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Public consultation - energy security fitness check

Fields marked with * are mandatory.

1
Introduction

The EU has a comprehensive energy security framework, with the Gas Security of Supply Regulation (EU) 2017/1938 and Electricity Risk Preparedness Regulation (EU) 2019/941 as key pillars. Since their adoption in 2017 and 2019 respectively, sufficient time has passed **to perform an evaluation (fitness check)** to identify synergies within the framework and structurally internalise lessons learned from the COVID-19 and energy crises, as well as to prepare for the changing landscape due to the energy transition and Europe's phase out of Russian energy imports' dependency.

The objective of this evaluation is to evaluate the functioning of the energy security regulations, against 5 criteria:

- **Effectiveness** (how successful were the regulations in achieving its objective of ensuring preparedness, security of supply and resilience of the EU's energy system?)
- **Efficiency** (how efficient were the regulations, e.g. in terms of financial and human resources used for the changes generated by the previously mentioned regulations?)
- **Relevance** (how have the scope and objectives of the regulations remained relevant in addressing the past and current problems across the implementation period from 2017 and 2019 until now? Are they relevant in addressing future needs and problems?)
- **Coherence** (how well did the regulations work with other policy interventions and how well did specific measures in the regulations work together?)
- **EU Added Value** (to what extent did the regulations better reach the objectives, compared to what could have been reasonably expected from regional, national or local actions?)

Through this evaluation, the Commission aims at **assessing the performance of the EU's energy security framework during the energy crisis and during the energy transition**, and identify possible deficiencies, as well as synergies and efficiency gains. This could benefit the ongoing sectoral integration, as well as reduce administrative burden. The assessment

will also look at how the cooperation with neighbours worked, in particular with Energy Community contracting parties.

Besides evaluating how the EU's energy security framework functioned in the past, this questionnaire **looks at the future** by considering the dynamic changes ongoing in the EU's energy landscape, such as new challenges brought by diversification of gas suppliers to non-Russian suppliers, decarbonisation, climate change adaptation and electrification.

This public consultation is structured in **two main sections:** one section with **general questions on energy security** for all respondents, and a **second section with more specific and technical questions**. The section with specific questions is divided into three subsections: (1) on the whole energy security framework, (2) on security of gas supply, and (3) on security of electricity supply. Respondents may choose to answer those subsections of the questionnaire that are of interest to them.

2 About you

* 1 Language of my contribution

- ○ Bulgarian
- ○ Croatian
- ○ Czech
- ○ Danish
- ○ Dutch
- ◉ English
- ○ Estonian
- ○ Finnish
- ○ French
- ○ German
- ○ Greek
- ○ Hungarian
- ○ Irish
- ○ Italian
- ○ Latvian
- ○ Lithuanian
- ○ Maltese
- ○ Polish
- ○ Portuguese
- ○ Romanian

- ○ Slovak
- ○ Slovenian
- ○ Spanish
- ○ Swedish

*2 I am giving my contribution as

- ○ Academic/research institution
- ◉ Business association
- ○ Company/business
- ○ Consumer organisation
- ○ EU citizen
- ○ Environmental organisation
- ○ Non-EU citizen
- ○ Non-governmental organisation (NGO)
- ○ Public authority
- ○ Trade union
- ○ Other

*3 First name

Annette

*4 Surname

Jantzen

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annette.jantzen@eugine.eu

*9 Organisation name

255 character(s) maximum

EUGINE – European Engine Power Plants Association

*10 Organisation size

- ◉ Micro (1 to 9 employees)
- ○ Small (10 to 49 employees)
- ○ Medium (50 to 249 employees)

- ○ Large (250 or more)

11 Transparency register number

Check if your organisation is on the transparency register. It's a voluntary database for organisations seeking to influence EU decision-making.

033807913798-84

* 12 Are you active in the energy sector?

- ◉ Yes
- ○ No

* 13 Which energy sector?

- ☑ Electricity
- ☑ Gas
- ☐ Oil
- ☑ Other

* 14 Please specify which sector:

50 character(s) maximum

Liquid fuels

* 15 What is your segment of activity?

- ○ Public authority
- ○ Regulator
- ○ Producer
- ○ TSO
- ○ DSO
- ○ RCC
- ○ Trader
- ○ Shipper
- ○ Retailer
- ○ Aggregator
- ○ Storage operator
- ○ Energy exchange
- ◉ Other

* 16 Please specify which other segment of activity:

Equipment manufacturers

* 17 Country of origin

Please add your country of origin, or that of your organisation.

This list does not represent the official position of the European institutions with regard to the legal status or policy of the entities mentioned. It is a harmonisation of often divergent lists and practices.

- Afghanistan
- Åland Islands
- Albania
- Algeria
- American Samoa
- Andorra
- Angola
- Anguilla
- Antarctica
- Antigua and Barbuda
- Argentina
- Armenia
- Aruba
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bahrain
- Bangladesh
- Barbados
- Belarus
- Djibouti
- Dominica
- Dominican Republic
- Ecuador
- Egypt
- El Salvador
- Equatorial Guinea
- Eritrea
- Estonia
- Eswatini
- Ethiopia
- Falkland Islands
- Faroe Islands
- Fiji
- Finland
- France
- French Guiana
- French Polynesia
- French Southern and Antarctic Lands
- Gabon
- Georgia
- Libya
- Liechtenstein
- Lithuania
- Luxembourg
- Macau
- Madagascar
- Malawi
- Malaysia
- Maldives
- Mali
- Malta
- Marshall Islands
- Martinique
- Mauritania
- Mauritius
- Mayotte
- Mexico
- Micronesia
- Moldova
- Monaco
- Mongolia
- Saint Martin
- Saint Pierre and Miquelon
- Saint Vincent and the Grenadines
- Samoa
- San Marino
- São Tomé and Príncipe
- Saudi Arabia
- Senegal
- Serbia
- Seychelles
- Sierra Leone
- Singapore
- Sint Maarten
- Slovakia
- Slovenia
- Solomon Islands
- Somalia
- South Africa
- South Georgia and the South Sandwich Islands
- South Korea
- South Sudan

- Belgium
- Belize
- Benin
- Bermuda
- Bhutan
- Bolivia
- Bonaire Saint Eustatius and Saba
- Bosnia and Herzegovina
- Botswana
- Bouvet Island
- Brazil
- British Indian Ocean Territory
- British Virgin Islands
- Brunei
- Bulgaria
- Burkina Faso
- Burundi
- Cambodia
- Cameroon
- Canada
- Cape Verde
- Cayman Islands
- Central African Republic
- Chad
- Germany
- Ghana
- Gibraltar
- Greece
- Greenland
- Grenada
- Guadeloupe
- Guam
- Guatemala
- Guernsey
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- Heard Island and McDonald Islands
- Honduras
- Hong Kong
- Hungary
- Iceland
- India
- Indonesia
- Iran
- Iraq
- Ireland
- Montenegro
- Montserrat
- Morocco
- Mozambique
- Myanmar/Burma
- Namibia
- Nauru
- Nepal
- Netherlands
- New Caledonia
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Niue
- Norfolk Island
- Northern Mariana Islands
- North Korea
- North Macedonia
- Norway
- Oman
- Pakistan
- Palau
- Palestine
- Spain
- Sri Lanka
- Sudan
- Suriname
- Svalbard and Jan Mayen
- Sweden
- Switzerland
- Syria
- Taiwan
- Tajikistan
- Tanzania
- Thailand
- The Gambia
- Timor-Leste
- Togo
- Tokelau
- Tonga
- Trinidad and Tobago
- Tunisia
- Türkiye
- Turkmenistan
- Turks and Caicos Islands
- Tuvalu
- Uganda

- Chile
- China
- Christmas Island
- Clipperton
- Cocos (Keeling) Islands
- Colombia
- Comoros
- Congo
- Cook Islands
- Costa Rica
- Côte d'Ivoire
- Croatia
- Cuba
- Curaçao
- Cyprus
- Czechia
- Democratic Republic of the Congo
- Denmark
- Isle of Man
- Israel
- Italy
- Jamaica
- Japan
- Jersey
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Kosovo
- Kuwait
- Kyrgyzstan
- Laos
- Latvia
- Lebanon
- Lesotho
- Liberia
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Philippines
- Pitcairn Islands
- Poland
- Portugal
- Puerto Rico
- Qatar
- Réunion
- Romania
- Russia
- Rwanda
- Saint Barthélemy
- Saint Helena Ascension and Tristan da Cunha
- Saint Kitts and Nevis
- Saint Lucia
- Ukraine
- United Arab Emirates
- United Kingdom
- United States
- United States Minor Outlying Islands
- Uruguay
- US Virgin Islands
- Uzbekistan
- Vanuatu
- Vatican City
- Venezuela
- Vietnam
- Wallis and Futuna
- Western Sahara
- Yemen
- Zambia
- Zimbabwe

18 This public consultation is structured in four sections. Apart from the section containing general energy security questions (for all respondents), which other sections do you wish to answer (if any)?

- [x] Specific questions on the energy security framework
- [x] Specific questions on Gas Security of Supply
- [x] Specific questions on Electricity Security of Supply

The Commission will publish all contributions to this public consultation. You can choose whether you would prefer to have your details published or to remain anonymous when your contribution is published. **Fo r the purpose of transparency, the type of respondent (for example, 'business association,**

'consumer association', 'EU citizen') country of origin, organisation name and size, and its transparency register number, are always published. Your e-mail address will never be published. Opt in to select the privacy option that best suits you. Privacy options default based on the type of respondent selected

* 20 **Contribution publication privacy settings**

The Commission will publish the responses to this public consultation. You can choose whether you would like your details to be made public or to remain anonymous.

- **Anonymous**
  Only organisation details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published as received. Your name will not be published. Please do not include any personal data in the contribution itself if you want to remain anonymous.
- **Public**
  Organisation details and respondent details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published. Your name will also be published.

☑ I agree with the personal data protection provisions

3 General questions on energy security

Energy security is the ability of an economy to ensure the balance between energy supply and energy needs across different timeframes and the ability of the system to **react to sudden shocks** (resilience) supported by the underlying energy infrastructure. Energy security also has a strong **international dimension**, given that the EU depends on energy imports from third countries.

While the fundamentals are well-functioning and well-interconnected energy markets and energy efficiency efforts, the EU has also developed a **robust energy security framework** relying on: oil emergency stocks, gas security of supply and storage, electricity risk-preparedness, offshore safety, critical infrastructure protection, and cybersecurity.

The energy crisis caused by Russia's unprovoked and unjustified military invasion of Ukraine has shown how external energy dependencies of the EU can be weaponized. It was a stark reminder of how **energy security is a key building block of a resilient, future-proof and**

competitive economy.

Besides, decarbonisation and electrification will bring new energy security challenges. Increasing energy system integration increases the risk of cascading **cross-sectoral** failures, in particular between gas and electricity sectors. In 2023, natural gas notably accounted for around 15 % of EU electricity generation, while in the future substantial volumes of electricity will be required for the production of hydrogen through electrolysis.

This section aims at collecting feedback regarding the functioning of the current EU energy security framework, and its possible future evolution.

21 How would you grade the functioning of the current EU energy security framework?

22 Please elaborate your choice:

* 23 Which of the following objectives do you consider the most important for the EU energy security architecture?

between 1 and 5 choices

- [ ] Allocating the costs of energy security fairly
- [ ] Diversification of energy sources, suppliers and routes
- [ ] Making the most of existing infrastructure
- [ ] Phase-out of Russian fossil fuel supply
- [ ] Enhancement of interconnections and smartening of infrastructure between Member States
- [x] Resilience of energy infrastructure, e.g. to climate change
- [ ] Investments in domestic decarbonised energy system
- [ ] Energy demand response and reduction
- [x] Strengthen the use of energy storage (electricity, gas, liquid fuels, heat) for energy security
- [x] Preparedness (assessment of risks and formalisation of emergency plans)
- [x] Physical protection of critical energy infrastructures against man-made attacks
- [ ] Securing energy-related supply chains

☑ Cybersecurity

24 Please elaborate your choice:

In 2022, the phase out of Russian energy imports, coupled with a spike in gas prices and weather events (drought), was a risk for energy security and showed the need to consider the consequences of a lack of diversification of energy sources, suppliers and routes and multiple risks converging. I did, nevertheless, also show the resilience of the European energy system and the importance of markets and joint action in helping preserve that resilience.

With this in mind, the European energy security framework should continue to focus on preserving the ability to balance supply and demand while adapting to a decarbonising energy system. It should also preserve the system's ability to react to shocks, be they geopolitical, weather events or other.

Specific instruments already exist to focus on investments, costs, supply chains or the enhancement of existing infrastructure. These topics should therefore not be in the focus on a review. The phase-out of Russian fossil fuel supply will indeed be central in the years to come but is already well under way and dealt with through other channels.

While the diversification of energy sources, suppliers and routes is highly desirable from a resilience point-of-view, it is difficult to implement in a market economy and a framework where Member States remain sovereign to decide on their energy mix.

Instead, as developed later on, a forward-looking approach that considers risks linked to digitalisation (smart grid infrastructure, cybersecurity) and increasing cross-sectoral dependencies should be central.

* 25 How do you think electrification has already impacted and can further impact EU energy security in the medium term? Was the EU energy security framework sufficient to address such impacts and if not, what improvements you think are needed?

With the electrification of the power system and increasing variable generation, flexibility and ancillary services needs will increase significantly in all timeframes. Higher shares of variable generation (now and in the future as they keep growing) will have effects on system stability and will require a more flexible energy system, including flexible, reliable power generation and back-up generation.

The increasing share of decentralised power generation will make it more important to both continue increasing interconnectors but also to take a regional and local approach to grids and system management. The current methodology for electricity Short-term and Seasonal Adequacy Assessments takes a copper plate approach, which seems increasingly unfit for analysing the electricity system. Regional assessments should become increasingly important.

In a context of decarbonisation, the adequacy of the electricity system will become all the more important. In that sense, adequacy will no longer only refer to available storage and generation capacity, but will also require that that capacity has the (renewable) energy available to function. Gas power plants will need to be sure that they can access (renewable) gases when needed, pumped storage will need to be able to store enough excess wind and solar, etc. That second point (availability of energy) could indeed be a central element in the future security of supply framework, not only concerning gas but also electricity generation. Finally, an adequate transmission and distribution grid is also needed to ensure power flows throughout Europe.

It will be important to tap into all available resources to make Europe resilient. In that regard, emergency power generators are becoming increasingly important. They not only serve as a last resort in the event of a power outage but are increasingly required as active components to stabilize the grid. Their ability to react quickly and flexibly to fluctuations makes them a valuable tool for increasing system resilience.

* 26 Are there energy security risks associated with possible future electricity imports from third countries?

- (●) Yes
- ( ) No
- ( ) No opinion

27

To what extent are there energy security risks associated with possible future electricity imports from third countries?

Significant electricity imports from non-EU countries to the EU could increase political risks and as well the risk of sabotage of seawater infrastructure, for example. While imports will help diversify supply sources, the EU focus should nevertheless be on energy efficiency, on producing the energy where it is required and consumed and on having enough back-up plants on European territory (e.g. power plants combined with storage of molecules).

* 28 Are there improvements to the EU energy security framework that are needed to prepare for the ongoing transition (towards e.g., more electrified, renewable-based and integrated EU energy system)?

- (●) Yes
- ( ) No
- ( ) No opinion

*29 Can you please elaborate?

One key area for improvement we see is that the current security of gas supply regulation only concerns natural gas. In view of the need to decarbonise all energy sectors, it would make sense to widen its scope and include all (renewable) fuels, particularly biomethane,hydrogen and ethanol/methanol syn-fuels. As the end-use of gas reduces and the share of renewable gases increases, the availability of renewable gases and fuels should become increasingly important, especially for seasonal and inter-annual flexibility and balancing in the power and district heating sectors. Indeed, lower gas demand over the year will not mean lower gas storage needs going forward.

*30

What role can decarbonised and renewable hydrogen, including in the form of liquid fuels, play for future EU energy security?

As described in the EU 2040 climate target impact assessment, in the years after 2030, hydrogen consumption should move beyond traditional applications to contribute to decarbonise the hard-to-abate sectors but also to support the operation of the power sector with high shares of variables renewable energies, providing seasonal storage and system stability (together with other energy sources and technologies such as flexible power generation).

Regarding seasonal storage, JRC estimates that yearly seasonal flexibility requirements, defined as the requirements over a yearly timescale with monthly time step, will increase from 154 TWh in 2030 to 336 TWh in 2050. Most of those needs will occur in winter months, requiring long-term storage capacities with long discharge times.

To put these needs into perspective, 336TWh equals today's annual electricity consumption of Italy and Denmark combined. These requirements will need to be covered by technologies that have the capacity to store a lot of energy over longer periods of time (ideally, beyond 120 hours). Hydrogen could be one of those technologies. Indeed, a study by Artelys and Frontier Economics for GIE (https://www.gie.eu/press/new-gie-study-reveals-critical-45-twh-target/) finds that 300 TWh of Underground Hydrogen Storage (UHS) could be needed by 2050, in particular to provide flexibility to the energy system.

*31 What are the potential risks to hydrogen supply security and to what extent should they be mitigated? How do you see the role of hydrogen imports in the future? Should the EU energy security framework play a role?

In certain areas of Europe with low spatial availability for new renewable capacity, hydrogen imports will indeed be needed. Because of the complexities of producing renewable and low-carbon hydrogen sources, we nevertheless estimate that hydrogen imports will be more diversified than natural gas ones. A scope extension of the SoS gas regulation to monitor security of renewable gas imports should be the way forward to ensure sufficient hydrogen is available when needed. In addition, regarding specific storage targets or requirements, e-methane could be an alternative storage option for hydrogen.

Beyond availability and risks liked to imports, another point that can be a risk is the H2 purity, as the standardisation efforts for purity specification are just starting.

Going forward, the EU energy security framework could enhance the development of the hydrogen sector with some targeted measures, listed below:

Regulatory Impact:

- Integrate H2 infrastructure into mandatory risk assessments
- Include H2 in the N-1 provision of security supply system approach
- Formulate emergency H2 systems operating procedures
- Obligate member countries to put H2 in National preparedness planning

Technical Implementation:

- Accredit some safety standards for blends in gas grids
- Establish a basic storage volume
- Set cross border flow measurements
- Implement H2 infrastructure protection requirements

* 32 Do you think that the current EU energy security framework has sufficiently taken into account climate risks, such as energy disruptions due to heat and drought or damage to energy infrastructure due to extreme weather events?

- ○ Yes
- ◉ No
- ○ No opinion

33 Please provide concrete examples and/or suggestions how this can be achieved.

Per definition, weather-related risks are difficult to foresee but will increase with climate change. Rare and extreme natural hazards are considered in the regional crisis scenarios, and the effects of weather conditions are also considered in the Short-term and Seasonal Adequacy Assessments. Nevertheless, the EU framework would need substantial revision to address increasing frequency and severity of climate-related disruptions.

Low nuclear, wind and hydro generation, coupled with extremely high gas prices, all contributed to price hikes in 2021-2022. This recent price crisis has shown that even “minor” events can trigger dramatic consequences in combination with other risks (energy supply cuts).

The future energy security framework should take into account this increased occurrence of “extreme” weather events and their effects when coupled with other events. One way to make the system more resilient will be to foster distributed, locally produced power. In addition, the following specific measures could help further integrate climate-related risks:

- Mandatory climate risk assessments for all energy infrastructure
- Integration of climate projections in system planning
- Enhanced resilience standards for extreme weather
- Regional coordination for climate-driven emergencies
- Specific protection measures for critical energy assets

* 34 Liquified Natural Gas (LNG) has become an increasingly important gas supply source (represents now ca. 50% of EU imports). Do you see any risks associated with the increased reliance on the global LNG market?

- (●) Yes
- ( ) No
- ( ) No opinion

35 Which concrete risks do you see (e.g., reliance on unstable democratic countries, exposure to global markets fluctuations, infrastructure bottlenecks or oversize, etc.)? How should they be addressed?

High reliance on LNG does indeed create risks. LNG has become a commodity product similar to oil, but a high dependence carries risks such as political risks and infrastructure bottlenecks. A reasonable split between local and imported fuels should be the EU target. To avoid knock-on effects of single events, Europe needs to diversify its supply as much as possible. Diversified supplies will allow us to better adapt to any issues with LNG (export) terminals or geopolitical risks.

In addition, LNG prices tend to be more expensive and volatile than pipeline products. Bundling demand for long-term contracts could help secure prices.

* 36 Are there specific energy security measures in other countries (US, China, Japan, Canada, Switzerland, UK, etc.) that you would like to see mirrored in the EU’s framework?

- ○ Yes
- ○ No
- ◉ No opinion

* 38 Would you see enhancing international cooperation with close partners as beneficial for EU energy security?

- ◉ Yes
- ○ No
- ○ No opinion

39 Please elaborate, if appropriate:

* 40 What is the additional value for EU energy security resulting from EU legislation, compared to what could reasonably have been achieved (in terms of effectiveness and efficiency) by Member States acting at national level?

The recent energy crisis has shown that the internal energy market and coordinated national measures make Europe more resilient than uncoordinated national action and markets.

* 41 Has the EU level action and coordination become more important or less important for energy security due to recent developments, e.g. due to the rising importance of LNG, the enhanced cross-border infrastructure and the joint phase out of Russian gas, or other?

- ◉ More important
- ○ Equally important
- ○ Less important
- ○ No opinion

42 Please elaborate:

As the energy system electrifies, integrated markets and cross-border trade will become even more important and so, too, will the local aspect. Also there, EU-level action is preferred to avoid a patchwork of approaches. In addition, EU-wide cooperation and interconnections would allow to share/reduce the cost of the LNG import infrastructure.

* 43 Has the EU's energy security policy tackled the needs of EU citizens and/or businesses (e.g., in terms of energy availability, affordability, etc)? Will it continue to be relevant for them in the next decade?

Providing decarbonised, affordable and secure energy to all EU consumers will continue being a challenge in the years to come. Decarbonisation will increase costs, at least in the short term. However, while high energy prices can have a considerable impact on companies and households, they should not be tackled as an energy security issue.

In the EU liberalised market, energy prices provide an essential signal for consumers to modulate their demand. Price signals, therefore, contribute to energy security and should be upheld. At the same time, consumers should be protected from excessive prices and be able to benefit from the European market. Latest data from the European Commission shows that retail prices have recently not followed the downward trend observed in wholesale prices. This issue should be tackled through consumer empowerment and protection measures, outside of the security of supply framework.

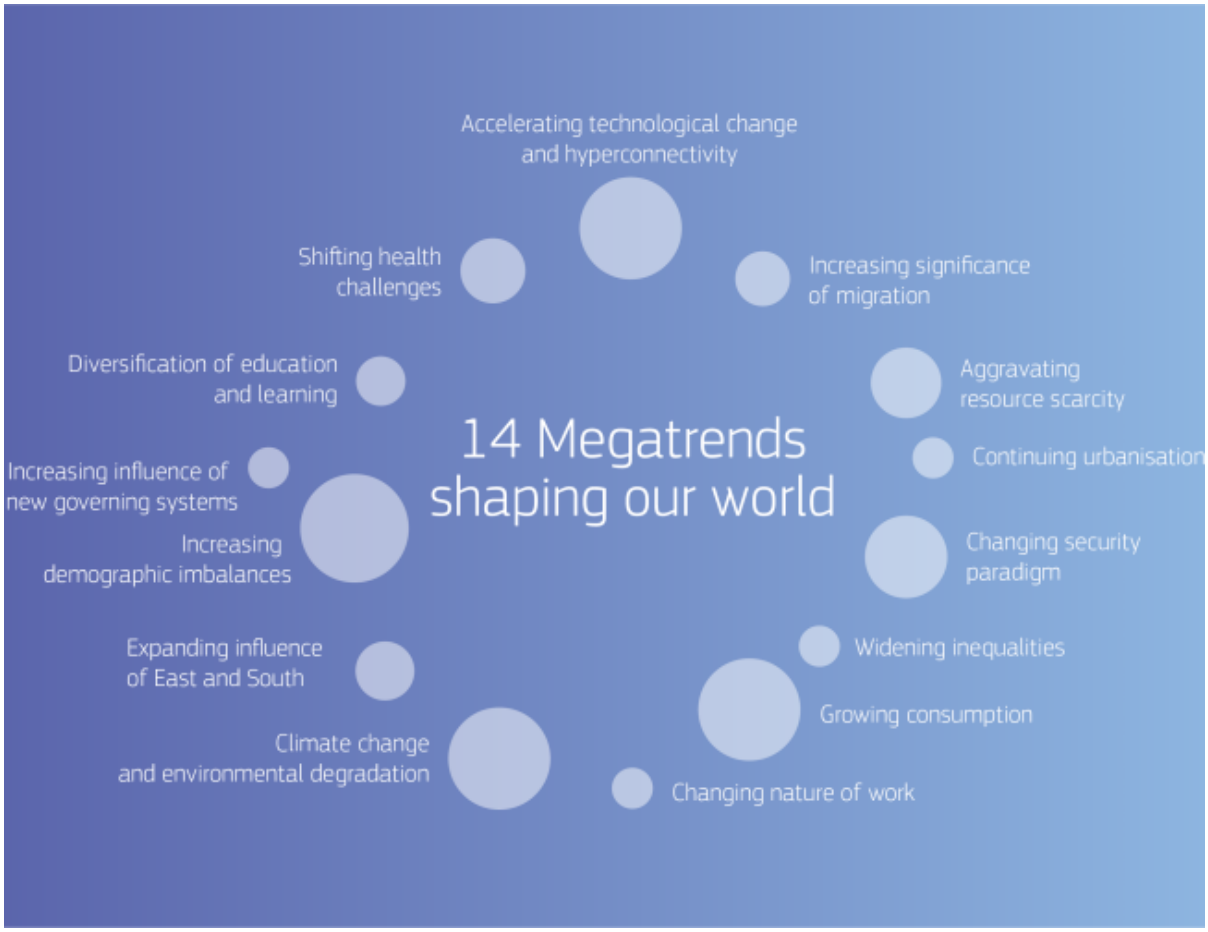
As again shown by the last crisis, affordability is threatened when energy security is not guaranteed. Energy security is a key lever for avoiding an affordability crisis.

With this in mind, the European energy security framework should keep its focus of preserving the system's ability to balance supply and demand and react to sudden shocks, be they geopolitical, weather events or other.

* 44 The European Commission's Joint Research Centre identified 14 megatrends (s ee figure below), which are long-term driving forces that are most likely to have a global impact in the future. For which one(s) of these megatrends do you think the EU Energy Security architecture is the least prepared and why? Please explain.

Possibly one of the most challenging tasks will be to integrate the effects of climate change and environmental degradation into the models. Climate models are generally based on historical data, while these are new risks that are more difficult to forecast. In the future, what we call "extreme events" (floods, droughts, dark doldrums, etc.) will unfortunately become the "new normal" and this needs to be integrated in the modelling.

Another critical trend with potential impacts on the energy sector is aggravating resource scarcity. More generally, a turning tide from globalization and free trade towards more separate economical blocks and tariffs could furthermore affect the global energy market and systems.



45 Do you have anything to add regarding the general functioning and/or the future orientation of EU energy security policy?

46 Are there any papers, reports or other documents that you would like to upload?

Only files of the type pdf,txt,doc,docx,odt,rtf are allowed

4 Specific questions on energy security framework

47 To what extent do you agree with the following statements? "*EU-level action has...*

	1 (Strongly disagree)	2 (Disagree)	3 (Neither agree, nor disagree)	4 (Agree)	5 (Strongly agree)

... benefitted preparedness and security of supply in the energy sector"					
... increased coordination and transparency between Member States"					
... reduced distortions of the market and spill-over effects in neighbouring countries"					

48 Are there any inconsistencies or gaps between the Gas Security of Supply and Storage Regulation and the Electricity Risk Preparedness Regulation that emerged in past years, and which hinder the achievement of the respective objectives of these Regulations?

- (●) Yes
- ( ) No
- ( ) No opinion

49 How could the coherence between the previously mentioned Regulations be concretely improved in the future and the identified gaps filled?

750 character(s) maximum

The current framework seems generally fit for purpose, even if some small changes could further improve the coherence between electricity and gas outlooks and scenarios. Particularly, the Critical gas volume (CGV) analysis should be maintained in the electricity adequacy outlooks to further bring the electricity and gas outlooks and scenarios closer together. On the gas side, the gas storage targets should be maintained (even if not necessarily in their current form) and adapted to decarbonisation of the energy system.

50 Are there strategies in place in your industry or country to mitigate the impact of an electricity crisis on gas supply, and vice versa?

- (●) Yes
- ( ) No
- ( ) No opinion

51 Please elaborate on the strategies in place:

750 character(s) maximum

Our members with a base in Germany point to the success of filling levels for gas storage and related governmental control, increased LNG import facilities and emergency plans as positive evolutions to help react on a gas crisis.

In addition, companies are currently studying their resilience in case of crisis in gas supply / electricity. A combination of different energy sources and technologies is touted as the best approach to make a company resilient.

52 Are the roles and responsibilities, as well as the mechanisms to coordinate between electricity and gas sectors, effective during crises?

- Yes
- No
- No opinion

53 Why are they not effective?

750 character(s) maximum

54 Electricity and gas markets have become increasingly intertwined. Do you see the following as potential areas where regulatory synergies could be sought?

	Yes	No	No opinion
Risk assessments and scenarios	◉	○	○
Preventive action/risk preparedness plans	◉	○	○
Definitions and levels of crises	◉	○	○
Crisis management procedures	◉	○	○
Protected customers / Special protection against disconnection	◉	○	○
Storage measures for energy security (electricity, gases, liquid fuels, heat)	◉	○	○
Regional cooperation	◉	○	○
Solidarity / Assistance	◉	○	○

55 Please elaborate, if appropriate:

750 character(s) maximum

Art. 11 and 13 of the gas SoS Regulation already allow Member States to give precedence to certain critical gas fired power plants in the event of an emergency. It is important that this is maintained as the role of gas power plants shifts from providing year-round flexibility to providing essential system services and covering demand in critical periods of the year.

Joint crisis scenarios and action plans for electricity and gas could provide a comprehensive overview of the role of gas in the electricity system and system stability and the effects of a serious supply disruption due to converging risks. Storage measures for energy security should particularly prevent shortage of critical (renewable) gas volumes for power generation.

56 Are there other areas, not identified in the table above, where synergies should be sought?

750 character(s) maximum

57 Do you see reasons and ways to bring the energy security frameworks for gas storage and wider energy storage closer?

- (●) Yes
- ( ) No

58 Can you provide concrete examples?

750 character(s) maximum

While storage and demand response will play a key role in covering the supply and demand gap in the intra-day and weekly timeframes, hydrogen will play an important role in seasonal balancing. A shortage of (renewable) gas supply in periods of “Dunkelfalute” could then have serious consequences both on the availability and affordability of electricity.

59 What are the most relevant cross-sectoral or cascading risks affecting gas and electricity that should be addressed in the future (e.g. shortage of critical gas volumes for power generation, power outages affecting turbines in the gas system or boilers, or power outages affecting production of renewable/low-carbon gases)?

750 character(s) maximum

In a study carried out for EUGINE and EUTurbines in 2023 (The Need for Clean Flexibility in Europe’s Electricity System), Frontier Economics estimates that, in the years 2040 and 2050, energy supply gaps of 100 TWh in only a few weeks will become increasingly common. When compared to the expected total generation from wind and PV over one full year (3000 TWh) the size of the gap becomes clear. The most recent TYNDP includes projections of peak daily hydrogen demand for 2040 and 2050 show ranges of over 5-10 TWh per day. In the case of so-called Dunkelflaute periods, such peak demand periods would extend over several days or even weeks and would need to be covered by carriers such as hydrogen.

60 How could these risks be tackled in the future?

750 character(s) maximum

Seasonal demand peaks for hydrogen could best be tackled though hydrogen storage targets. In addition, the EU adequacy framework will need to make sure that sufficient flexible capacities are available.

61 To what extent are risks associated with the further digitalization and smartening of energy networks, i.e., cybersecurity risks, sufficiently covered in terms of ensuring security of supply? Do you see a need for improvements to the EU energy security framework to tackle these risks?

750 character(s) maximum

The digitalisation and smartening of the energy networks is a must-have to optimise operations and increase the uptake of demand-side management and microgrids, but it will also increase risks. The increase in digitisation and network-based systems increases vulnerability for cyberattacks that can paralyse entire businesses. Therefore, implementing defensive barriers should be an essential element in proactive cybersecurity management. Here, common standards and guidelines for companies are required to create a system that withstands attacks but is also able to operate in case of a successful cyber-attack.

62 Do you see any additional or increasing role for demand-side measures in the future EU energy security architecture, on top of the already existing framework under the recently adopted Electricity Market Design?

- ○ Yes
- ◉ No
- ○ No opinion

63 Can you provide concrete examples that would allow to better recognize and leverage demand-side policies?

750 character(s) maximum

64 Please explain:

750 character(s) maximum

In our view, demand-side measures are best tackled through price signals (i.e. markets for flexibility), which should not be of the remit of the security of supply framework. The current electricity risk-preparedness regulation and gas SoS regulation already allow for non-market-based measures to be implemented as a last resort and in a proportionate, non-discriminatory and temporary manner. Any review should not go beyond those current requirements.

65 Are there any papers, reports or other documents on these issues that you would like to upload?

Only files of the type pdf,txt,doc,docx,odt,rtf are allowed

5 Specific question on Gas Security of Supply

Gas security of supply (SoS) is the ability of the gas system to guarantee the supply of gas to customers with a clearly established level of performance. At EU level, safeguards are introduced by the **Gas Security of Supply Regulation (EU) 2017/1938**, amended in 2022 by the Gas Storage Regulation and the Gas Package adopted in 2024. It relies on:

- Improved **information exchanges** and transparency via e.g. the **Gas Coordination Group**.
- EU-wide **simulations** and **risks assessments** conducted at European, regional and national levels.
- A framework for national **Preventive Action Plans** and **Emergency Plans**, to prevent and react to risks and crises.
- **Crisis management** procedures and **solidarity** safeguards in emergencies, in particular to **"protected customers"** (e.g. households).
- A policy to ensure a filling of gas **storage.**

The Commission published on 5 October 2023 a report reviewing the Regulation (COM(2023) 572). Following the most recent amendments, the Commission has to prepare a report on the implementation of the storage provisions and of the solidarity provisions of the Hydrogen & Decarbonised Gas Package by 28 February 2025. Besides informing the fitness check on the energy security framework, this public consultation intends to provide input also for that report.

A. Backward-looking

1) Effectiveness

66 Regulation (EU) 2017/1938 pursues several objectives. How would you grade its performance on the following objectives?

	1 (Very poor)	2 (Poor)	3 (Average)	4 (Good)	5 (Excellent)
Secure an adequate level of preparedness in Europe for	○	○	○	○	○

gas supply disruptions, e.g. through assessing risks and sufficient infrastructure					
Ensure that all necessary measures are taken to safeguard an uninterrupted supply of gas, in particular to protected customers	○	○	○	○	○
Enhance regional and EU-wide cooperation, including in times of supply emergencies	○	○	○	○	○

67 Have you experienced barriers or difficulties in implementing and enforcing the provisions of the Regulation?

- ○ Yes
- ○ No
- ○ No opinion

68 Which provisions proved difficult to implement and why?

750 character(s) maximum

69 Have there been any unexpected and/or unintended effects caused by the implementation of this Regulation, which hindered progress towards these objectives?

- ○ Yes
- ○ No
- ○ No opinion

70 Which effects were there and what parts of the Regulation caused these effects?

750 character(s) maximum

71 To what extent do you agree that the following specific provisions have been effective in ensuring preparedness, security of supply and/or resilience?

	1 (Not effective at all)	2 (Marginally effective)	3 (Moderately effective)	4 (Effective)	5 (Very effective)
Gas Coordination Group	○	○	○	○	○
Infrastructure standard and bi-directional capacities	○	○	○	○	○
Supply standard and protected customers	○	○	○	○	○
Common Risk Assessments	○	○	○	○	○
National Risk Assessments	○	○	○	○	○
Preventive Action Plans and Emergency Plans	○	○	○	○	○
Crisis management	○	○	○	○	○
Crisis levels	○	○	○	○	○
Solidarity provisions	○	○	○	○	○
Information exchange requirements under Article 14	○	○	○	○	○
Storage targets	○	○	○	○	○

Annual storage trajectories set by the Commission					
Storage system operators' certification					
Demand reduction and EU-alert					
Cooperation with Energy Community Contracting Parties					

72 Do you wish to elaborate on any of the points above? If so, please indicate to which point(s) you are referring to.

750 character(s) maximum

73 What do you consider the main strengths and weaknesses of the Storage Regulation, in particular the 90% storage targets, the trajectories, burden sharing, the certification procedure, the sunset clause in 2025 of the storage provisions?

750 character(s) maximum

2) Efficiency

74 What were the costs and benefits of the implementation of the Gas SoS Regulation (including the storage and solidarity amendments introduced by the Storage Regulation and the Hydrogen and Decarbonised Gas Package) for your organization? If possible, please provide both quantitative and qualitative elements.

750 character(s) maximum

75 To what extent have the following provisions created **disproportionate** burden (e.g. administrative, financial or other burden)?

	1 (Negligible)	2 (Low)	3 (Average)	4 (High)	5 (Very high)
Gas Coordination Group	○	○	○	○	○
Infrastructure standard and bi-directional capacities	○	○	○	○	○
Supply standard and protected customers	○	○	○	○	○
Common Risk Assessments	○	○	○	○	○
National Risk Assessments	○	○	○	○	○
Preventive Action Plans and Emergency Plans	○	○	○	○	○
Crisis management	○	○	○	○	○
Crisis levels	○	○	○	○	○
Solidarity provisions	○	○	○	○	○
Information exchange requirements under Article 14	○	○	○	○	○
Storage targets	○	○	○	○	○
Annual storage trajectories set by the Commission	○	○	○	○	○
Storage system operators' certification	○	○	○	○	○
Demand reduction and EU-alert	○	○	○	○	○
Cooperation with Energy Community Contracting Parties	○	○	○	○	○

76 Do you wish to elaborate on any of the points above? If so, please indicate to which point(s) you are referring to.

750 character(s) maximum

77 How can the Regulation's reporting and monitoring requirements be simplified? Have the current reporting and monitoring requirements or frequency avoided unnecessary duplication or overlapping responsibilities (e.g. regarding risk assessments and plans)?

750 character(s) maximum

3) Relevance

78 To what extent were the provisions of the Gas Security of Supply Regulation relevant in addressing the gas supply challenges and disruptions experienced by the EU since its implementation? Please elaborate your answer, e.g. by making explicit reference to the 2022/2023 energy crisis.

750 character(s) maximum

79 How well adapted is the Gas Security of Supply Regulation to technological or scientific progress, and to the environmental/climatic challenges that EU will face?

750 character(s) maximum

4) Coherence

80 To what extent is the Gas Security of Supply Regulation aligned with other EU policy goals?

750 character(s) maximum

Currently, the gas SoS regulation serves its purpose. However, going forward it would be advisable to align it with RepowerEU and the Gas Decarbonisation Package, aiming at decarbonizing EU gas supply and

adapting it to a changing energy system. Specifically, the revised gas regulation will require the newly-established ENNOH (European Network of Network Operators for Hydrogen) to adopt an annual outlook for the hydrogen supply covering Member States where hydrogen is used in electricity generation (Regulation Article 59). This report could be linked to the SoS assessment in the future.

81 Did some provisions within the Regulation prove to be inconsistent with one another?

- Yes
- No
- No opinion

82 Please give concrete examples:

750 character(s) maximum

5) EU added value

83 The 2016 Commission's proposal for the Gas Security of Supply Regulation argued that the necessity of EU action was based on the following:

- "The increasing interconnection of the EU gas markets and the 'corridor approach' for enabling the reverse flows on gas interconnectors call for coordinated measures";
- "Without such coordination, national security of supply measures are likely to adversely affect other Member States or the security of supply at EU level";
- "The risk of a major disruption of gas supplies to the EU is not restricted to national boundaries and could affect several Member States, whether directly or indirectly";
- "National approaches both result in sub-optimal measures and aggravate the impact of a crisis".

Did the events of past years (in particular the 2022/2023 energy crisis and the increased importance of LNG as alternative to Russian gas) confirm these statements in your view?

- Yes
- No

- No opinion

84 Can you please elaborate on why you think that these events confirmed those statements?

750 character(s) maximum

85 Can you please elaborate on why you think that these events invalidated those statements?

750 character(s) maximum

B. Forward-looking

86 According to the impact assessment on the 2040 targets, natural gas demand in the EU should decline from ca. 319 Mtoe today to 100-150 Mtoe in 2040, with an increase in biomethane production. The overall decreasing gas consumption may lead to a change in consumption pattern with likely different speeds of phase out across sectors. How should the Gas Security of Supply Regulation change to remain relevant, considering the foreseen evolution of the EU gas supply and demand?

750 character(s) maximum

As shown in the latest TYNDP (https://2024.entsos-tyndp-scenarios.eu/scenario-results/), while gas demand will indeed decrease, peak gas demand will remain high in certain moments, especially to face so-called “Dunkelflaute”·events (low wind and solar output over prolonged periods of time). This means that lower gas demand will not necessarily translate into lower gas storage needs.

87 Are there objectives for gas security of supply that were not considered in 2017 and that a potential revision of the Regulation should aim to achieve?

- Yes
- No
- No opinion

88 Which blind spots in the current Regulation do you think should be addressed in a future update of the energy security framework?

750 character(s) maximum

89 Some provisions expire in 2025, including the 90% storage target. What role do you think gas storage policies should play beyond 2025 in the short and long-term?

750 character(s) maximum

Gas storage does certainly play a role in security of supply both in the short and long term. As Europe comes out of its dependence on Russian gas, the current provisions might be softened, by for example setting more general targets. In the long run, storage should be extended to renewable gases, which could be stored in case of excess supply and re-used in moments of low renewable supply.

90 Should a revision of the Regulation provide more transparency on long-term gas contracts e.g. via Article 14, in particular where a single third country supplier represents a significant share of the overall supply mix?

- Yes
- No
- No opinion

91 How should the Regulation provide more transparency?

750 character(s) maximum

92 Why should the Regulation not focus on providing more transparency?

750 character(s) maximum

93 How should the costs of maintaining a high level of gas security of supply be distributed between various actors, such as companies, citizens and governments?

750 character(s) maximum

C. Other

94 Do you have anything to add regarding the general functioning and/or the future evolution of the Gas Security of Supply Regulation?

6 Specific questions on Electricity Security of Supply

Interconnected and coupled electricity markets and systems require EU Member States to **coo perate** more closely when **preventing and managing electricity crises**. The EU introduced a **Regulation on risk-preparedness in the electricity sector**, and put in place several tools to prevent, prepare for and manage electricity crises in a spirit of solidarity and transparency.

According to Article 18 of the Regulation, by 1 September 2025, the European Commission shall submit a report to the European Parliament and to the Council on the application of this Regulation. Besides informing the **fitness check** on the energy security framework, this public consultation will inform this **report.** The EU framework for electricity security supply is completed by other regulatory texts to which particular attention should be given when assessing the consistency criteria, such as the system operation guideline established by Commission Regulation (EU) 2017/1485 and the Network code on emergency and restoration established by Commission Regulation (EU) 2017/2196, Regulation (EU) 2019/943 and Directive (EU) 2019/944 on the internal market for electricity.

A. Backward-looking

1) Effectiveness

95 According to the 2016 impact assessment accompanying the Commission's proposal for a Regulation on Risk-Preparedness in the electricity sector, the new regulation was pursuing several specific objectives. How would you grade its performance on the following aspects?

	1 (Very poor)	2 (Poor)	3 (Average)	4 (Good)	5 (Excellent)
a) Improving prevention and preparedness	○	○	○	○	○
b) Improving transparency and information sharing	○	○	○	○	○

c) Improving coordination in electricity crisis					
d) Reducing the risk of negative spillover effects that purely national measures could have in neighbouring Member States.					

96 Have there been any unexpected and/or unintended effects caused by the implementation of this Regulation, which hindered progress towards these objectives?

- Yes
- No

97 Which effects were there and what parts of the Regulation caused these effects?

750 character(s) maximum

98 To what extent do you agree that certain specific provisions have been effective in ensuring preparedness, security of supply and/or resilience?

	1 (Not effective at all)	2 (Marginally effective)	3 (Moderately effective)	4 (Effective)	5 (Very effective)
Regional Risk Assessments					
National Risk Assessments					
Risk assessments in relation to the ownership of infrastructure					

Seasonal and short-term adequacy studies					
Risk preparedness plans as regards national measures					
Risk preparedness plans as regards regional and bilateral measures					
Early warning and declaration of an electricity crisis					
Users entitled to receive special protection against disconnection due to public safety and personal security					
Cooperation and assistance					
Electricity Coordination Group new tasks assigned by the Regulation					
Establishment of Competent Authority					

Regional emergency tests					

99 Do you wish to elaborate on any of the points above? If so, please indicate to which point(s) you are referring to.

750 character(s) maximum

100 Do you think that the framework of cooperation and assistance presented in Article 15 of the Electricity Risk Preparedness Regulation is effective enough for dealing with regional crises?

- Yes
- No
- No opinion

101 Can you please elaborate? How can it be improved?

750 character(s) maximum

2) Efficiency

102 What were the costs and benefits of implementing this Regulation for your organization? If possible, please provide both quantitative and qualitative elements and make explicit reference to the costs associated with the preparation of the Risk Preparedness Plans.

750 character(s) maximum

103 To what extent have the following provisions created **disproportionate** burden (e.g. administrative, financial or other burden)?

	1 (Negligible)	2 (Low)	3 (Average)	4 (High)	5 (Very high)

Regional Risk Assessments					
National Risk Assessments					
Risk assessments in relation to the ownership of infrastructure					
Seasonal and short-term adequacy studies					
Risk preparedness plans as regards national measures					
Risk preparedness plans as regards regional and bilateral measures					
Early warning and declaration of an electricity crisis					
Users entitled to receive special protection against disconnection due to public safety and personal security					
Cooperation and assistance					
Electricity Coordination Group new tasks assigned by the Regulation					
Establishment of Competent Authority					
Regional emergency tests					

104 Do you wish to elaborate on any of the points above? If so, please indicate to which point(s) you are referring to.

750 character(s) maximum

105 How timely (regarding e.g., the update every 4 years) and efficient is the Risk Preparedness Plans administrative process?

106 Can you please elaborate on your grading?

750 character(s) maximum

107 Are there any aspects of the Risk Preparedness Plans administrative process that could be streamlined or improved?

- Yes
- No
- No opinion

108 Can you please elaborate?

750 character(s) maximum

3) Relevance

109 To what extent did the provisions of Electricity Risk Preparedness Regulation prove relevant in addressing the electricity supply challenges experienced by the EU since its implementation? Please elaborate your answer, by making explicit reference to the recent crises (i.e. COVID pandemic and the energy crisis of 2022 and 2023).

750 character(s) maximum

110 To what extent could the risk preparedness plans be effective in preventing, preparing, managing and mitigating actual electricity supply crises? What could be improved?

750 character(s) maximum

111 How well adapted is the Electricity Risk Preparedness to technological or scientific progress, and to the environmental/climatic challenges that EU will face?

750 character(s) maximum

4) Coherence

112 To what extent is the Electricity Risk Preparedness Regulation aligned with other EU policy goals?

750 character(s) maximum

113 Do you see inconsistencies with other EU legislation?

- Yes
- No
- No opinion

114 Which EU legislation?

750 character(s) maximum

115 Did some provisions in the Regulation prove to be inconsistent with one another?

- Yes
- No
- No opinion

116 Please give concrete examples:

750 character(s) maximum

5) EU added value

117 What is the additional value for EU security of electricity supply resulting from the EU intervention, compared to what could reasonably have been achieved (in terms of effectiveness and efficiency) by Member States acting at national level?

750 character(s) maximum

B. Forward-looking

118 Given the recent experience of Member States with drafting the Risk Preparedness Plans, how can both the process as well as the substance of the plans be improved?

750 character(s) maximum

119 To what extent is the Electricity Risk Preparedness Regulation still relevant considering the evolution of the threats landscape and evolution of the EU's electricity supply and of the EU's energy mix as whole? Are there some objectives that were not considered in 2017 or blind spots and that a revision of the regulation should aim to achieve?

750 character(s) maximum

As the energy system decarbonises, the role of gas power plants shifts from providing year-round flexibility to covering demand in more critical periods of the year. The IEA WEO 204 estimates that, in 2050, gas-fired power plants in Europe will operate below a 25% capacity factor for most of the year, but will operate above 60% three-times as often as they do today, thanks to their capacity of shifting demand over longer periods of time.
Capacity needs are and should be evaluated in resource adequacy assessments and tackled through capacity mechanisms, while shorter-term adequacy assessments should continue to focus on energy and fuel availability.

120 Do you think that the definition of electricity crisis should be common for all Member States or at least based on common criteria?

- Yes
- No
- No opinion

121 If so, based on which criteria?

750 character(s) maximum

122 Do you think the definition of regions in Article 2 of the Regulation should be different?

- Yes
- No
- No opinion

123 If so, based on which criteria?

750 character(s) maximum

C. Other

124 Do you have anything to add regarding the general functioning and/or the future evolution of the Electricity Risk Preparedness Regulation?

Contact

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