

Submission on a proposed Data Act for the European Union from the perspective of open energy system analysis

Second round of consultation

European Commission public consultation closing 3 September 2021

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This statement relates to the proposed Data Act being undertaken by the Data Policy and Innovation Unit G.1 of the European Commission Directorate-General CNECT. Submissions close on 3 September 2021. The underpinning consultation document is [European Commission \(2021\)](#). See the Commission [website](#) for more details.

This submission should be read in conjunction with an earlier collective submission dated 25 June 2021 ([Morrison 2021a](#)) and available from Zenodo at [10.5281/zenodo.5032198](https://zenodo.org/record/5032198).



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1 Introduction

As noted on the cover, this submission builds on an earlier submission ([Morrison 2021a](#)). It is nonetheless issued under the name of just one author because resource constraints meant that processing this second submission through the open energy modelling community was unfortunately not feasible.¹

The purpose of this second submission is to draw out several themes — some present in the original submission and some not — relative to new material that has come to light.

[European Parliament \(2021\)](#) provides an updated context for the consultation process and offers URLs for further background.

2 Themes

This submission expands on the following four themes:

- the Commission needs to decide whether the **public interest** is best served by treating non-personal energy system data² in general as a private or club good or as a public good — this applies particularly to **historical information pertaining to market clearance**
- the legal status of **datasets and databases under joint authorship** needs clarifying
- **open and freely reusable data**³ would arguably benefit from **explicit statutory support**
- **complexity** is rapidly increasing within both the **energy sector and information domains** and any new legislation needs to reflect and address these two overlapping and interlinked areas

The request for explicit statutory support for open data is new to this submission.

2.1 Market clearance information

United Kingdom electricity market operator Elexon has been experimenting with public API access for researchers and related parties ([Bourn 2021](#)). In contrast, the European Energy Exchange (EEX) provides only the most minimal service. Even for material mandated under public disclosure, the EEX serves pages which disallow text selection and otherwise make data recovery difficult — which suggests that the EEX actively seeks to hinder numerical reclamation on the client side.^{4,5} The EEX website terms-of-use [disclaimer](#) also expressly forbid the copying or storing of content except in the most minimal of circumstances and which thus precludes all forms of reasonable public interest usage — indeed these legal restrictions are hard to square with the notion of public disclosure. One energy system analyst from our community approached the regulator on this matter in July 2021. The REMIT Team at the Agency for the Cooperation of Energy Regulators (ACER) assures our community that these current practices by the EEX fulfils the statutory obligations incumbent on the EEX.⁶ That may be so but the reporting as it stands is of virtually no use to energy system analysts.

As indicated above, the European Commission needs to decide whether energy system data of this type — such as historical market clearance information — should be viewed primarily as a private or club good

¹ Release 01 was however briefly circulated on the community mailing list for comments and corrections under the following public posting: <https://groups.google.com/g/openmod-initiative/c/tn7rOaRvNWk>. Three responses were received.

² This submission and our earlier submission cover only non-personal data that has been or can be legitimately made public. For modelling purposes, personal data needs only be representative and therefore never traceable to individuals.

³ Open data as per recital 16 in the Open Data Directive ([European Commission 2019:58](#)). Open data is freely reusable.

⁴ This issue was also described in our first submission in detail, see paragraphs 27–29 on page 8 ([Morrison 2021a](#)).

⁵ Text selection blocks can be implemented using CSS or JavaScript ([Anon 2018](#)).

⁶ As recorded in an email exchange in mid-July 2021. Copies of that traffic are available on request.

or as a public good. This submission argues for the latter. Indeed, it is next to impossible to imagine how energy system modellers can undertake satisfactory research without vastly better access to this kind of information. In which case, it would be very much better if such material were provided as genuinely open data (as defined earlier) by default and ideally licensed as Creative Commons CC-BY-4.0 (presuming current copyright legislation remains as is).

If improved public access to energy market clearance information is deemed useful, then the technical measures currently being developed by Elexon should be reviewed by the Commission.

2.2 Datasets under joint authorship

[Chestek \(2017\)](#) examines the legal status of open source codebases under multiple authorship in relation to United States law. And finds that the underpinning legal doctrines, although widely held to be true, have never been more than trivially tested in court. Exactly the same could be said for datasets under community curation within Europe. New data legislation therefore represents an excellent opportunity to clarify the legal principles pertaining to joint authorship and place these on a more secure legislative footing. Moreover, the legislative drafting needs to carefully examine the way in which data is actually collected and curated in practice.

2.3 Statutory support for open data

To the author's knowledge, there is no case law within the Europe Union on open data *per se*. But there are several instances of alleged open source license violations being litigated under a variety of national and Union laws. One very recent example involves a dispute between software developer Entr'Oouvert and Orange Business Service (previously part of France Telecom) ([The HFT Guy 2021](#)).⁷ The details of that litigation are not material here — what is of note is how poorly resolved the legal context for open source software is. And for open data by extension. Indeed national jurisdictions within Europe treat open licenses — be they for code or data — as operating variously under intellectual property law, law pertaining to civil wrongs, contract law, or even criminal law.

This submission argues that open data should be accorded explicit statutory support and not be reliant solely on third-party license texts like the Creative Commons CC-BY-4.0 license. One adverse judgement against the legitimacy of CC-BY-4.0 and the whole basis for much of the open data currently present in Europe would collapse overnight.

And although it would be unusual for legislation to be drafted around, or even mention by name, a specific third-party instrument (beyond recognised formal standards and norms). But given the widespread use of CC-BY-4.0 on [semantic triples](#), datasets, and databases, such legislative treatment may well be warranted.

2.4 Confronting complexity

Several recent publications indicate the increasingly complex nature of energy systems and energy system analysis and of the general transition toward semantic data and knowledge graphs.

[Le Page \(2021\)](#) explains how radically different our energy systems will need to be going forward to achieve net-zero by 2050. [acatech](#), [Leopoldina](#), [Akademienunion \(2021:12,56\)](#), along with other analysts, predict that near-term energy systems will evolve rapidly to become information rich and with a level of explicit coordination (“orchestration” might be a better term) not previously seen. This process is often tagged “digitalization”.

[Hitzler \(2021\)](#) reviews semantic data and semantic web constructs. Intellectual property law was never designed to cope with information embedded in expansive graph-based architectures under multiple authorship and built from highly diverse materials. New data legislation therefore offers a unique opportunity

⁷ The author is currently seeking academic or professional materials that review this series of cases.

to view intellectual property law through the prism of semantic data arising from multiple sources and numerous contributors. That should include how 96/9/EC database protection might apply and potentially inhibit these developments. Moreover numerical data, unlike literary works, can be subject to calculation and algorithmic processing more generally and the legal consequences of doing so remain unexplored.⁸

Returning to energy systems, [acatech](#), [Leopoldina](#), [Akademienunion](#) (2021:20) cover the convergence between these two realms:

Information and communication technology (ICT) is being used to increase connectivity throughout every part of the energy supply system.

And later expand on these ideas (page 56):

The onward march of digitalisation and the accompanying transformation of the energy system shows no sign of abating. Digitalisation is key to managing the changes in the electric power system caused by fluctuations in the power fed into the grid by wind and solar systems, decentralised generating structures, electric mobility and new market actors. At the same time, however, it increases the system's complexity by enabling the emergence of new actors who can affect the system's security, including actors from outside of the system. It also leads to new vulnerabilities and interdependencies between the electricity and ICT systems.

An example of the increasing information complexity of energy systems are recent numerical studies investigating highly-distributed as opposed to centrally provided stability reserves ([Deakin et al 2021](#)). Such exercises naturally require large amounts of high-resolution data.

To conclude, these new energy systems also need representative systems modelling as well as operational implementations. Systems models enable potential options to be explored in broad brushstrokes, their attributes duly quantified, and their public interests and impacts estimated. Questions surrounding data availability and reusability in this context remains paramount.

The current use of the Creative Commons CC-BY-4.0 license for numerical and semantic data is clearly second best to implementing dedicated legislation that explicitly traverses open data. That point was covered more substantially in the previous section 2.3.

3 Discussion

This submission admittedly raises more questions than it answers — essentially because the issues and their contexts are becoming progressively more difficult and increasingly intertwined.

Nonetheless, most of the issues raised are probably best addressed through legislative change in the first instance.

Indeed, mandating that material provided under public disclosure be open licensed by default would seem an entirely reasonable response.

It is also salient to reflect that the transition to net-zero (or net-negative) energy systems in three short decades will be severely hampered without vastly better information provision than that which now exists. Yet that implied criticism, if you like, is double-edged. On one side, operators and producers will need to be far more forthcoming with reusable information. And on the other side, energy system analysts will

⁸ These kind of issues are considerably more problematic under English law which supports a sweat-of-the-brow threshold for copyright protection. With Brexit, such considerations are no longer relevant for the Commission of course. Conversely, United States copyright law effectively provides no intellectual property protection for datasets and databases. Notwithstanding, civil torts like misappropriation and misrepresentation naturally still apply.

need to work hard on matters requiring consensus and buy-in. The open energy modelling community is clearly well placed to contribute to those efforts and will doubtless continue to do so.⁹

Also to reinforce how debilitating it is to not have ready access to important public-interest datasets published openly. And given current legislation, that essentially means under CC-BY-4.0 licensing.

Notwithstanding, explicit statutory support for open data would be considerably more preferable than having to rely on license texts drafted by third parties, more often than not based in the United States, and operating under unclear, indifferent, markedly varied, and possibly hostile jurisdiction-specific national legislation within the European Union.

Finally, I believe I can safely say that the open energy modelling community would be more than happy to help the Commission work through some of these questions in relation to energy system analysis and also provide additional information and background on request.

Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
API	application programming interface
CSS	cascading style sheets, a language for defining the way web pages are presented
EEX	European Energy Exchange
REMIT	Regulation on Wholesale Energy Market Integrity and Transparency

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⁹ On that matter, [Boehm and Eisape \(2021\)](#) view the role of informal bodies in relation to standards setting quite favourably.

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□