

## Methodology to estimate 2020 emissions based on EUTL data (1<sup>st</sup> April)

### Data source

Data were retrieved from the [EUTL portal](#) for each country on 2 April and a consolidated dataset was created for 2020 verified emissions. On 6 April, the European Commission published a [consolidated dataset](#). There is a discrepancy of around 7.9 mtCO<sub>2</sub> between Sandbag's and EC's dataset emissions for 2020, which is due to reported verified emissions that appeared on the EUTL portal but not in the dataset from the European Commission. Our analysis is based on our dataset.

### Identification of sectors

2020 data were merged with Sandbag's historical data for years 2013-2019, which use a different classification to data from the EUTL. For example, installations associated with the main activity "20 – Combustion" in the EUTL can be reported in the Power and heat or Iron and steel sectors in Sandbag's database. The process of identifying installations' sectors is done manually, based on the NACE code (when available) or external sources, on a case-by-case basis.

At the moment, not all installations have been categorised into Sandbag's sectors, and installations reported under the activity "20 – Combustion" in the EUTL are by default mapped to Sandbag's Combustion sector. Therefore, we currently overestimate emissions for Sandbag's Combustion sector, since in the future installations from this sector will be remapped to other sectors, and in particular to the Power and heat sector.

### Estimates for installations that did not report their emissions

We estimated emissions for 2020 for installations that fulfilled the following criteria: i) they did not report emissions in 2020; (ii) they were not excluded from the ETS in 2020 (flag "Excluded" in the EUTL); (iii) their status is "open"; (iv) the first year of emissions as indicated in the EUTL is earlier than 2021; (v) they reported emissions in 2019.

To estimate 2020 emissions, we first calculated the average growth for each sector between 2019 and 2020, excluding emissions from new installations in 2020. Installations are categorised as new if their status is "open" and their first year of emissions as indicated in the EUTL is 2020. A few "new" installations could be linked to existing installations based on their name, address and/or account holder. These installations were not considered as "new" and their emissions were included for the calculation of each sector's average growth.

Estimates for 2020 were calculated by applying the average growth to 2019 emissions, if available. We found some new installations that did not report their emissions, and the emissions of which could not be estimated (as they gave no data in 2019). We estimated that their overall emissions would equal 50 000 tCO<sub>2</sub>, based on information gathered online.

### Comparison with our initial forecast

On March 30, we published [our initial forecast](#) for 2020 emissions. We foresaw a drop of -55.5% for the Aviation sector, -14.3% for the Power and heat sector and -8.6% for the Industry sector. Emissions from the Aviation sector seemed to be lower than we expected (-5.7 mtCO<sub>2</sub> lower). Regarding stationary installations, our initial forecast is perfectly in line with our latest estimate, with a forecasted and estimated drop of -11.7% (with a difference of around 96 000 tCO<sub>2</sub> only). The differences between our forecast and our estimate for the Power and heat sector (-14.3% vs -15.6%) and Industry sector (-8.6% vs -7.0%) should diminish as some installations currently categorised under the Industry sector will be move unto the Power and heat sector (cf. section "Identification of sectors").