

Premature deaths due to exposure to fine particulate matter PM2.5_superseded (2005-2021)

This data set presents mortality attributable to exposure to fine particulate matter (PM2.5*) at country level, since 2005. This indicator is based on the HRA calculations published at <https://www.eea.europa.eu/en/datahub/datahubitem-view/49930245-dc33-4c47-93b8-9512f0622ebc>

*PM2.5 are particulates whose diameter is less than 2.5 micrometers and which can be carried deep into the lungs where they can cause inflammation and exacerbate the condition of people suffering heart and lung diseases.

Simple

Date (Creation)	2024-09-12																	
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Edition	04.00																	
Citation identifier	eea_s_eu-sdg-11-52_p_2005-2021_v04_r00																	
Status	Superseded																	
Point of contact	<table border="1"> <thead> <tr> <th>Organisation name</th> <th>Individual name</th> <th>Electronic mail address</th> <th>Website</th> <th>Role</th> </tr> </thead> <tbody> <tr> <td>European Environment Agency</td> <td></td> <td>sdi@eea.europa.eu</td> <td>http://www.eea.europa.eu</td> <td>Point of contact</td> </tr> <tr> <td>European Environment Agency</td> <td></td> <td>sdi@eea.europa.eu</td> <td></td> <td>Custodian</td> </tr> </tbody> </table>	Organisation name	Individual name	Electronic mail address	Website	Role	European Environment Agency		sdi@eea.europa.eu	http://www.eea.europa.eu	Point of contact	European Environment Agency		sdi@eea.europa.eu		Custodian		
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Point of contact

No information provided.

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Maintenance and update frequency	Annually
Date of next update	2024-11
Keywords	
Keywords	
GEMET	<ul style="list-style-type: none"> sustainable development goals air pollution statistical data environmental health impact assessment pollution
Continents, countries, sea regions of the world.	<ul style="list-style-type: none"> EU27 (from 2020)
Reporting obligations	<ul style="list-style-type: none"> (E1a) Information on primary validated assessment data - measurements (Article 10) (D) Information on the assessment methods (Articles 8 and 9) - for fixed and indicative measurements
EEA Management Plan	<ul style="list-style-type: none"> 2023 3.2.2

EEA topics	<ul style="list-style-type: none"> • Pollution • Air pollution • Health • Environmental health impacts • Sustainability 																											
Unit of measure	<ul style="list-style-type: none"> • Number 																											
Available breakdowns	<ul style="list-style-type: none"> • Country 																											
Reference period	<ul style="list-style-type: none"> • Calendar year 																											
Use constraints	Other restrictions																											
Other constraints	EEA standard re-use policy: unless otherwise indicated, re-use of content on the EEA website for commercial or non-commercial purposes is permitted free of charge, provided that the source is acknowledged (http://www.eea.europa.eu/legal/copyright). Copyright holder: European Environment Agency (EEA).																											
Language of dataset	English																											
Topic category	<ul style="list-style-type: none"> • Environment 																											
Begin date	2005-01-01																											
End date	2021-12-31																											
Distribution format	<ul style="list-style-type: none"> • Microsoft Excel (.xls, .xlsx) () • ascii (.csv, .txt, .sql) () • SQL REST Endpoint () • JSON () 																											
OnLine resource	<table border="1"> <thead> <tr> <th>Protocol</th> <th>Linkage</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td>EEA: FOLDERPATH</td> <td>https://sdi.eea.europa.eu/webdav/datastore/public/eea_s_eu-sdg-11-52_p_2005-2021_v04_r00</td> <td></td> </tr> <tr> <td>WWW:URL</td> <td>https://sdi.eea.europa.eu/data/bbde363c-21a2-4860-b5a1-b822ee0cf50d</td> <td>Direct downlo</td> </tr> <tr> <td>WWW:LINK-1.0-http--link</td> <td>https://www.eea.europa.eu/ims/health-impacts-of-exposure-to</td> <td>EEA Indicator deaths due to fine particulat Europe</td> </tr> <tr> <td>WWW:LINK-1.0-http--link</td> <td>https://discomap.eea.europa.eu/App/AQViewer/index.html?fqn=Airquality_Dissem.hra_countries_sel&EUCountries=Yes&ScenarioDescription=WHO_2021_AQG_Scen_Base&AirPollutant=PM2.5&UrbanisationDegree=All%20Areas%20(incl.unclassified)&Year=2020</td> <td>AQ Viewer: A Health Risk A (Countries)</td> </tr> <tr> <td>WWW:LINK-1.0-http--link</td> <td>https://ec.europa.eu/eurostat/databrowser/view/sdg_11_52/default/table?lang=en</td> <td>Eurostat indic Premature de exposure to fi matter (PM2.!</td> </tr> <tr> <td>WWW:LINK-1.0-http--link</td> <td>https://www.eionet.europa.eu/etcs/etc-he/products/etc-he-products/etc-he-reports/etc-he-report-2023-3-air-quality-maps-of-eea-member-and-cooperating-countries-for-2021-pm10-pm2.5-o3-no2-nox-and-bap-spatial-estimates-and-their-uncertainties</td> <td>ETC HE Repr quality maps , member and , countries for ; PM2.5, O3, N BaP spatial e: their uncertair</td> </tr> <tr> <td>WWW: DOWNLOAD: SQL REST Endpoint</td> <td>https://discodata.eea.europa.eu/sql?query=Select%20*%20FROM%20%5BAirQualityIndicators%5D.%5Blatest%5D.%5Bhra_pm25_EU_SDG_11_52%5D%0A&p=1&nrOfHits=100&mail=null&schema=null</td> <td>[AirQualityInd hra_pm25_E</td> </tr> <tr> <td>WWW: DOWNLOAD: ascii (.csv, . txt, .sql)</td> <td>https://discodata.eea.europa.eu/download/AirQualityIndicators/latest/hra_pm25_EU_SDG_11_52</td> <td>[AirQualityInd hra_pm25_E</td> </tr> </tbody> </table>	Protocol	Linkage	Name	EEA: FOLDERPATH	https://sdi.eea.europa.eu/webdav/datastore/public/eea_s_eu-sdg-11-52_p_2005-2021_v04_r00		WWW:URL	https://sdi.eea.europa.eu/data/bbde363c-21a2-4860-b5a1-b822ee0cf50d	Direct downlo	WWW:LINK-1.0-http--link	https://www.eea.europa.eu/ims/health-impacts-of-exposure-to	EEA Indicator deaths due to fine particulat Europe	WWW:LINK-1.0-http--link	https://discomap.eea.europa.eu/App/AQViewer/index.html?fqn=Airquality_Dissem.hra_countries_sel&EUCountries=Yes&ScenarioDescription=WHO_2021_AQG_Scen_Base&AirPollutant=PM2.5&UrbanisationDegree=All%20Areas%20(incl.unclassified)&Year=2020	AQ Viewer: A Health Risk A (Countries)	WWW:LINK-1.0-http--link	https://ec.europa.eu/eurostat/databrowser/view/sdg_11_52/default/table?lang=en	Eurostat indic Premature de exposure to fi matter (PM2.!	WWW:LINK-1.0-http--link	https://www.eionet.europa.eu/etcs/etc-he/products/etc-he-products/etc-he-reports/etc-he-report-2023-3-air-quality-maps-of-eea-member-and-cooperating-countries-for-2021-pm10-pm2.5-o3-no2-nox-and-bap-spatial-estimates-and-their-uncertainties	ETC HE Repr quality maps , member and , countries for ; PM2.5, O3, N BaP spatial e: their uncertair	WWW: DOWNLOAD: SQL REST Endpoint	https://discodata.eea.europa.eu/sql?query=Select%20*%20FROM%20%5BAirQualityIndicators%5D.%5Blatest%5D.%5Bhra_pm25_EU_SDG_11_52%5D%0A&p=1&nrOfHits=100&mail=null&schema=null	[AirQualityInd hra_pm25_E	WWW: DOWNLOAD: ascii (.csv, . txt, .sql)	https://discodata.eea.europa.eu/download/AirQualityIndicators/latest/hra_pm25_EU_SDG_11_52	[AirQualityInd hra_pm25_E
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OnLine resource

No information provided.

Hierarchy level	Dataset
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Accuracy of time measurement

Name of measure	Frequency of dissemination
Measure description	Indicator is updated annually.

Quantitative result

Value	Every year
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Accuracy of time measurement

Name of measure	Timeliness
Measure description	New data points are disseminated within two years after the reference year.

Quantitative result

Value	T+2 years
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Quantitative attribute accuracy

Name of measure	Reference area
Measure description	Data are presented for all EU Member States plus Iceland, Liechtenstein, Norway, Switzerland, Bosnia and Herzegovina, Montenegro, North Macedonia, Albania, Serbia, and Kosovo (under United Nations Security Council Resolution 1244/99).

Quantitative result

Value	All EU MS
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Domain consistency

Name of measure	Comparability - geographical
Measure description	Data are comparable between all EU Member States respectively other presented countries. Data for all countries are comparable, since the concentrations are based on the interpolated maps, the demographics data on national data reported to Eurostat and the mortality calculations are done following the same methodology for all countries.

Quantitative result

Value	All EU MS
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Domain consistency

Name of measure	Time coverage
Measure description	Presented time series (including EU aggregates) starts in 2005.

Quantitative result

Value	> 10 years
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Domain consistency

Name of measure	Comparability - over time
Measure description	<p>Length of comparable time series without methodological breaks is longer than 4 data points.</p> <p>The year 2006 is missing because there are no interpolated PM2.5 maps for that year. There are no methodological breaks, since the time series is recalculated every year (e.g., the last update took into consideration the latest methodology for the whole series).</p>

Quantitative result

Value	> 4 data points
Statement	<p>To estimate the mortality attributed to air pollution, EEA follows the recommendations provided by the WHO in its more recent update of its Global air quality guidelines (Source: https://apps.who.int/iris/handle/10665/345329). Therefore, a relative risk of 0.08 has been used for PM2.5. This implies that the risk of dying prematurely increases by 8% per each increase in 10µg/m3 in the annual mean PM2.5 concentrations.</p> <p>Furthermore, only the impact above annual concentrations of 5µg/m3 (the 2021 WHO AQ guideline level) are calculated. So, EEA estimates the mortality attributable to not reaching this recommended WHO AQ guideline level. This approach has been followed to calculate the mortality for all years.</p> <p>The main uncertainty is associated with the concentration-response functions used in the calculation of the mortality. That uncertainty is calculated as a confidence interval around a mean or central estimate. The EEA uses a 95 % confidence interval. This implies that there is 95 % probability that the true value lies in the range defined by the interval. The upper and lower limits of the interval are included in the tables accessible via "Source datasets".</p>
Source	<ul style="list-style-type: none">•

Metadata

File identifier	bbde363c-21a2-4860-b5a1-b822ee0cf50d XML		
Metadata language	English		
Character set	UTF8		
Hierarchy level	Tabular dataset		
Hierarchy level name	Tabular dataset		
Date stamp	2024-10-16T12:40:04.928959Z		
Metadata standard name	ISO 19115/19139		
Metadata standard version	1.0		
Metadata author	Organisation name	Individual name	Electronic mail address Website Role
	European Environment Agency		sdi@eea.europa.eu Point of contact

Overviews

Dataset for indicator Premature deaths due to exposure to fine particulate matter (PM2.5) (11_52)

Conditions		TIME																		
Unit	Number of premature deaths																			
Coverage	EU27_2020																			
Legend	AGG= Aggregate																			
	MS= Member State																			
	EFTA= EFTA country																			
	CC= Candidate Country																			
Type	GEO (Labels)	GEO (Codes)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	
AGG	European Union - 27 countries	EU27_2020	431114		349416	354202	362941	367732	382355	344027	328912	290933	320994	281995	303487	290716	231286	237715	253305	
MS	Belgium	BE	9324	9333	9407	9832	9653	8138	8991	6250	5210	5766	5914	5914	5914	5914	5914	5914	5914	
MS	Bulgaria	BG	19277	17300	19053	16162	15912	20002	16029	13810	14203	14669	13325	13120	12027	9906	10623	10840		
MS	Czechia	CZ	13106	8605	9116	10228	11843	11173	10216	10914	9895	9645	8934	9335	10305	8941	6980	8402		
MS	Denmark	DK	2991	2143	2471	2334	2581	3386	1916	1781	2419	1843	1650	1366	2205	1718	1038	1203		
MS	Germany	DE	86644	48870	54708	63359	69887	64474	51701	50365	52049	49696	44203	45191	45082	34359	28886	32322		
MS	Estonia	EE	774	455	276	443	347	325	306	398	213	132	70	230	79	58	97			
MS	Ireland	IE	641	325	833	738	1008	771	638	879	817	393	468	275	624	598	488	498		
MS	Greece	EL	15288	12554	12472	13414	11988	12999	12271	11468	9647	12502	12159	20982	11144	9488	8897	8990		
MS	Spain	ES	34017	31417	24575	24477	19188	20910	20383	15793	15486	22200	17510	20142	15104	14734	16982	14074		
MS	France	FR	38706	32796	34906	38664	40501	40021	36568	35660	22689	28175	24417	22883	22888	18709	16507	20061		
MS	Croatia	HR	6539	5250	4917	5375	5435	5900	6254	4114	3771	4685	5122	4688	4696	3472	4128	3797		
MS	Italy	IT	7047	60784	58906	58398	52232	68469	80447	55103	45701	60989	49616	54674	46884	42056	52295	46792		
MS	Cyprus	CY	1137	883	964	754	793	931	1090	590	619	711	541	621	626	582	585	629		
MS	Latvia	LV	2639	1617	2386	1668	2043	1424	1525	1549	1779	1245	1238	898	1436	1001	836	1405		
MS	Lithuania	LT	3224	2629	3027	2154	3156	2573	2204	2474	2819	2110	2054	1490	2110	1880	1461	2148		
MS	Luxembourg	LU	260	207	235	279	277	237	208	241	183	200	175	150	150	93	78	77		
MS	Hungary	HU	16002	13051	12950	13493	13765	16387	12503	11980	10788	13030	11290	12614	12181	8687	9602	10381		
MS	Malta	MT	349	272	227	259	188	243	191	174	153	200	151	172	196	188	151	193		
MS	Netherlands	NL	11981	10156	11271	11234	11890	11669	8840	9189	8598	7680	6634	6695	7554	6054	4987	5691		
MS	Austria	AT	7161	5417	5922	5821	6733	6715	5388	5853	4283	4895	3966	4239	5001	3685	3167	3203		
MS	Poland	PL	46139	36895	40371	42328	52629	50899	47898	45976	45114	44471	41552	44821	46792	35947	26541	47298		
MS	Portugal	PT	9160	6374	4286	5214	4074	4876	3980	3646	2622	3943	2986	3041	2940	2517	2939	2105		
MS	Romania	RO	42284	33112	30299	28381	21918	29334	28343	23037	22039	23999	21587	23469	23158	18470	21590	19004		
MS	Slovenia	SI	2035	1557	1565	1694	1712	1952	1632	1603	1306	1660	1467	1554	1495	1147	1236	1191		
MS	Slovakia	SK	8698	5340	5540	5330	5877	6787	5580	5281	4878	5130	4470	5032	4857	3482	3916	5354		
MS	Finland	FI	1239	1031	843	629	1065	959	773	369	883	225	225	87	454	167	81	156		
MS	Sweden	SE	3443	3093	2570	1661	2084	2672	1593	783	1646	798	735	412	902	388	388	646		
EFTA	Iceland	IS	31	26	49	18	35	4	0	23	25	23	11	15	8	2	0	1		
EFTA	Liechtenstein	LI	19	17	16	14	18	17	9	11	7	12	10	8	7	6	7	6		
EFTA	Norway	NO	1324	1184	1003	832	1292	1282	860	768	697	427	449	286	352	318	188	363		
EFTA	Switzerland	CH	4689	3765	4160	4118	4581	4203	3407	3976	2929	3305	2358	2311	2258	1790	1722	1677		
CC	Bosnia and Herzegovina	BA	7694	6309	5905	6994	6768	7310	5335	4164	3956	5360	7473	6216	7311	5797	9156	8884		
CC	Montenegro	ME	1032	1019	929	966	1265	1253	898	736	665	880	863	875	975	856	918	1079		
CC	North Macedonia	MK	6300	4174	4230	5312	4988	5670	5287	4889	4438	4854	6047	6171	5121	3277	3757	4979		
CC	Albania	AL	6595	4693	4371	5192	6240	5697	4941	4297	3463	4838	5135	6276	4779	3807	3789	4604		
CC	Serbia	RS	18319	14773	14884	15070	11868	17517	13371	11204	11554	13176	13749	16192	14705	11132	14372	14845		
CC	Turkiye	TR																		
CC (potential)	Kosovo under United Nations administration	KX	4967		4245	4223	4682	5295	4683	4158	3834	3745	3960	4038	4179	4096	2759	3058	2925	

Provided by

