

Solvent VOC Emission Inventories 2018

ESIG has finalised its 2018 solvent volatile organic compounds (VOC) emission inventories and results do seem in line with previous numbers: **Solvent VOC emissions have stabilized in the EU28 since 2008** staying at just under 2000 ktonnes

- **Overall trend (ktonnes)**

year	ESIG VOC emissions	EEA inventories*	EEA vs ESIG difference
2008	2159	3322	35%
2009	1917	3010	37%
2013	1978	2652	25%
2015	1981	2598	24%
2016	1626	2586	37%
2017	1613	2638	39%
2018	1813	2621	31%

* EEA inventory data are based on country submissions in 2020.

ESIG VOC emissions in 2018 are reported to be higher than in 2016 and 2017 but are lower than in 2013 and 2015. Both ESIG and EEA data show stabilized emission level in the 2010s, with a difference between the two datasets being around 30%.

- **Background information & outlook**

This paper presents the final numbers.¹ The ESIG solvents emission inventories have been conducted with the support of TNO.

¹ For more information on the method used, former technical papers can be consulted: https://www.esig.org/wp-content/uploads/2018/03/201802_ESVOC_techncial-paper-solvent-VOC-emissions-2015_final-1.pdf
<https://www.esig.org/wp-content/uploads/2019/03/Atmospheric-Environment-John-VOC-article-201903.pdf>



As usual, **Member States can obtain more information upon request for domestic solvent use** (NFR category 2.D.3.a), according to the matching table from the European Monitoring and Evaluation Programme (EMEP) /European Environmental Agency (EEA) Guidebook (2019 edition) provided the data is not confidential (see appendix 1) . Furthermore, **ESIG can provide per capita Emission Factors per country for domestic solvent emissions** based on our data.

Since ESIG data are based on real data from EU solvents manufacturers, the ESIG emission inventories remain a valuable source of information and can also be **used for comparisons**.

ESIG Solvent VOC Emissions Numbers 2018 per country

<i>Summary of results for aggregated country groups applied by ESIG 2018</i>			
Countries	TOTAL PRODUCTION Hydrocarbon+Oxygenated solvents	IMPORT/EXPORT Corrections	Emissions NMVOC in ktonne/country
Austria + Slovenia + Croatia	40.15	39.16	79.31
Belgium + Luxembourg	189.05	-150.46	38.59
Bulgaria + Romania	5.94	49.05	54.99
Cyprus + Greece	10.09	22.11	32.19
Czech Republic + Slovakia	16.83	55.67	72.50
Denmark	7.23	9.25	16.49
Baltic States + Finland	18.30	35.88	54.18
France	192.49	-3.48	189.01
Germany	490.97	-307.23	183.74
Hungary	6.25	19.77	26.02
Ireland	9.14	2.28	11.41
Italy	204.27	154.87	359.14
Malta	3.07	0.03	3.10
Netherlands	197.17	-149.08	48.08
Poland	50.52	79.71	130.23
Portugal + Spain	187.94	104.12	292.06
Sweden	25.28	16.95	42.23
United Kingdom	158.50	21.40	179.90
Total EU-28	1813.18	0	1813.18

Data on import/export are taken from J. Pearson for 2016 & 2017, based on adjusted 2015 import/export

For 2018, import/export is based on the 2017 numbers which are adjusted for the increase in VOC emissions

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Comparison to EEA / reported emissions by Member States 2018

Comparison to EEA / reported emissions by Member States 2018		
countries	ESIG	EEA
Austria + Slovenia + Croatia	79.31	66.29
Belgium + Luxembourg	38.59	39.68
Bulgaria + Romania	54.99	66.10
Cyprus + Greece	32.19	51.34
Czech Republic + Slovakia	72.50	89.70
Denmark	16.49	27.21
Baltic States + Finland	54.18	40.04
France	189.01	298.24
Germany	183.74	546.77
Hungary	26.02	30.91
Ireland	11.41	18.75
Italy	359.14	357.04
Malta	3.10	0.56
Netherlands	48.08	67.63
Poland	130.23	225.63
Portugal + Spain	292.06	347.87
Sweden	42.23	48.90
United Kingdom	179.90	298.82
Total EU-28	1813.18	2621.48

Note: reported data from Member States (EEA) are based on the reporting to EMEP in 2020

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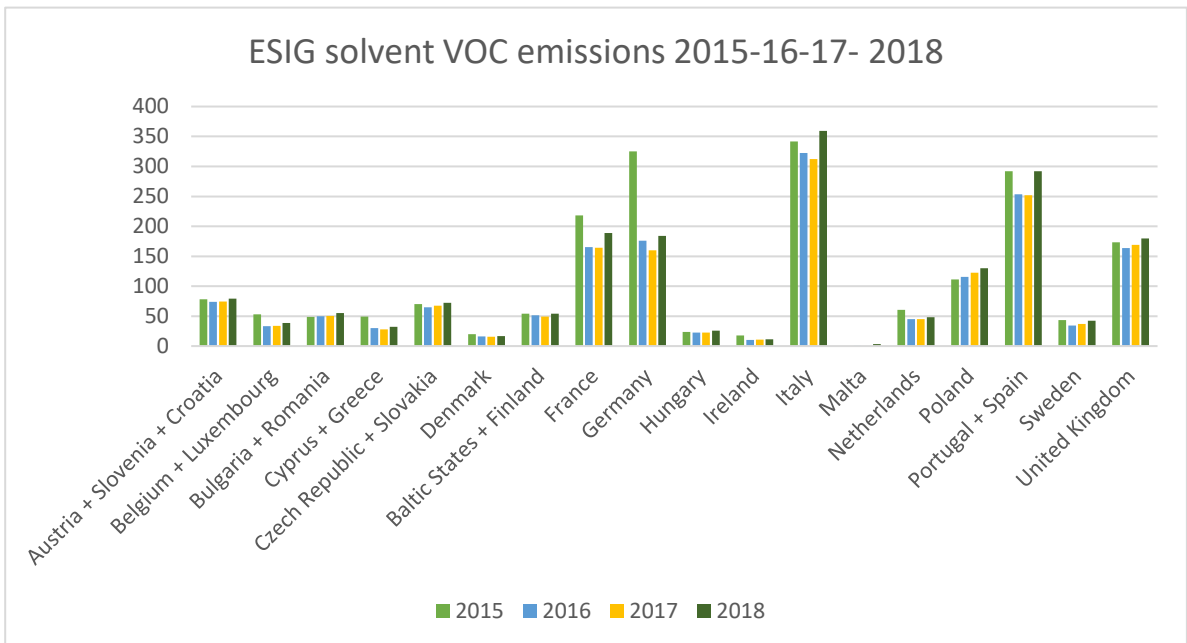
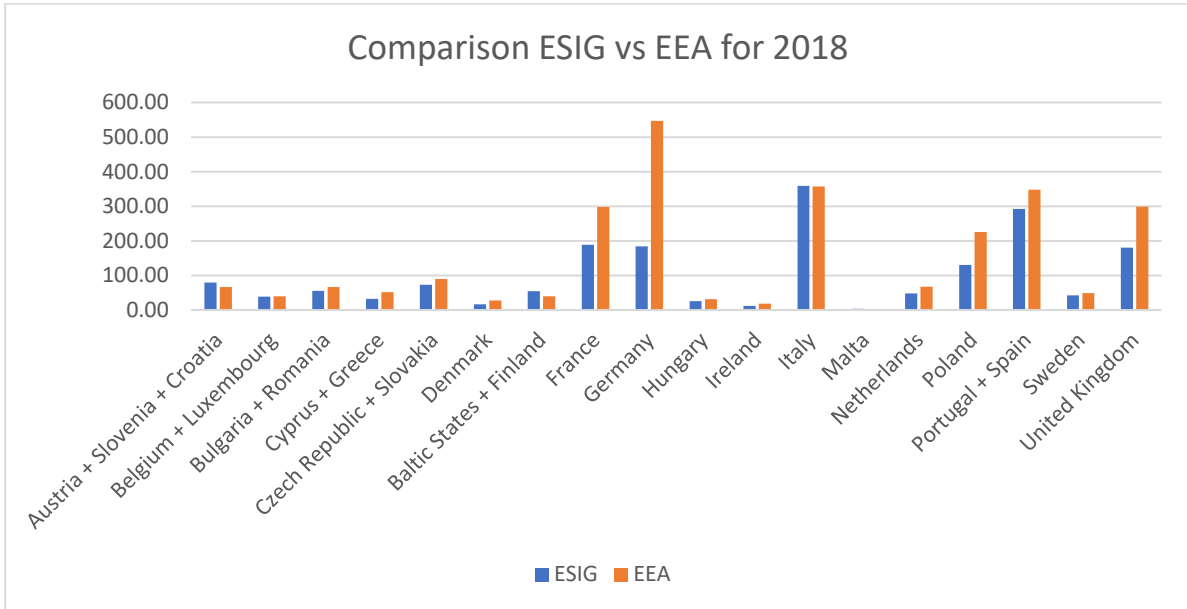
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Appendix 1 Mapping table – REACH to NFR

REACH end-use sector	2D3a	2D3b	2D3c	2D3d	2D3e	2D3f	2D3g	2D3h	2D3i
Agrochemical uses	100 %								
Blowing agents									100 %
De-icing	50 %								50 %
Binder and release agents									100 %
Cleaning industrial and leather treatment					100 %				
Cleaning — professional consumer	100 %								
Coatings — industrial and adhesives, inks				80 %				15 %	5 %
Coatings — professional/consumer and thinners, paint industry	30 %			70 %					
Functional solvents (including solvents used in chemical processes, e.g. process aids, intermediates, extraction, dewaxing agents)							100 %		
Metal working/rolling oils/lubricant uses									100 %
Oil field chemicals, drilling, mining, extraction									100 %
Polymers processing (including rubber-tyre production) and industrial resins, synthetic rubber, process							100 %		
Road and construction		100 %							
Use as fuel/combustion and fuel additives									100 %
Water treatment									100 %
Other consumer uses (household, aerosols, cosmetics)	100 %								
Pharmaceuticals manufacturing							100 %		
Others — please specify below									100 %

Source : EMEP/EEA air pollutant emission inventory guidebook 2019, chapter 2.D.3.a Domestic solvent use including fungicides p.25

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