

ACCESS TO PUBLIC INFORMATION IN THE ENERGY SECTOR

DURING THE MARTIAL LAW



USAID
ВІД АМЕРИКАНСЬКОГО НАРОДУ



Energy Map



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Introduction

Russia's full-scale invasion has made security in all aspects Ukraine's number one priority. This automatically extended to the area of open data, as the primary sources of public information became inaccessible for security reasons with the outbreak of the war. Some of the data was closed by the directive (in accordance with the relevant regulations, often non-public), while other was closed due to the loss of the ability of the data owners to provide relevant information, in particular, due to a lack of human resources, inability to continue operations due to hostilities, occupation, etc. Some data owners, using the discretion of the law, closed access to information proactively.

Such a «categorical» approach, in the opinion of the authors of this study, was justified only at the beginning of the invasion, when there was no time to formulate a balanced policy and security risks required an immediate response. However, after a year of the war, this approach creates obstacles for organizations and individuals whose core business depends on the availability of public information. A striking example is that analysts who assisted the state with their expertise and the public sector that ensured the accountability of public authorities are limited in their capabilities precisely because of the lack of relevant information. At the same time, the existing uncertainty in the applicable laws still does not exclude the possibility of data leakage, including sensitive information about the operation of the energy system.

By maintaining a rigid approach, Ukraine also risks losing the gains made in recent years in energy sector transparency. According to the Energy Transparency Index¹ developed by DiXi Group, between 2018 and 2021, Ukraine improved its energy sector transparency score from 43 to 63 points out of 100. In 2022, the Transparency Index dropped by 24 points to 39 points, the lowest score in the entire assessment period.

The enemy aims to inflict maximum damage on Ukraine, both immediate – through constant attacks on civilian infrastructure – and long-term – through discrediting Ukraine's chosen path of reform and democratic development. By denying access to detailed operational data, we limit the enemy's potential analytical tools for causing immediate damage. On the other hand, by ensuring that the public has access to information that is essential to ensure the transparency and accountability of the authorities, we can preserve the democratic principles that are the subject of our struggle and the key to our future victory. Therefore, an important task is maintaining information access while minimizing all security risks.

Purpose of the study: to assess access to public information in the energy sector of Ukraine and security risks from its disclosure under martial law.

Methodology: the study was conducted based on data and reports published before the introduction of martial law on 24 February 2022 and the status of their availability after it commenced. Three characteristics are identified that determine the potential risks of disclosure: time aggregation, geographical aggregation, and the speed of data publication. For each of them, the actions and conditions under which the risk is higher or lower are classified, including based on the existing practice of disclosure of information by different data owners. This was subsequently used to assess the feasibility of closing access to the data under study and recommend publication resumption.

This study proposes for discussion a universal approach to assessing the risks of publishing public information on the energy sector – both in the form of open data and any other method of information disclosure. According to the authors, the proposed approach could meet the need of the public and other users for energy data, taking into account the

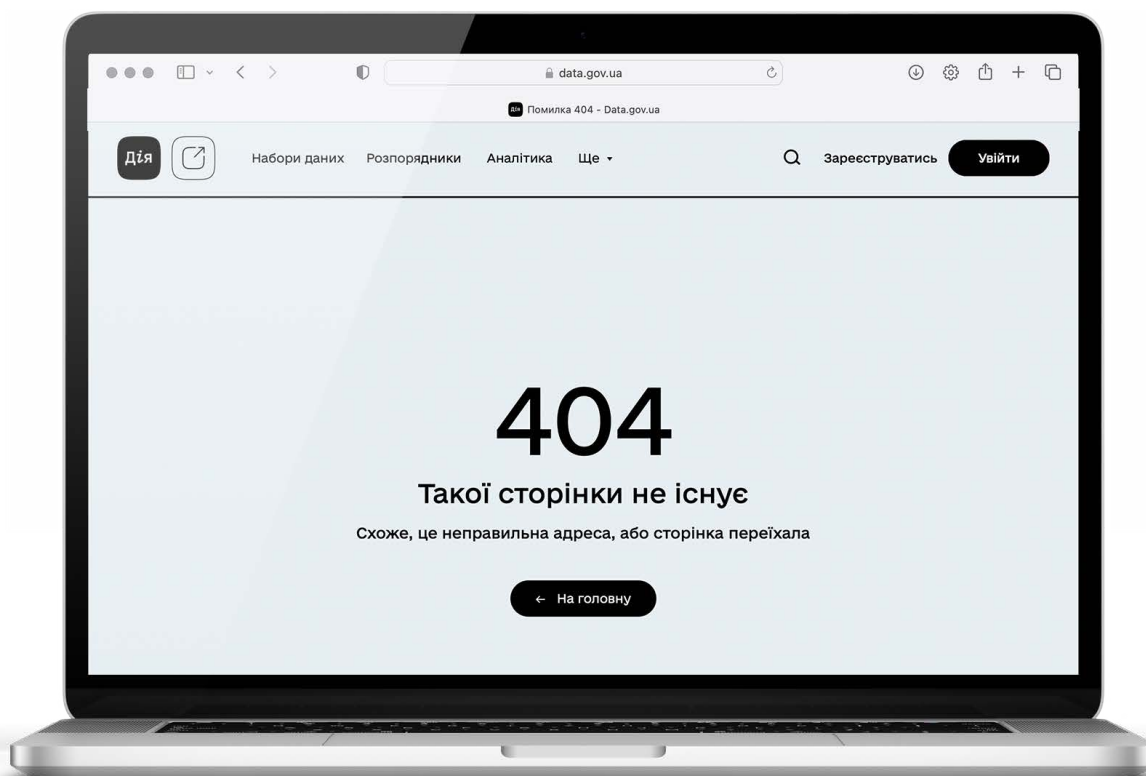
¹ <https://index.ua-energy.org/>

security factors of the sector and the state during the martial law period.

Limitations: the study analyses data collected on the Energy Map portal² as of 01.01.2023. The analysis was carried out between October 2022 and February 2023. Data sources (data owners) are government agencies and services, ministries, energy market participants, organizations, and other institutions that publish and provide public information in their possession. Although Energy Map analysts have collected a significant amount of public information related to the energy sector of Ukraine, the list of available data cannot be considered exhaustive.

The list³ of data analyzed in the study consists of 258 primary sources: information posted on the data.gov.ua portal in the form of open data, information from websites or official pages of the data owners, reports, orders, instructions, decisions of ministries and other authorities, etc. Based on the logic of the portal, the information was grouped into 350 datasets (data tables structured in a machine-readable format). This grouping is conditional, as 2+ datasets are often obtained from one source, such as the NEURC's quarterly and annual reports.

The study does not consider the loss of data owners' ability to provide relevant information, particularly due to a lack of human resources or inability to continue operations due to hostilities, occupation, etc.



² <https://map.ua-energy.org/>

³ https://docs.google.com/spreadsheets/d/1Bptmy0_rCbdDNACNLBZpB8YAES2tqIATbcdgNHJK-o/edit?usp=sharing

Executive Summary

The enactment of martial law resulted in **significant restrictions on access to public information**. The need for «quick decisions» has cultivated an oversimplified approach to data categorization. Data privacy was framed within a binary division: on one end, freely accessible «public» data, and on the other, meticulously safeguarded «private» data.

The lack of clarity in the guidelines and criteria for data closure caused data owners in the energy sector to lean on their interpretations. This resulted in **redundancy, inconsistency, and, in some cases, fragmentation of data closure**. At the beginning of the invasion, there was an alarming lack of comprehensive public policy on the appropriate methods for limiting access to information that would consider foreseeable security risks.

At this stage of the war, we can say that there are grounds for introducing appropriate regulatory measures concerning accessing and disseminating public information in the energy sector. Over the year of the war, we have gained experience enabling us to claim that there exist **less radical, more nuanced approaches to regulating access to information than the binary approach that was adopted initially**. Such an approach, for example, was adopted by the General Staff of the Armed Forces of Ukraine. They publish information on the course of battlefield events, but with a delay and without key details that would allow identifying strategically important material.

Publication of energy sector data is a critical component for creating efficient energy markets where participants compete for consumers, generate profits for themselves and the state, and coordinate investments in response to market indicators. Publication of the energy data is important for not only fostering mature markets with a high level of competition but is also an explicit requirement for Ukraine's European integration. Ukraine's accession to the EU is impossible without transparency in the energy sector. Most of the transparency requirements are already

incorporated into Ukrainian legislation. Now, they have to be implemented. Data that has to be made publicly available include energy balance (from extraction/production to consumption of energy resources), prices and tariffs, access to and actual use of infrastructure, and other data.

The need to revise the current policy is also dictated by the **public demand for the restoration of access to the data in the energy sector**, as well as by the decisions of individual data owners to resume data publication. The need to reevaluate the data closure policy is further supported by sometimes unjustified restrictions on the publication of certain types of data, such as market statistics and environmental data, which inherently do not compromise the security of energy infrastructure.

Another argument in favor of revising the policy stems from instances where public officials, data owners, or their representatives have disclosed sensitive information about operations of energy sector enterprises, mainly related to resource stocks or supplies. Furthermore, there have been occurrences where access to data was granted on a paid basis while the free versions of the identical data, publically available before the full-scale invasion, remain inaccessible, which data owners justify with security measures.

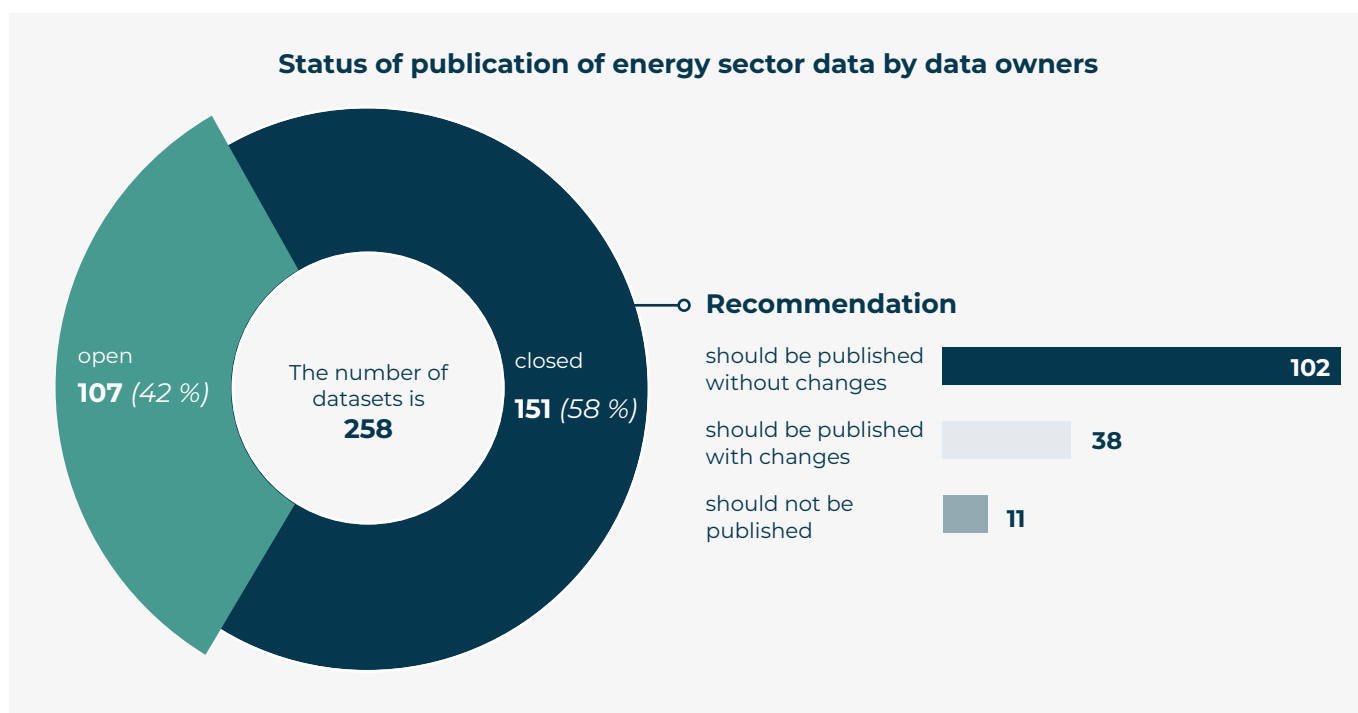
Based on the considerations mentioned above, **DiXi Group puts forth its vision of the approach to mitigating security risks associated with data disclosure in the energy sector**. The research team of DiXi Group identified three key data characteristics that may help the enemy's invasion of Ukraine. These include time aggregation, geographical information, and the gap between the period of data relevance and the date when it's made publicly available (referred to as data publication lag). There are also some conditions under which data closure is not advisable due to, for example, the possibility of obtaining data from alternative open sources. The particulars of the data,

combined with the mentioned identified characteristics, can guide us in determining an optimal publication format that would satisfy both the need for transparency and the need to minimize potential security risks.

The study analyzed 258 primary data sources published by 23 data owners on the Energy Map service⁴. This analysis shows that 107 (41.5%) datasets remain being published; the publication of 25 datasets, out of 107 ones just mentioned, was resumed by the data owners between June 2022 and February 2023. Access to the remaining **151 datasets (58.5%) was restricted**.

Applying the developed approach, the study's authors concluded that **it is advisable to resume publishing 102 datasets without any changes** in the structure or frequency of publication. Another **38 datasets require changes before their publication is resumed**, while **11 datasets are advised to remain unpublished** until the conclusion of martial law and the achievement of total victory in the war against the Russian Federation. Detailed analysis of all datasets can be accessed via the following link⁵.

It should also be noted that after the termination of martial law, data publication should return to its pre-war normalcy — the state it was in before 24 February 2022.



⁴ <https://map.ua-energy.org/>

⁵ https://docs.google.com/spreadsheets/d/1Bptmy0_rCbdDNACNLBZpB8YAES2tqIATbcdgNHJK-o/edit#gid=1556266306

1. Ukraine's commitments to open data in the energy sector

In the national legislation of Ukraine, access to public information in the energy sector is regulated by special law⁶. This law outlines mechanisms for exercising the right to access information classified as public and elaborates on types of information access to which cannot be restricted (information on public procurement, budget funds, remuneration of managers of state-owned enterprises, information about the state of the environment, product quality, etc.)

The main regulatory document that oversees open data in Ukraine is Cabinet of Ministers Resolution No. 835 of October 21, 2015, titled «On Approval of the Regulation of Datasets, Subject to Publication in Open Data Format»⁷ (as amended). This act stipulates a list of datasets that must be published as open data and delineates the necessary procedures and quality standards for publishing such data following the principles of the Open Data Charter.⁸ The mentioned list contains, among others, datasets of information about the energy sector managed by organizations such as the Ministry of Energy, the NEURC, Naftogaz, the GTS Operator of Ukraine, and Ukrenergo.

At the same time, the publication of *information on the energy sector* is mandated by several European laws that Ukraine has pledged to implement under the EU-Ukraine Association Agreement and the Energy Community Treaty.

Regulation (EC) No 1099/2008 on energy statistics⁹, adopted by Ukraine, defines the procedure for collecting, processing, and disseminating annual and monthly statistics on the activity in the energy sector (extraction/production, refining, transportation, and consumption of energy resources). The document establishes quality standards for

open data, standardizes the terminology used, and establishes deadlines for data submission by national Eurostat authorities. Implementation of relevant Ukraine is bound to implement this Regulation as per the Decision of the Ministerial Council of the Energy Community 2012/02/MC-EnC of October 18, 2012¹⁰. At the same time, the Regulation allows granting exemptions and derogations to Member States from the act's requirements, particularly when a compilation of such statistics constitutes a «significant burden» for respondents.

Another binding European legislation partially implemented by Ukraine is Regulation (EU) 2016/1952 on European statistics on natural gas and electricity prices¹¹. The Regulation defines the procedure for compiling annual and semi-annual statistics on gas and electricity prices categorized by consumer groups and price components (energy cost as a commodity, transport and tax components). The document also establishes deadlines for transferring information to Eurostat and its publication. The Regulation permits specific derogations from the fulfillment of the obligations if doing so necessitates significant modifications to the national system of collecting statistics or imposes substantial burdens on respondents. However, EU member states could request such derogations only before 8 August 2017. Hence this provision is not applicable in the Ukrainian context. Before the full-scale war, Ukraine implemented this Regulation, but only partially, with the State Statistics Service publishing only semi-annual price data, whereas the annual data (somewhat different in structure and content) are still to be released.

Regulations (EC) No. 714/2009¹² (replaced by Regulation (EU) 2019/943) and 715/2009¹³ governing access to gas and electricity networks have also been incorporated into Ukrainian law. These acts, inter alia, provide

⁶ <https://zakon.rada.gov.ua/laws/show/2939-17#Text>

⁷ <https://zakon.rada.gov.ua/laws/show/835-2015-%D0%BF#Text>

⁸ <https://opendatacharter.net/principles/>

⁹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008R1099-20220220>

¹⁰ https://www.energy-community.org/dam/jcr:124a21dd-4c6d-4d89-a1dc-684e44038aec/Decision_2012_02_MC_STA.pdf

¹¹ <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32016R1952>

¹² <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32009R0714>

¹³ <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32009R0715>

for the publication of information on the capacity, availability, and actual use of the infrastructure utilized for transferring and storing natural gas, as well as electricity transmission.

Directives (EU) 2019/944¹⁴ and 2009/73/EC¹⁵ outlining common rules for the electricity and gas markets, have also been enacted by Ukraine. These directives require the publication of information on tariffs levied by natural monopolies in the electricity and gas markets, including details on transportation, distribution, and storage of energy resources and electricity itself.

Regulation (EU) No. 1227/2011 emphasizes integrity and transparency in the wholesale energy market and prescribes the obligation of market participants to report their transactions in the wholesale gas and electricity markets to European authorities, as a measure to mitigate potential abuse. At the same time, Article 4 of the Regulation requires EU member states to publish «insider» information on their own facilities used for gas and electricity production, storage, transmission, and consumption. This information includes data on the temporary unavailability of the energy generation or transmission facilities. The relevant data is posted on special platforms, for example, the EEX Transparency Platform¹⁶. Ukraine still has not adjusted its legislation to the requirements of the mentioned Regulation, which is why the Ministerial Council of the Energy Community issued a decision on Ukraine's failure to comply with certain obligations under the Treaty¹⁷.

It should be noted that these legislations and their subsequent transpositions represent only the most basic requirement for assuring transparency within the energy sector.

In addition to the legislation mentioned above, more advanced international practices exist of disclosing and publishing energy

sector data. Ukraine, for instance, could adopt the practices¹⁸ of the International Energy Agency, of which Ukraine is an associate member. Ukraine would also benefit from incorporating successful data publication methodologies of the EU Agency for the Cooperation of Energy Regulators (ACER)¹⁹.

The importance of adhering to commitments and integrating best practices cannot be overstated and are significant for two primary reasons.

Firstly, without effectively disclosing information about the energy sector, it is impossible to build efficient energy markets: implement reforms, attract investment, and ensure efficient regulation. The requirements for energy sector transparency are rooted in years of experience in regulating the EU energy sector.

Secondly, Ukraine's integration into the EU is contingent upon implementing the provisions of the European legislation. One of the stages²⁰ of acquiring EU membership entails negotiations between the EU and the candidate country. As part of those negotiations, the European Commission carries out a detailed screening procedure spanning 35 distinct sections – essentially, the candidate country's policy areas (including the energy sector). The primary objective of this screening exercise is to assess the candidate country's legislation compliance with European legislation. Before commencing negotiations, a unified position is established, which defines benchmarks that must be met to complete accession in the particular policy area. Without completing the negotiation process in all 35 sectors, signing the accession agreement and achieving full-fledged EU membership remains impossible. Hence, strict adherence to European legislation and the effective implementation thereof constitute fundamental prerequisites for Ukraine's eventual accession to the EU.

¹⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019L0944>

¹⁵ <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32009L0073>

¹⁶ <https://www.eex-transparency.com/power>

¹⁷ <https://www.energy-community.org/legal/cases/2021/case0421UE.html>

¹⁸ <https://www.iea.org/about/data-and-statistics/manuals>

¹⁹ For more information on best practices in energy sector disclosure, see the Energy Transparency Index indicator table (see column F, Basis): <https://docs.google.com/spreadsheets/d/1LqSLvritU-pDOxx7YV0seTdePRgOZcUo6LMa8raP5vs/edit#gid=77003323>

²⁰ https://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/steps-towards-joining_en

2. Grounds for denying access to information during the war

The declaration of martial law on the territory of Ukraine was formalized by Presidential Decree No. 64²¹ of February 24, 2022. This act enshrines the *possibility* of restricting citizens' constitutional rights and freedoms, including the right to freely collect, store, use, and disseminate information (Article 32 of the Constitution).

At the same time, the relevant restrictions were not specified at the **legislative level** neither before the war nor after the invasion. The Laws «On Information» and «On Access to Public Information» do not contain separate provisions on the specifics of information access under martial law. These laws also have not been amended since the beginning of the full-scale invasion. The Law «On the Legal Regime of Martial Law» has undergone multiple amendments, yet none included stipulations related to accessing information during martial law. The Law itself lacks specificity on the right to information and allows for regulating or prohibiting information transmission through radio stations and computer networks. The new legislative restriction only introduces criminal liability²² for disseminating information about the movement of the Armed Forces and their location.

At the **secondary legislation** level, the regulatory framework governing access to information, precisely information about the energy sector, during martial law is more extensive. Yet, it contains provisions that may be subjected to broad interpretation and/or allow data owners to act at their own discretion.

For instance, the Cabinet of Ministers, by its Resolution No. 263²³ of March 12, 2022,

permitted public authorities to suspend and restrict the operation of their own information and telecommunications systems as well as public registers, regardless of their content. Many data owners took advantage of the possibility provided by the government and closed their information systems and different Registers. The Ministry of Digital Transformation closed the Open Data Portal citing the aforementioned resolution²⁴. In August 2022, the portal resumed its operation²⁵, but the information available has significantly decreased. Similarly, the State Enterprise Geoinform of Ukraine²⁶ has restricted access to its databases, including the register of special permits and wells.

The State Statistics Service imposed no direct restrictions or prohibitions on the information publication. Nonetheless, the State Statistics Service is restricted in collecting statistical data due to the provisions of the Law «On Protection of Interests of Reporting Entities and Other Documents during the Period of Martial Law or State of War»²⁷, which permits reporting entities to provide the required documentation (including statistical reports) within three months after the lift of martial law. Given these circumstances, the State Statistics Service postponed the publication of a substantial proportion of its own information²⁸.

The NEURC, as the institution responsible for regulating the activities of energy sector companies, also ratified the resolution «On the Protection of Information that in Martial Law can be classified as Information with Limited Access, including Information on Critical Infrastructure Facilities»²⁹.

The adoption of this act was justified³⁰ «by the necessity to limit access to certain information published on the licensees' websites». The act contains a non-exhaustive list of information

²¹ <https://www.president.gov.ua/documents/642022-41397>

²² <https://zakon.rada.gov.ua/laws/show/2160-20#n10>

²³ <https://www.kmu.gov.ua/npas/deyaki-pitannya-zabezpechennya-funkcionuvannya-informacijno-komunikacijnih-sistem-elektronnih-komunikacijnih-sistem-publichni>

²⁴ <https://www.epravda.com.ua/publications/2022/09/21/691717/>

²⁵ <https://www.kmu.gov.ua/en/news/portal-vidkrytykh-danykh-datagovua-vidnovyv-svoiu-robotu-vpershe-vid-pochatku-povnomasshtabnoi-viiny>

²⁶ <https://geoinf.kiev.ua/wp/index.html>

²⁷ <https://zakon.rada.gov.ua/laws/show/2115-20#Text>

²⁸ <https://ukrstat.gov.ua/Noviny/new2020/zmist/novini/povidomi.htm>

²⁹ <https://zakon.rada.gov.ua/rada/show/v0349874-22#Text>

³⁰ <https://www.nerc.gov.ua/storage/app/uploads/public/623f27d2e623f27d2e8609755583236.pdf>

that licensees (energy companies) must close, including data on the location and operation of critical infrastructure facilities, energy supply logistics, and employees' data, which may pose a threat if available in the public domain.

At the same time, the legitimacy of other provisions within this NEURC resolution is questionable. It mandates, for instance, that licensees restrict access to data on the production volume, consumption, storage, and supply of energy resources. While it's plausible that such information could be sensitive, it would typically be so only if it is detailed (such as data specific to a production facility vulnerable to attacks) and up-to-date (updated hourly or in near real-time).

Yet, it remains unclear what threats may be posed by, for example, aggregated data on gas inflows from extracting companies, which were published³¹ by the GTS Operator. Nevertheless, after adopting NEURC's resolution, the publication of the aforementioned data was stopped.

Notably, the restrictions set out in the resolution apply only to the NEURC licensees and their websites. Thus, the licensees are not formally restricted from publishing so-called «private» information on platforms like the Open Data Portal or their individual social media pages.

Another negative aspect is that the current restrictions do not rule out the publication of «private» information in alternative sources (such as pages of other state or municipal bodies, international, foreign, and other organizations specializing in research and information collection, agency documents, studies, reports and other sources containing information similar to the «sensitive» information). This aspect raises questions about the appropriateness of data access restriction during martial law.

Generally speaking, the state policy concerning the restriction of information access during the war is characterized by its fragmentary nature and the substantial

degree of discretion given to data owners when determining what constitutes sensitive information. At the same time, the existing legal mechanism – the «three-part test»³² – intended for assessing the risks of data disclosure is not widely used by data owners in the energy sector. Despite the fact that data owners are obliged by law to facilitate information access and ensure data security, responses to requests for accessing public information typically do not mention the use of the three-part test. Publicly available instances of using the “three-part test” are absent.

In the authors' opinion, the «three-part test» mechanism is quite substantive and comprehensive to differentiate as clearly as possible between information that can and should be disclosed and information that cannot. Yet, based on our experiences, data owners often lack sufficiently skilled staff to apply this methodology in practice. At the same time, non-compliance does not entail «tangible» short-term consequences.

Together, these factors result in data users being denied access to many statistics without any explanation or justification. In the authors' opinion, any regulation should, first and foremost, be a functioning procedure in line with current realities and challenges, not fiction. Otherwise, the existing procedures are not implemented, and data owners can consequently restrict access to data that does not pose a threat when made public or make access to such data inequitable for different users. At the same time, the legal process of proving the legitimacy of access to information takes much more resources than the resulting benefit from the information received.

³¹ <https://web.archive.org/web/20220413103800/https://tsoua.com/prozorst/operatyvni-dobovi-dani/>

³² https://cedem.org.ua/wp-content/uploads/2019/01/pamjatka_training.pdf

3. Inappropriate data closure cases

An experience of working with energy market data has shown that data closure does not prevent incidents of information leakage or alternative methods of information acquisition.

A common example is data dissemination by officials, experts, market participants or other persons privy to insider information. For example, in the Ukrainian media space, one can find information on natural gas production volumes³³, data on the balancing natural gas market³⁴, information on imports of petroleum products³⁵, accumulation of coal³⁶ and gas reserves³⁷, etc. Currently, the relevant primary data is restricted due to the war but is sporadically disclosed by representatives of the pertinent ministries and other organizations.

Other cases involve data leakage or dissemination to a limited number of people when the data owner cannot prevent the data from being republished or transferred to third parties. As an example, organizations publicly use «closed» data from the GTS Operator of Ukraine on the production and consumption of natural gas, Ukrtransgaz data on gas injection and reserves, and statistics on imports of petroleum products from the State Customs Service.

This is exemplified by the public use of «private» data from the GTS Operator of Ukraine on the production and consumption of natural gas³⁸, Ukrtransgaz data on gas injection and reserves³⁹, and statistics on imports of petroleum products from the State Customs Service⁴⁰. Additionally, Ukrenergo's

data⁴¹ is circulating via messaging apps in specialized channels among electricity market participants. Users access such data via the MMS platform. Among the data accessed, there was data identical to the previously published on the company's website, which shut down for seven months after the beginning of the full-scale war (in September 2022, the publication of that data was resumed).

There are cases when the data owner restricts access to data that remains available on the websites of other state or municipal authorities and organizations. For example, Ukrenergo has discontinued the operation of its website section containing information on the bidding results on the bilateral contracts market⁴², even though this data can be freely accessed on the NEURC website⁴³. For 8 months, the International Energy Agency (IEA) published Ukrenergo's data on electricity production and consumption⁴⁴ on a daily and hourly basis (at the end of October 2022, the publication of such data was stopped). Data on electricity exports, imports, and flow volumes can be found on the ENTSO-E transparency platform⁴⁵, etc.

There have also been cases where consolidated information has been restricted, yet its original sources remained accessible. The most prominent example is the closure of the NEURC's license register⁴⁶, containing information on energy companies holding licenses for electricity and heat production, gas supply, and other activities. However, all this data can be obtained from the Regulator's resolutions, published on the website⁴⁷. A similar example involves the register of special permits for the use of

³³ <https://interfax.com.ua/news/economic/849209.html>

³⁴ <https://iclub.energy/newlogo/tpost/y9ogy2y3tl-1608-energy-club-reception?fbclid=IwAR3iNGqDEFHbKzq0BoZ3QAIY3FcByIucpNoD9iiGZBPcMQusnnFjwSIENa8>

³⁵ <https://www.me.gov.ua/News/Detail?lang=uk-UA&id=52ba65ad-4852-4727-985d-1532bfd9d69c&title=Mineko>, <https://www.epravda.com.ua/news/2022/08/19/690596/>, and

³⁶ https://biz.censor.net/news/3381049/ukrayina_vytratyla_na_import_naftoproduktiv_mayije_7_milyardiv_z_pochatku_roku

³⁷ <https://mcpu.gov.ua/news/premier-ministr-my-hotovi-operatyvno-reahuvaty-na-obgruntovani-potreby-rehioniv-u-dodatkovykh-resursakh>

³⁸ <https://www.epravda.com.ua/news/2022/09/28/691993/>

³⁹ <https://www.facebook.com/esa.org.ua/photos/a.731252614153937/1164046877541173/>

⁴⁰ <https://expro.com.ua/en/tidings/gas-injection-to-ukrainian-ugss-reached-a-record-this-year-almost-40-mcm>

⁴¹ https://biz.censor.net/news/3381049/ukrayina_vytratyla_na_import_naftoproduktiv_mayije_7_milyardiv_z_pochatku_roku

⁴² <https://drive.google.com/file/d/12YLiOXYbOsBOW5DFBUggieMd0bbvnrHN/view?usp=sharing>

⁴³ https://web.archive.org/web/20220216064039/https://ua.energy/uchasnikam_rinku/publikatsiya-danyh-2/

⁴⁴ <https://www.nerc.gov.ua/monitoring-rinku-elektrichnoyi-energiyi/operativnij-monitoring-rinku-elektrichnoyi-energiyi/informaciya-shchodo-zdijsnennya-kupivli>

⁴⁵ <https://www.iea.org/data-and-statistics/data-tools/ukraine-real-time-electricity-data-explorer>

⁴⁶ [https://transparency.entsoe.eu/transmission-domain/r2/scheduledCommercialExchangesDayAhead/show?name=&defaultValue=false&viewType=TABLE&areaType=BORDER_CTY&atch=false&dateTime.dateTime=01.02.2023+00:00\[EET\]DAY&border.values=CTY|10Y1001C--00003FICTY_CTY|10Y1001C--00003F_CTY_CTY|10YSK-SEPS-----K&direction.values=Export&direction.values=Import&dateTime.timezone=EET_EEST&dateTime.timezone_input=EET+\(UTC+2\)+/EEST+\(UTC+3\)](https://transparency.entsoe.eu/transmission-domain/r2/scheduledCommercialExchangesDayAhead/show?name=&defaultValue=false&viewType=TABLE&areaType=BORDER_CTY&atch=false&dateTime.dateTime=01.02.2023+00:00[EET]DAY&border.values=CTY|10Y1001C--00003FICTY_CTY|10Y1001C--00003F_CTY_CTY|10YSK-SEPS-----K&direction.values=Export&direction.values=Import&dateTime.timezone=EET_EEST&dateTime.timezone_input=EET+(UTC+2)+/EEST+(UTC+3))

⁴⁷ <https://web.archive.org/web/20220128033542/https://www.nerc.gov.ua/reyestri-nkrekp/licenzijnij-reyestr-nkrekp>

⁴⁸ <https://www.nerc.gov.ua/npasearch?&category=4&tags=postanovi>

subsoil, which the Geoinform of Ukraine published before the war. The main content of the register (holders of the special license, name of the subsoil area, date of granting the special license) can now be obtained from the orders of the State Service of Geology and Subsoil⁴⁸.

Another example is restricting access to the Unified State Register (USR), a comprehensive database of all business entities. Services can still get paid access⁴⁹ to the USR API and have access to real-time information. The situation with geological information on subsoil is similar: it is nearly absent from public access, but according to Geoinform⁵⁰, it remains available on a fee-based request.

The decision of the data owners to remove historical data from publication is surprising, considering anyone can restore information removed from the websites using the web archive service⁵¹. In particular, it is easy to view closed annual⁵² or quarterly⁵³ reports of the NEURC, data on consumption⁵⁴, import-export⁵⁵ of electricity from Ukrenergo, financial results⁵⁶ of state-owned companies from the Portal of State-Owned Enterprises of Ukraine, and any other historical information from the sections now restricted by data owners.

Hence, the selective data closure, the inability to control its further use, information leaks, and paid access to data render the system of restricting access to information inefficient and discriminatory. The cases mentioned above underscore the absence of a cohesive approach to the data disclosure policy during wartime, which may cause complications in its coordination and implementation by different data owners.

Attempts by data owners to restore access to data

4.

Six months into the full-scale war, society and businesses have adjusted to the new circumstances. Conditional «stabilization» has brought the issues relevant before the war to the agenda. Among such issues is the problem of transparency and accountability of authorities, albeit adjusted for military realities. This is evidenced by the beginning of public communication about the need to revise the policy of restricting access to information. There has also been a public demand for easing restrictions, as evidenced by the emergence of public discussions on the issues surrounding restricting access to data in thematic events⁵⁷ and articles⁵⁸. In response to these requests, some data owners have begun restoring access to information.

At the same time, the absence of a unified approach to data disclosure forces data owners to adopt a selective approach when determining what information will be made public, to what degree, and through which channels. It is noteworthy, however, that even such an approach is unequivocally preferable to an outright closure of data.

For example, the National Power Company Ukrenergo introduced a system where interested parties can request access to the hourly power balance data of Ukraine's Integrated Power System (IPS). To access the data, one needs to fill in a special form⁵⁹, following which the data owner determines whether to provide the data to a particular requestor. Moreover, 7 months after the start of the full-scale war, Ukrenergo reassessed its

⁴⁸ <https://www.geo.gov.ua/diyalnist/nakazy/>

⁴⁹ <https://drive.google.com/drive/folders/1HG6t9NIVS0w9Ydu9huq-8dNdm2mMtAakT?fbclid=IwAR3S25AeZ9WnljTp8RbEF5IFmMRaTqWZ2G7t8kQ8ZBb5d0k9L15LpOrxUnw>

⁵⁰ <https://geoinf.kiev.ua/wp/index.html>

⁵¹ <http://web.archive.org>

⁵² <https://web.archive.org/web/20220105064138/https://www.nerc.gov.ua/pro-nkrekp/richni-zviti>

⁵³ <https://web.archive.org/web/20220105064009/http://www.nerc.gov.ua/monitoring-rinku-elektrichnoyi-energiyi/monitoring-funkcionuvannya-rozdribnogo-rinku-elektrichnoyi-energiyi>, <https://web.archive.org/web/20220105064031/https://www.nerc.gov.ua/monitoring-rinku-elektrichnoyi-energiyi/monitoring-funkcionuvannya-optovogo-rinku-elektrichnoyi-energiyi>, <https://web.archive.org/web/20220105064013/http://www.nerc.gov.ua/monitoring-rinku-prirodnogo-gazu/rezultati-monitoringu-rinku-prirodnogo-gazu>

⁵⁴ <https://web.archive.org/web/20220121003341/https://ua.energy/peredacha-i-dyspetcheryzatsiya/dyspetcherska-informatsiya/elektrospozhyvannya/#>

⁵⁵ <https://web.archive.org/web/20220123231910/https://ua.energy/peredacha-i-dyspetcheryzatsiya/dyspetcherska-informatsiya/peretoky/#1547799203785-86e2a4ca-17eb>

⁵⁶ <https://web.archive.org/web/20220412011720/https://prozvit.com.ua/balance-finance/>

⁵⁷ <https://www.facebook.com/UkraineOpenUp/videos/332001272235300/>

⁵⁸ <https://biz.nv.ua/ukr/experts/yak-prihovani-cherez-vyynu-energetichni-dani-shkodvat-ukrajini>, <https://youcontrol.com.ua/data-research/youcontrol-pro-zakryti-publichni-reiestry/t>, https://lb.ua/blog/bleksandr_salizhenko/533930_viyna_i_vidkriti_dani_de_mezha_mizh.html, <https://www.epravda.com.ua/publications/2022/09/21/691717/>

⁵⁹ <https://ua.energy/static/all.csv>

classification of “sensitive” information and resumed updating some market data on its website⁶⁰.

The NEURC, unable to release the full version of the Annual Report, published its shortened version – the so-called Bulletin to the Annual Report for 2021⁶¹. The Bulletin covers only a portion of the information, presented in a generalized form, about NEURC’s activities and changes in the energy and utilities sectors. While it lacks complete information, the document serves as a useful resource for experts and the public. The Regulator also published an analytical report⁶² on the quality indicators of services in electricity supply, centralized supply of water and sewerage, along with the report⁶³ reviewing the actions and decisions taken by the NEURC to manage and stabilize the situation in the energy sector during martial law.

The State Statistics Service informed⁶⁴ that a significant portion of the information will be released after the deadline for the submission of statistical and financial reports, namely, within three months after the lift of martial law. Another attempt to publish the data⁶⁵, albeit with a significant delay, was made by the State Customs Service⁶⁶. Hence, the customs data for March 2022, for instance, was published 4 months later, in August.

On 1 August 2022, the Ministry of Digital Transformation resumed the operation of the Open Data Portal, which had been shut down since the beginning of the Russian invasion. However, some data was removed from public access. According to the Ministry of Digital Transformation⁶⁷, there are 3,176 datasets. Three-quarters were removed from all the data on the energy sector published on the Portal and used by Energy Map analysts. The Ministry explained⁶⁸ that an analysis of

the published datasets had been conducted, which temporarily removed information that might threaten national security. However, no studies or analyses were made publicly available, causing an adverse reaction from the public.

Moreover, the Ministry of Digital Transformation initiated a public discourse⁶⁹ on the amendments to the open data legislation (CMU Resolutions No. 835 of October 21, 2015 and No. 867 of October 30, 2016). It proposed permitting data owners to deviate from the principles of data transparency and accessibility under exceptional circumstances, such as a state of emergency and/or martial law. This implies the allowance of a partial or complete termination of access to published datasets in a «manual mode». A provisional version of the amendments was presented in December 2022. As of January 2023, the final version of the amendments has not been approved.

5. A generalized approach to restoring data publication

Upon analyzing the facts and circumstances described in the sections of this study, it can be concluded that there are no clearly defined requirements either at the legislative level or at the decision-making level of the responsible authorities that limit access to information during martial law⁷⁰. Consequently, data owners often engage in unreasonable and arguably unnecessary data access restrictions. The following assessment of the risks associated with data publication may serve as a foundation for formulating regulations that would effectively manage this issue.

⁶⁰ https://ua.energy/uchasnikam_rinku/rezultaty-balansuyuchogo-rynku-2/#1590479495940-174989ce-bac9

⁶¹ <https://www.nerc.gov.ua/dlya-gromadskosti/byuleten-do-richnogo-zvitu-nkrekp>

⁶² https://www.nerc.gov.ua/storage/app/sites/1/Docs/Sfery_ElektroEnergiia/Monitoring_elektrto/Zvit_pokaznyky_yakosti-poslug_1kv_2022.pdf

⁶³ <https://www.nerc.gov.ua/news/nkrekp-prezentovala-pidsumok-roboti-za-riik-vijni>

⁶⁴ <https://ukrstat.gov.ua/Noviny/new2020/zmist/novini/povidoml.htm>

⁶⁵ The completeness of the published information was not verified.

⁶⁶ <https://bi.customs.gov.ua/en/trade/customs-value>

⁶⁷ https://openup.org.ua/2022/10/04/closed-data/?fbclid=IwAR38jMwcmn4CW4r5MOCHif4xYGqOyf_9VLRImMXG9eppHnGKgr16zfO-DVM

⁶⁸ <https://t.me/mintsvfra/3282>

⁶⁹ https://thedigital.gov.ua/regulations/povidomlennya-pro-provedennya-publichnogo-gromadskogo-obgovorennya-proyektu-postanovi-kabinetu-ministriv-ukrayini-pro-vnesennya-zmin-do-postanov-kabinetu-ministriv-ukrayini-vid-21-zhovtnya-2015-r-835-ta-vid-30-listopada-2016-r-867?fbclid=IwARIZkyBeKb4NiMcdgPCVnIBHJF5U66jY6JG99hxFGtSrsZ2B3rwlkxc_pyl

⁷⁰ The types of restricted information regulated by law (confidential, secret and proprietary) were also used in peacetime.

The proposed methodology can be used to assess the risks of disclosing data, specifically data access which was restricted during martial law, based on a number of its *general characteristics* (see Table 1):

1. *Time aggregation.* Data is assessed by its time granularity, with the following data types distinguished: annual, semi-annual, quarterly, monthly, ten-day, weekly, daily, hourly, and one of other frequency (in case of data changes). Our analysis identified hourly, daily, weekly, and ten-day data as potentially posing risks of publication.
2. *Geographical aggregation.* Data is assessed concerning its «subject» or «object» disaggregation. This attribute can classify data into several categories, including national, regional, and business entity/infrastructure facility-level data. Data that pertains to a specific subject or object has been identified

as posing risks for publication. Additionally, in some instances, information at the regional level can be deemed 'risky' depending on other data characteristics.

3. *Speed of publication.* This characteristic describes how quickly, once generated, the data is published, precisely the time interval between the date of publication and the date of the relevance of the data. The following groups (in calendar days) can be distinguished within the characteristic: 0-1, 2-14, 15-30, 31-89, 90+.

Table 1: General characteristics by which the datasets were assessed

Name of the characteristic	Data types according to the characteristic	Risk of data disclosure
Time aggregation	Annual	Do not pose a risk upon disclosure since this level of aggregation provides an understanding of general trends but excludes the possibility of tracking and identifying changes in a specific period of time and/or assessing the impact of local actions.
	Semi-annual	
	Quarterly	
	Monthly	
	In case of changes	The decision is made separately for each dataset, depending on its content.
	Ten-day	High risk upon disclosure. The level of aggregation does not preclude the possibility of tracking and identifying changes in a particular period of time and cause-effect relations.
	Weekly	
	Daily	
	Hourly	
Geographic aggregation	At the country level	Low disclosure risk. The level of aggregation provides an understanding of general trends but excludes the possibility of tracking and identifying changes in a particular area.
	At the regional level	There may be a disclosure risk if the indicator relates to the regions of hostilities or if the indicator can be attributed to an object in the region (the only one or one of the few). In other cases, the risk of publication is low.
	At the subject/object level	High disclosure risk. The level of aggregation makes it possible to identify the critical infrastructure facility or business entity that owns/manages it.
Speed of publication (days after the reporting period)	0-1	High disclosure risk. Prompt publication allows tracking and identifying changes in a particular time period and establishing causal relationships.
	2-14	
	15-30	Medium disclosure risk.
	31-89	Low disclosure risk. Delayed publication eliminates the possibility of tracking and identifying changes in a specific time frame and/or assessing the impact of localized actions.
	90+	

At the same time, the final assessment and relevant recommendations may be influenced not only by the characteristics mentioned above but also by the content of the data, that is, the phenomena and events it encapsulates. The methodology introduces

the content characteristics list to consider such features of the information assessed. If any of those characteristics are found in the data, the data is considered «risky» by default (see Table 2), regardless of its general features.

Table 2. Content characteristics that signal risks from data disclosure

Characteristic	Description
Geographical information	Includes administrative and territorial information, geographical coordinates (latitude and longitude), postal address, postal code, and other codes that can be used to locate a critical infrastructure facility or the business entity that owns/manages it.
Identification information	Includes information on the identification number (USREOU, Individual Tax Number, EIC, identification numbers in state registers), name, telephone number, and email address that can identify the critical infrastructure facility or the business entity that owns/manages it.
Information about repair campaigns	Includes information on the locations of scheduled repairs and restoration works or mentions of such works happening in real time.
Information on events that led to a disruption of the power system or its separate parts	Includes detailed information on emergencies or other situations that led to disruptions in the reliable and safe operation of the power systems, including individual power facilities.
Information with an indirect impact	Indicators that disclose additional information and enable assumptions to be made about the critical infrastructure facility. These include coal extraction by grade, uranium extraction, processing, and trade.

The opposite is also possible when, regardless of the general characteristics of the data, its specific features make them «safe» to publish by definition (see Table 3). Such content characteristics are:

- 1. The full dataset can be obtained from other open or alternative sources.** The characteristic applies when data can be procured from sources such as the publication of information by other governmental, municipal, or international bodies and organizations. The characteristic is also present if the data is provided to specific entities (market participants) or if one can obtain access to it, albeit with certain obstacles (the need to fill out an authorization form, or make a payment) that do not prevent the leakage of information, but limit the possibilities of its use.

Clarification: sporadic disclosures by public officials and executives of relevant companies

that do not allow for a complete reproduction of statistical observation (with a regular frequency and comparable indicators) do not fall under this characteristic.

- 2. Data of similar nature is published in the related energy sector.** This characteristic is applied when the data is made public in one energy sector (for instance, gas), while analogous information in a related sector (like electricity) remains inaccessible.
- 3. Data that does not pose security risks, regardless of its level of detail and frequency of updates.** Such data includes environmental information (access to which cannot be restricted under national and international law), information on prices and tariffs (as such information does not contain risks and its disclosure is important for normal functioning of energy sector companies), as well as status of payments, financial performance of companies and quality of service provision.

Table 3. Content characteristics that signal the absence of risks from data disclosure

Characteristic	Description
The full dataset can be obtained from other open or alternative sources	<ul style="list-style-type: none"> – publication of data in free access on the pages of other state or municipal authorities, international or foreign organizations; – providing access to data to a limited number of persons (e.g., market participants); – providing conditional access to the data (e.g., upon completion of a request/authorization form, for a fee).
Data of similar nature is published in a related energy sector	Similar data from other market participants in related energy sectors is published, with no observed detrimental impacts on the industry due to its publication. For example, data on trading in DAM/IDM is available, while similar data on gas market balancing is closed.
Data that does not pose security risks, regardless of its level of detail and frequency of updates	<ul style="list-style-type: none"> – environmental information; – information on tariffs and prices; – financial statements; – information on the status of payments and the quality of services provided to consumers.

Drawing upon the evaluation of the data based on the above characteristics, three typical conclusions are provided (see Table 4): «Publish without changes», «Do not publish» and «Publish with changes». The implications of the first two conclusions are self-explanatory, while «Publish with changes» necessitates further specification, offering additional recommendations (see Table 5) that outline the required changes. These recommendations fall into two categories:

1. Pertaining to the data structure. Recommendations may include the enlargement of time frame and/or geographic data aggregation. For example, this can involve reducing the specificity of data from a daily to a monthly basis or changing its scope from regional to national. In some instances, removing specific indicators from the data set may be advisable.
2. Pertaining to the publication method. There are two possible recommendations within this category. «Publish with a delay» means decreasing the «Data publication speed» characteristic by certain days/months. «Change the update frequency» is a recommendation for a less frequent update schedule for public datasets. Such a recommendation does not involve changing the frequency or timing of data collection but rather how often this data is made public. Data may remain being collected daily, and datasets may reflect daily changes in specific indicators, but rather than publishing these daily

changes as they happen, it is suggested that all the compiled data is published collectively once a month.

Data that continues to be updated and made publicly available throughout the martial law, or data that has had its updates and publication resumed at least once post 24.02.2022, is denoted as «Data is published».

Table 4. Assessment conclusions

Conclusion	Description of the conclusion/recommendation
Publish without changes	The method of publication and the data structure should be left unchanged, as no risks of publication have been identified.
Publish with changes	The disclosure method and the data structure should be adjusted in accordance with the suggested recommendations to alleviate risks associated with publication.
Do not publish	Neither alterations to the data structure nor modifications to its publication procedure will entirely eradicate the risks associated with its publication.
<i>Data is published</i>	<i>Data continues to be updated and made publicly available throughout the entire period of martial law. This also includes data that has been updated and made public at least once after 24.02.2022.</i>

Table 5. Detailed recommendations for the conclusion «Publish with changes»

Type of recommendation	Recommendation	Description of the recommendation
Changing the data structure	Enlarge the time frame of the aggregation	It recommends adjusting the time frame of the data aggregation to a level or several levels greater than one of its original publication. For example, instead of publishing data aggregated on an hourly basis, it is advisable to aggregate to a monthly basis.
	Enlarge the scope of geographic aggregation	It involves increasing the scope of the geographical dimension to one of a level or several levels higher than the one at which the data was originally published. For example, instead of publishing data by generation facility, it is advisable to aggregate to the level of a region or country.
	Exclude indicator(s)	Recommendation to exclude the indicator(s) that allow indirect identification of critical infrastructure facilities or business entities that own/manage such infrastructure.
Changing the way of publishing	Publish with a delay	Recommendation to publish the data with a delay, which reduces the relevance of the data. For example, certain statistics collected in May can be published in July.
	Change the update frequency	This recommendation proposes a less frequent update schedule for the public data than currently practiced to mitigate potential risks associated with publication. This recommendation does not affect the time frame of the data aggregation — the frequency or timing of data collection (i.e. data continues to be collected daily), but public datasets are updated less often (i.e. all the data that had been collected daily is compiled and published collectively once a month).

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