

Correspondence to: Yilong Wang (yilong.wang@lsce.ipsl.fr)

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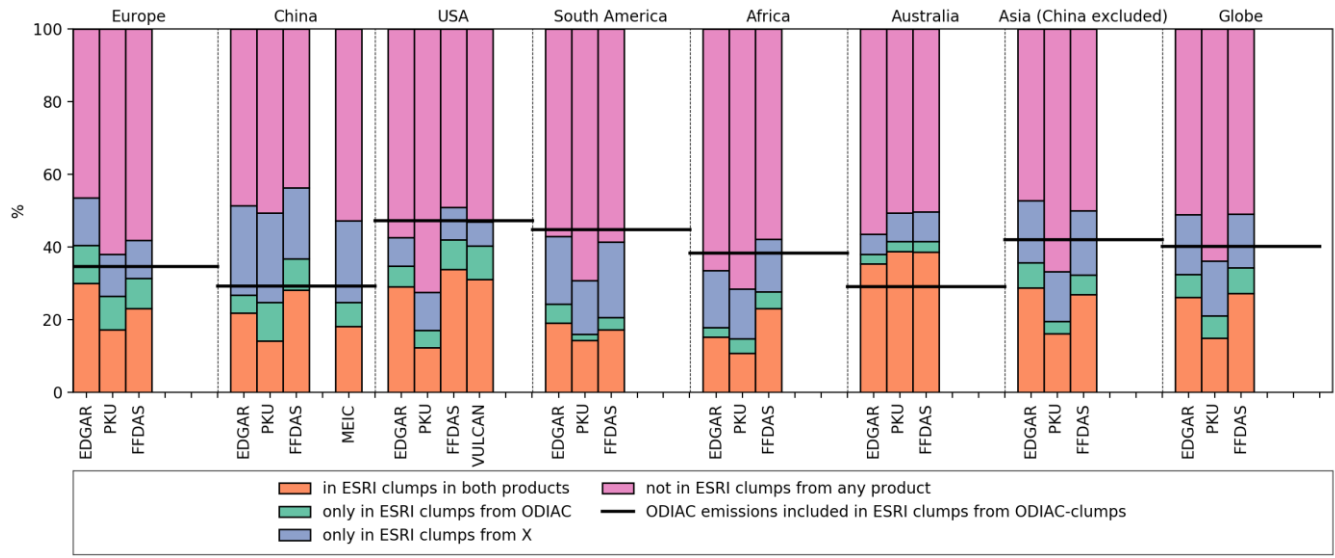
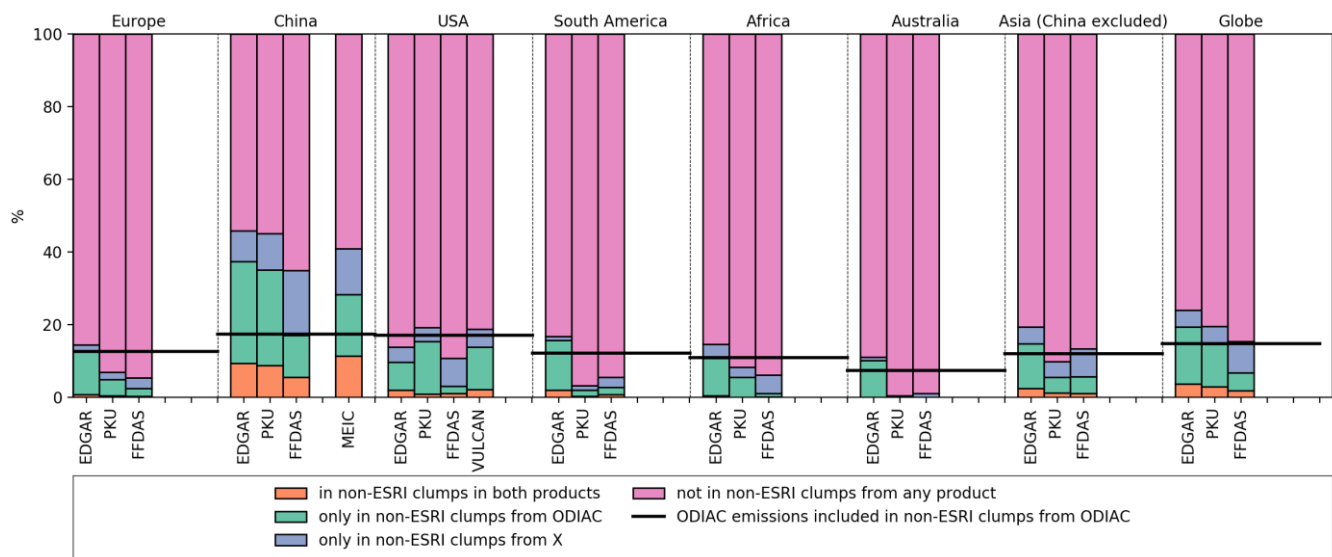


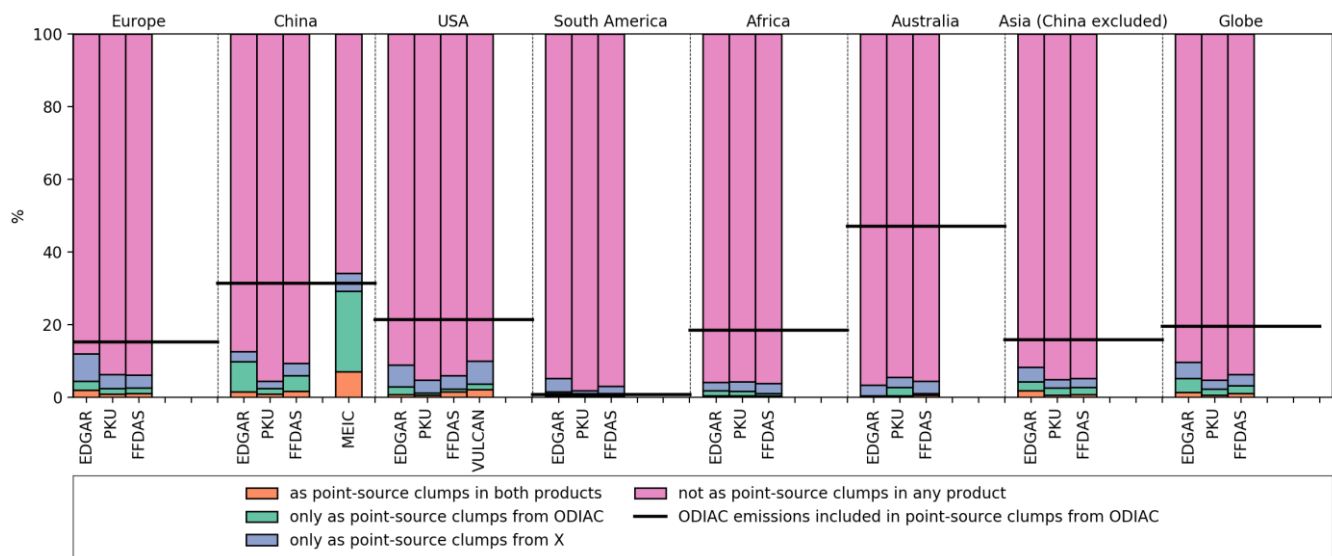
Figure S1 The fractions of emissions from corresponding emission products: 1) in ESRI-urban clumps in both ODIAC-clumps and X-clumps (red); 2) only in ESRI-urban clumps from ODIAC but not from X (green); 3) only in ESRI-urban clumps from X but not from ODIAC (blue); and 4) not in ESRI-urban clumps from ODIAC or X (pink). The thick black lines indicate the fractions of emissions in ODIAC covered by ESRI-urban clumps derived from ODIAC.

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20 **Figure S2** The fractions of emissions from corresponding emission products: 1) in non-ESRI-urban clumps in both ODIAC-clumps and X-clumps (red); 2) only in non-ESRI-urban clumps from ODIAC but not from X (green); 3) only in non-ESRI-urban clumps from X but not from ODIAC (blue); and 4) not in non-ESRI-urban clumps from ODIAC or X (pink). The thick black lines indicate the fractions of emissions in ODIAC covered by non-ESRI-urban clumps derived from ODIAC.

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Figure S3 The fractions of emissions from corresponding emission products: 1) as point-source clumps in both ODIAC-clumps and X-clumps (red); 2) as point-source clump from ODIAC but not from X (green); 3) as point-source clump from X but not from ODIAC (blue); and 4) not as point-source clump from ODIAC or X (pink). The thick black lines indicate the fractions of emissions in ODIAC from point-source clumps covered by point-source clumps derived from ODIAC.