

Figure S1. Comparison of 2008 EDGAR emissions by sector for different versions. Refer to Table S1 for the definition of the EDGAR sectors.



Figure S2. Comparison of 2010 NMVOC sectorial emissions estimated by EDGARv4.3.2 and HTAP_v2 for Asian countries and North America.



5 Figure S3. Comparison of 2010 NMVOC sectorial emissions estimated by EDGARv4.3.2 and HTAP_v2 for Europe.



Figure S4. Share of different fuels consumed in the residential (a) and road transport (b) sectors in 2010 for major world regions.



Figure S5. Relative share of different fuels to NMVOC emissions of residential sector in Germany during 1970-2012.

Table S1. Classification of EDGAR sectors.

EDGAR code	Sector description
AWB	Agricultural waste burning
CHE	Production of chemicals
ENE	Power generation
FFF	Fossil fuel fires
FOO	Production of food
IND	Combustion in manufacturing industry
IRO	Production of iron and steel
NMM	Production of non-metallic minerals
PAP	Production of pulp and paper
PRO	Fuel production and transmission
PRU	Production and use of other products
RCO	Residential combustion
REF	Oil refineries
SOL	Application of solvents
SWD	Solid waste disposal
TNR	Non road transport
TRF	Transformation industry
TRO	Road transport
WWT	Waste water treatment

Table S2. First step	in mapping	profiles to	EDGAR	process	codes.
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Source code	Source description	Tech	EOP	Profile name	Mapping	
Source code	Source description	code	code	riome name	quality	
CHE BLK CPS	CHa-Polystyrene	NSF	NOC	Plastics Production - Polystyrene	1	
CHL.DLK.CI 5	(total)	1,01	noe	Thistics Troubellon Torystyrene	1	
CHF BI K CPT	CHa-Phthalic	NSF	NOC	Phthalic Anhydride - O-Xylene	1	
CHL.DLK.CI I	anhydride	1151	noe	Oxidation - Main Process Stream	1	
CHE BI K CPV	CHa-Poly Vinyl	NSE	020	Plastics Production - Polyvinyl	1	
CHE.DLK.CF V	Chloride (PVC)	NSI [*]	020	Chlorides and Copolymers	1	
CHE BI K CDV	CHa-Poly Vinyl	NSE	NOC	Plastics Production - Polyvinyl	1	
CHE.BLK.CPV	Chloride (PVC)	INSI.	NOC	Chlorides and Copolymers	1	
CHE BI K CRU	CHa-Rubber, total	NSF	NOC	Consumer Products: Rubber And Vinyl	1	
CHE.BER.CRU	(SBR + synthetic)	INDI:	NOC	Protectants - Aerosols	1	
CHE.BLK.CST	CHa-Styrene	NSF	NOC	Methyl Styrene	1	
CHE BI K CVC	CHa Vinul ablarida NSE		NOC	Plastics Production - Polyvinyl		1
CHL.DLIX.CVC	eria vinyrenionae	Ingremoriae INSF		Chlorides and Copolymers	1	
CHE.BLK.CXY	CHa-Xylenes	NSF	NOC	m-Xylene	1	

Source code	Source description	Tech	EOP	Drofila nomo	Mapping
Source code	Source description	code	code	Flome name	quality
ENE CHP OGS	Public cogeneration:	BOO	223	External Combustion Boiler - Coke	2
ENE.CIII.005	Coke Oven Gas	DOO	223	Oven Gas	2
ENE CHP OGS	Public cogeneration:	BOO	300	External Combustion Boiler - Coke	2
ENE.CIII.005	Coke Oven Gas	BOO	500	Oven Gas	2
ENE CHP OGS	Public cogeneration:	BOO	123	External Combustion Boiler - Coke	<u>э</u>
ENE.CHF.005	Coke Oven Gas	DOO	423	Oven Gas	2
ENE CHP BGS	Public cogeneration:	BOO	000	External Combustion Boiler - Refinery	2
ENE.CHF.KUS	Refinery Gas	DOO	000	Gas	2
ENE.CHP.OGS	Public cogeneration:	BOO	002	External Combustion Boiler - Refinery	<u>р</u>
	Refinery Gas	DOO	002	Gas	2
ENE.CHP.OGS	Public cogeneration:	BOO	002	External Combustion Boiler - Refinery	<u>،</u>
	Refinery Gas	BO0	005	Gas	2

Table S3. Example of mapping profiles with a quality code of 2.

5 Notes: BO0 = combustion: boiler for gas/ liquid of any size

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Source code	Source description	Tech	EOP	Drofile name	Mapping
Source code	Source description	code	code	Prome name	quality
TRO ROA BDS	Biodiesel in Road	BSO	NOC	Biodiesel Exhaust - Light Duty Truck	3
TRO.ROA.DDS	transport	050	NOC	operated at 0 °C; Cold Start	5
TRO ROA BDS	Biodiesel in Road	BSO	PFI	Biodiesel Exhaust - Light Duty Truck	3
TRO.ROA.DD5	transport	050	I LO	operated at 0 °C; Cold Start	5
TRO ROA BDS	Biodiesel in Road	BS0	FU1	Biodiesel Exhaust - Light Duty Truck	3
TRO.ROA.DD5	transport	000	LUI	operated at 0 °C; Cold Start	5
TRO POA BDS	Biodiesel in Road	НОО	NOC	Biodiesel Exhaust - Light Duty Truck	3
TRO.ROA.BDS	transport	11D0	NOC	operated at 0 °C; Cold Start	5
TRO.ROA.BDS	Biodiesel in Road	НОО	DELI	Biodiesel Exhaust - Light Duty Truck	3
	transport	11D0	I LO	operated at 0 °C; Cold Start	5
TRO.ROA.BDS	Biodiesel in Road	НОО	FU1	Biodiesel Exhaust - Light Duty Truck	3
	transport	1100	LUI	operated at 0 °C; Cold Start	J

Table S4. Example of mapping profiles with a quality code of 3.

5 Notes: BS0 = busses, HD0 = heavy duty vehicles

Source code	Source description	Tech	EOP	EOP Profile name		
Source code	Source description	code	code	rionie name	quality	
ENE AEL BEG	Auto produced electricity: Blast	BO0	000	Coke Oven Blast Furnace Gas	4	
	Furnace Gas	DOU	000	Coke Oven Diust I unidee Gus	1	
ENE AEL BEG	Auto produced electricity: Blast	BO0	002	Coke Oven Blast Furnace Gas	4	
LI (L. ILL.) DI G	Furnace Gas	DOO	002	Coke Oven Diust I unidee Gus	,	
ENE.AEL.BFG	Auto produced electricity: Blast	BO0	003	Coke Oven Blast Furnace Gas	4	
	Furnace Gas					
ENE.AEL.CRU	Auto produced electricity: Crude	BO0	000	Other Electric Power	5	
	Oil			Generation	-	
ENE.AEL.CRU	Auto produced electricity: Crude	GT0	000	Other Electric Power	5	
LI (L. ILL.CIKC	Oil	010		Generation	0	
ENE.AEL.CRU	NE.AEL.CRU Auto produced electricity: Crude ICO 000 Oil		000	Other Electric Power	5	
			Generation	-		
TNR.SEA.HFO	Residual Fuel Oil in International	BSP	NOC	Residual Oil-Fired Power Plant	6	
	marine bunkers				~	
TNR.SEA.HFO	Residual Fuel Oil in International	BSS	NOC	Residual Oil-Fired Power Plant	6	
· · · · · · · · ·	marine bunkers					
TNR.SEA.HFO	Residual Fuel Oil in International	CSP	NOC	Residual Oil-Fired Power Plant	6	
	marine bunkers				-	

5 Table S5. Example of matching profiles with a quality code of 4, 5 and 6.

	Table	S6.	Matching	of	RETRO	sectors	and	ED	GAR	sources	s.
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RETRO	RETRO sector description	EDGAR source mapped
sector		
Agr	Agriculture and Land use change	AWB
Exf	Extraction and distribution of fossil fuels	PRO, REF
Inc	Industrial combustion	IND, TRF
Pow	Power generation	ENE
Res	Residential, commercial and other Combustion	RCO
Sol	Solvent use	SOL
Tra	Road transport	TRO
Was	Waste treatment and disposal	SWD