

Illustrative Example of Emission Factors Calculated from Functions at Typical Speeds on Urban, Rural, Motorway Roads

Factors based on new speed-emission functions, averaged over distribution of engine sizes/vehicle weights in UK fleet

	NOx g/km			PM10 g/km			CO g/km			HC g/km					
	Urban	Rural	Motorway	Urban	Rural	Motorway	Urban	Rural	Motorway	Urban	Rural	Motorway			
PETROL CECE 15.04	1.635	2.206	3.159	Pre-Euro I	0.0235	0.0149	0.0180	Pre-Euro I	9.837	6.255	7.537	Pre-Euro I	1.473	0.922	0.789
Euro I	0.249	0.365	0.660	Euro I	0.0029	0.0040	0.0088	Euro I	1.406	1.401	4.142	Euro I	0.082	0.066	0.159
Euro II	0.227	0.243	0.368	Euro II	0.0007	0.0013	0.0053	Euro II	0.983	0.726	0.607	Euro II	0.065	0.046	0.047
Euro III	0.136	0.146	0.221	Euro III	0.0007	0.0013	0.0053	Euro III	0.885	0.654	0.546	Euro III	0.045	0.032	0.033
Euro IV	0.073	0.078	0.118	Euro IV	0.0007	0.0013	0.0053	Euro IV	0.590	0.436	0.364	Euro IV	0.034	0.024	0.025
DIESEL C/Pre-Euro I	0.616	0.566	0.714	Pre-Euro I	0.171	0.148	0.188	Pre-Euro I	0.665	0.453	0.421	Pre-Euro I	0.147	0.087	0.061
Euro I	0.523	0.460	0.686	Euro I	0.064	0.055	0.086	Euro I	0.282	0.152	0.205	Euro I	0.075	0.046	0.039
Euro II	0.540	0.499	0.807	Euro II	0.057	0.041	0.063	Euro II	0.240	0.073	0.073	Euro II	0.061	0.030	0.025
Euro III	0.540	0.499	0.807	Euro III	0.040	0.028	0.044	Euro III	0.144	0.044	0.044	Euro III	0.043	0.021	0.017
Euro IV	0.270	0.250	0.403	Euro IV	0.020	0.014	0.022	Euro IV	0.144	0.044	0.044	Euro IV	0.039	0.020	0.016
PETROL L	1.535	1.778	2.346	Pre-Euro I	0.0292	0.0232	0.0682	Pre-Euro I	13.35	10.21	31.22	Pre-Euro I	1.467	0.760	0.823
Euro I	0.360	0.352	0.526	Euro I	0.0037	0.0065	0.0141	Euro I	2.89	1.82	2.06	Euro I	0.095	0.082	0.075
Euro II	0.318	0.383	0.565	Euro II	0.0009	0.0013	0.0047	Euro II	0.70	0.62	0.58	Euro II	0.057	0.052	0.051
Euro III	0.191	0.230	0.339	Euro III	0.0009	0.0013	0.0047	Euro III	0.63	0.56	0.52	Euro III	0.040	0.037	0.036
Euro IV	0.105	0.127	0.186	Euro IV	0.0009	0.0013	0.0047	Euro IV	0.42	0.37	0.35	Euro IV	0.030	0.028	0.027
DIESEL LC	1.311	1.248	1.542	Pre-Euro I	0.321	0.272	0.401	Pre-Euro I	1.025	0.798	1.226	Pre-Euro I	0.284	0.146	0.154
Euro I	1.033	0.881	1.364	Euro I	0.090	0.087	0.218	Euro I	0.434	0.535	0.963	Euro I	0.126	0.103	0.093
Euro II	0.981	0.837	1.296	Euro II	0.090	0.087	0.218	Euro II	0.434	0.535	0.963	Euro II	0.126	0.103	0.093
Euro III	0.733	0.626	0.969	Euro III	0.072	0.070	0.174	Euro III	0.260	0.321	0.578	Euro III	0.098	0.080	0.072
Euro IV	0.382	0.326	0.505	Euro IV	0.044	0.043	0.107	Euro IV	0.260	0.321	0.578	Euro IV	0.052	0.042	0.038
RIGID HG	13.53	13.53	13.53	Pre-1988 n	1.081	0.863	0.853	Pre-1988 n	3.33	2.75	2.57	Pre-1988 n	3.56	2.88	2.79
Pre-Euro I	5.83	4.91	5.91	Pre-Euro I	0.517	0.413	0.408	Pre-Euro I	2.56	2.11	1.97	Pre-Euro I	1.77	1.44	1.39
Euro I	7.47	6.84	7.23	Euro I	0.267	0.213	0.211	Euro I	1.45	1.20	1.17	Euro I	0.65	0.49	0.44
Euro II	6.39	5.76	6.02	Euro II	0.163	0.127	0.128	Euro II	1.17	0.97	0.90	Euro II	0.51	0.42	0.40
Euro III	4.41	3.98	4.15	Euro III	0.117	0.092	0.092	Euro III	0.82	0.68	0.63	Euro III	0.36	0.29	0.28
Euro IV	3.13	2.82	2.95	Euro IV	0.024	0.019	0.019	Euro IV	0.60	0.49	0.46	Euro IV	0.25	0.20	0.20
Euro IV+ (ζ)	1.79	1.61	1.69	Euro IV+ (ζ)	0.024	0.019	0.019	Euro IV+ (ζ)	0.60	0.49	0.46	Euro IV+ (ζ)	0.25	0.20	0.20
ARTIC HG	20.70	20.70	20.70	Pre-1988 n	0.870	0.658	0.580	Pre-1988 n	3.88	3.23	3.24	Pre-1988 n	3.95	2.62	2.09
Pre-Euro I	16.53	12.89	11.52	Pre-Euro I	0.763	0.577	0.508	Pre-Euro I	2.96	2.47	2.47	Pre-Euro I	1.57	1.04	0.83
Euro I	19.85	18.18	19.22	Euro I	0.701	0.560	0.554	Euro I	4.05	3.37	3.27	Euro I	1.68	1.27	1.13
Euro II	13.69	12.35	12.91	Euro II	0.423	0.332	0.332	Euro II	3.15	2.60	2.43	Euro II	1.39	1.12	1.09
Euro III	9.45	8.52	8.90	Euro III	0.305	0.239	0.239	Euro III	2.20	1.82	1.70	Euro III	0.97	0.79	0.76
Euro IV	6.71	6.05	6.32	Euro IV	0.064	0.050	0.050	Euro IV	1.61	1.32	1.24	Euro IV	0.68	0.55	0.53
Euro IV+ (ζ)	3.83	3.46	3.61	Euro IV+ (ζ)	0.064	0.050	0.050	Euro IV+ (ζ)	1.61	1.32	1.24	Euro IV+ (ζ)	0.68	0.55	0.53
BUSES	16.71	13.82	13.36	Pre-1988 n	2.344	0.766	0.655	Pre-1988 n	19.70	7.33	9.15	Pre-1988 n	7.550	2.193	2.053
Pre-Euro I	13.50	5.37	6.13	Pre-Euro I	1.017	0.332	0.284	Pre-Euro I	8.75	3.25	4.06	Pre-Euro I	1.829	0.531	0.497
Euro I	10.77	6.15	6.51	Euro I	0.515	0.200	0.198	Euro I	2.73	1.12	1.09	Euro I	1.392	0.461	0.411
Euro II	9.66	5.50	5.75	Euro II	0.296	0.120	0.120	Euro II	2.25	0.91	0.85	Euro II	1.014	0.390	0.378
Euro III	6.67	3.80	3.97	Euro III	0.213	0.086	0.087	Euro III	1.57	0.63	0.59	Euro III	0.709	0.273	0.264
Euro IV	4.74	2.70	2.82	Euro IV	0.044	0.018	0.018	Euro IV	1.15	0.46	0.43	Euro IV	0.497	0.191	0.185
Euro IV+ (ζ)	2.71	1.54	1.61	Euro IV+ (ζ)	0.044	0.018	0.018	Euro IV+ (ζ)	1.15	0.46	0.43	Euro IV+ (ζ)	0.497	0.191	0.185

Source: Compiled by NAEI
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Based on new speed-emission functions and average speeds typical for each class of vehicle on each type of road