

The gravity of status quo: A review of IEA's World Energy Outlook

*Klaus Mohn**

Executive summary

In November every year the International Energy Agency (IEA) release a new issue of their 800-page flagship publication World Energy Outlook (WEO; IEA, 2017a) at a packed press conference in London. Over the last 15 years, competent leadership, high ambitions, and fruitful promotion has gradually lifted the status of IEA's annual flagship publication WEO to a leading reference for governments, politicians, non-government organizations, business and industry. Today no global debate on energy and climate policies can escape the premises implied by the IEA's analyses (e.g., Van de Graaf, 2012; Heubaum and Bierman, 2015).

At the same time, IEA's WEO attracts increasing criticism from several camps. Interactions between energy and macroeconomic developments are generally overlooked, the approach to technology development seems to lag both recent research and real-world developments, and projections for new renewable energy in particular have suffered from a negative bias (e.g., Metayer et al, 2015).

Following a brief introduction to IEA's general methodology and overall modelling strategy, I explore the IEA's modelling approach and assumptions on three specific areas of the outlook. The first relates to IEA's treatment of the interaction between energy developments and general macroeconomic developments. I then take a closer look at IEA's approach to general and energy-specific technology developments, before IEA's approach and outlook for new renewable energy is scrutinized in closer detail.

With no variation in economic growth across scenarios, the IEA's WEO goes far in de-linking the energy sector from the macro economy. The implication is that ambitious climate policies have no impact on GDP. This modelling approach also means that historical patterns and cross-country variations in macroeconomic performance are reproduced in all scenarios. In other words, IEA's disregard of macroeconomic dynamics introduces a conservative predilection in the WEO.

An examination of IEA's approach to energy technology development also reveals a pattern whereby uncertainty is contained by the modelling strategy. For a given global budget of greenhouse gas emissions, IEA's optimism for CCS technology and energy efficiency improvement, and their downplay of rebound effects have the effect of maintaining a role for oil and natural gas in the global energy mix.

Evidence is also produced to suggest that IEA's World Energy Outlook has been too pessimistic on the development of wind power and solar energy. For the last 10-15 years, IEA's central scenario projections for new renewables have been consistently outpaced real-world developments. This under-estimation of the potential for new renewable energy resources is clearly also consistent with a protective attitude to petroleum and other fossil fuels.

* University of Stavanger Business School, 4035 Stavanger, e-mail: klaus.mohn@uis.no.

Executive summary of the article: Mohn, Klaus, 2017. The gravity of status quo: A review of IEA's World Energy Outlook. Journal Economics of Energy & Environmental Policy (EEEEP), Vol. XX XX.
<http://dx.doi.org/XXXXXXXXXX>

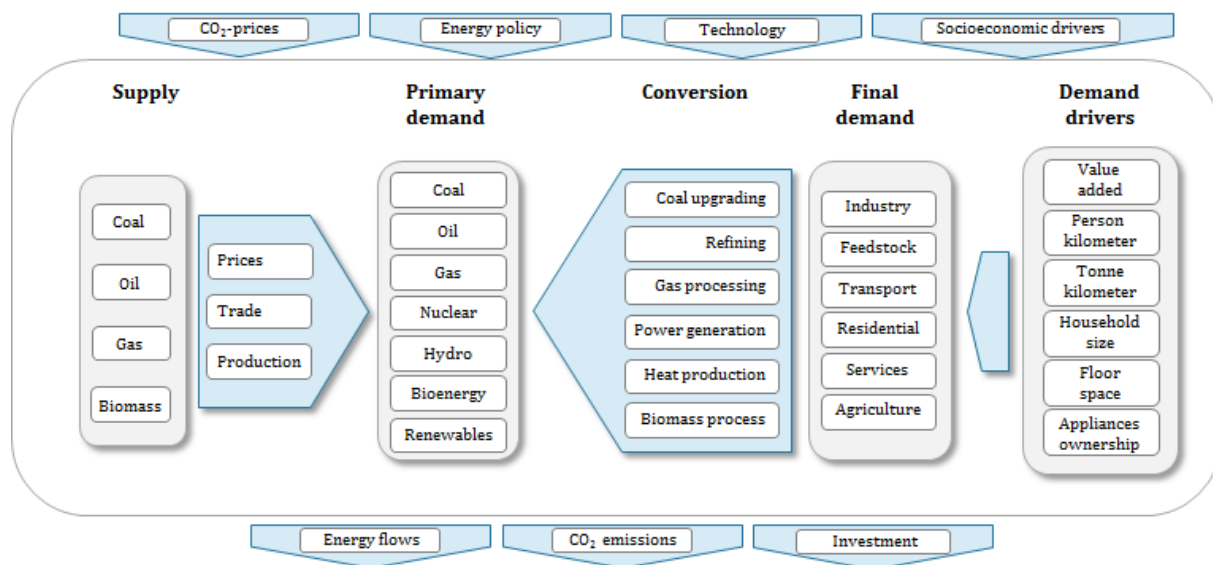


Figure 1: Overview of IEA's World Energy Model.

Source: IEA (2016b).

Based on a review of three areas of methodology and modelling approach, this review therefore leaves evidence of a status quo bias in favor of fossil fuels in IEA's WEO. The implied predilection could be accidental, arising from professional conservatism, long-term vintage capital formation, and/or high adjustment costs. At least as likely is the alternative that the status quo bias is a reflection of a more or less premeditated process, involving stakeholder interests, oil-prone governance systems, and close connections to the oil industry (Gaede and Meadowcroft, 2016). In its current status, the IEA's WEO should be regarded as a voice in the global energy and climate debate, reflecting stakeholder interests among member nations. Consequently, IEA's WEO should be taken with the same grain of salt as any other global energy outlook.

Unless IEA's WEO is unbiased, it can hardly provide balanced guidance to energy and climate policies. The IEA is therefore advised to improve the documentation of their modelling work, to invite academics to contribute to further development of their analyses, and also to allow peer reviews of the World Energy Model and their scenario design.

References

- Gaede, James, and James Meadowcroft (2016). A question of authenticity: Status quo bias and the International Energy Agency's World Energy Outlook. *Journal of Environmental Policy and Planning* 18 (5), 608-627.
- Heubaum, Harald and Frank Bierman (2015). Integrating global energy and climate governance. The changing role of the International Energy Agency. *Energy Policy* 87, 229-239.
- IEA (2016). World Energy Model. Documentation. Memo. International Energy Agency. Paris. (<http://www.worldenergyoutlook.org/weomodel>).
- IEA (2017). World Energy Outlook. International Energy Agency. Paris.
- Van de Graaf, Thijs (2012). Obsolete or resurgent? The International Energy Agency in a changing global landscape. *Energy Policy* 48, 233-241.