imports; the improvement of the trade balance; the possibility of using existing gas infrastructure; the preservation of the environment; the development of territories, rural employment and the circular economy. However, the costs of methanisation are still high, ranging from 90 to 120 €/MWh in France, while the price of natural gas in 2018 was around 25 €/MWh (without taking into account the price of CO₂). The sector is also dependent on the availability of sufficient raw materials. Finally, the question of cost comparability arises in view of the positive externalities of methanisation.
- **Pyrogasification** is the thermal transformation of solid biomass into combustible gas, which can be used for various purposes (heat, industrial uses, injection into the natural gas network following its methanisation). This technology is still at the demonstration stage; it also depends on the availability of raw materials.

- **The conversion of electricity into gas (power-to-gas)** is based on the electrolysis of water, which produces hydrogen. This hydrogen can be used as it is (as a fuel in industrial processes), or it can be transformed into synthetic methane. Power-to-gas would make it possible to utilise renewable electricity that is produced intermittently by converting it into a vector suitable for injection into the gas network for storage or consumption. The methanation of hydrogen is also a means of capturing CO₂. The technology is currently in the experimental phase, and its cost is still uncertain.

The challenges of regulating green gas

The arrival of these new technologies will make it possible to decarbonise a sector that is still largely relying on fossil fuel, but their large-scale roll-out remains a challenge that requires a number of developments, particularly with a view to encourage the participation of private actors while controlling the cost for society.

The first challenge is to define precisely which processes should be considered green, i.e. contributing effectively to the reduction of greenhouse gas emissions. This question is crucial as it concerns the possible eligibility for support mechanisms, as well as participation in guarantee of origin systems. In particular, and taking into account the potentially competitive nature of the input material in relation to other agricultural uses, green gas production activities must be part of a perspective of additional and not substitutive income for the agricultural sector.

The second issue concerns the adaptation of the regulatory framework, and in particular the role of network operators, notably at the distribution level. As such, gas quality and the ability to manage injections into networks that are not necessarily compatible with current consumption levels are central issues. The network reinforcements and technical solutions developed must remain consistent with the value provided by green gas production projects.

Thus, CRE makes the following observations:

- **Controlling the costs of developing green gases:** green gas production techniques have much higher costs than market prices for fossil gas. Better operational management, experience gained in the use of these new technologies and their wider deployment should reduce costs. In addition, the financing of positive externalities should be further explored, given that currently, they are covered by the energy component of the gas price.

CRE considers that support systems should be designed in such a way as to encourage and support the reduction in the direct production costs of green gas. CRE advocates for:

- ensuring readability and stability of support policy in the long term (by reinforcing the principle in sectoral legislation and in the relevant State Aid Guidelines);
 - use of territorialised tenders (to adapt to local biomass supplies) where competitive conditions allow it, with the aim of selecting the most efficient producers (exceptions should be made for small installations and agricultural biogas plants);
 - the use of directly negotiated contracts (“*de gré à gré*”) for particularly innovative sectors, where calls for tenders may prove ineffective;
 - taking into account environmental criteria concerning biomass and/or waste used, and in particular a control on supply plans (this should not lead to an over-pricing of demand for multiple-use input materials);
 - giving priority to the most environmentally, energy and economically relevant energy utilisation from green gas (for example, if there is a captive fleet of gas-powered vehicles nearby, its supply would be more relevant than the allocation of gas to electricity production);
 - taking into account the location of installations, the availability of networks and consumption profiles in networks at a local level, in order to minimise connection costs and costs for reinforcing networks (in particular to allow for bidirectional flows).
- **Need to control network costs induced by the development of green gases:** the current characteristics of natural gas networks, which do not cover the European territory in a homogeneous way, and whose intake capacity varies greatly from one Member State or even from one region to another, must be taken into account in the development of green gas and in particular biomethane that is intended for injection into the networks. In view of the costs involved in adapting networks, the development of the sector must be carried out in compliance with the principle of economic efficiency in order to contain the costs borne by wider society.
 - **The possible emergence of hydrogen networks and their regulation:** the role hydrogen will play in tomorrow's energy system is still difficult to anticipate. Assuming that hydrogen production may eventually scale up, this could lead to the conversion of some of the – underused – natural gas networks for the purpose of hydrogen transport, or even the development of dedicated hydrogen networks. At this stage, CRE insists on the principle that the construction of networks specific to hydrogen transport should be the result of real market expectations. In the shorter term, the question arises of injecting hydrogen into gas networks: what level of

concentration should be acceptable? What are the technical issues, particularly in terms of safety and compatibility with consumer installations? These questions still require further consideration at the European level, and the European Commission should take the initiative.

- **The regulation of *power-to-gas* installations:** installations for the production of green gas (hydrogen or methane) from renewable electricity will have the particularity of being located at the intersection between the electrical system (from which they will extract the electrical energy necessary for production) and the gas system (into which they will inject the gas produced). *Power-to-gas* is therefore often cited as an example of the coupling of the electricity and gas sectors (see Position Paper no. 7 on sector coupling). At this stage, CRE considers that the current regulatory framework is not an obstacle to the development of *power-to-gas*. In particular, the obligations to keep energy production/supply and network management activities separate do not prevent the launch of pilot projects. Finally, CRE considers that the economic conditions for a massive deployment of these technologies are not sufficiently met yet to warrant changes in the current regulatory framework; that framework enables pilot projects, the aim of which is to stabilise the technical and economic assumptions underlying the use of these facilities.



POSITION PAPER NO. 7

Sector coupling

As part of its reflections on new energy legislation, the European Commission is studying the potential of coupling the gas and electricity sectors. The appeal of an integrated approach lies in optimising the functioning of these two sectors with a view to achieve climate policy objectives and to ensure energy supply at affordable costs for consumers.

CRE supports the objective of developing an overall vision of the electricity and gas systems that must be in coherence with the policies of the industrial, transport, waste and agricultural sectors.

CRE also underlines the importance of joint gas and electricity network planning by network operators. Finally, CRE calls for maintaining a certain degree of regulatory flexibility so as not to hinder the development of activities contributing to sector coupling.

Sector coupling: a tool for optimising the functioning of the energy system

European electricity systems are generally on a gradual path towards decarbonisation, thanks to the increasing share of renewable energies in electricity production throughout Europe (France's nuclear generation facilities already contribute to a system decarbonisation). However, the greenhouse gas emission reduction targets set by the Paris Agreement and at European Union level cannot be achieved with the "greening" of the electricity system alone. Other sectors of the economy (gas, agriculture, industry, mobility, heating and cooling) will also have to reduce their carbon dioxide emissions. In these sectors, for technologies that reduce the carbon footprint to develop on a large scale, additional efforts are required. This has led to the idea of an integrated approach based on a better interplay of the different sectors, which would create synergies and thus reduce both the carbon footprint and costs of the system as a whole while increasing its flexibility.

Sector coupling: a more or less broad meaning

Sector coupling can be understood in both a narrow and a broad sense.

In the narrow sense, sector coupling consists in linking the two sectors of production, networks and supply of electricity and gas. In a broad sense, the coupling would not be limited to these two sectors, but would also include energy-using sectors, such as mobility, agriculture, industry and heating and cooling.

The coupling between gas and electricity involves processes of conversion from gas to electricity ("gas to power") or from electricity to gas ("power to gas"). Such processes make it possible to optimise the operation of both sectors.

The **conversion of gas into electricity** is not a new phenomenon: it is the principle behind the operation of combined cycle thermal power plants. The multiple uses of these power plants for the electricity sector alone (in addition to their contribution in terms of production, they can be a tool for flexibility) illustrate, in general, the interest of sector coupling for the entire energy system. The asset used in one sector can provide production and flexibility services to networks and users in another sector and thus contribute to its optimisation.

The **conversion of electricity into gas** is a process that has not yet reached economic maturity. Demonstration projects are currently underway. This approach is based in principle on the use of surplus renewable electricity to transform water into hydrogen through an electrolysis process. Hydrogen can then be put to several uses (mobility, industry, direct injection into gas networks, to a limited extent) or transformed into synthetic methane and injected into gas networks and infrastructures for immediate or deferred use through storage. These new gas sources make it possible to use existing gas infrastructures and offer the possibility of using gas storage infrastructures that provide flexibility to the energy system as a whole. This flexibility provided by the gas system will be particularly useful in tomorrow's energy system, which will be characterised by a high proportion of variable energies.

The coupling of sectors in the broader sense would be based in particular on the use of surpluses from renewable electricity production for the following purposes:

- the production of "clean" fuels, liquid or gaseous, in order to decarbonise the transport sector ("power-to-fuel");
- the production of inputs to industry ("power-to-chemicals");
- the generation of heat and the supply of heating networks ("power-to-heat").

Some energy consuming sectors could also provide the energy sector with production, flexibility or storage services. This could be the case for:

- the recharging of electric vehicles, which would allow an optimised control of the electrical system;
- the production of biomethane in the agricultural sector from organic mass (agricultural waste or even intermediate energy crops), in order to use it as a combustible, fuel or storage medium or to inject it into natural gas transmission or distribution networks.

The challenges of regulating sector coupling

Coupling technologies rely on economic actors and the use of assets, some of which fall within the scope of regulation, while others belong to the competitive market environment. This situation could result in overlap or even conflict between different regimes (regulated and unregulated). This requires innovative thinking.

Power-to-gas installations are a good example. As soon as electricity is converted into gas and the gas is injected into the natural gas transmission or distribution networks, or as soon as gas is withdrawn from these networks to produce electricity, the installation carrying out the conversion may be subject to both the electricity regulation regime and the gas sector. This raises a number of questions about the role of operators, applicable tariffs and necessary incentives:

- **Network operators must remain facilitators in the development of sector coupling activities:** under the regulatory regime applicable to the electricity and gas sectors, network operators are subject to unbundling rules that prohibit them from carrying out energy supply or production activities, sometimes even in a related sector (this is the case for TSOs certified according to the ownership unbundling model - known as "OU" - i.e. which no longer have any link with production and supply assets). Admittedly, these rules guarantee a dynamic energy market based on effective and non-discriminatory access to network infrastructure owned and operated by operators who have no interest in the production or supply of energy. Under existing legislation, the operators of electricity networks certified according to the OU model are therefore not entitled to carry out gas production or supply activities through the conversion of electricity to gas. The same applies to coupling in the agricultural sector: gas system operators may not, under current law, own or operate biomethane production assets. To CRE, this is a point on which further reflection may be necessary, even if actors other than network operators must have their rightful place in operating "sector coupling" installations.
- **Implementing framework:** the combination of two different regimes in general could be a disincentive to sector coupling. It would therefore be useful to consider a specific framework for installations and operators involved in sector coupling in order to facilitate their uptake.

A word of caution before the adoption of new legislation

However, at this stage, CRE considers that most of the above-mentioned coupling applications (i.e. the conversion of electricity to gas and vice versa, as well as the conversion of renewable electricity to fuels, inputs or heating and cooling) have not yet reached a sufficient level of maturity to justify the definition of a specific regulatory framework. On the contrary, legislating now would risk "freezing" the regulatory framework and discouraging innovation in sector coupling.

CRE considers that the European Union legislation currently in force is still appropriate today to facilitate the development of new coupling applications between the different sectors. Indeed, Regulation (EU) No 347/2013 on trans-European energy infrastructure requires the two organisations of transport network operators (ENTSO-E for electricity and ENTSO-G for gas) to develop a coherent and interconnected market and network model for electricity and gas. In addition, CRE welcomes ENTSOs' practice of developing scenarios common to both sectors. This should have the effect of encouraging network operators to take better account of synergies between electricity and gas in their network planning.

As regards the ownership and operation of coupling installations, CRE considers that on an industrial scale, these activities should be carried out as a priority by market players rather than by network operators.

Finally, any new legislation must be flexible enough not to hinder forms of innovation that cannot yet be anticipated.



POSITION PAPER NO. 8

The role of network operators in the energy transition

The energy transition entails a change in the role of gas market players with the rise of new forms of energy (synthesis gas), new players (aggregators) and new installations (NGV charging stations, "power-to-gas" installations, etc.). In this context, network operators must continue to be facilitators in the development of innovative business models and activities. In this respect, it is essential not to upset the fundamental principles of market regulation and, in particular, the separation between regulated activities (network development and operation) and competitive activities (production, energy supply, vehicle charging stations, etc.).

CRE considers that network operators are not supposed, in the context of regulation, to go beyond the public service missions entrusted to them, notably by replacing market players. However, network operators' support for the development of innovative sectors should be able to take the form of minority shareholdings that do not give them any control over the assets concerned. Such participations must not give rise to tariff coverage.

Nevertheless, CRE considers that further reflection on these subjects is necessary to ensure the effective application of these general principles.

With the energy transition underway, the objective of reducing greenhouse gas emissions requires the implementation of new techniques of producing and using energy in order to better harness renewable sources. In the gas sector, synthesis gases (biomethane, hydrogen, etc.) must replace natural gas and make it possible to utilise surplus green electricity production. New players involved in greater energy efficiency (aggregators), as well as new installations (charging points for electric or gas vehicles (NGV), electricity storage, etc.) are emerging. In this context, some network operators eye the opportunity to participate in the development of new activities and fields. This ambition must be properly scrutinised.

However, that some network operators may be willing to pursue new activities may be a proof of their dynamism, but should not undermine the principles of energy market organisation that have proved their worth so far. Indeed, transmission system operators (TSOs) and distribution system operators (DSOs) are subject, on the one hand, to independence obligations which restrict their ability to participate in production and supply activities and, on the other hand, to a general obligation of non-discrimination vis-à-vis users of their networks. CRE is committed to upholding these principles. Indeed, CRE considers that these rules guarantee the harmonious and competitive development of new uses on the energy market and that they do not constitute a major obstacle to the deployment of new activities in the competitive realm.

The general regulatory framework applicable to network activities must be maintained.

The electricity and gas sectors are organised as business sectors with different organisational rules and obligations. While the operation of the electricity and natural gas transmission and distribution networks is monopolistic and, as such, regulated, the activities of production and supply to final consumers are carried out on competitive markets.

The operation of network infrastructures, which constitute the backbone for carrying out these competitive activities, is carried out by companies that are legally distinct and independent of those carrying out production and supply activities. This is so in order to ensure objective, transparent and non-discriminatory access to the transmission and distribution networks. This independence requirement entails, in particular, that there be no conflict of interest between network activities and production and supply activities, regardless of the degree of separation resulting from the application of the current regulatory framework. Thus, CRE considers that any softening of these principles to allow network operators to carry out activities in the competitive realm must be analysed with caution because the dynamics of a competitive energy market are the major source of innovation.

CRE also wishes to point out that non-discriminatory access to networks is essential to the development of open and competitive markets and the emergence of new sectors in the energy sector.

Diversification by network operators

CRE considers that network operators are not supposed to develop activities that go beyond their public service missions by substituting themselves for market players in the context of their regulated activities. As such, any diversification, if it is even possible, pursued by a network operator into sectors such as biomethane production, the deployment of Natural Gas Vehicles (NGV) or electric vehicle charging points or any other activity in the competitive realm must comply with the principles of competition law (notably the prohibition of cross-subsidisation between regulated activities and competitive activities). Moreover, the tariffs for the use of the networks are obviously not intended to cover costs or risks incurred by network operators that are not related to the performance of their public service tasks.

Network operators can participate in the development of the biomethane and NGV sectors under certain conditions.

While network operators are increasingly willing to participate in the development of these new sectors, CRE insists on the need for them to maintain their role as facilitators and for their practices to comply with the rules of non-discrimination and independence. CRE considers that the participation of network operators in the development of new activities must comply with these principles. The unbundling rules that apply to grid operators are not an obstacle to the energy transition, on the contrary, they ensure the efficient development of new activities.

Therefore, network operators should only be allowed to participate in the development of new activities under supervision and in a transparent manner.

As regards production activities, CRE stresses that only equity investments, without any associated rights, in a supply or production company are compatible with the independence obligations arising from the electricity (EU 2019/944) and gas (2009/73/EC) directives.

With regard to the possible participation of network operators in a new dynamic in the NGV sector, CRE considers that network operators are not primarily intended to go beyond public service missions by substituting themselves for market players to deploy and operate charging stations. Indeed, to the extent that NGV stations are network users, the fact that a network operator develops such an activity could create a risk of discriminatory treatment for the benefit of the projects in which it participates. With regard to NGV stations, CRE considers that network operators are not *a priori* intended to replace market players. However, network operators should be able to support these sectors by acquiring minority stakes without associated rights that would give them control over these assets. Moreover, such participations shall not give rise to tariff coverage.



POSITION PAPER NO. 9

Challenges in the use of electricity interconnections

The new Electricity Regulation (EU) 2019/942 has introduced a minimum threshold of 70% of interconnection capacities to be allocated to cross-border trade. Having optimal capacity at the borders is a priority objective for CRE, which has been one of the pioneers in the development of market coupling in Europe. In order to ensure that the benefits of this measure exceed its costs, the implementation of this obligation, under the control of the Commission and the co-legislators, must be carried out in a pragmatic and proportionate manner. CRE will endeavour to ensure that the minimum threshold of 70% has been guaranteed on network elements and in time situations where it is key for cross-border trade and genuinely allows for increasing trade between market areas.

CRE recalls that each country is responsible for the development and proper functioning of its national networks. It would be unthinkable that the consequences of insufficient investment in certain areas, leading to very high costs of remedial action, should be borne by consumers in other countries which have already made significant investments in their networks.

Electricity interconnectors are one of the pillars of the internal electricity market. They strengthen the resilience of the electricity system, they promote the efficient operation of generation capacity across the borders between European countries, and they facilitate the integration of renewable electricity production through the flexibility they provide. However, their optimal use is currently impaired by the internal congestion of some European networks. To overcome this constraint, the above-mentioned Electricity Regulation introduced a target of 70% of interconnection capacity to be allocated to trade between Member States. Reaching this threshold should lead to benefits, but could also lead to significant costs due to corrective actions.

Electricity interconnectors and congestion

Interconnectors operate according to a market model established several years ago where wholesale pricing directs cross-border flows from low price areas to those where prices are higher. In this way, the production costs necessary to ensure that supply and demand are in balance are consistently minimised on a European scale. Electricity markets in Europe are therefore organised according to a zonal model; the borders of these areas correspond mostly to the borders of the Member States. The networks in the various price zones are connected to each other by electricity interconnectors¹.

The zonal model implies that electricity flows within each zone are theoretically not restricted. Conversely, cross-border electricity flows are limited by interconnection capacity between areas. A zonal model is thus characterised by supposedly unlimited flows within a given area (and therefore by areas without congestion) and by limited cross-border flows resulting from a coordinated capacity calculation.

It is therefore necessary to determine the maximum level of flow capacity that can be allocated to cross-border trade while respecting the operational safety limits of national networks. This process, known as capacity calculation, is implemented by the transmission system operators (TSOs). The Implementing Regulation on Capacity Allocation and Congestion Management² (CACM Regulation) provides for the development of coordinated methodologies, under development by the National Regulatory Authorities and ACER, entailing harmonisation of this process at several time periods in different capacity calculation regions.

¹ In France, the net balance of exchanges was positive (+60 TWh) in 2018.

² Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management <https://eur-lex.europa.eu/legal-content/FR/TXT/HTML/?uri=CELEX:32015R1222&from=FR>

France has been a pioneer in the adoption of capacity calculation and allocation approaches to increase cross-border trade. Thus, the French electricity market was coupled with the Belgian and Dutch markets in 2007 with the support of CRE. CRE subsequently supported the implementation of a flow-based coupling in 2015 in the Central Western Europe region, which includes the Benelux countries and Germany. Coordinated capacity calculation approaches are also being developed on the borders with Spain, Italy and the United Kingdom.

In practice, electricity flows within each area, being determined by trade between producers and consumers, may exceed the actual capacity of national networks, creating congestion situations. In such a case, TSOs implement corrective actions (redispatching³ or countertrading exchanges) to ensure that the balance of the networks is maintained. However, these situations of congestion on national networks have an impact on the interconnection capacities that can be made available for cross-border trade. When national grid elements are already saturated, they can no longer accommodate electricity flows generated by cross-border trade.

Increasing congestion has been observed in recent years in a number of European countries such as Germany, the United Kingdom and Spain. They can be explained by the rapid and massive transitions towards a new energy system, without sufficient grid reinforcement to compensate for the resulting disruption in electricity flows. These congestion situations have led to an explosion in the costs of corrective actions but have also had a significant impact on interconnection capacities. A situation of "shortage" of capacity is particularly observed at Germany's borders: since renewable electricity production is located in the North of the country while consumption is rather concentrated in the South, there are very significant North-South physical flows. Given the insufficiency of the German internal network to channel these flows, they partly transit through neighbouring networks (e.g. the Netherlands, then Belgium and France) and saturate trade capacities at the German borders. For example, in the Central Western Europe region, frequent cases of very limited cross-border trade due to significant congestion on the German network led regulators to impose in April 2018 a minimum margin of 20% to be reserved for cross-border trade.

In the long term, such situations could be addressed either by reconfiguring price zones – although this is very sensitive politically – so that their borders reflect recurring congestion, or by investing in national networks.

Challenges of the minimum 70% threshold introduced by the Clean Energy Package

In response to the fact that the use of electricity interconnectors is considered insufficient, the European Union legislature has introduced a minimum threshold of 70% of the interconnection capacity to be allocated to cross-border trade. Pursuant to Articles 14 to 16 of the Electricity Regulation, this threshold will enter into force in January 2020. If this is not achieved, Member States may decide to implement corrective actions, allocating costs according to the "polluter pays" principle, to reconfigure their price zones or to implement action plans to strengthen their national networks in order to reach 70% by 2025.

With a view to achieving an operating internal electricity market, CRE fully shares the objective of increasing interconnection capacities for cross-border exchanges. CRE has thus positioned itself strongly, particularly in the Central-Western Europe region, to ensure that congestion on national networks limits cross-border trade as little as possible.

However, the minimum threshold of 70 % uniformly applicable for all network elements and lines will not effectively increase interconnection capacities. Its implementation will generate socio-economic benefits resulting from the increase in trading capacity, but these have not been compared with the costs it may entail for TSOs, and therefore for consumers, due to the need to implement more frequent corrective actions to ensure the stability of the network.

CRE Position

CRE will be particularly watchful to ensure that this abstract provision is implemented in a proportionate and reasonable manner, so that the minimum 70% threshold is guaranteed in particular on the relevant power lines and at the times necessary to maximise cross-border trade. Uncertainties inherent to the operation of a network should also be taken into account in assessing whether this threshold has been reached.

In addition, CRE recalls that each country must be responsible for the development and proper functioning of its national networks. It would not be acceptable for the consequences of insufficient investment in certain areas, leading to very high remedial action costs, to be borne by consumers in countries that have already made significant investments in their networks. In this respect, CRE will ensure that European cost-sharing methodologies for corrective actions do not unduly burden consumers' bills and homogeneously reflect the costs incurred by the respective networks. In particular, these congestion costs must be calculated in a way that is strictly limited to congestion alone.

³ Redispatching consists of modifying production or consumption schedules in order to alter electricity flows on the grid and thus avoid overloads on certain lines. Counterparty exchanges correspond to a transaction between cross-border TSOs with the same objective.

Under the new Electricity Regulation, the co-legislators have empowered the Commission to adopt implementing and delegated acts relating to the allocation of these capacities or the allocation of compensation between TSOs. CRE wishes to commit itself, alongside the Commission, the Council and the European Parliament, to ensure that these implementing regulations effectively and pragmatically improve the volume of energy traded in Europe at the lowest cost, i.e. by having in mind the efficiency of any new expenditure and its fair distribution between countries. If this reform is not successfully applied in a reasonable manner, it will generate significant additional costs and miss its initial objective.



POSITION PAPER NO. 10

Wholesale Energy Market Integrity and Transparency

Since 2013, in France, CRE is responsible for ensuring compliance by market participants with the provisions of the European Regulation on Wholesale Energy Market Integrity and Transparency no. 1227/2011 (known as REMIT). The implementation of this Regulation has been fully effective in France since 2016. To date, CRE has carried out nine investigations. Three were referred to CRE's sanction body - the CoRDIS - one of which resulted in a sanction. At the European level, around ten decisions imposing sanctions of prohibited practices have been issued on the basis of REMIT.

Almost ten years after the adoption of REMIT, the role of the wholesale electricity and gas markets is all the more central as they have become a major factor in shaping the energy price paid by consumers. Ensuring the integrity and transparency of these markets is more essential than ever. CRE considers that it is time to question the effectiveness of the tools offered by REMIT and to review the wholesale energy markets monitoring system. Three areas could be examined for this purpose.

- First and foremost, in order to ensure that there are no gaps in market surveillance, and to respond to changes in the rules governing energy markets, the Commission should review the application of REMIT in order to determine whether or not it is necessary to clarify the boundaries between the respective competences of financial and energy regulators.
- Secondly, this review should also deal with the quality of transactional and fundamental data available to energy regulators, which is a key issue.
- Finally, given that it can be expected that the decision-making practice on sanctions will further develop, and as provided for in recital 31 of REMIT, the Commission should study the possibility of harmonising the minimum standards applicable to Member States' sanctions regimes within an appropriate time frame.

Therefore, CRE considers that a structural review of REMIT is not immediately necessary. A possible revision of REMIT should only be considered after a prior assessment of the effectiveness of the wholesale energy market surveillance system.

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As REMIT came into force almost 10 years ago, a review of its adequacy in the light of markets development is required.

Adopted in October 2011, European Union Regulation 1227/2011 of 25 October 2011 on Wholesale Energy Market Integrity and Transparency, known as REMIT, prohibits insider dealing and market manipulation. It also requires energy market participants to publish any insider information (including information relating to means of production or infrastructure use) that they may have, as well as to report transactional data. REMIT entered an operational implementation phase, at European and national levels, in 2015, after the adoption of Implementing Regulation 1348/2014 of 17 December 2014 on the reporting of transactional data on the wholesale energy market.

On the French wholesale electricity and natural gas markets, Ordinance No. 2016-461 of 14 April 2016 specifies CRE's powers in terms of information gathering, sanctions and cooperation. The system set up by European Union legislation has complemented CRE's competence on wholesale energy markets, initially limited to supervision. This comprehensive and fully operational framework allows CRE, in addition to monitoring markets, to conduct investigations in cases of reasonable suspicion of non-compliance, and to refer cases, where appropriate, to the body competent to sanction abusive practices (the Dispute Resolution and Sanctions Committee - CoRDIS).

Since 2016, CRE has carried out nine investigations, two of which are currently being investigated by the CoRDIS and one of which resulted in the imposition of a penalty of €5 million in October 2018.

In the European Union, about ten decisions have been adopted to sanction prohibited practices. This limited number of sanctions imposed does not in itself reveal whether or not the Regulation is effective in the rapidly changing market landscape. Almost ten years after the adoption of REMIT and in view of the now central role of the wholesale energy market in shaping the price of energy paid by consumers, ensuring the integrity and transparency of this market is more essential than ever. CRE considers that it is time to ask the question of the effectiveness of the tools offered by REMIT and their adequacy to the evolutions of the wholesale energy markets. In particular, it is necessary to ensure that the monitoring of futures markets, carried out jointly by energy and financial regulators, is optimal.

ACER's guidelines ensure a uniform interpretation of REMIT without being a tool for evaluating its effectiveness.

To ensure a consistent and uniform interpretation of the provisions of REMIT, the Agency for the Cooperation of Energy Regulators (ACER) publishes non-binding guidelines that provide details on the concepts, obligations and prohibitions defined in REMIT. The most recent clarifications have been provided in the fourth version of these guidelines (guidance) published in October 2019. In addition, thematic guidelines published by ACER (three published to date) clarify in detail different market manipulation practices.

The drafting of these documents is done through coordinated action by ACER and national regulators who pool their questions, know-how and analyses to agree on a coherent and harmonised approach to monitoring the integrity of wholesale energy markets.

CRE considers that the REMIT provisions and guidelines published by ACER are valuable tools for identifying and pursuing, in an effective manner, the practices of wholesale energy market players that would undermine the integrity and transparency of the market. However, there is no overarching analysis of the overall effectiveness and performance of the wholesale energy market surveillance system.

The question of the effectiveness of sanctions, in particular to avoid disparities between Member States for similar practices, should be assessed. In this respect, and as provided for in recital 31 of REMIT, the Commission could study the possibility of submitting proposals to harmonise the minimum standards applicable to Member States' sanctions regimes within an appropriate time frame.

Quality of transactional and fundamental data: improvements are needed.

One of the main challenges for effective wholesale market supervision is the quality of transactional and fundamental data available to regulators. The quality of these data is a subject that is currently being addressed by ACER. Although significant progress has been made, the data still cannot be considered fully harmonised and therefore reliably usable. Important work remains to be done to clarify the rules for data reporting, to move from authorised reporting formats to more restrictive formats and to strengthen the rules for quality control of the data received by ACER. In this respect, it is necessary to assess the extent to which Regulation 1348/2014 adopted pursuant to REMIT should be amended. However, any such changes do not necessarily require a European Union legislative act, such as REMIT or its implementing regulation. For example, they could be included in the body of rules defined by ACER in the guidelines to specify the characteristics of the data to be transmitted as part of the implementation of REMIT (e.g. Transaction Reporting User Manual (TRUM)).

The issue of the quality of transactional and fundamental data deserves particular attention from the Commission in an exercise to evaluate the entire wholesale energy market monitoring system.