

CT1 - Source apportionment in support AQ management

Source apportionment of NO₂

CT1 Session

06 October 2021

CT1 Agenda

CT1 – Source apportionment (4 h) Wednesday 06/10

09:15 – 10:45 SA Inter-comparison for NO₂ (G. Pirovano)

11:15 – 11:35 A dummy's guide to receptor modelling (V. Riffault)

11:35 – 11:55 Comparison of tagging and brute force source apportionment (C. Belis)

11:55 – 12:15 Tagging and BF: Similar, complementary or designed for different purposes (A. Clappier)

12:15 – 12:45 Discussion

14:00 – 14:20 Proposal for an harmonized nomenclature to report SA results (P. Thunis)

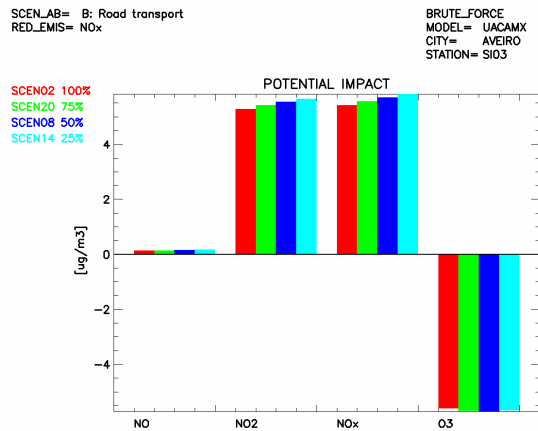
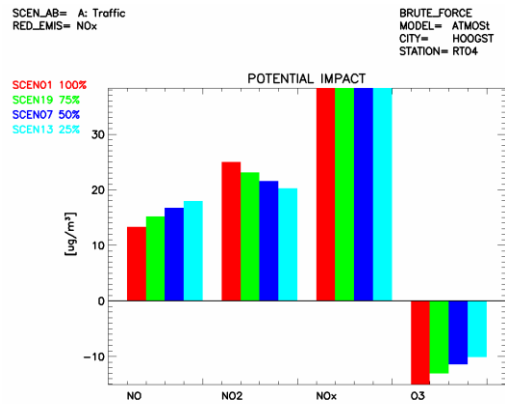
14:20 – 14:40 Summary of parallel sessions (A. Clappier and G. Pirovano)

14:40 – 15:00 REMY: A life project related to SA (G. Maffeis)

NO₂ SA exercise - Setup

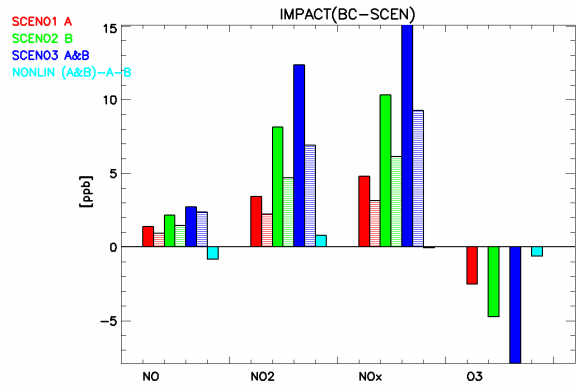
Team	Country	model	domain	period	Sectors	Receptors & Sectors	Cities	Rec.	BF	TAG	Cons.	Addit.	NOX vs ALL	TAG vs BF
VITO	Belgium	IFDM (Gaussian) + OSPM + RIO	Local domain consisting of Hoogstraten and Wuustwezel communities, rural to suburban area	2017 (hourly)	Traffic & Agriculture	Hoogstraten and Wuustwezel ST1, ST2, RT3, RT4, RT5, SB06, RB07, RB08								
UAVR	Portugal	CAMX	Aveiro region	10/12-31/12 2017 (hourly)	Industrial combustion & Traffic	Aveiro and other cities (UT01, SB02, SI03)								
IASS	Germany	WRF-Chem	Nested domain over EU and Berlin	2015 February (hourly)	Traffic & Res. Heating	Berlin UB1, UB2, UB3								
SenUVK	Germany	IMMIS	Both sides built street canyons in urban environment in Berlin	2015 (yearly)	Different road transport fleets	Berlin UT1 (DEBE065)								
RSE	Italy	CAMx	Po Valley (5 km resolution)	2010 (hourly)	Industry & Traffic	Milan (UB01); Ravenna (SB02)								

NO₂ SA exercise – Results overview



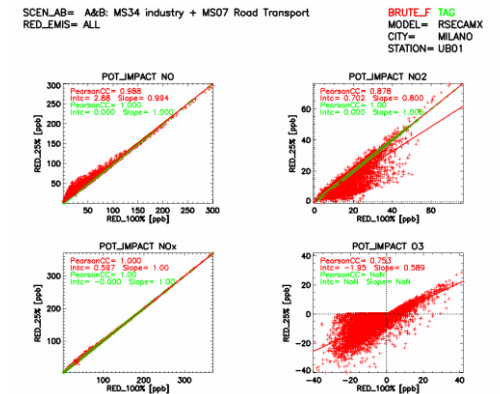
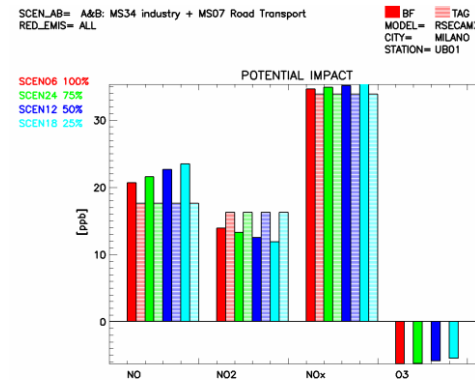
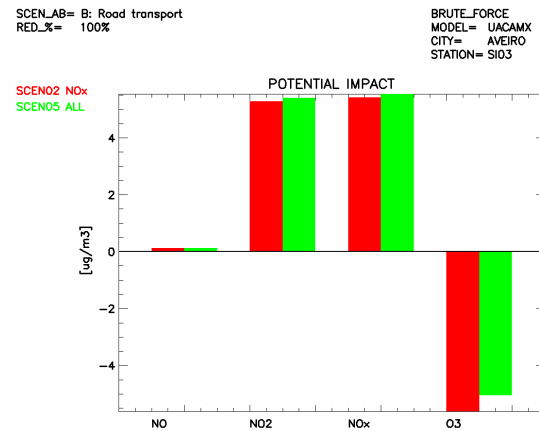
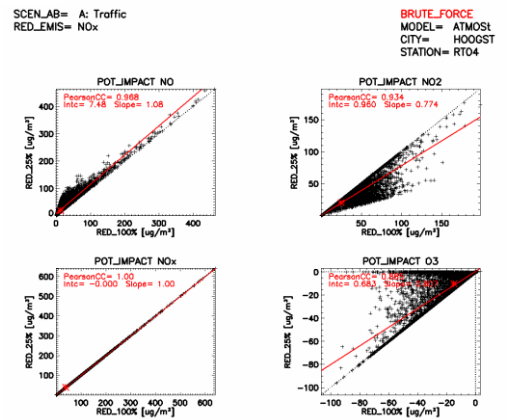
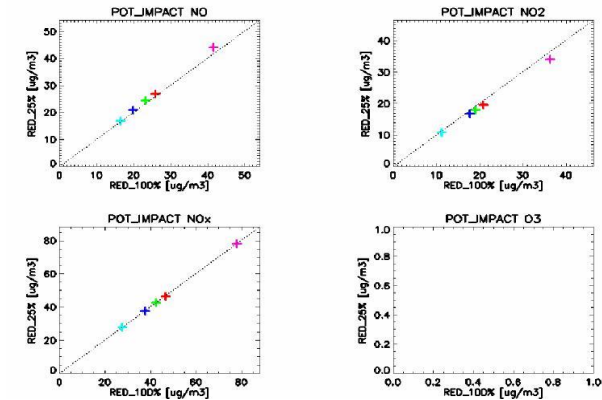
RED_EMIS= NOx A= GNFR_LC B= GNFR_LF

BF TAG
MODEL= WRFChem
CITY= BERLIN
STATION= UB02



SCEN= Berlin Fleet
SCEN= Berlin Fleet no LDV
SCEN= Berlin Fleet no HDV
SCEN= Berlin Fleet no Diesel PC
SCEN= Berlin Fleet only Diesel no Gas PC

BRUTE_FORCE
MODEL= IMMIS#5
CITY= BERLIN
STATION= FA01
RED_E= NOx



NO₂ SA exercise – Conclusions and next steps

Some conclusions...

- We got just preliminary results, but some common answers are emerging from all models
- As expected, averaged results are more consistent, additive and comparable than hourly values
- TNO analysis is in line with NO₂ SA exercise -> they could contribute to the exercise

Some ongoing work..

- Delivery of missing scenarios
- Additional checks and fixing bugs
- Additional analysis on subset of hourly values -> more quantitative conclusions
- **Organization of the additional modelling work (e-mail by October 15th)**
- **Drafting of the contribution for the Guidance (next plenary meeting)**
- **Scientific publication (beginning of 2022?)**

CT1 – next steps

NO2 SA exercise

- Organization of the additional modelling work (e-mail by October 15th)
- Drafting of the contribution for the Guidance (next plenary meeting)
- Scientific publication (beginning of 2022?)

RMs dummy's guide

- Contribution to the Guidance (next plenary meeting)

Nomenclature

- Contribution to the Guidance (next plenary meeting)