

Poster Title: Understanding the Origin of Paris Agreement Emission Uncertainties

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Statement:

Taking stock and assessing progress towards the achievement of the Paris Agreement long-term mitigation goal requires information on many aspects related to current and future emissions. One of the key questions in this context is: what are the emissions levels implied by the NDCs in 2030? In a new study from the International Institute for Applied Systems Analysis we shed light on how the ambiguity in the NDC targets translates in a potential range of 47 to 63 gigatons of CO₂ equivalent emissions in 2030. That is a range of -10% to +20% around our median estimate of 52 gigatons. This means that global emissions in 2030 can be higher, equal or lower than today's level, while at the same time complying perfectly with the NDCs.

This begs the question: What drives this uncertainty range, and can something be done to reduce it?

We show that uncertainties in the socioeconomic baseline development of countries play the largest role, together with different methods of how energy is accounted for in renewable energy targets. We also identify four other drivers, which are discussed in our study. The overall uncertainty range can be reduced by about 10 percentage points through simple, technical clarifications of how renewable energy is accounted for in NDCs or about which historical emission inventory is used. Remaining uncertainties depend to a large extent on political choices about how NDCs are expressed, for example, climate actions expressed as intensity improvements. This allows socioeconomic developments to have an important influence on the emissions outcome. Because we cannot say precisely how the economy will develop over the coming decade and a half, these uncertainties appear to a large degree irreducible for as long as countries choose to express their actions in this way. Some uncertainties, like the conditions attached to particular NDC actions can be reduced by improving clarity of whether and when conditions are met. This can also be achieved by providing greater clarity about the future availability of funding and other types of support by developed countries. The wide range of irreducible uncertainties highlights that a thorough and robust process that keeps track of where emissions are heading today is of utmost importance.

This research is published in the scientific journal Nature Communications.