

Fact Check: IEA Climate Scenarios are not aligned with Paris Goals

Through initiatives such as the Taskforce on Climate-Related Financial Disclosures (TCFD) and the Climate Action 100+, investors are increasingly asking fossil fuel companies about how their strategy incorporates climate risk, and testing the robustness of portfolios across a range of climate-constrained scenarios.

Often, such stress-tests use the International Energy Agency's (IEA's) scenarios including the "Sustainable Development Scenario" (SDS). However, as this briefing shows the IEA scenarios—including the SDS—fall short of the Paris agreement goals and therefore don't actually answer the question investors are asking, namely: are companies prepared for a world that takes the Paris Agreement seriously?

Using the SDS may give a false sense of confidence of portfolios' robustness, or that the Paris goals can be met with limited change in investment practice. All five oil majors, and some coal companies, argue that they would fare well in the SDS, so do not need to change their current strategies, and face no risk of stranded assets. The SDS is not providing an effective stress test, nor a useful guide to how things may change.

To give shareholders more confidence in companies' climate risk analyses, investors should request the IEA adapt the SDS to:

- **Reflect the Paris Goals:** Align with the full ambition of the Paris goals: keeping warming *well below* 2°c and pursuing efforts to keep warming to 1.5° (not just aiming for 2°c).
- **Adopt precautionary assumptions on negative emissions technologies (NETs):** Avoid relying on large-scale NETs, whose future economic viability is unknown.

The IEA's Sustainable Development Scenario (SDS) is not aligned with the Paris goals

In a recent letter to governments from 288 major investors with \$26 trillion USD in assets under management, the accompanying policy brief outlines concerns "about the alignment of the IEA (International Energy Agency) climate change scenarios with the Paris Agreement goals."¹

In 2009, the IEA first published an alternative scenario in its flagship *World Energy Outlook* that would lead to a 50% chance of achieving government's then goal of keeping warming to 2°c: the "450 Scenario" (450S). This was a progressive step, and the first analysis of the detailed energy implications of climate goals. However, since 2009, climate science has indicated that even 2°c of warming should be considered dangerous.

The Paris Agreement set greater political ambition, to stay *well below* 2 °c and pursue efforts to keep warming to 1.5 °c. Unfortunately, the IEA did not update the ambition of its climate scenario to reflect the Paris goals. When it replaced the 450S with the new SDS in 2017, the SDS followed the same emissions pathway as the 450S (see graph).

Emissions under the SDS would exhaust the IPCC’s 1.5 °c carbon budget by 2023 and the 2 °c budget by 2040.²

capture and storage (CCS), which is a vital stepping stone towards NETs.

These scenarios rely on an average of over 10 gigatons a year of NETs used later in the century, which scientists estimate could require a land area up to twice the size of India, or nearly half the size of the world’s total crop-growing land.

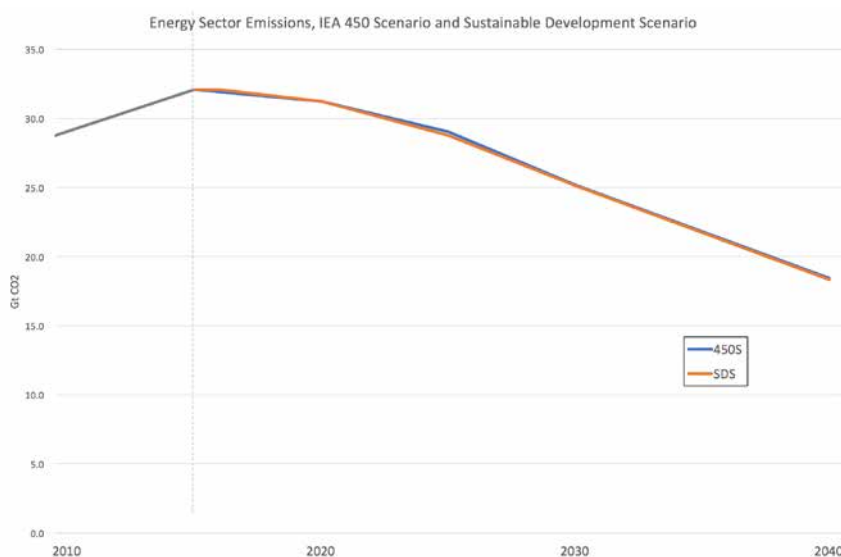
Investors might ask the IEA whether this assumed massive deployment of NETs is realistic. If not, then achievement of the Paris goals would require much faster reductions in emissions, and in fossil fuel usage. The IEA should make clear how fast and extensive reductions, in the absence of NETs, would need to be, in order to allow assessment of the full extent of transition risk.

IEA response 2: “We have other, more ambitious scenarios too”

While the best-known IEA climate scenario is the SDS (published annually in the *World Energy Outlook*), when questioned about its adequacy the IEA has sometimes referred to scenarios in other of its publications.

The IEA has two less well-known scenarios that aim for a 66% chance of keeping warming below 2°C: the “Beyond 2 Degrees” and “Faster Transition” Scenarios (B2DS and FTS). They are a step in the right direction, but they still cannot be considered fully aligned with the Paris Goals:

- Both scenarios refer only to 2 °c, ignoring the 1.5 °c goal.
- The B2DS makes even more optimistic assumptions than the SDS about CCS and NETs, again in spite of what the IEA observes in practice.
- The FTS masks some of the reductions needed to achieve the goals, by assuming that greater reductions will occur in non-energy emissions, and after the scenario period.



IEA response 1: “the SDS is consistent with IPCC Paris scenarios”

In response to concerns raised by investors and others, the IEA has argued that the SDS follows a similar path to many of the IPCC scenarios that lead to 1.7 to 1.8 °c of warming. Yet most of these scenarios rely on the introduction of negative emissions technologies (NETs) at a massive scale.

There is increasing controversy in the scientific community over models’ major reliance on these technologies, which remain untested in practice and represent a significant gamble. The IEA itself believes that the world is “far off track”³ from achieving needed progress in carbon

At best, the IEA can be said to reflect the least ambitious end of the Paris goals range, with the most optimistic set of assumptions about helpful technologies. When considering risk, it is not generally wise to rely on best-case assumptions.

The solution: ask the IEA for Paris-aligned scenarios

These problems are easily solved. The IEA is increasing its engagement with investors, who should make clear the information they need.

To help investors fully assess investment risks, the IEA should provide information on how energy systems would look if governments achieve the goals they agreed to in Paris, of keeping warming well below 2 °c and pursuing efforts for 1.5 °c. Two options for doing this would be:

- Adapt the SDS to reflect a high probability (say 80 or 90 percent) of maintaining warming below 2 °c; or
- Add an additional scenario aiming for 1.5 °c, to show the range of the Paris goals.

In either case, the IEA should:

- Adopt a precautionary assumption that NETs may not become available.

For more information:

Greg Muttitt,
Oil Change International,
greg@priceofoil.org

Charlie Kronick, (Greenpeace UK)
Charlie.kronick@greenpeace.org
+44 7801 212 963

Louise Rouse
louise@louiserouse.org
+44 7751 256 163

Endnotes

- 1 AIGCC, Ceres, CDP, IIGCC, IGCC, PRI and UNEP-FI, Briefing Paper on the 2018 Global Investor Statement to Governments on Climate Change, June 2018, <https://theinvestoragenda.org/wp-content/uploads/2018/05/GISGCC-briefing-paper-FINAL.pdf>
- 2 Oil Change International and Greenpeace, Off Track: IEA Briefing for Investors, April 2018, <http://priceofoil.org/2018/04/04/off-track-iea-briefing-for-investors/>
- 3 IEA, Tracking Clean Energy Progress - CCUS in Power, May 2018, <https://www.iea.org/tcep/power/ccs/>