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Description

The goal of this project is to extend the temporal coverage of the CAMS-REG_ERF-COVID19 dataset developed under the CAMS_COP066 contract, from 01/08/2020 to 31/12/2020, and to include the effect of the second wave and the associated new round of lockdowns across the different European countries during the year 2020. The extension of the dataset will allow to estimate the overall impact of the COVID-19 restrictions on the 2020 European primary emissions for both criteria pollutants and greenhouse gases.

The computed daily, country- and sector-dependent reduction factors will serve as a product to be combined with the current CAMS_REG 2020 business-as-usual (BAU) emission inventory developed under CAMS_81 service. The reduction factors will be provided in a format that facilitates its combination with the CAMS_REG inventory, so that the combination of both products allows describing the most realistic 2020 emissions in Europe as well as providing a COVID-19 inventory, which can be later used for short-term forecast applications (CAMS_71) as well as a posteriori air-quality modelling runs (e.g. CAMS_61, CAMS_50). The emission reduction factors will be provided for the same source categories considered in CAMS_COP066: road transport (GNFR_F), aviation (GNFR_H), manufacturing industry (GNFR_B), power and heat plants (GNFR_A), residential and commercial combustion (GNFR_C), and shipping (GNFR_G).

Regarding this last sector, simplified reduction factors will be also proposed, although it is expected that an updated version of the current AIS-based CAMS-GLOB-SHIP emissions for the year 2020 is delivered during 2021 in the framework of the CAMS_81_ii service.

Besides the production of the aforementioned emission reduction factors and associated documentation, the present proposal will also deliver scientific content that will be used by ECMWF to develop communication material such as newsflashes and press releases. The content developed under this task will include an analysis and visuals of the results obtained from the development of the European COVID-19 emission reduction factors and its combination with the CAMS_REG emission inventory.

<https://atmosphere.copernicus.eu/copernicus-study-confirms-reductions-emissions-during-first-wave-covid-19-europe>

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