The Emission benchmarking tool _ Feedback from Norway

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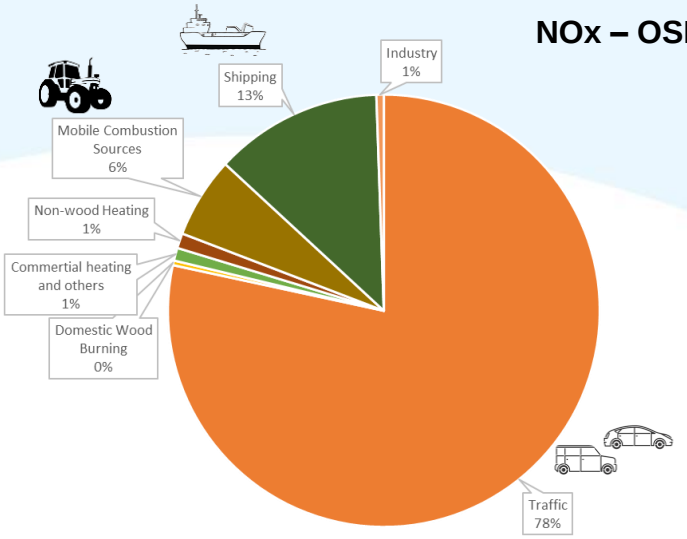
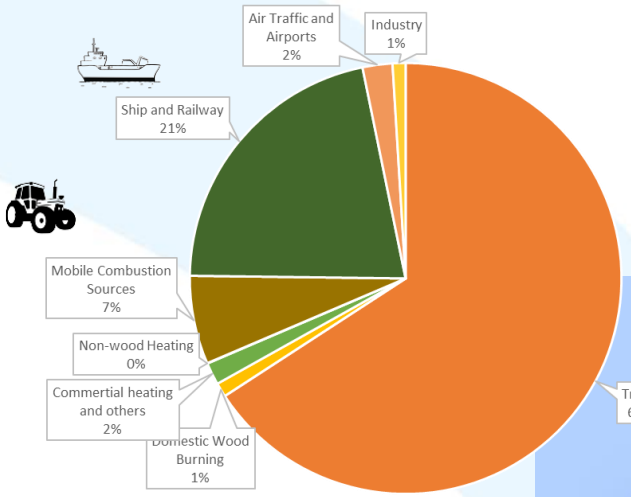
Background

- Use the Emission Benchmarking tool for 7 Norwegian cities;
- There are uncertainties on existing emissions inventories;
- Identify the pollutant/sectors that need special attention.

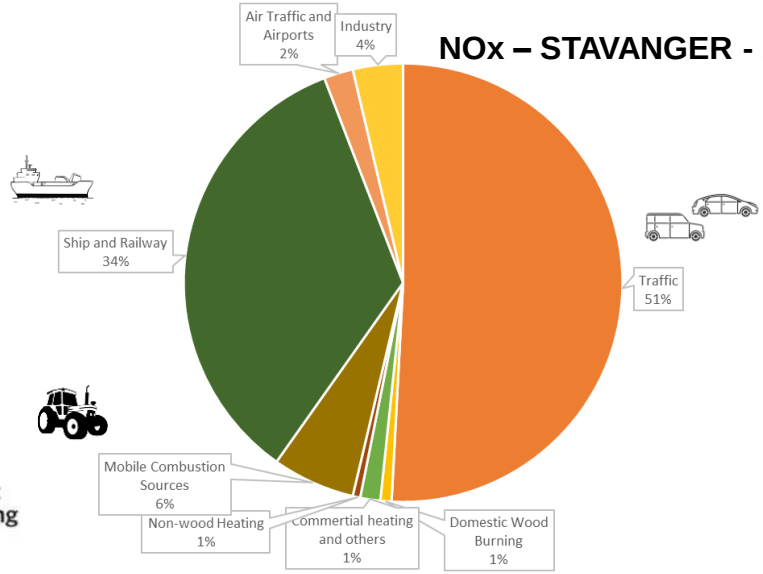
NOx – OSLO - 2013



NOx – BERGEN - 2012



NOx – STAVANGER - 2012



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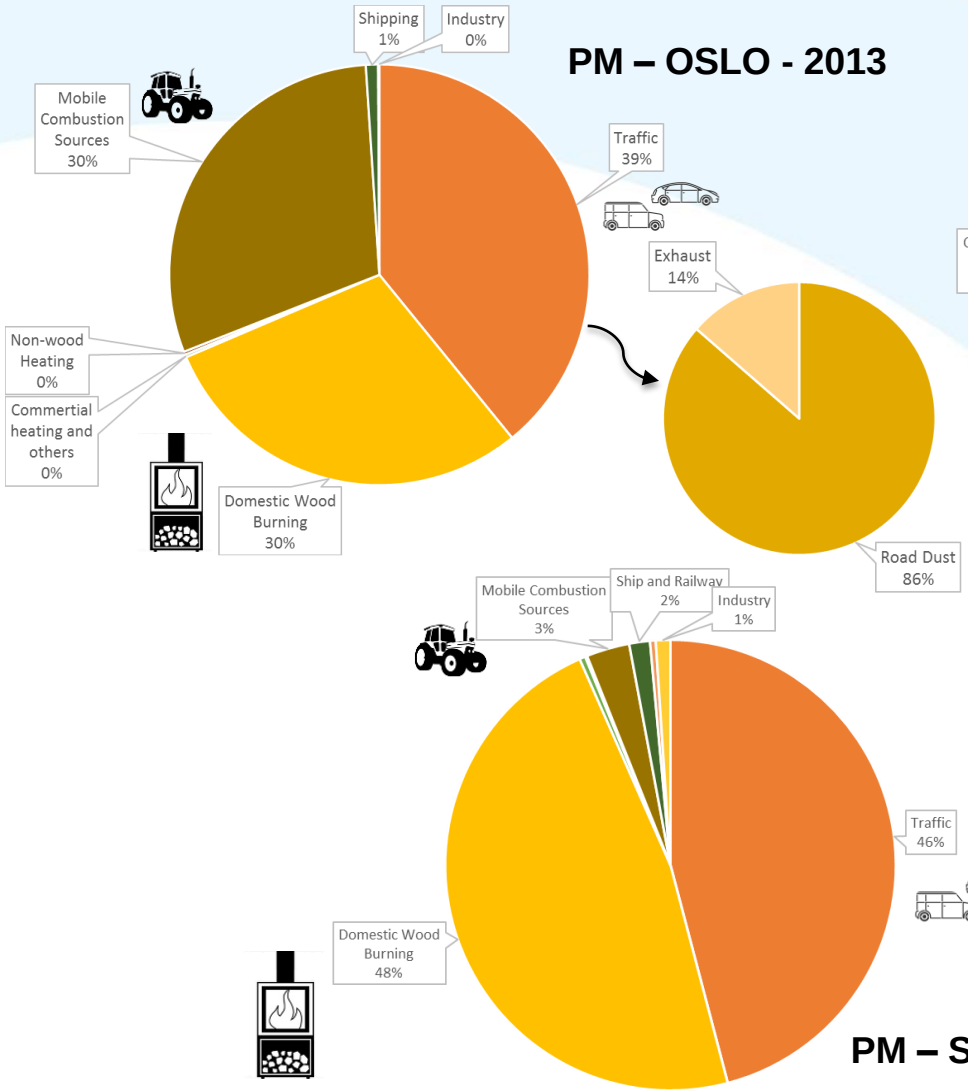
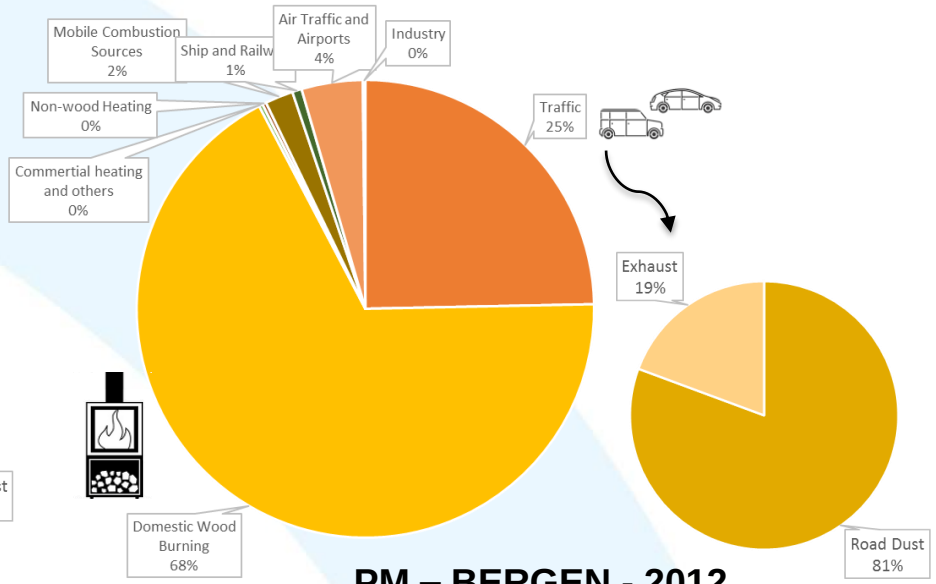
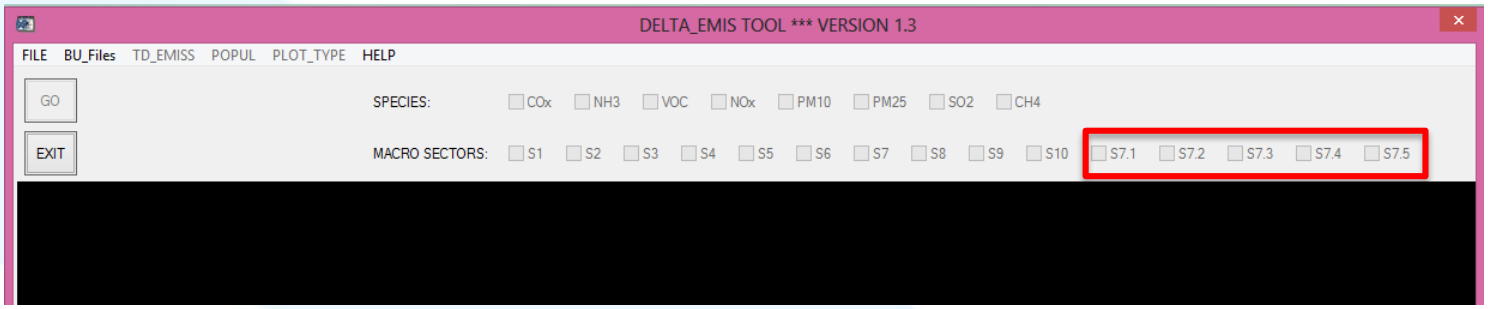




Main sources and SNAP sectors

SNAP Sectors



Main sources and SNAP sectors for the Norwegian cities

- Domestic Wood Burning → SNAP2
- Shipping and Port activities → SNAP8
- Mobile Combustion Sources (off-road) → SNAP8
- Traffic (Exhaust and non-exhaust) → SNAP7

Cases I.:
S7.1 (gasoline road transport) + S7.2 (diesel road transport)
S7.5 (non-exhaust)

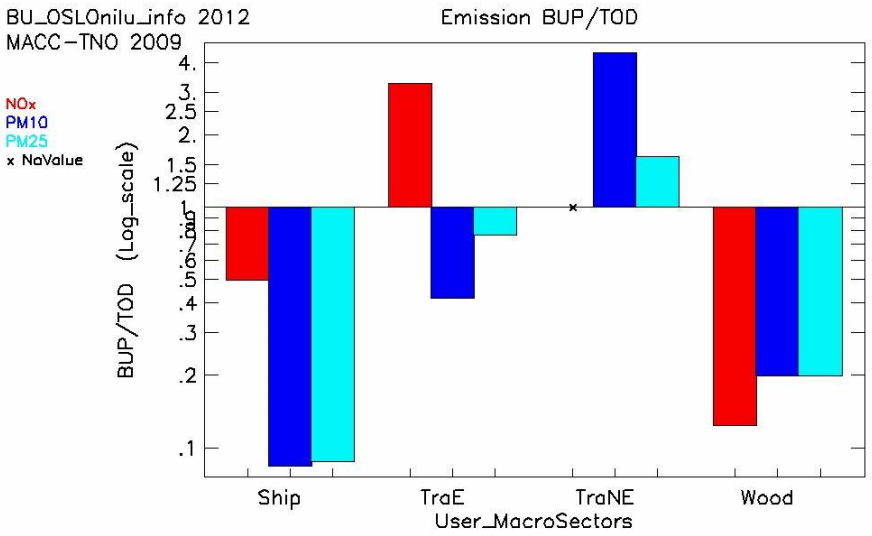
Cases II.:
S7 (exhaust)
S7.5 (non-exhaust)

Cases III.:
S7.1 (gasoline road transport) + S7.2 (diesel road transport)

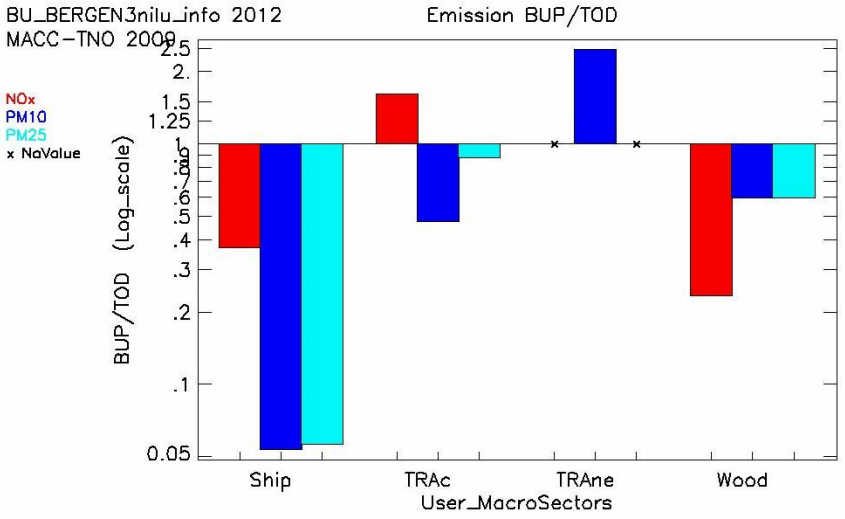
Questions:

- Would it be possible to update the emis_benchmarking tool to include subsectors?
- Is it correct the way of accounting exhaust and non-exhaust emissions?

Oslo – 2013



Bergen – 2012



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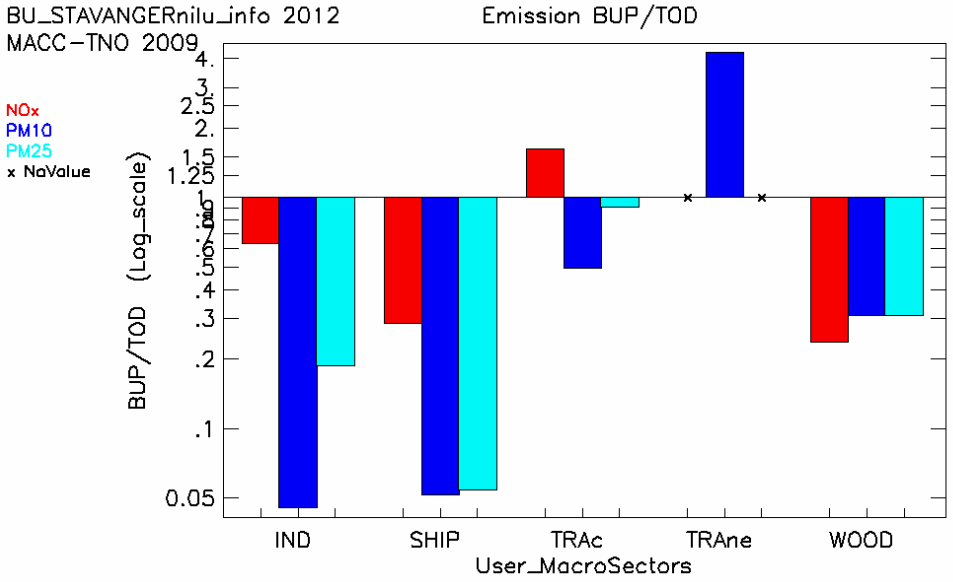

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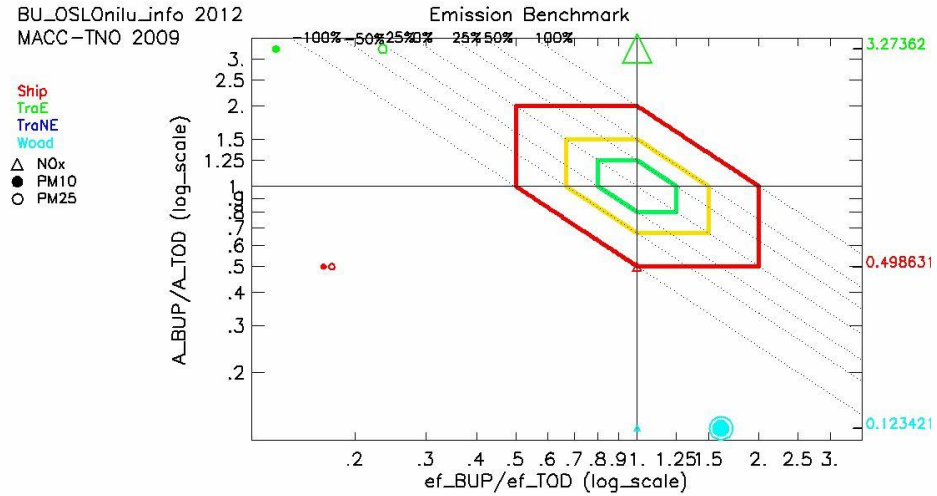

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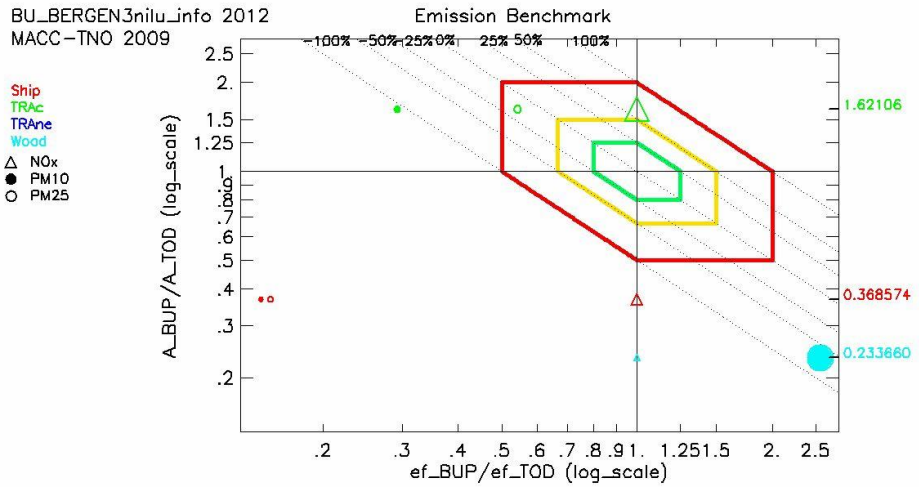

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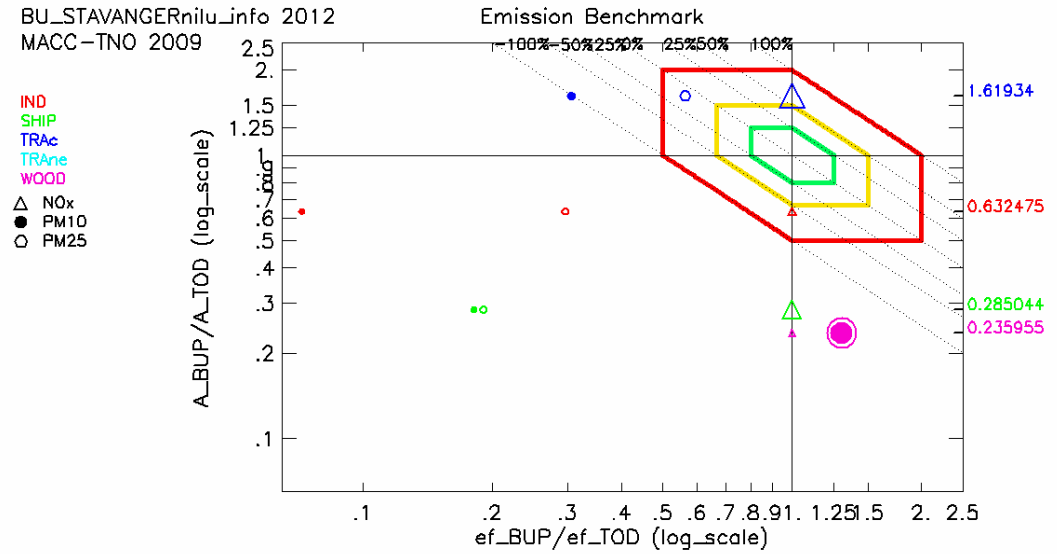

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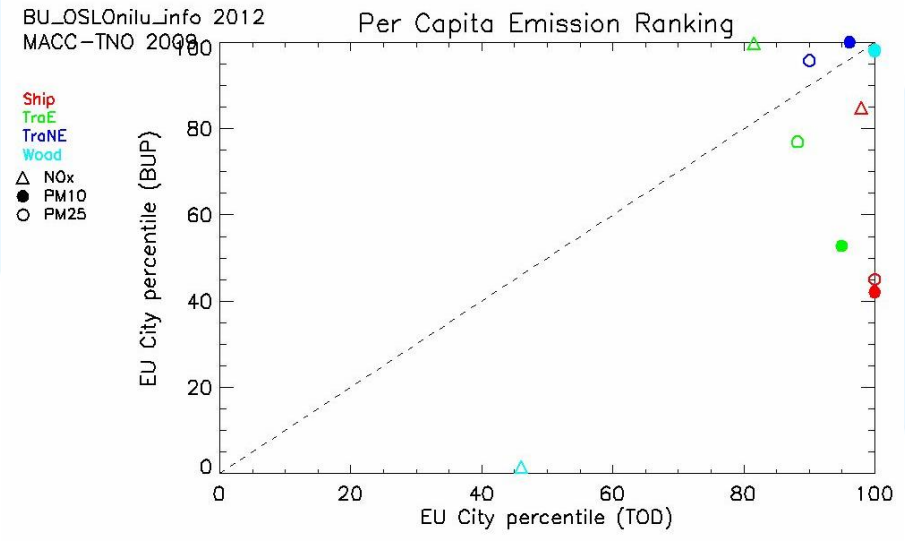

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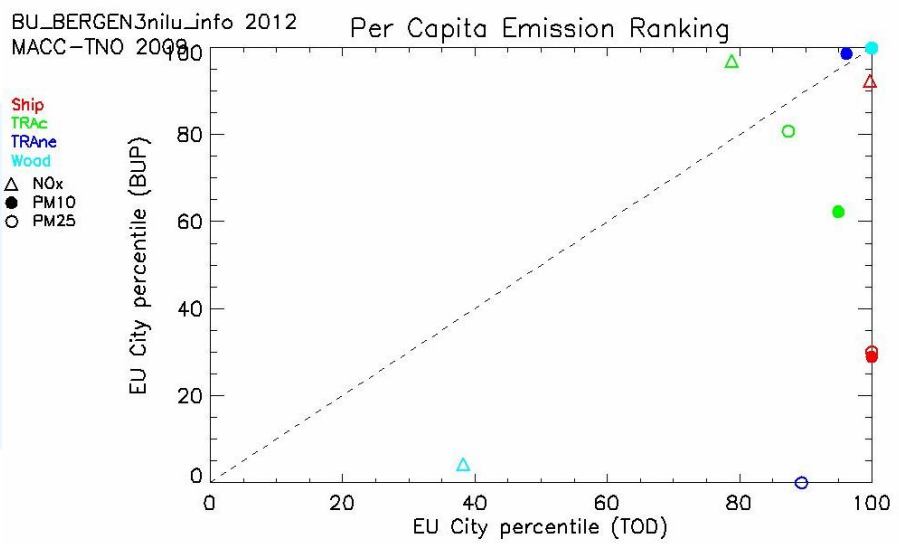

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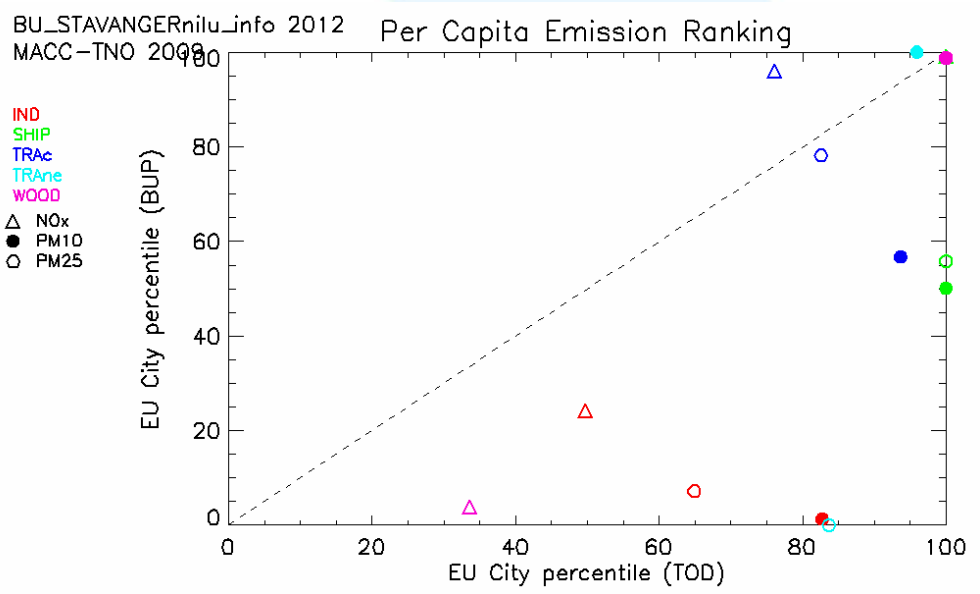

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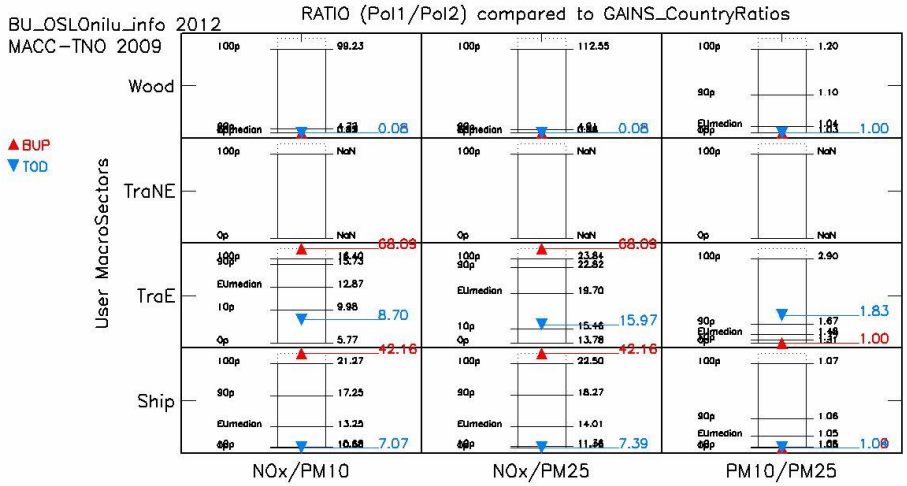

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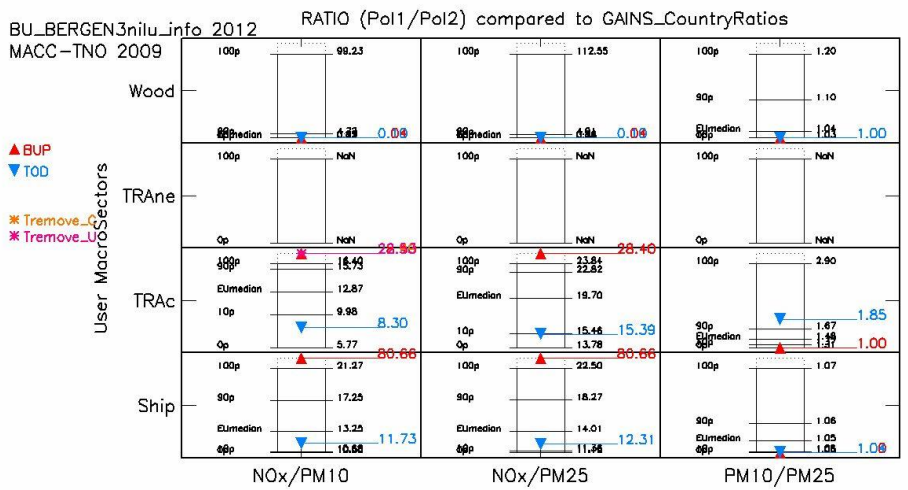

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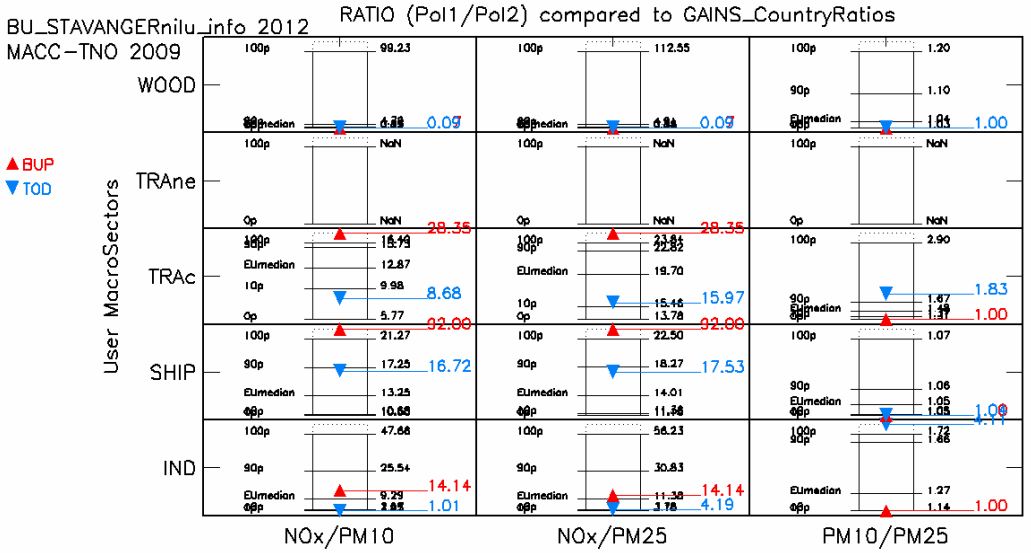

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Main (Preliminary) Outputs

- General underestimation of BUP emission inventory regarding TOD;
- Inconsistencies on NOx emission from traffic;
- We may underestimate activity for Wood burning (PM) emissions and (NOx/PM) shipping emissions;

<u>Questions and Discusion 1) Emission bechmarking tool and 2) TOD emission inventory</u>

- Would it be possible to update the emis_benchmarking tool to include subsectors?
- Is it correct the way of accounting exhaust and non-exhaust emissions?
- The reasons behind discrepancies are not so clear.

e.g. NOx overestimations in BUP; traffic flow patter influence? e.g. congestion?
e.g. very high NOx/PM in BUP (pollutant ratio diagram):
NOx/PM: Low value for diesel powered vehicles (material provided to the users). This may only be valid for old technologies (< Euro4 or 5?), as introduction of particle filters for diesel vehicles involve increase of NOx emissions, increase NOx/PM.
e.g. Wood burning EF are overestimated in BUP (diamond diagram),
Could this indicates that TOP underestimates the EF for wood burning emissions?
e.g. Shipping emissions. Very high NOx/PM
I need input and better understanding of the TOD.

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