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CHANGE LOG FOR METHODOLOGY UNDERPINNING THE STATE OF CLIMATE ACTION SERIES: 2024 UPDATE

This change log provides an overview of updates that authors have made to the *Methodology Underpinning the State of Climate Action* Series technical note between November 2023 and October 2024.

1. **Inclusion of global, sectoral targets for 2035:** This updated technical note features new 1.5°C-aligned targets for 2035 derived from integrated assessment model-based pathways, bottom-up modelling studies that identify sector-specific mitigation road maps, and/or bottom-up assessments of technical and cost-effective mitigation potentials. We derived these 2035 targets following methods that were either identical or similar to those previously used to derive 2030 and 2050 targets. In this update, we added new 2035 targets for 16 indicators, bringing the total number of indicators with targets for this year to almost two-thirds of the 43 indicators presented in the *State of Climate Action* series. In future iterations of this technical note, we will publish 2035 targets for the full set of indicators tracked by this annual report.
2. **Clarification of methodologies used to derive targets:** Throughout this updated technical note, we refined the description of our methods to derive 1.5°C-aligned targets. More specifically, we added clarifying text and/or elaborated upon the summary of CAT (2023)'s methods for filtering integrated assessment model-based scenarios from the IPCC's *Sixth Assessment Report*, with a particular focus on clarifying how the authors applied filters for regional differentiation and reconciled analysis of these filtered scenarios with other lines of evidence to establish 1.5°C-aligned targets. In doing so, we also incorporated several new studies published between 2023 and 2024 (e.g., Deprez et al. 2024 and IFRS 2023) to further justify the methods we used.
3. **Addition of 1.5°C-aligned targets for the share of wind and solar in electricity generation:** We added an indicator that tracks progress toward 2030, 2035, and 2050 targets for the share of wind and solar in electricity generation, alongside our existing and broader indicator that tracks progress toward targets for the share of all zero-carbon sources in electricity generation (i.e., including wind, solar, hydropower, geothermal, nuclear, marine, and biomass technologies). While the 2030 and 2050 targets for the share of wind and solar in electricity generation were briefly mentioned in the *State of Climate Action 2023* report (Box 3), this technical note update presents these targets under a more formal indicator, given the significant role that variable renewables are expected to play in increasing the share of zero-carbon sources in electricity generation. We present the 2035 target for this new indicator for the first time in this installment of the technical note.
4. **Revision of three transport sector indicators, as well as their respective targets for 2030 and 2050:** To account for recent modelling from the IEA's Net Zero Roadmap Report (IEA 2023), we updated previously published 2030 and 2050 targets for three indicators in the transport sector, including the share of electric vehicles in two- and three-wheeler sales; the share of battery electric vehicles, plug-in hybrid electric vehicles, and fuel cell electric vehicles in bus sales; and the share of battery electric vehicles and fuel cell electric vehicles in medium- and heavy-duty commercial vehicle sales. For the first time, these targets include plug-in hybrid electric vehicles in addition to battery electric vehicles and fuel cell electric vehicles. Targets for 2035, which we derived from the same modelling, are also presented for the first time.
5. **Update of 2050 target for the share of zero-emissions fuels in maritime shipping fuel supply:** In the 2023 version of this methodology paper, we listed the 2050 target for the share of zero-emissions fuel in maritime shipping fuel supply indicator as 93%, as calculated by UMAS 2021. In this update, however, we revised the 2050 target to 100% in light of new analysis from Baresic et al. (2023). This recent study clarifies that Osterkamp et al. (2021), the original study from which our shipping targets were derived, assumes that the share of zero-emissions fuels in maritime shipping fuel supply reaches 93% by 2046 and 100% by 2050.
6. **Minor language revisions:** Throughout the technical note, we implemented a handful of non-substantive language revisions to improve clarity.

References

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