

Interactive comment on “The travel-related carbon dioxide emissions of atmospheric researchers” by A. Stohl

O. Tolonen-Kivimäki

outi.tolonen-kivimaki@fmi.fi

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A. Stohl has written an interesting article of air travel related carbon dioxide emissions. The location of Finland in Europe is similar to Norway. The same reasons that make scientists at the Norwegian Institute for Air Research (NILU) to travel apply for Finnish scientists too. We have calculated CO₂ emissions of employees of the Finnish Meteorological Institute (FMI) in 2007. According to our annual report there were 599 persons working at FMI in the end of year 2007. Scientists were 292. Calculated by the method of A. Stohl the employees of FMI have traveled 5.9 million km by plane. Carbon dioxide emissions caused by air travel were 1,2 tons per employee and 2,5 tons per scientists. So a FMI scientist flies about 40 per cent less than a NILU scientist.

Using various emission calculators available in the internet the resulting amount of CO₂

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emissions varies a lot. The large range in estimates of carbon dioxide emissions arise from different methods of calculation and assumptions e.g. on fuel consumption and seat occupancy rates. For example, the calculator of atmosfair.de takes account of water vapor emissions in high flying altitudes, thus leading to higher radiative forcing and emission measured as CO₂ equivalents. This method of calculation gives about similar size emissions for a FMI scientist as A. Stohl calculated for a NILU scientist. On the other hand, the emission calculator of Scandinavian airlines gives a result about a half of that.

For the reliable comparison of carbon dioxide emissions the calculation methods should be standardized. Also the registration of traveling should be developed so that the files would include the real route used, not only the destination.

Authors of comment: O.Tolonen-Kivimäki, H.Tuomenvirta and A.Laaksonen, Finnish Meteorological Institute.

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