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## Open letter to the International Energy Agency and its member countries: please remove paywalls from global energy data

November 2021 To whom it may concern

We the undersigned ask that the **International Energy Agency** (IEA) makes the datasets it receives and collates from its member countries available under suitable open licensing so that this information can be freely used and re-used. Such status would enable both independent energy system analysts and the interested public to investigate and better understand future net-zero or lightly net-negative energy systems. We will also address this same request to IEA member countries in the hope that they may be able to influence IEA policies on this particular matter.

We the undersigned are **energy system analysts** and many of us actively participate in the Open Energy Modelling Initiative (openmod) community. Notwithstanding, we sign here simply as individuals.

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We note that paragraph 1 of the [currently draft] **2021 UNFCCC COP26 Agreement** (Harvey 2021) reads that the agreement: “Recognizes the importance of the best available science for effective climate action and policymaking”. That must mean that key policy-relevant national energy statistics should neither reside behind paywalls nor remain legally encumbered regarding their use and re-use.

We note that paragraph 15.2 of the **1966 UN ICESCR Covenant** or International Covenant on Economic, Social and Cultural Rights reads: “The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right [to science and culture] shall include those necessary for the conservation, the development and the diffusion of science and culture.” That must mean that member countries contributing data to the IEA have an obligation under international law to also provide those same national energy statistics to energy system analysts and the interested public for independent research and analysis.

We concur with the recent evaluation by **Max Roser and Hannah Ritchie** (2021), both from Oxford University, on the current status of IEA information. And we wish to stress that the current situation is highly detrimental to our work to investigate rapid decarbonization pathways for energy systems and their relative merits. On that exact theme, we would like to be able to replicate the results reported in the landmark IEA (2021) roadmap.

As indicated, some of the undersigned will also forward copies of this open letter to their respective governments in order to highlight the problem in that context.

Finally, we, as a community, are more than happy to liaise with the IEA on practical measures to help make this important information freely usable and re-usable (Hirth 2020, Morrison 2018). We have experience interacting with the European Commission, the ENTSO-E organization, market regulators, market operators, and energy companies in this context.

### Analysis and proposed solution

**Roser and Ritchie (2021)** have already well described the problems arising from the IEA putting their data behind paywalls. They also provide a simple solution: making the data publicly available, with member countries increasing their financial contributions to the IEA by a modest amount (estimate: 5-6 million USD) to make up for the foregone revenue from data licensing. We therefore present here just a brief summary of

the situation and proposed solution. The interested reader is kindly referred to the article published online (Roser & Ritchie, 2021).

Decades of research have shown that we as a global human society need to **transition to net-zero** - and ultimately net-negative - emissions quickly, in order to avoid the worst outcomes from a changing climate. The majority of anthropogenic emissions are related to energy conversion in one way or another. Besides climate change, energy conversion processes are also major contributors to other types of environmental and human health problems, including local air pollution.

**High-quality data** are required to create effective and efficient transition pathways towards a net-zero society. These transition pathways rely on a thorough analysis and accurate modeling of current systems, such as energy systems. The quality of these analysis and modeling efforts, however, are crucially determined by the data that describes these systems of interest.

High-quality datasets already exist: they are **published by the IEA**, but remain behind paywalls. Despite the IEA being a publicly funded institutions, researchers (and other interested parties) have to pay to access IEA data - often while working for a public institution (e.g. a public university) themselves. Paywalls are a major obstacle to accessing and sharing vital data on energy, transport and industry. This negatively affects the quality and quantity of research.

Ultimately, this lack of data availability will lead to net-zero transition pathways that are both **more costly and less effective** than they could be. It is also highly likely that the total amount of foregone revenue for the IEA, should they decide to stop licensing their data, is in no relation to the global cost of less-than-optimal transition pathways. Roser and Ritchie (2021) estimate that the IEA licensing fees amount to 5-6 million USD annually. The cost differences between various net-zero transition pathway scenarios are several orders of magnitude higher than that.

The **benefits of open data** extend beyond climate change mitigation efforts. The McKinsey Global Institute estimates that for the electricity, oil & gas, and transport sector alone, open data could create economic value of 1.3 to 2 trillion USD per year (Manyika et al. 2013). Open data leads to less duplication of research efforts - fewer resources would be wasted on recreating the paywalled IEA data with alternative methods. Open data reduces inequality, since currently researchers from rich countries and institutions are more likely to afford the purchase of IEA data. Credibility and replicability of research is enhanced: other researchers can verify or challenge studies based on open data. Finally, open data improves outreach and engagement by reducing barriers for journalists and the general public to access the data and understand its implications. It should therefore be in everyone's interest that the IEA data be open and freely accessible.

The **proposed solution** is twofold: the IEA should remove the paywalls to its datasets, while the member countries increase their financial contribution to the IEA to make up for the foregone revenue from data licensing. The IEA has an important role in the ongoing energy transition. It is clear that its operations require funding, and that revenue losses have to be compensated by other streams of income.

The members of the openmod community asks their respective governments to **increase their financial contribution** to the IEA. IEA member governments are asked to assess the potential funding gap from data licensing together with the IEA and to fill this gap by paying a higher membership fee. The resulting benefits, i.e. more cost-efficient net-zero transition pathways, are very likely to outweigh the costs.

Summing up: making all IEA datasets openly available would enable a **more rapid and less costly transition to net-zero** of our global energy systems, create additional economic value, increase the quality and quantity of research, and improve outreach and engagement with the general public. These results come at relatively low cost, which would be shared among IEA member countries.

“To tackle global problems, the world must create open data.” (Hannah Ritchie, 2021 Nature commentary)

## Standing

We signatories are part of an open energy modelling community and allied research communities and most of us participate in the Open Energy Modelling Initiative (see section 00). And while some of the material

in this open letter was discussed on Initiative forums, the views expressed here are solely those of the named signatories.

The Open Energy Modelling Initiative was established in September 2014 to promote open modeling and open data. Our online forums number approximately 900 for our mailing list and 800 for our discussion forum.

## References

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