ECMWF/RFQ/2020/COP_066: Development of European emissions during the COVID-19 lockdown period

Description

At the time of writing of this proposal, most European countries have imposed lockdowns to combat the spread of the COVID-19 pandemic, which have forced many industries, businesses and transport networks to either close down or drastically reduce their activity. Such economic interruption, which is unprecedented in many ways, is resulting in a sudden drop of atmospheric anthropogenic emissions, including both criteria pollutants and greenhouse gases. The fall of pollutant levels across countries has already been identified by the Copernicus Atmosphere Monitoring Service (CAMS) through the analysis of air quality ground-based and satellite observations1. The use of observational datasets tounderstand the impact of the COVID-19 outbreak on pollution levels has also been in applied in recent studies (e.g. Bauwens et al., 2020; Petetin et al., 2020). While these analyses are capable of monitoring changes in pollutant concentrations at very high spatial and temporal resolution, the quantification of changes in primary emissions by country and pollutant sector remains uncertain.The goal of this contract is to provide time, sector and country dependent European emission reduction factors attributable to the on-going COVID-19 pandemic so that they can be used to quantify the reduction of European primary emissions for both criteria pollutants and greenhouse gases.

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