

Supplementary information to ”Characteristics of particle emissions and their atmospheric dilution during co-combustion of coal and wood pellets in a large combined heat and power plant”, Mylläri et al.



Figure SI1 Helicopter flight coordinates at map showing flight paths and data points taken into account. Blue colour represents “FGD+FF on” situation whereas black colour represents “FGD+FF off” situation.

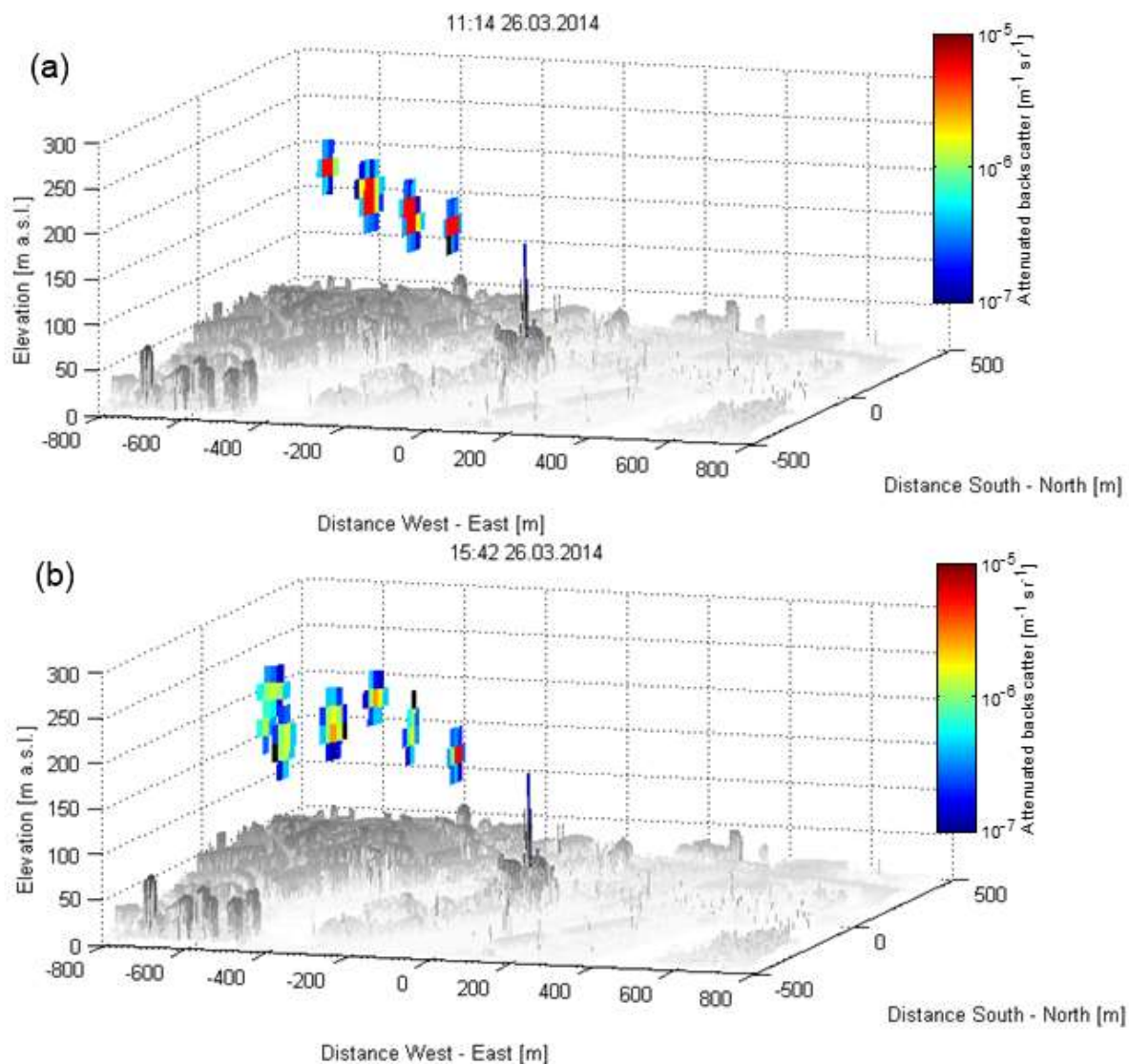


Figure SI2 Lidar data from the measurement day, the stack is in the middle. (a) has been measured during the “FGD+FF on” and (b) during “FGD+FF off”. The sea is on the right hand side. Colour represents the attenuated backscatter ($\text{m}^{-1} \text{s}^{-1}$)

Table SI1 CO_2 , SO_2 , NO_x , N_{tot} and dust concentrations in (mg Nm^{-3} or m^{-3}) reduced to 6% O_2

	<i>coal + 10.5 % pellet</i> <i>FGD+FF off</i>	<i>coal + 10.5 % pellet</i> <i>FGD+FF on</i>	<i>coal</i> <i>FGD+FF off</i>	<i>coal FGD+FF on</i>
CO_2 (mg Nm^{-3})	206 318	200 892	196 894	203 745
SO_2 (mg Nm^{-3})	727	170	701	159
NO_x (mg Nm^{-3})	347	346	341	348
O_2 (%)	6.0	6.0	6.0	6.0
$\text{N}_{>2.5\text{nm}}$ (m^{-3})	7.35×10^{11}	3.52×10^8	1.82×10^{13}	4.23×10^8
Dust (mg Nm^{-3})	109	5	190	4

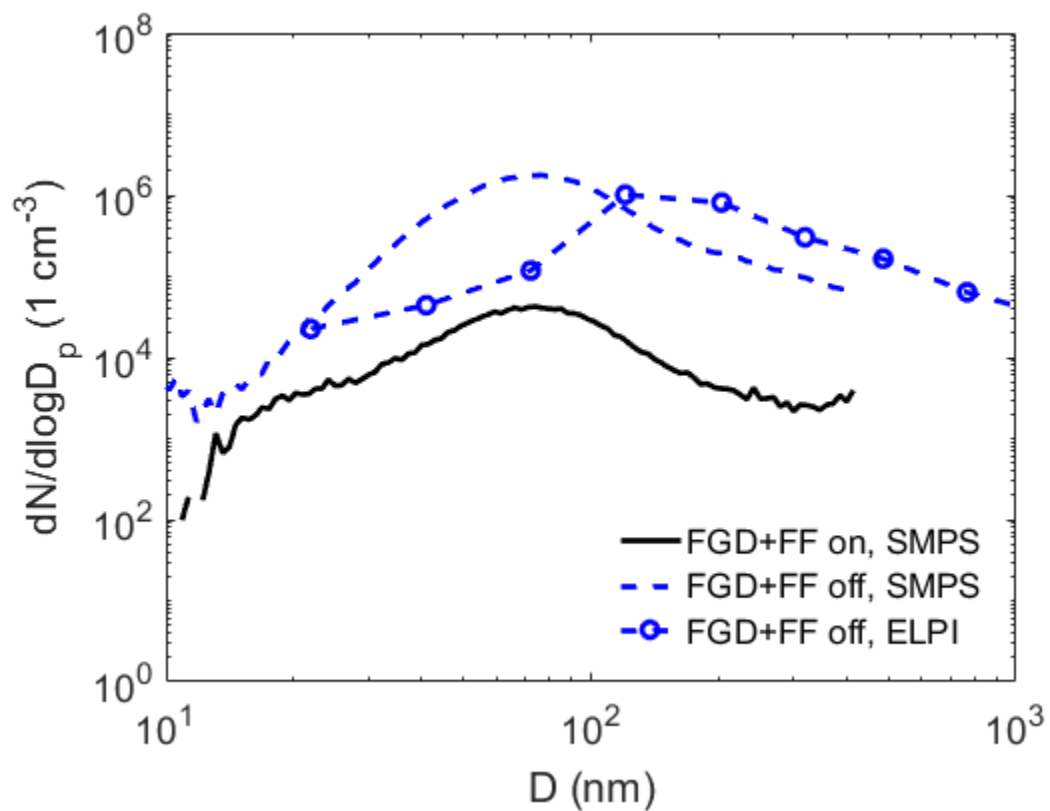


Figure SI3 Non-volatile particle number size distribution calculated based on both the SMPS and the ELPI instrument data for the mixture of coal and industrial pellets.

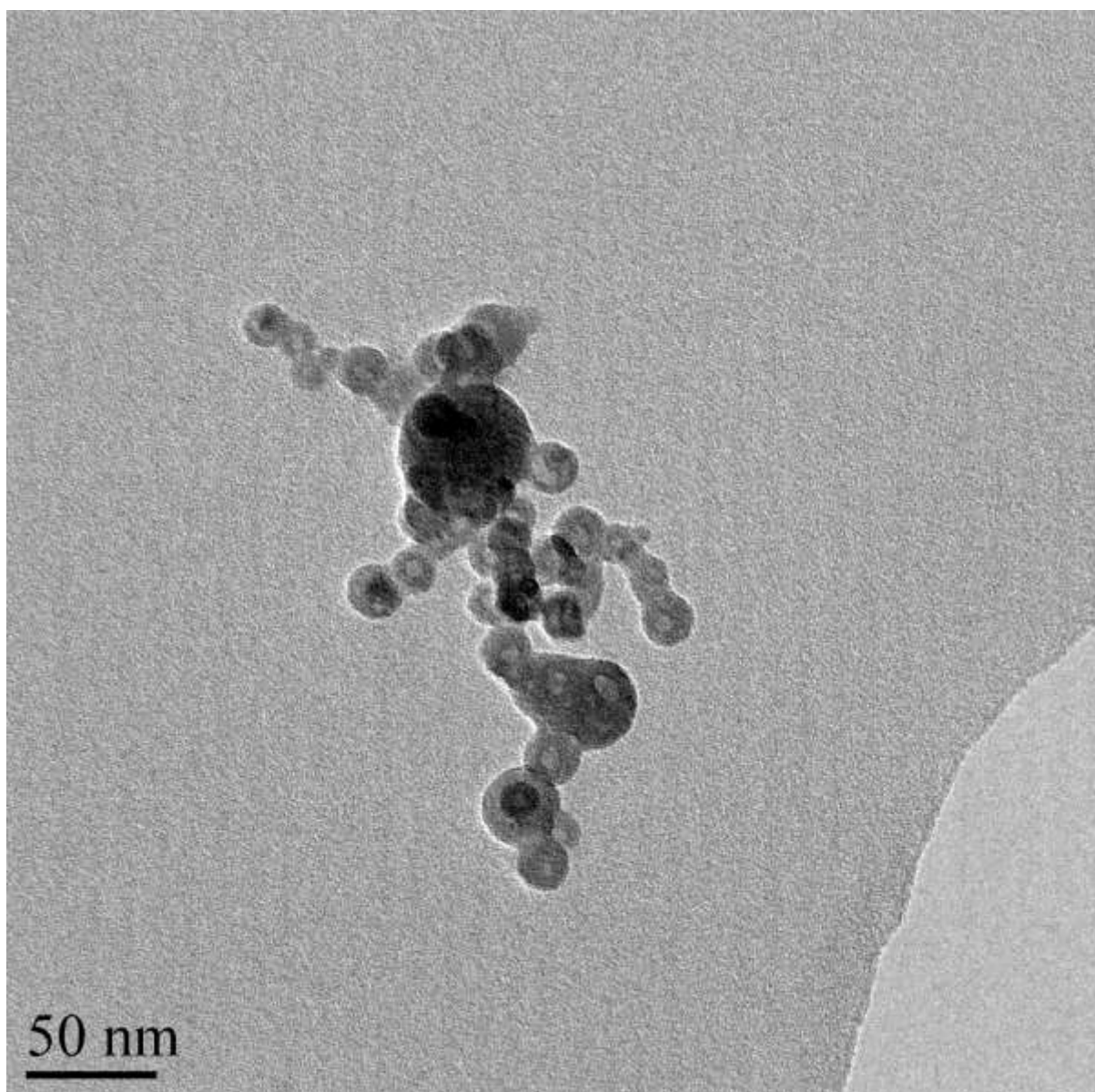


Figure SI4 Larger image of Figure 2 (c) (top row right side) primary particle agglomerate

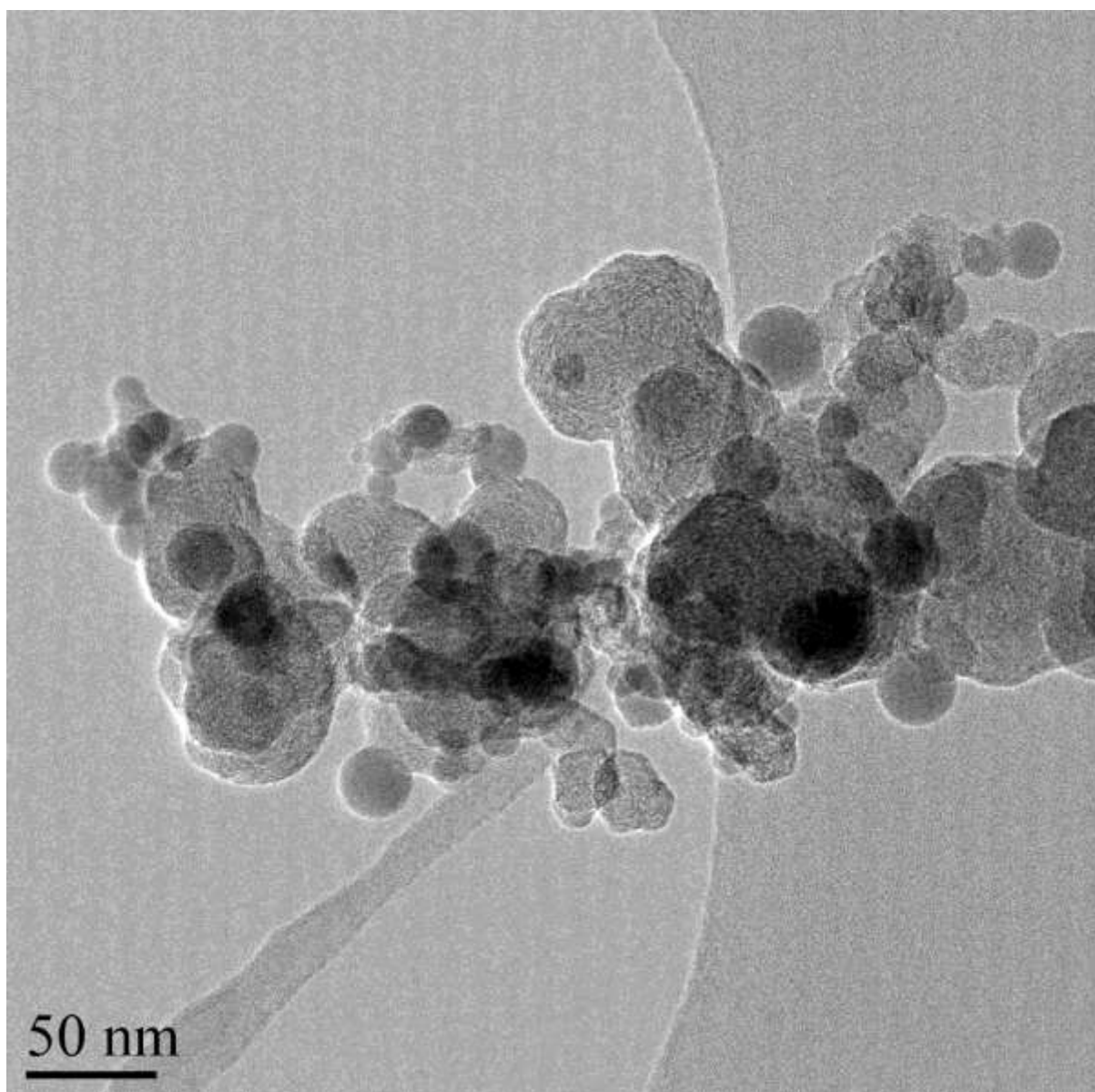


Figure SI5 Magnification of Figure 2 (c) (lower row left side) soot agglomerate