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Adjustment DE-A regarding NOx from Road Vehicles

PREFACE

When deriving proposals for national emission ceilings for negotiations of the 1999 Gothenburg Protocol, sector-specific emission estimates for the year 2010 were calculated at IIASA using a set of scenarios which assumed various technological abatement measures, policy incentives, and legislation available / in place or planned at that time. As a result, the 2010 emission by road transport in Germany was estimated at NO,,x,, (IIASA, 1999) ¹⁾. The over-all 2010 national emission ceiling (NEC) for NO,,x,, was set to 1,081 kt. When negotiating the EU NEC Directive two years later, Germany agreed to reduce its NO,,x,, emissions further, resulting in a NEC of 1,051 kt.

In its 2016 NEC emissions reporting, Germany provided a national total for NO,,x,, emissions of 1,337 kt for 2010. However, this total includes emissions from agricultural soils and other source categories not accounted for when setting the NEC. In addition, some assumptions made in 1999, including on emission factors from road traffic, turned out to be wrong in reality. Like in many other European countries, non-compliance with the 2010 NEC as set in 1999 was partly not caused by failed national mitigation policies, but by changes beyond the control of, and unforeseen by, the individual Party or Member State.

In order to differentiate such changes from policy failures in the responsibility of the individual Parties to the Gothenburg Protocol, a procedure (Inventory Adjustment) allowing the adjustment of emissions resulting from new emission categories, changes in estimation methodologies, emission factors etc. provided within the EMEP/EEA Guidebook, or other effects beyond national control with respect to complying to emission reduction obligations (EB, 2012a & c) ²⁾, ³⁾ was agreed. This procedure is applicable also for existing NECs (EB, 2012b) ⁴⁾.

With respect to road transport, such an unforeseeable effect was the partial failure of several so-called "Euro norms" set on the EU level to reduce emissions from road vehicles. In this report, Germany presents an estimate of the NO,,x,, emissions resulting from the partial failure of the mitigation policy reflected by the Euro norms, and lays out the calculations leading to these estimates.

REASONS FOR MISSING THE GOTHENBURG CEILINGS

The TREMOD methodology applied for estimating emissions from road transportation in Germany has changed over time. These changes include updates of emission factors (EF) for various pollutants and other changes such as an extension of vehicle classification (and thus inclusion of emission factors associated with these new vehicle sub-categories) to improve the estimation's accuracy.

The main changes occurred for the emission factors and for the Heavy Duty Vehicles (HDV) fleet structure. This last point led to changes in emissions because of the reallocation of activities (consumption/traffic) between the sub-categories of vehicles.

For the formalism of the adjustments, it is difficult to flag whether the modifications for road transport are due to "methodological changes" or due to "changes of emission factor". Therefore, only the term "change of methodology" will be used (even if at the NFR reporting level this may seem like a simple change in EFs).

So far as road transport is concerned, the inability to attain the emission ceiling is most likely to have been affected by a combination of technological changes within the fleet (which of course made their way into the several versions of TREMOD) combined with greater than originally expected dieselisation of the fleet.

ANALYSING THE PROBLEM: THE EUROPEAN PERSPECTIVE BASED ON COPERT

Already in 2011, these effects were demonstrated by Ntziachristos and Papageorgiou (2011) ⁵⁾. Here, the impacts of changing model versions and activity data in the context of meeting the EU NEC Directive ceiling commitments were examined for four European countries including Germany. Unfortunately, this comparison study was carried out within a COPERT environment. Therefore, the results gained cannot be transferred to the German TREMOD environment on a one-to-one level but nonetheless allow a highly illustrative insight in the reasons for not meeting the set ceiling. The study modeled fuel consumption and NO,,x,, emissions for four selected countries (Germany, France, Netherlands and Belgium) and found higher NO,,x,, emissions were estimated for the road transport sector than originally modelled by the RAINS model of IIASA (which underpinned the setting of 2010 ceilings). For Germany, this study shows that with the same activity data set (LIFE+

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EC4MACS data from Amann et al. (2010)), NO,,x,, emissions estimated with COPERT II vs. COPERT 4 (v8.0) increase from 410 kt to 518 kt due to methodological changes, a difference of 282 kt. An additional consideration of changes in AD would lead to 620 kt of NO,,x,,. However, as changes in AD are no valid adjustment reason, the latter value is for information only.

This was mainly due to: * NO,,x,, emission factors updated in COPERT 4 that did not follow the reductions as set by the emission standards for diesel passenger cars; * important part of diesel fuel consumption in the total fuel consumption of the road traffic.

The results of this study showed that it is the combination of different parameters which might affect the ability (to different extents) of a Party to attain the emission ceilings. In other words, the exceeding of NO,,x,, ceilings for road transport is due to:

Changes in methodology and emission factors

As these technologically driven changes (as reflected in the <u>evolution of the different so-called Euro norms</u>) lie outside the country's responsibility, current methodology and EFs have to be adjusted in a way to allow the comparison of the actual inventory and the Gothenburg ceilings.

Changes in the activity data

As the development of mileage driven and fuels used within a country (<u>Germany: stronger dieselisation</u> then originally expected) is of the country's responsibility, this effect has to be excluded from any adjustment estimation.

IN-COUNTRY ANALYSIS: THE TREMOD PERSPECTIVE

INITIAL ASSUMPTION

In order to estimate the effect of NO,,x,, emissions resulting from the failure of the so-called Euro norms, the following procedure has been agreed by expert review teams in the last two years:

proposed amount of adjustable emissions = current AD x current EF - current AD x original EF = current AD x (current EF - original EF) = current EM - "artificial" current EM 1

^^1^^ "artificial" current emissions = virtual current emissions assuming no changes in emission factors

math EM_\text{ adjustment} = AD_\text{ current} * EF_\text{ current} - AD_\text{ current} * EF_\text{ original} =
AD_\text{ current} * (EF_\text{ current} - EF_\text{ original}) = EM_\text{ current} - EM_\text{ current-"artificial"} math

with * EM ,,adjustment,, = amount of emissions to be subtracted from National Totals * AD ,,current,, = AD from latest TREMOD version as used for current submission * EF ,,current,, = EF from latest TREMOD version as used for current submission * EF ,,original,, = EF from TREMOD version used at the time NEC ceilings were set (here: TREMOD 3.1) * EM ,,current,, = EM estimated from AD and EF from latest TREMOD version = EM reported for NFR 1.A.3.b with latest submission * EM ,,current-"artificial",, = EM estimated from AD from latest TREMOD version and EF from TREMOD version used at the time NEC ceilings were set (here: TREMOD 3.1)

APPLYING THE ORIGINAL METHODOLOGY

FRAMEWORK INFORMATION

The methodology used for estimating Germany's exhaust emissions from road transport when determining emissions ceilings of the Gothenburg Protocol (1999), was the second version of the EMEP/CORINAIR guidebook corresponding to COPERT II software. This method proposed NO,,x,, emission factors for

- passenger cars (PC): up to Euro 1
- light commercial vehicles (LCV2): up to Euro 1
- heavy duty vehicles (HDV): pre-EURO I only (conventional)

Back than, without better knowledge, the emission factors for the most recent standards were derived by directly applying the expected reductions in emission standards.

However, as Germany does not use COPERT for compliling its road transport emissions inventory but a national model called

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TREMOD, the following comparison has to be carried out between the oldest version of TREMOD still available and the version as applied for the current inventory submission (2020).

Unfortunately, the oldest TREMOD version available for such comparison is TREMOD 3.1 from 2002 ⁶⁾, including the following set of NO,,x,, emission factors:

- passenger cars (PC): up to Euro 4
- light commercial vehicles (LCV): up to Euro 4
- heavy duty vehicles (HDV) only up to EURO V

However, as this version includes the technocological development since 1999 (when the ceilings were set based on COPERT II), the results from this analysis and the adjustment proposal based upon these results are likely to slightly underestimate the effect of technological changes since 1999 and must tehrefore be considered conservative.

THE COMPARISON

Application of the original NO.,x., methodology to the current road transport background activity data

The basic activity data (such as over-all fuel sold and traffic mileages by vehicle type, by fuel or by Euro regulation) implemented in TREMOD 3.1 differ significantly from those of the current TREMOD version especially for the more recent years as of 2005. In addition, specific activity data (such as fuel consumptions per vehicle type, per fuel or per Euro regulation) strongly depend on the TREMOD version.

Within this report, Germany re-estimates the NO,,x,, emission within the TREMOD 3.1 model. To isolate the requested information, the original TREMOD 3.1 activity data was combined with emission factors from both TREMOD 3.1 and the currently used TREMOD 6.02 (Knörr et al., 2019a) 7).

Description of the updated methodology used

The updated methodology, used in 2019 (for NFR submission 2021) and implemented in version 6.12 of the TREMOD software, considers emission factors of

- passenger cars (PC) up to Euro 6d
- light commercial vehicles (LCV) up to Euro 6d
- heavy duty vehicles (HDV) up to EURO VI

and

• motorized two-wheelers (M2W) up to Euro 4

Comparison of emission estimates made using the original and updated methodologies

The values of NO,,x,, emissions presented in the table below are estimated with:

• TREMOD 3.1 model equations as initial methodology

and,

TREMOD 6.12 equations as methodology applied for NEC submission 2021.

The activity data applied to initial (here: oldest available) and most recent methodology, are those of the latest inventory provided with NEC submission 2021.

Table 1: Resulting adjustment proposal 2020

for year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
proposed adjustment	-297.8	-302.3	-301.3	-306.1	-294.5	-269.0	-244.3	-214.9	-174.6	

The following screenshots show the TREMOD 3.1 / TREMOD 6.12 implementation comparisons per vehicle type/fuel/Euro regulation.

Activity Data

* current: from TREMOD 6.12, as reported with the latest inventory submission

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- * adjusted: has to be similar to current AD!
- * difference: as only recent AD are to be used for adjustment estimations, this value must be zero!

Implied Emission Factor

- * **current**: representing the ratio of current emissions and current AD
- * **adjusted**: representing the ratio of adjusted emissions and current AD
- * **difference**: shows percentual difference

NO,,x,, Emissions

- * **current**: from TREMOD 6.12, as reported with the latest inventory submission * **adjusted**: estimated based on TREMOD 3.1 methodology and TREMOD 6.12 AD
- * adjustment: adjusted emissions minus current emissions
- * **difference**: percentual difference between current and adjusted emissions

- Agranda - Agra	vervieur fi	or years	2010 to 2015									
NFR Code	Fuel	Year	current	ctivity Date	difference			n Factor	current	NO, Em		difference
MFK Code	Fuel	rear	in [in [S]	in [kg		difference in [%]	current	adjusted in [kg]	adjustment	in [%]
1.A.3.bi	gasoline		796.957	795.957	0%	97,55	84,99	-13%	77.644.842	67,650,906	9.993.935	-13%
1.A.3.b1	diesel oil		529,300	529,300	0%	429,46	160,51	-63%	227.341.096	84.970.461		-63%
1.A.3.bii	gasoline		6.325	6.325	0%	255,87	214,75	-16%	1.618.432	1.358.328	250.104	-16%
1.A.3.bii 1.A.3.bii	diesel oil diesel oil		113,450 48,044	113,450 48,044	0%	475,34 623.00	134,96 482,55	-72% -23%	54.040.533 29.931.266	15.311.584 23.183.732	38.728.949 6.747.534	-72% -23%
1A3.bii	diesel oil		566.741	566,741	0%	446,67	271,83	-39%	253.148.243	154.056.160	99.092.083	-31%
1.A.3.b iv	gasoline		19.712	19.712	0%	113,68	168,43	48%	2.240.749	3.320.034	-1.079.285	48%
1.A.3.b TOT	AL.	2010	2.079.608	2.079,608	0%			0%	645.965.162	349.851.206		-46%
1.A.3.b1	gasoline		794.688	794,688	0%	92.09	81,61	-11%	73.185.851	64.851.951	8.333.900	-11%
1.A.3.bii 1.A.3.bii	diesel oil gasoline		553,564 6,118	553.564 6.118	0% 0%	434,12 229,35	159,22	-63% -13%	1.403.081	1.214.776	162.174.832	-63% -13%
1A3bii	diesel oil		115.967	115.967	0%	481,55	126.92	-74%	55.844.518	14,718,142	41.125.376	-74%
1A3.bii	diesel oil		47.365	47.365	0%	692.66	448,99	-24%	28.071.221	21.266.323	6.864.898	-24%
1A3bii	diesel oil		563.891	563.891	0%	410,38	244,97	-40%	231.410.271	138.136.342	93.273.929	-41%
1.A.3.b iv	gasoline		19.289	19.289	0%	110,79	171,60	54%	2.137.002	331,625,655	-1.162.160 300.740.081	54%
1.A.3.b TOTA 1.A.3.b i	AL. casoline	2011	2.100.883 750.957	2.100.883 750.957	0%	85.73	78,00	-0%	632,365,736	58.577.229	5.802.765	-48% -0%
1.A.3.bi	diesel oil		555.245	555.245	0%	435,96	158.66	-64%	242.062.902	88.096.699	153.966.203	-64%
1.A.3.bii	gassine		5.657	5.657	0%	218,93	193,15	-12%	1.238.520	1.092.662	145.859	-12%
1.A.3.bii	diesel oil		114,350	114,350	0%	481,91	120,17	-75%	55.106.382	13.741.354	41.365.028	-75%
1.A.3.bii	diesel oil		50.902	50.902	0%	533,22	384,33	-28%	27.141.913	19.563.208	7.578.704	-28%
1.A.3.b ii 1.A.3.b iv	diesel oil gasoline		589,585 18,268	589.595 18.268	0%	381,33 107,43	224,00 173,28	-41% 61%	224.829.180 1.962.546	132.064.753 3.165.439	92.764.428	-41% 61%
1.A.3.b TOTA		2012	2.084.964	2.084,964	0%	101,43	17-2,200	0%	616.721.438	316.301.343		495
1.A.3.bi	gasoline	30.02	749.114	749.114	0%	80,35	74,85	-7%	60.190.007	56.071.797	4.118.211	-7%
1.A.3.bi	diesel oil		589,131	589,131	0%	437,14	158,71	-64%	257.533.726	93.499.010		-64%
1.A.3.bii	gasoline		5.578	5.578	0%	202,80	184,07	-9%	1.131.209	1.026.727	184.482	-9%
1.A.3.bii 1.A.3.bii	diesel oil diesel oil		118.777 51.716	118.777 51.796	0% 0%	480,60 509,54	114,93 360,06	-76% -29%	57.083.533 26.350.969	18.620.843	43.433.045 7.730.126	-76% -29%
1A3bii	diesel oil		600.139	600 139	0%	353.06	207.93	41%	211.887.531	124,788,469	87,099,062	41%
1.A.3.bW	gasoline		18.229	18.229	0%	104.34	175,38	68%	1.902.088	3.197.038	-1.294.951	68%
1.A.3.b TOT	AL.	2013	2.132.683	2.132.683	0%			0%	616.079.063	310.854.371	305,224,692	-50%
1.A.3.bi	gaseline		752.526	752,526	0%	76,03	73,09	-4%	57.215.533	54.998.921	2.216.612	-4%
1.A.3.bi	diesel oil		626.045	626.045	0%	435,87	159,12	-63% -7%	272.876.061 1.112.584	99.613.892	173.262.169	-63% -7%
1.A.3.bii 1.A.3.bii	gaseline diesel oil		5.845 128.578	5.845 128.578	0% 0%	190,34 475,56	110,96	-77%	61.146.575	14.267.237	46.879.338	-77%
1A3bii	diesel oil		49.143	49.143	0%	468.37	339,99	-27%	23.017.115	16.708.234	6.300.001	-27%
1.A.3.b III	diesel oil		572.754	572,754	0%	314,05	196,05	-38%	179.874.133	112.285.582	67.588.551	-38%
1.A.3.biv	gasoline		18.673	18.673	0%	100,59	179,24	78%	1.878.294	3.345.794	-1.468.499	78%
1.A.3.b TOTA 1.A.3.b i		2014	2.153.563 715.158	2.153.563 715.156	0%	74.38	71,73	4%	597.120.297 53.190.787	51,300,983	294.868.025 1.889.905	4%
1.A.3.bi	gasoline diesel oil		645,565	645.565	0%	426.19	159,80	43%	275.130.233	103.163.501		-43%
1A3bii	gasoline		5.793	5.793	0%	187,12	172,80	-8%	1.083.927	1.000.999	82.928	-8%
1.A.3.bii	diesel oil		135,386	135,306	0%	469,35	107,96	-77%	63.505.443	14.607.490	48.897.953	-77%
1.A.3.b III	diesel oil		52.287	52.287	0%	458,96	327,99	-29%	23.997.817	17.149.448	6.848.370	-29%
1.A.3.bii 1.A.3.biv	diesel oil gasoline		589.411 18.459	589.411 18.459	0% 0%	266,69 99,32	187,51	-30% 82%	187.109.676	3.334.472	46.668.973 -1.501.090	-30% 82%
1.A.3.6 TOTA		2015	2.161.976	2.161,976	0%	99,32	189,00	0%	575,931,265	301,077,596	274.853.670	48%
1.A.3.bi	gasoline	2012	716.272	715.272	0%	70.93	70.66	0%	50.736.967	50.535.049	201.918	0%
1.A.3.bi	diesel oil		675,119	675.119	0%	410,36	160,76	-61%	277.041.660	108.535.230	168.506.430	-61%
1.A.3.bii	gasoline		5.926	5.926	0%	180,27	171,06	-5%	1.068.292	1.013.678	54.614	-5%
1.A.3.bii	diesel oil		144.068	144.068	0%	456,12	105,62	-77%	65.712.732	15.215.007	50.496.726	-77%
1.A.3.bii 1.A.3.bii	diesel oil		54.157 594.013	54.157 594.013	0% 0%	424,73 226,31	308,24	-27% -20%	23.002.109 134.431.899	16.693.117	6.308.992 26.935.637	-27% -20%
1.A.3.biv	gasoline		18.785	18.785	0%	96,14	181,66	89%	1.005.097	3.412.476	-1.606.579	89%
1.A.3.b TOT		2016	2.207.339	2.207.339	0%			0%	553.799.558	302,901,820		-45%
1.A.3.bi	gasoline		724.571	724.571	0%	67,66	69,88	3%	49.026.874	50.634.714	-1.607.840	3%
1.A.3.b1	diesel oil		696,592	696.592	0%	390,66	161,95	-59%	272.126.091 1.058.799	112.810.721	159.315.370 24.588	-59%
1.A.3.bii 1.A.3.bii	gasoline diesel oil		6.186 153.284	6.186 153.284	0% 0%	171,15 424.66	167,18	-2% -76%	1.058.799 65.093.930	1.034.211	24.588 49.168.714	-2% -78%
1A3bii	diesel oil		53.382	53.382	0%	370,80	286,71	-23%	19.793.901	15.304.828	4.489.073	-23%
1.A.3.bii	diesel oil		598.263	598.263	0%	195,02	175,92	-10%	116.671.141	105.245.508	11.424.633	-10%
1.A.3.b iv	gasoline		19,160	19,160	0%	92,83	183,39	98%	1.778.674	3.513.787	-1.735.114	98%
1.A.3.6 TOTA		2017	2.251.437	2.251.437	0%	80.00		0% 6%	525.549.410	47 755 547	A 173 ASS	42%
1.A.3.bi 1.A.3.bi	gasoline diesel oil		699.027 666.074	689.027 666.074		64,42 371,66	163.36		45.032.996 247.666.063		-2.753.820 138.787.659	
	gasoline		6,315	6.315		158,22	163,30				-11.939	
	diesel oil		154.259			384,71	102,69		59.344.525			
	diesel oil		51,634	51,634	0%	309,76	263,63	-15%	15.993.526			-15%
1.A.3.bii	diesel oil		585.186	585,186		171,18	172,10		100.173.337			
1.A.3.b iv	gasoline	3618	18.497	18,497		89,66	184,61		1.658.558 470.758.206		-1.756.209 179.618.593	
1.A.3.b TOTA 1.A.3.b i	AL. gasoline	2018	2.180.993 704.691	2.180.993 764.691		62,30	68,45		479.758.206			
	gasonni diesel oil		663.841	663,841		345,81	165,07		229.566.088			
	gasoline		6.683	6.683		146,08	153,25					
1.A.3.b ii	diesel oil		159,183	159,183		347,42	101,90		55.303.336			-71%
	diesel oil		52.939	52.939		274,41	247,81		14.527.012			
1.A.3.b ii	diesel oil		596.913	585.913		153,36	169,17		91.380.700	3.502.941		
	many from											
1.A.3.b iv 1.A.3.b TOTA	gasoline Al	2019	18.750 2.202.000	18.750		86,05	100,03		437.268.744			

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				Activity Dat	3	Heps	ed Emission	Fector		NO, Emi	ISSIONS	
NFR Code	Fuel		current		difference	current	adjusted	difference	CUITERS	adjusted	adjustment	difference
			in		in [5]		kg/TJ[in [5]		in [kg]		in [5]
		рьена	13,686	13,686	9%	564,76	614,26	-12%	7.996.060	6.996.917	-969.143	-12
		Ears 1	76,661	76,661	9%	338,60	207,71	-30%	25.915.925	19,199,292	-7.716.663	-30
		Ews 2	96,425	96.425	9%	172.05	135,03	-22%	16.590.020	13.020.026	-3.569.995	-22
	Gassine	Euro 3	133,139	133,139	9%	58,51	70.18	20%	7.790.384	9.343.433	1.553.129	20
	Casanne	Euro 4	444.991	444,991	8%	42.27	42.19	0%	18.811.389	18,773,529	-37.858	
		Euro 5	31,234	31,234	0%	18,61	42.19	121%	581,142	1.317.737	736.595	127
		Euro 6	0	0	0%	25.00	42.19	62%	2	3	1	62
1A3bi.		Gasoline total	795,957	795,957	0%	97.55	84.99	.13%	77,644,042	67,650,986	.9.993.935	.1
Passenger		ребиз	1.916	1.916	9%	310.13	264,96	-10%	689.790	687.256	-96.906	-%
Cars		Ears 1	10.338	10.338	9%	296.62	296,17	-11%	3.066.428	2.741.307	-325, 121	-11
		Euro 2	50.068	50.068	2%	406.90	219.19	49%	20.372,795	10,974,210	-9.398.594	-
			134.025	134 025	7%	542.04	178.54	47%	72.646.173	23.929.216	-0.200.004 -48.716.957	-5
	Diesel Oil	Ears 3										_
		Euro 4	279.154	279,154	9%	384,37	140,58	-63%	107,299,160	39.243.811	-68.055.349	-63
		Euro 5	53.547	53.547	9%	434,70	140,58	-60%	23.276.735	T.52T.796	-15.749.029	-60
		Euro 6	334	334	9%	267,62	140,58	-45%	85.046	46.953	-39.891	-40
		Diesel oil tutal	529,380	529,380	8%	69,65	160,51	.63%	227.341.096	84,970,461	.142.370.635	Æ
		PCs Total	1.325.337	1.325.337	8%	230,12	115,16	-50%	304.985.938	152,621,367	-152-364-579	.5
		ha Ena	1,249	1,249	9%	627,09	645,96	3%	783.320	886.871	23.951	
		Ews 1	367	367	9%	861,05	297,39	-85%	306,969	196.020	-200.950	-8
		Euro 2	1.383	1.393	9%	264,75	184,41	-30%	368.848	256.917	-111.531	-3
		Euro 3	886	886	0%	82.47	90.63	10%	70.631	77.625	6.994	,
	Gaseline	Euro 4	2.400	2.400	0%	36.32	44.50	24%	87.967	100.679	20.772	24
		Euro S	49	49	9%	15.34	44.50	193%	750	2.210	1.450	193
		Euro 6	. 0		9%			0%		0		- 1
A3bii .		Gasoline total	6.105	6.105	65	265.87	254,75	.16%	1.618.432	1,358,328	360.104	.1
light Duty		po Euro	4.876	4.826	2%	425,99	306,79	-29%	2.077.142	1,495,903	-681,239	- 2
Vehicles		Eura 1	5,989	5,989	2%	395.59	215.24	-46%	2.389.098	1,299,030	-1.080.069	-0
(LOVA)											-1.885.629	
		Euro 2	13,126	13,126	9%	336,76	193,10	-43%	4.420.360	2.534.731		-4
	Diesel Oil	Euro 3	33.249	33.249	9%	531,01	150,58	-72%	17.685.883	5.086.750	-12.649.123	-77
		Ears 4	54.581	54.581	9%	491,42	80,00	-82%	36.821.836	4.840.722	-21.901.114	-8.
		Ears 5	1.629	1.629	9%	427,50	00,00	-79%	696.296	164.434	-651.772	-71
		Eura 6	0	0	9%	161,73	99,69	-42%	7	4	-3	-4
		Diesel oil tutal	113,450	113,450	8%	475,34	134,96	-72%	54.040.533	15,311,584	-38.728.949	-7.
		LDVs Total	119,775	119,775	8%	464,70	139,18	-70%	55,658,966	16,669,913	-38.589.053	-7
		pre-Euro	3.382	3.382	9%	1086,25	1029,78	-8%	3.674.067	3.452.644	-221.423	-
		Eurol	2,826	2,826	8%	748.41	752,14	0%	2.117.871	2,125,585	7.723	
A3bii.		Eart I	10.152	10.152	0%	801.86	643.47	-20%	8,140,119	6.532.213	-1.607.906	-3
eavy Duty		Euro II	15,090	15,090	0%	630.22	457,25	-20%	10.065.775	T.299.299	-2.797.967	-2
Vehicles	Diesel Oil	Ears M	5.461	5.461	9%	441.63	361.66	-82%	2,450,016	1.921.527	-629,409	-2
Buses		Ears V	10.306	10.305	8%	337,29	182,33	-40%	3.482.417	1.982.544	-1.699.873	-8
		Ears VI	Ó	ó	2%		100000	0%		0		-
		Buses Total	48.046	48.044	60	623.00	482,55	-21%	29.931.296	23,183,732	4.747.534	-2
		pre-Caro	10,185	10,105	9%	1040.16	787,37	-26%	10.510.623	T.754.138	-2.758.485	-3
												-c -z
A3bH-		Eurol	5.671	5.677	9%	750,59	575,55	-23%	4.261.363	3.257.601	-893.792	
eavy Duty		Ears I	38.588	38.588	0%	817,62	524,79	-36%	31.525.526	20.234.619	-11.290.907	-3
Vehicle:	Diesel Oil	Ears II	158.933	158.933	9%	636,20	374,48	-41%	101.136.192	59.547.274	-61.608.921	-4
Trucks &		Ears IV	69.636	69.636	9%	390,94	290,02	-36%	27.183.967	20.166.636	-7.817.232	-26
Lorries		Ears V	283,934	289.934	9%	276,62	151,86	-45%	79.640.643	43.116.897	-06.424.746	-4
		Ewe VI	0	0	9%			0%		0		- (
		Trucks Total	566,741	566,741	8%	446,67	271,83	-39%	253,148,243	154,056,160	-99,092,083	-3
		pre-Euro	7.973	7.973	9%	122,00	149,16	22%	972,721	1.189.303	216.582	Z
A3biv-		Euro 1	5.231	5.231	0%	123.77	185,74	34%	647.479	867.039	219.550	3
Motorised		Euro 2	3.587	3.587	95	941.96	194.21	30%	586.362	686,661	190.309	3
Two	Gassine	Eura 3	2,900	2,900	95	39.11	194.21	387%	116.190	567.002	452.034	39
Wheelers	-	Earl 4	0	0	2%	30,11	100,01	0%		0	0	- 22
		Earl 6	0	0	2%			0%		0		
(MVWN)												
(MOW4)		M2Ws Total	19,712	19,712	9% 9%	113.68	168,43	465	2.240.749	3,320,034	1,679,285	-

				estivity Date			ed Emission			MO ₃ Emi		
NFR Code	Fuel				difference	current	adjusted	difference	Current	adjusted	adjustment	differenc
			in []		in [N]		kg/TJ[]	in [5]		in [kg]		in [5]
		ребиз	13.063	13.063	9%	\$90,06	634,69	-10%	7.729.236	6.979.436	-748.801	-10
		Ears 1	61,979	61,979	9%	347,86	240,16	-31%	21,560,430	14.984.951	-6.675.479	-01
		Eura 2	87,083	87,083	0%	179.38	136,68	-24%	15.620.983	11.883.792	-3.727.191	- 3
		Euro 3	124,330	124,330	2%	61.64	71.52	16%	7.663.891	8,891,671	1.227.780	1
	Gassline	Euro 4	442,185	442,185	8%	43,84	43.68	0%	19.384.914	19.316.439	-58.476	
		Euro 5	85.057	85.057	9%	18.58	43.68	135%	1.227.301	2.885.636	1.658.258	13
		Euro 6	4	4	9%	25.00	40.68	60%	17	26	11	6
14301.		Gasoline total	794,680	794,680	05	52.09	81,61	.515	73,185,651	64,851,951	#.333.900	- 4
Tassenger		ре-биз	1.711	1.711	2%	318.90	264,96	-10%	631.983	453.197	-79.606	-1
Cars		Eura 1	8.426	8.426	2%	297.32	295,85	-11%	2,505,115	2,239,997	-266.119	- 4
-			42.514	42,514	2%	407.03		-46%	17.384.549		J 982 634	- 1
		Euro 2					219.27			9.321.916		
	Diesel Oil	Euro 3	121,429	121,429	9%	555,36	178,68	-88%	67.437.053	21.681.366	45.755.687	-6
		Euro 4	264.943	264.943	9%	368,06	143,46	-63%	102.017.001	35.009.755	-64.808.846	-5
		Euro 5	113,847	113,847	9%	435,12	143,46	-61%	49.536.968	95.332.974	-33 203 994	-5
		Euro 6	685	685	9%	258,59	140,46	-45%	180.582	99.754	-00.748	-4
		Diesel oil tutal	553,564	553,564	8%	434,12	159,32	.63%	240.313.791	80.130.959	.152.174.832	Á
		PCs Total	1.348.252	1.348.252	6%	212,52	113,47	.51%	313.499.642	152,990,910	.160.508.732	.5
		pro-Euro	1,084	1,084	9%	629.26	645,96	3%	682.274	780,373	18.099	
		Ears 1	283	283	9%	858,74	384.47	-85%	243.299	86.158	-157,132	4
		Euro 2	1.164	1.164	9%	268.66	191.66	-28%	310.529	223,189	-87 340	.2
		Eury 3	TES	TES	85	85.97	95.39	11%	67.320	74,792	7.381	1
	Gaseline	Euro 4	2.562	2.562	95	37.38	46.51	24%	95,796	119.162	23.376	2
		Euro S	201	241	9%	16.13	46.51	180%	3.082	11.190	7.300	- 11
		Eura 6	0	0	85	16.33	46.61	202%	1	3	2	20
Albii.			6.118	6.118	676	229.35	198,57	.13%	1,463,081	1,314,776	.188.305	.1
Light Duty		Gosoline total										
Vehicles		ha-Ena	3.995	3.995	9%	425.09	306,79	-20%	1,698,290	1.225.602	472.598	4
(LOVA)		Ears 1	4.787	4.787	9%	395,71	215,24	-45%	1.894.390	1.030.425	-863.525	4
		Euro 2	10.818	10.818	9%	336,90	193,29	-43%	3.644.582	2.091.063	-1.553.530	4
	Diesel Oil	Euro 3	28.876	28.876	9%	541,53	150,54	-72%	15.637.249	4.346.870	-11.230.379	-7.
		Euro 4	60.832	60.632	9%	490,62	89,26	-82%	30.039.914	5.429.811	-24.618.104	-1
		Euro S	6.609	6.609	9%	440,05	89,26	-80%	2.930.190	584.364	-2.336.836	-4
		Eura 6	0	0	9%	166,21	89,26	-43%	14	8	-6	-4
		Diesel oil tutal	115.967	115.967	8%	481,55	126,92	-74%	55.844.518	14,718,142	41.126.376	
		LDVs Total	122,085	122,085	8%	468,92	130,51	-72%	57.247.599	15,902,918	-41.314.681	-
		ps-Euro	2,620	2.620	9%	1082,69	1019,78	-8%	2.836.109	2.671.331	-164.778	
		Euro I	2.258	2.255	8%	752.91	751.40	0%	1,699,707	1,686,297	-3.410	
A3bii.		Eart I	9.074	9.074	0%	804.57	643.36	-20%	7.297.125	5.837.959	-1.459.166	-2
inavy Duty		Euro II	14.007	14.007	9%	633.96	457.38	-20%	9.425.890	6.009.064	-2.616.827	-2
Vohicles	Diesel Oil	Ears IV	6.131	6.131	9%	448.00	361,61	-22%	2.363.330	1.005.274	-498.864	-2
Buses		Ears V	13.396	13.396	9%	336.60	182,62	-86%	4.589.062	2.446.399	-2.062.663	- 1
		Ears VI	0	0	2%	370,00	186,66	0%		Ď	0	
		Buses Total	47,365	47,365	65	592,65	448,99	-24%	28.071.221	21,296,323	-6.804.898	
		pre-Euro	8.044	8.044	9%	1008,67	763,88	-26%	8.395.423	6.144.903	-2.210.491	-2
A3bH-		Euro I	4.384	4.384	0%	750,16	574,04	-23%	3.288.422	2.516.377	-772.844	-2
leavy Duty		Ears I	29.277	29.277	9%	817,97	520,31	-36%	23.947.723	15.233.223	-8.714.439	-3
Vehicle:	Diesel Oil	Euro II	121.581	121.581	9%	635,56	372,68	-41%	77.271.520	45.312.437	-31.959.894	-4
Trucks &	Desire On	Ears IV	98.430	58.430	9%	390,26	289,48	-30%	22.977.764	16,989,686	-6.068.019	-4
Lorries		Ears V	342,176	342,176	9%	279,30	162,00	-46%	96,669,479	62.019.687	43.549.793	-4
		Eara VI	0	0	9%			0%	0	0		
		Trucks Total	563,891	563,891	8%	410.38	244,97	-40%	231,410,271	138,136,342	-93.273.529	-
		pre-Euro	7.389	7.389	8%	122.96	150.24	22%	908.588	1,110,178	201.580	- 2
		Euro 1	4.885	4.885	9%	124.72	165,25	35%	589.299	888.547	209.248	3
Motorised		Euro 2	3.544	3.544	15	137.85	194,58	41%	488.582	689.683	201.851	
Two	Gaustine	Eura 3	3,590	3.550	9%	39.59	194,50	392%	140.553	680.034	958.208	31
Wheelers	- Cartonia	Euro d	0.000	0.000	9%	20,00	100,00	0%		0	800 200	
(MQWs)				0						0		
		Eura 6	0		9%	24 E TO	474.00	0%				
		M2Ws Total	19,289	19,289	8%	110,79	171,04	54%	2.137,002	3,299,162	1.162.160	15
				2,100,063	05	301.00	157,85	405	632,365,736	301,625,655	.300,740,801	

adjustment_de-a 6/11

				Activity Dat	3	Impl	Bod Emission	Factor		NO, Emi	issions	
MFR Code	Fuel		current		difference	current	adjusted	difference	CURTORS	adjusted	adjustment	differen
			in		in [%]		[kg/TJ]	in (%)		in Rul		in [5]
		ребиз	11.661	11,561	9%	607,72	636,39	-12%	7.006.041	6.189.786	436.266	-14
		Ears 1	47.487	47,467	9%	349.66	241,02	-31%	16.671.746	11,426,129	-6.145.617	-0
		Eura 2	22,761	22,761	2%	184.27	137.92	-25%	13.487,749	10.035.380	-3.372.369	4
		Eurs 3	108.443	108.443	274	63.89	72.62	14%	6.927.963	T.875.172	547,269	- 1
	Gaspine		488.541	468.541				14% -1%				
		Euro 4			9%	45,39	45,13		18.541.861	18.436.716	-105.145	
		Euro 5	101.901	101.961	9%	18,61	45,13	143%	1.897.396	4.681.311	2.703.954	14
		Euro 6	282	282	9%	25,00	45,13	74%	7.336	12.736	5.399	1
1.A.3.b i .		Gasoline total	750.957	750.957	0%	85,73	70,00	.95	64.379.984	50.577.229	5.802.765	
Passenger		ba-gna	1,487	1,487	9%	311,98	264,96	-19%	463.963	393.972	49.931	-
Cars		Ews 1	6,660	6,690	9%	297,79	296,44	-11%	1,980,364	1,771,797	-208.517	-
		Euro 2	33.967	33.967	9%	406,62	219.27	-46%	13.807.432	T,445,646	-6.361.787	-4
	Diesel Oil	Earn 3	163,539	103.539	9%	564,02	178,63	-88%	58.398.037	18.454.837	-39.903.200	-4
	Diese Co.	Euro 4	234.943	234.943	9%	399,41	145,46	-62%	91,724,198	34.488.997	-57.315.201	4
		Euro 5	173,112	173,112	0%	434,89	145,45	-85%	75.284.364	25.383.375	49 530 590	-4
		Euro 6	1.557	1.557	0%	253,04	146,46	-84%	464.664	228.086	-176.578	4
		Diesel oil tutal	555,245	595,245	0%	435,96	150,66	.64%	242.062.962	80,096,699	.153.966.203	
		PCs Total	1,386,282	1,306,262	65	234.61	112,29	.57%	306.642.896	146,673,997	.159,768,968	
		рэ Еиз	962	962	8%	632,00	645.95	2%	667,739	621.150	13.411	
		Ears 1	232	232	9%	863.24	383.22	45%	199.885	70.295	-129.661	4
		Euro 2	989	989	9%	271.16	195,74	-28%	268,194	193,556	-74.556	-
		Euro 3	835	835	2%	89.38	98.33	10%	74,623	82.092	7.463	
	Gaseline	Euro 4	2.030	2.030	05	38.49	47.58	24%	78,195	96,601	18.445	
		Euro S	610	610	95	16.30	47,58	192%	9.941	29,011	19.003	+
				010	9%	16,37	47.68	210%	9.961	20.011		
A3bii .		Ears 6	0								4	2
Light Duty		Gasoline total	5,657	5,657	6%	218,93	193,15	.12%	1,238,520	1.092.662	-145.859	
Vehicles		ha-Ena	3.291	3.291	2%	424,46	306,79	-29%	1.358.754	982.093	-376.661	4
(LOVA)		Euro 1	3,696	3,656	9%	395,34	215,24	-46%	1.445.580	787.034	-858.526	-
		Euro 2	8.479	8.479	8%	336,40	193,39	-43%	2.882.325	1,639,772	-1.212.553	-
	Diesel Oil	Euro 3	23.785	23,765	0%	550,53	150,44	-73%	13.050.281	3.586.082	-9.454.139	4
	Present On	Euro 4	59.485	59.485	0%	494,22	89,85	-82%	29.358.676	5.337.395	-24.021.403	4
		Euro S	15.984	15.964	0%	442,70	89,85	-80%	7.040.461	1.420.906	-6.611.955	-4
		Euro 6	1	1	8%	1971,94	89,86	-41%	122	72	-68	-4
		Diesel oil total	114.350	114.350	6%	481,91	120,17	.79%	55,106,382	13,741,354	-41.365.828	
		LDVs Total	120,008	120,008	8%	468,51	123,61	-74%	96.344.983	14.834.016	-41.510.887	
		pre-Euro	1,326	1,326	9%	1063.46	1019.46	4%	1.410.646	1.352.253	-58.382	
		Eurol	1,248	1,245	9%	727.34	751.15	3%	907.476	937,184	29.708	
		Earl	7.765	7.765	05	763.46	643.34	-10%	6.085.891	4.98T.478	-1.050.413	-
LA.3.b III - leavy Duty		Euro II	16.483	16.463	9%	629.94	457,51	-21%	9.073.197	6.589.744	-2.403.453	
Vehicle:	Diesel Oil	Ears IV	6.301	6.301	95	458.10	361.05	-23%	2.442.179	1.076.777	-666 402	- 1
Buses					2%	347.84						
		Ears V	20.792	20.762			182,99	-47%	7.219.663	3.797.467	-3.421.096	4
		Ewa M	73	73	9%	64,62	182,99	296%	3.961	13.296	9.334	21
		Buses Total	90.962	90.962	0%	510,22	384,33	-28%	27.141.913	19,563,298	-3.578.704	-
		pre-Euro	6.922	6.922	9%	1036,95	758,82	-21%	7.177.543	5.252.345	-1.525.198	-
		Eart	3,630	3.630	9%	749,70	570,57	-24%	2.721.326	2.071.111	-650.215	-
A3bH-		Ears I	23.577	23.577	0%	818,27	596,43	-31%	19.292.253	12.175.855	-7.116.398	-3
leavy Duty Vehicle:	Diesel Oil	Ears II	96.726	96.726	9%	634,65	370,21	-42%	61.367.137	35,000,665	-25.578.472	4
Trucks &	Diese Oil	Ears IV	90.690	90.690	9%	396,60	289,44	-27%	19.992.680	14.580.677	-6.411.723	-4
Lorries		Eura V	485,981	405,981	9%	291,24	162,32	-46%	114,149,965	61.826.677	-62.324.278	-4
		Ewa VI	2,300	2,300	2%			0%	108.467	360.323	341.856	21
		Trucks Total	589,585	589,585	8%	381,33	224,00	-41%	224.829.180	132,064,753	-92,764,428	-
		pre-Euro	6,780	6,790	9%	122.76	151.00	23%	822.538	1.011.920	189.381	
		Euro 1	4.306	4.305	25	124.61	171.30	30%	536,615	738,050	201.435	3
A3ble -		Euro 2	3.267	3.267	95	136.22	194,95	43%	445.0EF	636.853	191.846	
Motorised Two	Gassine	Euro 3	3.994	3.994	95	39.66	194,95	382%	150,386	770.616	620.230	31
Wheelers	Catomie			3.996		20,06	196,95				626.236	
(MZWI)		Euro 4	0		9%			0%		0		
		Ears 6	0	0	9%			0% 61%		3,165,439		
		M2Ws Total	18,268	18,268	8%	107,43	173,28		1.962.546		1,202,893	

				ectivity Date			led Emission			NO ₃ Emi		
FR Code	Fuel		current		difference	CURTERS	adjusted	difference	CUITERS	adjusted	adjustment	different
			in []	LIJ.	in [N]		kg/TJ]	in [5]		in [kg]		in [5]
		ребиз	11.490	11,490	9%	610,22	619,36	-15%	7.011.641	6.96T.452	-1.044.009	-1
		Ears 1	37,743	37,743	8%	363,78	241,88	-32%	13.362.986	9.129.405	-4.223.901	-0.
		Eura 2	62,680	62,600	0%	189.93	139.33	-21%	11,889,922	8.722.244	-3.167.678	4
		Euro 3	97,792	97,792	9%	66.38	73.19	10%	6.481.618	T.156,920	665.303	1
	Gassine	Euro 4	397.911	397,911	8%	47,22	46.52	-1%	18,790,345	18.589.937	-250.407	
		Euro 5	138.863	138.863	9%	18.50	46.52	150%	2.583.150	6,459,681	3,876,451	15
		Euro 6	2.7%	2.794	9%	25.99	46.52	79%	70.526	126.237	55.711	7
LARDI.		Gasoline total	749,114	749,114	85	80.35	74,85	.25	60,190,067	56,071,797	4.118.211	
assenger		ре-Еиз	1,389	1,389	2%	312.26	264,96	-10%	433.981	369,139	46.742	-1
Cars		Ears 1	5.625	5.625	8%	298.42	296,79	-11%	1,678,472	1,580,588	-177.884	
		Eura 2	28.437	28.437	8%	406.64	219,91	46%	11.563.522	6.253.531	-5.309.991	-
			92,795	92,795	2%	574.33	178,67	-89%	53,294,996	16.579.373	-36,715,583	4
	Diesel Oil	Ears 3	222.583	222,583	15		149.27	-67% -67%				-0
		Euro 4				390,56			87.588.471	33,225,566	-54.372.905	
		Ears 5	233.796	233,766	0%	435,42	149,27	-60%	101.767.275	34.884.768	-66.892.507	-4
		Euro 6	4.536	4.536	9%	258,53	149,27	-42%	1.177.151	677.046	-500.106	-4
		Diesel oil tutal	589,131	589,131	85	437,54	150,71	.64%	257.533.720	93,499,010	.164.834.718	Á
		PCs Total	1.338.245	1.338.245	8%	217,42	111,77	.53%	317.723.735	149,570,886	.168.152.928	- 4
		ha Ena	188	897	2%	630.81	646,96	2%	568.320	679.293	10.894	
		Ears 1	194	194	9%	863,50	386,27	-85%	167,261	59.326	-107.535	-4
		Euro 2	836	836	9%	274,42	291,18	-21%	229.520	168,265	-61.258	- 4
		Euro 3	T84	T84	8%	92.66	101,70	10%	72,681	79.780	7.889	1
	Gaseline	Euro 4	1.889	1.599	9%	40.70	40.00	20%	77.284	92,633	15.549	- 2
		Euro S	966	966	9%	16.67	40.00	193%	16.107	47.240	31.161	+1
		Earl 6		4	9%	17.60	49.89	179%	36	72	46	17
Albii.		Gasoline total	5,578	5,578	8%	202.00	184,67	.9%	1.131.209	1.026,727	.104.412	-
ight Duty		рэ Еиз	2.754	2.754	9%	434,37	306,79	20%	1.168.757	844.928	-323.828	- 4
Vehicles		Eart 1	2.948	2.948	2%	395.75	215.25	46%	1.166.702	634.586	-532.136	- 1
(LOV4)		Euro 2	6.982	5.9EZ	15	336.02			2.345.147	1,350,014	-896.133	
							193,38	-42%				4
	Diesel Oil	Euro 3	20.421	20.421	0%	568,12	150,38	-73%	11.437.995	3.070.913	-8.367.862	-7
		Euro 4	55.867	55.667	9%	497,72	90,46	-82%	27.775.440	5.048.416	-22.728.824	-4
		Euro S	29.004	29.024	9%	441,97	90,46	-80%	13.101.305	2.687.964	-10.403.361	4
		Ears 6	41	41	9%	161,28	90,46	-40%	6.169	3.680	-2.479	-4
		Diesel oil tutal	118,777	118,777	8%	499,60	114,90	-76%	57,003,533	13,650,488	43.433.845	-
		LDVs Total	124,354	124,354	6%	468,14	118,00	-79%	58.214.742	14,677,215	43.537.527	-
		pre-Euro	1,172	1.172	9%	1066,08	1019,23	4%	1.249.028	1.194.143	-54.885	
		Eurol	1.054	1.054	9%	727,68	750,99	3%	765,620	791.181	24.561	
Albii.		Euro I	6.884	6.884	9%	764,07	643,48	-10%	5.334.965	4.378.271	-856.637	-1
eavy Duty		Euro II	13.167	13,107	9%	638.43	457.65	-21%	8.262.880	5.988.226	-2.364.575	- 4
Vehicles	Diesel Oil	Ears IV	4.946	4.946	9%	468,55	361,71	-34%	2.270.061	1.739.786	-638.364	-4
Seses		Ears V	34,096	34,099	9%	368.08	183.46	-49%	9.435.583	4.420.743	-4.014.761	4
		Ears VI	637	637	2%	44.76	183.46	310%	34.047	98.672	74.626	31
		Buses Total	51,716	91,716	8%	509,54	360,06	-29%	26,350,969	18.620.843	-2.230.126	-
		pre-Caro	5.863	5.863	676	1035.72	737,38	-29%	6.072.170	4.322.868	-1.749.303	-
		Eurl	2.985	2.985	15	748.27	568.27	-24%	2.175.845	1.680.969	-525.877	
A3bH-			15.444	15.444	15		513.46	-31%	15.089.861			3
eavy Duty		Ears I				818,57				9.469.975	-5.619.806	4
Vehicle:	Diesel Oil	Euro II	75.130	75.130	9%	630,53	367,30	-62%	47.587.440	27.587.760	-19.999.600	
Trucks &		Ears IV	42.791	42.791	9%	396,90	287,27	-27%	16.936.987	12.289.770	-4.647.837	-4
Lorries		Ears V	436,989	436,999	9%	281,70	162,66	-46%	123,101,334	66,796,496	-66.394.827	-
		Ewa M	18.020	18.020	9%	60.67	152,65	291%	913.082	2.750.600	1.837.549	21
		Trucks Total	600,139	600,139	6%	353,06	297,90	-41%	211,887,531	124,788,469	-87,099,012	-
		pre-Cara	6.382	6.352	9%	123,07	151,79	23%	781,736	964,179	182.443	- 1
A3ble -		Ears 1	4.013	4.013	9%	125,11	173,15	35%	582.073	684.880	192.807	
Motorised		Euro 2	3.382	3.302	0%	132,24	195,58	40%	435,668	645.884	209.136	
Two	Gassine	Ears 3	4.562	4.582	9%	39,01	195,58	391%	181,610	882.176	710.966	31
Wheelers		Ears 4	0"	0	9%	100		0%	9	0		
(MQWH)		Earl 6			0%			0%		ě,		
		M2Ws Total	18,229	18,229	674	104.34	175.38	68%	1,962,088	3,197,038	1,294,951	-

adjustment_de-a 7/11

			,	ictivity Dat	9	Impli	ed Emission	Factor		NO ₃ Emi	ssions	
MFR Code	Fuel		current	adjusted	difference	current	adjusted	difference	CURTERS	adjusted	adjustment	differen
			lin (f	LIJ.	in [N]	in p	(LT/gr	in [5]		in [kg]		in [5]
		ребиз	11.647	11.647	9%	612.37	644,11	-11%	7.132.688	6.307.464	-796.844	-4
		Eura 1	30.667	30.667	9%	368.77	243,90	-02%	11.002.246	7,480,541	-3.521.706	-0
		Eura 2	53.486	53,486	2%	194,58	140.31	-29%	10.514.477	T 584 432	-3.010.044	4
		Euro 3	87,374	87,374	8%	68.31	73.93	7%	6.055.588	6,459,797	404.210	
	Gassline	Euro 4	387,759	367,759	2%	49.15	47.80	-3%	19.089.585	18.536.009	-523.557	
		Euro 5	171,278	171,278	0%	18.50	47.80	157%	3.183.292	8.187.581	5.004.209	15
		Euro 6	10.315	10.315	9%	25.97	47,00	84%	267.656	493,098	225 240	12
		Gasoline total	752,526	752,526	05	76.03	73.09	45	57,215,533	54,998,921	2,316,612	
1.A.3.b i .			1.341	1.341	8%	311,73	264,96	-10%	417.967	365.245	42 722	-
Passenger Cars		pa-Eus										
cas		Eura 1	4.992	4.992	9%	298.92	267,29	-11%	1,462,264	1.307,043	-155.161	
		Euro 2	23.934	23,934	9%	406,71	220.45	-46%	9.734.484	5.276.400	4.458.884	4
	Diesel Gil	Euro 3	82,749	82,749	9%	588,53	178,81	-89%	48.451.830	14.796.246	-33.655.585	4
		Euro 4	211,237	211,237	9%	397,27	151,77	-62%	83.917.680	32.059.973	-51.857.706	4
		Euro 5	285.811	285.811	9%	436,38	151,77	-85%	124,721,396	43.378.380	-81.343.896	4
		Euro 6	16.001	16,081	9%	259,34	191,77	-41%	4.170.580	2.440.686	-1.729.814	4
		Diesel oil tutal	636,045	626,045	8%	435,87	159,12	.625	272.076.061	99,613,892	.173.262.168	J
		PCs Total	1.328.521	1.378.571	6%	219,44	112,15	.53%	330.091.584	154,612,813	-175.478.781	
		рэ Еиз	896	896	2%	634,74	645,95	2%	569.683	678.724	10.040	
		Eura 1	173	173	8%	868.27	389.96	-64%	150.074	53.576	-96.499	4
		Euro 2	T48	T48	2%	284.73	297.11	-21%	212.868	154,839	-58.829	
		Euro 3	771	771	1%	98.62	105.21	T%.	75.982	81,070	5.078	1
	Gaseline	Euro 4	1.067	1.867	0%	43.47	50.15	15%	81.129	93.616	12.479	
		Eura S	1,374	1,374	9%	17.11	50.15	193%	23.517	60,510	45.401	+1
		Eura 6	17	17	9%	19.00	50.15	179%	312	870	667	1
A3bii.			5.845	5.845	Ph.	199.34		3%	1,112,584	1.001.612	.86.572	- 11
Light Duty		Gosoline total					176,49					_
Vehicles		ha-Ena	2.637	2.637	9%	429.16	306,79	-21%	1.065.819	778.259	-287.558	- 4
(LOVA)		Euro 1	2.588	2.588	9%	390,62	215,25	-45%	987,136	539.808	-447.328	-
		Euro 2	6.087	6.007	9%	330,61	193,25	-42%	1.985.995	1.160.869	-825.126	4
	Diesel Oil	Euro 3	18.220	18.220	0%	571,75	150,58	-74%	10.417.076	2.742.056	-7.675.020	4
	Desire On	Euro 4	52.361	52.361	9%	499,70	91,09	-82%	25.164.485	4.789.746	-21.394.748	4
		Ears 5	46.749	46.749	9%	420,64	91,09	-79%	20.496.234	4.250.526	-16.237.709	4
		Euro 6	197	197	9%	161,19	91,09	-40%	29.929	17.974	-11.866	4
		Diesel oil total	129,578	128,578	6%	475,56	110,96	.77%	61.146.575	14.267.237	-06.879.338	
		LDVs Total	134.423	134.423	8%	463,16	113,81	-79%	62,299,160	15,298,849	-86.960.311	
		pre-Euro	984	584	9%	1089.48	1019.23	-5%	1.052.384	1.002.921	49.443	
		Eurol	837	837	9%	725.12	750.56	3%	689.232	628,359	19.127	
MASA III		Earl I	5.588	5,586	95	784.95	643.67	-10%	4.384.328	3,683,441	-790.857	
leavy Duty		Euro II	11,221	11.221	95	631.20	450.30	-21%	7.082.740	5.143.528	-1.539.229	
Vohicle:	Diesel Oil	Ears N	4.270	4.270	68	461.10	361,79	-24%	1.972.610	1.584.970	-467.630	-
Buses		Ears V	22.042	22.042	9%	368,66	183,99	-49%	7.796.921	4.066.632	-3.671.399	- 1
		Eas VI	4.182	4 182	2%	42.78	183,99	330%	178.913	769.476	990 963	3
			49.143	49,143		468.37	339,99	27%	23.017.115	16,718,234	-6.308.881	
		Buses Total			65							-
		pre-Euro	4.782	4.782	9%	1034,34	737,38	-29%	4.945.942	3.525,888	-1.420.134	-
		Earn I	2.285	2.205	0%	748,66	581,41	-25%	1.650.685	1.237.759	412.848	-
A.3.b III -		Ears I	13.629	13.629	0%	817,90	510,38	-30%	11.145.809	6.965.738	4.191.131	
leavy Duty Vehicle:	Diesel Oil	Ears II	54.685	54.685	9%	610,52	364,41	-42%	34.589.677	19.927.835	-14.661.841	4
Trucks &	200	Ears IV	34.037	34.037	9%	396,37	286,34	-20%	13.491.199	9.711.896	-3.779.362	4
Lorries		Ears V	389.283	389.283	9%	202,92	163,06	-46%	110.112.792	59.569.043	-60.544.749	-4
		Ewe VI	74.214	74.214	0%	60.06	153,05	189%	3.937,089	11.368.502	7.421.413	1
		Trucks Total	572,754	572,754	8%	314,05	196,05	-38%	179,874,133	112,295,582	-67.588.551	-
		pre-Euro	6.185	6,185	2%	122.65	158.04	29%	796,185	974.388	218.182	
		Euro 1	3,837	3.837	1%	124.71	174.84	40%	478.514	670.859	102.346	
LA.3.b iv - Motorised		Euro 2	3.365	3.365	95	129.94	196,25	52%	433.874	660.376	226.504	
Two:	Gaspine	Ears 3	5.305	5.365	85	39.53	196,25	396%	209.722	1.041.189	E31.467	31
Wheelers	Catorile			5.365		39,53	180,23	0%				
(MQWs)		Ears 4	0	0	9%					0		
		Ears 6	0		0%		191.11	0%		0		
		M2Ws Total	18.673	18,673	8%	100,59	179,34	78%	1.878.294	3.346,794	1.468.499	
A.J.b. Rose						217.27						

				edivity Dat	10	Ireali	ed Emission	Factor		NO, Emir	ssions	
NFR Code	Fuel				difference	current	adjusted	difference	current	adjusted	adjustment	differen
			in (I		in Pil		ia/TJI	in (%)		in Red		in PM
		рь-биз	11.380	11,380	8%	630.23	644.11	-14%	7.206.112	6.191.942	-1.014.169	
		Ears 1	34.112	36.112	8%	371.34	246.71	-34%	8.963.881	5.904.674	-3.029.229	
		Euro 2	42,925	42,925	8%	207.78	142,08	-32%	8.918.785	6.089.069	-2 819 646	
		Euro 3	72,871	72,871	8%	73.86	74.74	1%	5.381.361	5.446.237	64.887	
	Gassline	Euro 4	383,474	363,474	8%	52.30	49.02	47%	18.485.637	17.326.221	-1.159.416	
		Euro 5	180.783	180,783		19.11	49.02	157%	3.454.481	8.881.456	5.406.575	1
		Euro 6	29.612	29.612	0%	25.70	49.02	84%	790.701	1.451.493	650.793	
		Gasoline total	715.156	715,156	05	74.30	71,73	45	53,190,787	51,300,903	.1,889,805	
1.A.3.b i . Passenger		pre-Euro	1.282	1.282	8%	310,32	264,96	-10%	397.917	339.733	-58.194	_
Cars		Fors 1		4.219		299.14	267.84	10%			-132 821	
Care			4.219			2010011			1.291,930	1.129.909		
		Euro 2	19,689	19,689	9%	407,00	220.36	-45%	8.013.587	4.338,719	-3.674.768	
	Diesel Oil	Euro 3	71.044	71.044	9%	595,01	179,04	-70%	42.271.648	12.719.962	-29.551.685	-
		Euro 4	192,410	182,410		401,42	154,07	-62%	77.237.685	29.544.450	47.593.206	4
		Euro 5	364.346	304.346		434,67	154,07	-85%	132,290,483	45.880.424	-85,400,053	4
		Euro 6	52.576	52.576		259,76	154,07	-41%	13.657.082	0.180.384	-6.956.778	-
		Diesel oil tutal	645,565	645,565		496,19	159,00	.63%	275.130.233	183,163,581	.171.966.732	
		PCs Total	1.360.721	1.360.721	6%	241,28	113,52	.53%	328.321.020	154,464,484	.173.856.536	
		pa Eura	879	879	9%	664,37	646,96	-1%	675.380	567.977	-7.404	
		Ears 1	150	150	8%	895,63	311,90	45%	134,523	46.851	-87.672	4
		Euro 2	629	629	656	298,27	212,54	-29%	187.533	133.879	-53.854	4
	Casaline	Euro 3	791	791	8%	105.50	108.62	3%	73.969	76.155	2.156	
	Classine	Euro 4	1.720	1.720	0%	47.06	51.30	9%	80.955	85,245	7.290	
		Euro S	1.620	1,630	8%	19.41	\$1,30	179%	29.012	83.086	53.274	1
		Ears 6	94	54	8%	19,71	61.30	174%	1.792	4.904	3.862	1
. HASAI		Gasoline total	5,793	5,793	65	197,12	172,80	.8%	1.083.907	1,000,999	32,528	
Light Duty		pa Eura	2.323	2.323	8%	416.01	306,79	-26%	966,185	712 531	-253 654	- 4
Vehicles		Euro 1	2,106	2,106		391.47	215.25	45%	824.270	453.227	-371.843	
(LOV4)		Euro Z	5.025	5.025		334.81	193.29	40%	1,632,296	971.296	-850.529	
		Euro 3	15,701	15,701	65	500.35	150,67	-74%	2.112.414	2.365,713	-6.746.701	
	Diesel Oil		47.480	47,480	0%	501.73	91.74	-82%	23.782.396	4.345.295	-19.434.090	
		Ears 6	62,116	62,116		406.10	91.76	-79%	27.090.214	5.680.295	-21.392.009	
				636								
		Eura 6	636	135,386	9%	164,01	91,74	-80%	97,750 63,585,643	14,687,490	-09.529 -09.897.853	-
		Diesel oil tutal	135,386			469,35	107,96	.77%				
		LDVs Total	141.098	141,098	654	457,76	110,62	-76%	64.589.370	15,688,490	-48.500.881	
		pre-Euro	979	979		1070,34	1019,23	-8%	1.048.312	988.255	-50.058	
		Eurol	747	747		730,26	751,91	3%	545.471	581.636	16.168	
LABBIE.		Euro I	5.211	5.211	6%	767,43	544,46	-10%	4.163.687	3.358.684	-745.883	
leavy Duty	Diesel Oil	Euro II	11.282	11,282		633,00	450,67	-20%	7.141.732	5.174.909	-1.966 E22	4
Vehicles	Desire on	Ears IV	4.586	4.586	8%	469,70	361,99	-25%	2.154.086	1.614.177	-639.829	4
Beses		Eura V	34.257	34.257	8%	368,77	184,69	-49%	9.727.069	4.477.641	-4.349.427	
		Ears VI	6.224	6.224	0%	60.13	184,69	247%	277,642	964.225	696,694	3
		Buses Total	52.287	52,287	65	458,56	327,99	-29%	23,997,817	17,149,448	-6.848.379	-
		pre-Cura	4.319	4.319	9%	1034.69	737,38	-29%	4.468.571	3.184.428	-1.284.143	-
		Eurol	1.883	1.883	8%	748.71	583.48	-20%	1.387.291	1.025.551	-351.740	
LA3.bH -		Euro I	11.082	11.092	0%	817.98	587.90	-38%	9.072.840	5,633,460	-3.439.381	
leavy Duty		Euro II	43.481	43.481	8%	631.55	361.64	-43%	27.460.779	15.724.631	-11.736.147	
Vehicle:	Diesel Oil	Ears M	29.233	29.233	8%	396,00	283.72	-20%	11.672.060	9.294.100	-3.279.769	
Trucks &		Earl V	329.726	329,726	8%	264,17	153,48	-40%	99,413,973	50.456.496	42 967 477	
Lorries		Earl VI	170.797	120.797	8%	67.49	153.48	167%	9.813.364	26.292.007	16 308 604	1
		Trucks Total	589,411	589,411	65	264.69	187,60	-30%	157,189,675	110,520,703	-46.668.913	
			5.744	5,744	9%	125.41	157,28	25%	720,441	983.470	183.028	
		pre-Euro		3.517		125,41	157,28		720.441 448.085	583.470 619.819	103.E28 171.733	
LA3ble -		Euro 1	3.517					38%				
Motorised		Euro 2	3.382	3.382	0%	127,36	196,93	55%	430.680	685.965	235.306	
Two- Wheelers	Gassline	Euro 3	5.011	5.011		40,29	196,93	389%	234.136	1.144.415	910.209	3
(MZWs)		Ears 4	4	4	0%	16,96		-180%	69	904	736	10
Comments		Ears 6	18.459	18.459	9% 9%		180,65	0%		0		
		M2Ws Total				99.32		82%	1.833.382	3.334.472	1.501.090	

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				Activity Date			Red Emission	Factor		NO, Emi	ssions	
NFR Code	Fuel		current		difference	current	adjusted	difference	current	adjusted	adjustment	different
			in		in [5]		[kg/TJ]	in (%)		in Rel		in [5]
		ребиз	11.782	11.782	8%	634.76	644,11	-14%	7.479.914	6.410.967	-1.867.967	-4
		Ears 1	20.270	20.270	8%	372.26	241,68	-36%	7,545,483	4.090.000	-2 646 596	-0
		Eura 2	36.062	36.062	2%	212.73	143,11	-33%	7.671.681	5.160.89T	-2.510.693	3
		Earl 3	63,039	63,039	2%	78,17	75.50	-1%	4.801.482	4.759.259	42.233	-
	Gaspline		334.413	334.413	9%	53.74		-1%				
		Euro 4					50,17		17.969.964	16.777.445	-1.192.468	
		Euro 5	183,374	183.374	0%	19,09	50,17	163%	3.500.T45	9.199.834	5.009.008	16
		Euro 6	66.332	66.332	9%	26,67	50,17	80%	1.768.917	3.327.850	1.958.933	- 0
1A3bi.		Gasoline total	715,272	715,272	0%	70,93	70,65	0%	50.736.967	50,535,049	.201.918	
Passenger		ba-gna	1.290	1.290	9%	308,76	264,96	-14%	396.262	309.173	-56.009	-1
Cars		Ears 1	3,749	3,749	9%	299.38	299,66	-10%	1,122,449	1,011,026	-111.425	- 4
		Ews 2	16,584	16,584	9%	407,19	221,40	-45%	6.720.132	3.663.964	-3.066.168	4
	Diesel Oil	Euro 3	61,398	61,398	8%	602,50	179,24	-70%	36.991.999	11.005.049	-25.586.550	-1
	Diese Oil	Euro 4	175,840	175,840	8%	405,78	156.24	-61%	71.352.220	27.474.006	43.878.214	4
		Euro 5	299.684	299.684	0%	433.94	155,24	-64%	130.032.044	45.819.229	-83.212.815	4
		Euro 6	116,634	115,634	0%	268.76	196.24	-40%	30.427.585	10.232.785	-12.194.778	4
		Diesel oil tutal	675,119	675,119	0%	410.36	160,76	.61%	277.041.660	100,535,230	.168.506.438	
		PCs Total	1,390,391	1,399,391	65	215.75	114,41	.51%	397,778,697	159,070,280	.168.708.367	-
		po-Euro	910	910	2%	662,79	645.95	:1%	593.798	687.663	4.25	
		Ears 1	136	136	2%	900.31	312,78	45%	122,126	42,425	-79.700	4
		Euro 2	540	540	9%	300.39	217.84	-21%	162.311	117,797	-44.604	
			680	680	25	908.43	111.57	3%	70.432	72.731	2.299	-
	Gaseline	Euro 3	1.684				52.36	7%				
		Euro 4		1.684	0%	49,06			78.714	84.003	5.209	
		Euro S	1.724	1.724	0%	19,02	52,36	164%	36.157	90.258	56.100	11
A3bii .		Ears 6	363	363	9%	19,66	62,36	181%	6.764	19.992	12.228	11
Light Duty		Gasoline total	5,926	5,926	6%	190,27	171,06	-5%	1.068.292	1.013.678	-54.614	
Vehicles		pa-Eura	2.169	2.169	9%	414,87	386,79	-26%	899.848	686.433	-234.416	- 4
(LOVA)		Euro 1	1,790	1,790	9%	391,09	215,25	-45%	700.169	385.371	-314.798	4
		Euro 2	4.223	4.223	9%	323,43	193,31	-40%	1.365.994	816.452	-549.542	4
		Euro 3	13.582	13.582	0%	588.91	150,77	-74%	8.084.323	2.049.233	-5.955.898	-4
	Diesel Oil	Euro 4	43,141	43,141	0%	504.48	92.40	-82%	21.763.989	3.986.141	-17.777.768	4
		Euro S	74.231	74.231	0%	434.50	92.40	-79%	32.223.263	6.050.700	-25.364.903	-7
		Euro 6	4.901	4.901	8%	163,49	92.40	-40%	795.285	454.676	-300 609	4
		Diesel oil total	144,068	144,068	65	414,12	105.62	.77%	65,712,712	15,216,007	-50.496.726	
		LDVs Total	149,994	149,994	8%	445.23	108,20	-76%	66,781,025	16,229,684	-50.551.340	-
		pre-Euro	891	891	9%	1070.81	1019.23	-8%	954,197	508.234	45.563	
		Eurol	583	583	25	731.38	752.57	3%	433,675	446.236	12.560	
			4.375	4.375	65	768.25	645.03	-10%	3.448.614	2,822,021	-625.594	
A3bii.		Euro I										
leavy Duty	Diesel Oil	Euro II	10.333	10.333	0%	632,67	450,91	-21%	6.539.364	4.741.027	-1.797.536	4
Vohicle: Suses		Ears IV	4.449	4.449	9%	475,90	362,26	-36%	2.117.210	1.566.001	-650 330	-4
Ceses		Ears V	24,390	24,390	9%	364,38	186,22	-49%	9.936.974	4.617.617	-4.418.467	4
		Ewa VI	9,126	9,126	9%	62,79	186,22	195%	673.066	1,680,481	1,117,336	19
		Buses Total	54,157	54,157	8%	494,73	388,24	-27%	23.002.109	16,683,117	4.308.992	4
		pre-Care	3.933	3.933	9%	1004,01	737,35	-29%	4.067.249	2.980.319	-1.156.530	- 4
		Eart	1.585	1.585	6%	748,96	587,52	-32%	1.163.462	789,813	-373.589	-3
A3bH-		Ears I	8.876	8.876	0%	817,75	585,52	-38%	7.258.045	4.485.828	-2.771.218	-3
eavy Duty	Direct Co.	Ears II	34.167	34.167	0%	630,01	360,66	-43%	21.553.288	12.251.155	-9.302.133	4
Vehicle: Trucks &	Diesel Oil	Ears IV	34.297	36.267	8%	396,94	291,06	-29%	9,640,354	6.645.501	-2.794.893	-4
Lorries		Ears V	299,736	269,736	8%	267.22	163.92	-46%	74 600 233	39.979.610	-04.621.623	-
COLLEGE.		Eura VI	261,460	261.460	8%	61.77	153.92	149%	16.149.298	40.244.036	24 894 748	1/
		Trucks Total	584,013	584,013	8%	225.31	180,97	-20%	134.431.899	107,496,252	-26.535.637	
		pročen	5.543	5,543	9%	125.59	155.78	24%	696,072	883,299	167,218	- 7
		Euro 1	3,380	3,360	95	127.11	177.29	39%	427.113	585,796	168.502	3
LA3ble -												
Motorised		Euro 2	3.375	3.375	9%	125,04	197,68	50%	421.961	870.138	345.127	
Two:	Gassline	Ears 3	6.443	6.443	9%	40,30	197,68	391%	209.627	1.273.571	1.013.543	31
(MDWs)		Ears 4	66	66	9%	17,47	197,68	1031%	1.134	12.802	11.696	100
Concessed		Ears 6	0	0	8%			0%	0	0		
		M2Ws Total	18,785	18,785	8%	96,14	181,66	89%	1.805.897	3,452,476	1.606.579	

			- 1	Activity Date	9	Impl	led Emission	Factor		NO ₃ Emi	ssions	
FR Code	Fuel		current	adjusted	difference	current	adjusted	difference	current	adjusted	adjustment	
			in [D)	in [N]	in	kg/TJ]	in [5]		in [kg]		in [5]
		ребиз	12.292	12.292	9%	636,73	544,11	-14%	7.914.267	6.689.197	-1.126.108	-1
		Ears 1	17,449	17,449	9%	372,99	241,68	-35%	6.609.311	4.217,044	-2:291.267	-0
		Euro 2	30.435	30.435	0%	217,43	141,75	-35%	6.617.570	4.314.140	-2.303.430	-3
	Gaspine	Euro 3	54.271	54,271	9%	78,40	76.27	-3%	4.254.938	4.139.376	-115.562	
	Casaine	Euro 4	315.085	315,086	9%	54.56	51.26	-1%	17.316.320	16.151.861	-1.164.468	
		Euro 5	180.245	180.245	0%	19,17	51.26	167%	3.485.382	9.239.816	5.784.513	11
		Euro 6	116,791	114,791	9%	26,66	51,26	92%	3.060.226	5.884.372	2.824.146	1
14301.		Gasoline total	734,571	734,571	8%	67,66	69,88	35.	49.026.074	50,634,714	1.607.848	
'assenger		ребиз	1.310	1.310	9%	306,09	264,96	-13%	480.983	347.020	-63.893	
Cars		Eura 1	3.390	3,390	0%	299, 17	271,67	-9%	1,002,298	910,182	492,116	
		Euro 2	13,798	13,788	9%	407,17	222,40	-45%	5.614,130	3,096,393	-2.547.736	
		Euro 3	52,128	52,128	9%	608.05	179.65	-70%	31,696,478	9.384,798	-22.331.769	
	Diesel Gil	Euro 4	157,547	157,547	9%	410.10	158.34	-61%	64,733,465	24.983.323	-39.740.142	4
		Euro 5	283,480	283,480	9%	423.99	158.34	-63%	100.157.686	44,873,190	-75.254.455	
		Euro 6	184,790	184,760	9%	262.61	150.34	-40%	48.521.163	29,255,985	-19.265.258	
		Diesel oil tutal	696,592	696,582	0%	390.65	161,95	.59%	272.126.091	112,010,721	.159.315.370	
		PCs Total	1.491.162	1.691.162	0%	225.98	115.01	.00%	321,152,965	163,445,435	.157,207,530	
		ре-Еиз	940	940	2%	661,61	645,95	-1%	612.240	686,918	-6.322	
		Ears 1	124	134	8%	906.23	312,78	45%	112.083	38.682	-73.401	
		Euro 2	485	485	2%	302.12	221.62	-21%	140.344	102,950	-37.394	
		Euro 3	586	586	15	110.57	115.36	4%	65.965	65.812	2.857	
	Gaseline	Euro 4	1.476	1,476	0%	50.72	53.38	5%	74.877	78.8%	3.538	
		Euro S	1,660	1,660	68	21.73	53.36	140%	36.240	89,034	52.706	1
		Eura 6	919	910	85	19.59	63,38	187%	17.062	49,000	21.548	-
Albii .		Gasoline total	6.186	6.186	65	171,15	167,18	3%	1,058,799	1.004.211	-24.508	
ight Duty		pro-Euro	2.067	2.067	9%	413,41	306,79	-36%	850.499	631,163	-219.336	-
Vehicles		Euro 1	1.538	1.538	7%	390.47	215.25	45%	600,716	331,158	-269.558	
(LOV4)		Euro 2	3,580	3,580	15	321.26	193,04	40%	1,143,793	687.293	-205.508 -458.501	
			11.664	11.584	15	595.08	150,79	-75%	6.940.879	1.758.747	-8.182.132	
	Diesel Oil	Euro 3 Euro 4	39.050	39.050	65	506,78	93.09	-82%	19.789.647	3,635,035	-16.154.612	
		Earl S	75.789	75.789	65	412.66	93.09	-70%	12.790.996	T.054.945	-26.736.012	
		Earl 6	19,626	19.626	9%	161.71	93,09	-39%	2.977.439	1.826.876	-1.150.964	
		Diesel oil total	153,284	153,264	676	424.66	103,09	-76%	65.093.930	15.925.216	-01.160.004	
			199,470	159.470				-74%				
		LDVs Total			65	414,83	106,35		66.152.729	16,959,427	-49.193.302	
		pre-Euro	736	736	9%	1073,33	1019,23	-8%	790.259	750.425	-39.834	
		Eart	411	411	9%	731,97	752,57	3%	300.684	389.062	8.459	
A3bii.		Ears I	3.325	3.325	9%	767,91	645,79	-10%	2.620.067	2.147.460	-472.606	
eavy Duty	Diesel Oil	Ears II	8.678	8.678	9%	634,33	459,12	-21%	5.478.480	3.984.005	-1.494.395	4
Vehicle: Bases		Ears IV	3.023	3.023	9%	474,07	362,49	-30%	1.012.300	1.367.680	-464.700	
Ceses		Ears V	21.913	21,913	9%	360,92	186,84	-49%	7.937.976	4.063.686	-3.894.291	
		Ewa VI	14,686	14,596	9%	68.62	185,84	219%	864.216	2.712.680	1.858.375	2
		Buses Total	53,382	50,382	6%	379,80	296,71	-21%	19,793,901	15,384,828	4.489.113	
		pre-Euro	3.686	3,686	9%	1034,40	737,35	-29%	3.730.272	2.689,016	-1.071.256	
		Eart	1.311	1.311	9%	748,03	465,38	-31%	980.842	614.151	-356.000	-
A3.b III -		Ears I	7.087	7.087	9%	817,66	583,45	-30%	5.794.876	3.565.026	-2.226.851	
eavy Duty Vehicle:	Diesel Oil	Ears II	36.086	26.006	9%	630,17	366,72	-44%	16.942.661	9.563.641	-7.378.821	
Trucks &	Desire On	Ears IV	30.002	20.002	9%	397,77	279,34	-30%	7.996.414	6.68T.466	-2 368 548	
Lorries		Eura V	264,365	264,365	0%	299,16	154,35	-47%	99.290.799	31.636.367	-27.746.342	
		Ewe VI	335.065	335.065	9%	65,62	154,35	135%	21,985,366	51,718,641	29.733.275	1
		Trucks Total	598,263	598.263	6%	195,02	175,92	-10%	116.621.141	105,246,508	-11.424.633	
		pre-Cara	5.336	5.336	9%	125,91	157,19	25%	671.888	838,759	166.851	
A3biv -		Ears 1	3.257	3.257	9%	125,39	177,86	41%	411.617	579.244	167.627	
Motorised		Euro 2	3.396	3.396	9%	122,55	190,33	62%	415.290	673.548	257.348	
Two	Gaspline	Ears 3	6.741	6.741	9%	40,22	190,33	383%	271.167	1.336.966	1.055.849	3
Wheelers		Ears 4	430	430	9%	19,29	199,30	980%	7.962	86.270	77.408	9
(MOWH)		Eura 6	0	0	9%	0,00		0%	0	0		
		M2Ws Total	19,160	19,160	6%	92,83	183,39	98%	1,778,674	3,513,787	1,235,114	

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				Activity Data		Impli	ed Emission I	Factor		NO, Emir	ssions	
NFR Code	Fuel		current	adjusted	difference	current	adjusted	difference	current	adjusted	adjustment	differen
			in [T.I	in [N]		[LT/gr	in [5]		in [kg]		in [5]
		ребиз	12.219	12.219	8%	637,59	644,11	-19%	7.790.966	6.649.721	-1.142.234	-1
		Ews 1	14,362	14,362	8%	374,24	241,68	-05%	6.371,161	3,469,643	-1.902.518	-0
		Ews 2	24.295	24.295	9%	221.07	111,06	-50%	5.360.977	2,688,163	-2.862.814	-6
	Gassine	Euro 3	43.642	43.642	8%	80,15	76,96	4%	3.497.781	3.358.617	-139.164	
	-	Euro 4	278,738	278,738	626	55,58	52,30	-1%	15.683.488	14.578.755	-1.824.743	
		Euro 5	186,830	165,530	0%	19,36	52,30	170%	3.228.282	8.725.668	5.497.456	17
		Euro 6	159.041	159.041	6%	0,00	52,30	0%	4.190.422	8.318.250	4.127.828	- 1
1.A.3.b i .		Gasoline total	689.027	699.007	0%	64,42	60,36	65.	45.032.996	47,786,857	2.253.820	
Passenger		ребиз	1,363	1,363	9%	300,66	264,96	-13%	395.496	346.173	-60.293	-
Cars		Ews 1	2.849	2.849	9%	299, 17	272,06	- 9%	962,432	776,166	-77.277	
		Euro 2	10.784	10,784	9%	407.20	222,87	45%	4.391.393	2.483.536	-1.987.858	4
	Diesel Oil	Euro 3	40.T95	40.795	9%	612,49	180,15	-71%	24.932.029	T.333.241	-17.598.788	4
		Euro 4	130.534	130.534	656	414,71	160,48	-61%	54.133.837	20.937.329	-33.196.508	4
		Euro 5	251,212	251,212	0%	415,25	160,48	-61%	104.505.705	40.293.731	-64.273.036	-4
		Euro 6	228.685	228.685	6%	254,87	160,48	-31%	58.284.140	36,680,440	-21.603.708	-3
		Diesel oil tutal	666,074	666,074	0%	371,66	163,30	.565	247.556.063	100,760,604	.130.707.450	
		PCs Total	1.365.101	1.365.101	6%	214,34	114,68	-865	292,589,060	156,555,421	.136.033.639	
		ha Ena	917	917	9%	660.63	646,96	-1%	586,869	682,662	-4.207	
		Ears 1	188	108	9%	911,58	312,78	-86%	98.528	33.805	-84.723	4
		Euro 2	377	377	9%	303,64	224,45	-26%	114,682	84.713	-29.889	-
	Gassline	Euro 3	511	511	0%	111,52	116,64	6%	57.282	60.739	3.537	
		Euro 4	1.275	1.275	0%	52,02	54,36	4%	65,295	69.276	2.500	
		Euro S	140	1.483	0%	23,70	54,36	129%	35.160	80.626	45.465	12
AADE .		Euro 6	1.643	1.643	8%	19,69	54,36	192%	30.660	89.326	68.776	11
Light Duty		Gasoline total	6.315	6.315	8%	158,22	160,11	1%	989,189	1.011.138	11.939	
Vehicles		ha-Ena	1,872	1.872	9%	411,97	306,79	-26%	771.307	674.412	-196.525	- 4
(LOVA)		Euro 1	1,295	1,295	9%	389,84	215,25	-45%	483,129	272.296	-220.842	-
		Euro 2	2.842	2.842	626	318,56	193,88	-39%	905.309	550.759	-354.540	4
	Diesel Oil	Euro 3	9.363	9.363	0%	599, 10	150,74	-75%	5.689.152	1.411.299	-4.197.B53	4
	Design on	Euro 4	33,232	33.232	0%	509,42	93,81	-82%	16.929.185	3.117.457	-13.811.648	4
		Ears 5	66.283	66.283	0%	412,92	93,01	-70%	29.654.080	6.217.860	-22.477.828	-7
		Eura 6	39.482	39.482	9%	168,79	93,81	-39%	6.941.616	3,686,228	-2.345.397	
		Diesel oil tutal	154,259	154,259	8%	384,71	102,69	-73%	59.344.525	15.840.310	-43.504.215	
		LDVs Total	160,574	160,574	8%	375,80	194,94	-72%	60.343.725	16,851,449	43.492.21%	
		pre-Euro	541	547	9%	1078,16	1019,23	-8%	589.357	557,147	-32.210	
		Eart	237	237	656	732,76	752,57	3%	173,678	176.366	4.600	
A3bii.		Euro I	2.270	2.270	0%	767,63	646,33	-10%	1.788.686	1.467.437	-321.249	-
leavy Duty	Diesel Oil	Ears II	6.757	6.757	0%	630,09	459,32	-21%	4.262.724	3.103.402	-1.159.232	4
Vehicles	Design on	Ears IV	3.043	3.043	9%	473,96	362,73	-25%	1.439.790	1.073.333	-366.467	4
Seses		Ears V	19,109	19,109	9%	362,42	186,37	-49%	6.663.266	3.376.046	-3.198.249	4
		Ears VI	20,670	20,670	9%	66.89	186,37	229%	1,176,026	3,862,314	2,676,288	25
		Bases Total	51,634	91,634	8%	309,75	283,50	-19%	15,993,526	13,607,106	-2.386.429	-
		pre-Euro	3.252	3.262	9%	1004,82	737,35	-29%	3.375.369	2.485.071	-979.288	-
		Eurol	1.084	1.094	9%	747,82	465,35	-31%	818.052	512.376	-305.674	- 3
A.3.b III - leavy Duty		Euro I	5.544	5.544	9%	817,44	581,68	-39%	4.532.198	2.781.510	-1.750.658	- 3
Vehicle:	Diesel Oil	Euro II	20.583	20.583	9%	629,54	363,66	-44%	12.957.751	T 27T 279	-6.600.472	4
Trucks &		Ears IV	15.912	15.912	9%	398,09	276,23	-31%	6.334.421	4.396.424	-1.908.997	4
Lorries		Ears V	196,983	196,983	9%	292,40	154,68	-47%	45,964,163	24.293.309	-21.620.843	4
		Ewa VI	381,799	381,799	9%	68,76	154,68	126%	26.251.482	59.065.898	32.804.495	1,
		Trucks Total	585,186	585,186	8%	171,18	172,10	1%	100.173.337	180,710,869	537.532	
		pre-Euro	4.940	4.940	9%	125,05	158,61	26%	622,686	783.451	160.795	- 1
LA3ble -		Euro 1	2.965	2.966	9%	125,14	177,79	41%	374.114	527.294	153.150	4
Motorised		Euro 2	3.221	3.221	0%	129,33	198,64	65%	387.586	639.833	252:237	1
Two	Gassine	Ears 3	6.241	6.241	0%	40,24	190,64	394%	251.126	1.239.680	908.962	31
(MDWs)		Ears 4	1.130	1.130	9%	29,41	199,64	973%	23.066	224.682	201.436	6
Commit		Ears 6	0	0	9%	0,00		0%		0		
		M2Ws Total	18.497	18.497	8%	89,66	184,61	100%	1,658,558	3,454,757	1,756,209	1
A.J.b. Road			2,180,993		05	215.85	133,49	385	470,750,206	291,139,612	.179.618.593	- 4

			- 1	Activity Date	9	Impl	led Emission	Factor		NO, Emi	ssions	
NFR Code	Fuel		current	adjusted	difference	CURTOR	adjusted	difference	current	adjusted	adjustment	different
			in [U)	in [5]	in J	kp/TJ]	in [5]		in [kg]		in [5]
		ребиз	13.669	13,669	0%	638,58	644,11	-15%	9.664.621	7.382.698	-1.291.822	-4
		Eura 1	12.427	12,427	8%	379,32	241,68	-36%	4,701,480	3,083,383	-1,698,896	-0
		Ews 2	20.086	20,086	8%	225,58	92.60	-69%	4,531,070	1.868.018	-2.673.052	-5
	Gassline	Euro 3	36.216	38.216	0%	82.22	78.12	-8%	2.977.840	2,829,166	-148.673	
	Gassine	Euro 4	255,220	295,220	9%	57.04	53.29	-7%	14.588.295	13,589,621	-858.584	
		Euro 5	100.537	100.537	0%	19,77	53,29	170%	3.173.728	8.584.356	5.380.628	17
		Euro 6	206,636	206.636	0%	25,63	53,29	180%	5.295.099	11.010.782	5.715.603	10
1A3bi.		Gasoline total	764,691	764,691	0%	62,30	60,45	10%	43,901,941	40,230,025	4.336.004	1
Passenger		ребиз	2.736	2.736	9%	330,76	264,96	-21%	913,198	724.923	-198.275	- 4
Cars		Ews 1	2.565	2.565	9%	299.00	272,06	-9%	766,913	687,786	49.127	
		Ews 2	8.891	8.891	8%	407,19	229,16	-44%	3.620.296	2.037.460	-1.582.826	4
	Diesel Oil	Euro 3	33.019	33.019	9%	615,11	180,42	-71%	20.310.125	5.95T.403	-14.352.723	-1
	Diese Us	Euro 4	111.335	111.335	9%	419,97	162,44	-81%	45,568,585	18.085.228	-28.583.457	- 4
		Euro 5	231,794	231,784	0%	410,37	162,44	-60%	95.117.643	37.680.997	-57.456.645	- 4
		Euro 6	273.511	273.511	0%	227,30	162,44	-29%	62.169.238	44.429.104	-17.740 054	-2
		Diesel oil tutal	663,041	663,041	8%	345,81	165,67	.52%	229,566,088	109,582,982	.119.903.106	
		PCs Total	1.368.532	1.368.532	8%	199,83	115,32	.495	273.468.029	157.821.007	.115.647.822	- 4
		pro Euro	926	926	2%	649,69	645,95	-156	601,469	587,992	-3.468	
		Euro 1	97	97	9%	915,28	312,78	-86%	88.963	30.396	-58.957	4
		Euro 2	316	316	9%	304,63	224,45	-26%	96.158	70.848	-25.310	- 4
	Gaseline	Euro 3	441	447	9%	112,68	121,47	8%	50.355	54.293	3.526	
	Casame	Euro 4	1.106	1.106	0%	53,00	55,26	4%	59.652	62,199	2.547	
		Euro S	1.361	1.361	9%	25,34	55,36	110%	34.240	74.680	40.432	11
		Euro 6	2.420	2.420	9%	18,76	66,36	195%	46.393	133.753	98.358	11
Light Duty		Gasoline total	6,683	6.683	6%	146,08	153,25	5%	976.219	1.024.150	47.331	
Vehicles		pa Eura	1,764	1,764	9%	410.96	306,79	-25%	725,111	541,316	-183.796	4
(LOVA)		Ears 1	1,079	1,079	9%	389,52	215,25	-45%	420.295	232.255	-188.836	4
		Euro 2	2.334	2.334	9%	315,98	194,79	-38%	737,682	454,650	-282.912	- 4
	Diesel Oil	Euro 3	7.649	7.649	0%	601,11	150,70	-75%	4.587.943	1.152.711	-3.445.233	4
	Preser On	Euro 4	26.711	26,711	9%	512,28	94,57	-82%	14.765.365	2.715.154	-11.993.154	4
		Euro S	50.716	58.716	9%	434,30	94,57	-70%	25.499.580	5.552.420	-19.547.152	- 4
		Eura 6	99.931	98.931	9%	146,18	94,67	-35%	9.614.686	6.672.892	-3.841.614	
		Diesel oil tutal	159,183	159,183	8%	347,42	101,90	-71%	55.303.335	16,221,445	-39.081.090	
		LDVs Total	165,866	165,866	8%	339,31	193,97	-89%	96.279.554	17,245,596	-39,833,958	
		pre-Euro	489	489	9%	1080,20	1019,23	-8%	586.867	478.258	-28.609	
		Eart	147	147	9%	736,37	752,57	2%	168.212	110.583	2.381	
A3bii.		Eart I	1.611	1.611	0%	760,47	646,77	-10%	1.271.445	1.041.621	-229 824	
leavy Duty	Diesel Oil	Ears II	5.789	5.789	9%	631,65	459,55	-21%	3.686.361	2.623.779	-902.572	4
Vehicles	Design On	Ears IV	2.747	2.747	9%	473,92	362,64	-26%	1.302.061	969.413	-332.648	4
Seses		Eura V	17,120	17,120	9%	362,91	186,84	-49%	6.213.176	3.199.791	-3.014.394	-
		Ewe VI	25,135	25,135	9%	60,43	186,84	289%	1,618,901	4.686.133	3.177.232	21
		Buses Total	52,939	52,939	8%	274,41	247,81	-10%	14,527,012	13,118,578	-1.408.434	
		pre-Euro	3.140	3.140	9%	1034,96	737,38	-29%	3.250.020	2.315.443	-534.577	- 4
		Eart	969	909	9%	747,60	465,39	-31%	724.240	453.754	-279.456	
A.3.b III -		Ears I	4.565	4.565	9%	817,42	581,04	-39%	3.734.343	2.295.967	-1.445.376	-
leavy Duty Vehicle:	Diesel Oil	Ears II	16.377	16.377	9%	629,94	361,68	-44%	10.300.323	5.756.580	4.543.743	4
Trucks &	Date of	Ears IV	13.127	13.127	9%	398,86	273,43	-31%	6.236.679	3.689.330	-1.646.349	-
Lorries		Eara V	126,233	126,233	9%	296,13	154,92	-49%	36,960,689	19,481,449	-17,669,168	-
		Ewe VI	432,498	432,498	9%	72.08	154,92	115%	31,175,496	67,003,863	35.828.357	1
		Trucks Total	595,913	595,913	8%	150,35	199,17	10%	91,380,790	100,889,376	9.428.676	
		pr-Euro	4.813	4.813	9%	125,69	184,79	31%	584.99T	792.771	187.714	
A3ble -		Ears 1	2.835	2.835	9%	125,39	177,29	41%	355.455	582.589	147.113	4
Motorised		Euro 2	3.094	3.094	9%	119,33	190,06	67%	309.224	615.317	346.893	
Two	Gassine	Ears 3	6.082	6.062	9%	40,03	190,06	361%	240.284	1.193.617	963.333	3
Wheelers		Ears 4	2.086	2.005	9%	21,69	199,96	917%	43.489	399.667	366.179	
(MWW)		Ears 6	0	0	9%	0,00		0%	0	0		
		M2Ws Total	18,750	18,750	6%	86,05	186,83	117%	1.613.450	3,582,941	1.889.491	1

REVISION OF ADJUSTMENT PROPOSAL COMPARED TO SUBMISSIONS 2014 to 2019

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	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Adjustment 2014 (accepted)	-105.6	-101.3	-95.7	-91.7						
Adjustment 2015 (accepted)	-100.3	-95.5	-89.9	-85.1						
Adjustment 2016 (accepted)	-151.3	-146.9	-145.1	-142.5	-128.1					
Adjustment 2017 (accepted)	-151.3	-146.8	-145.0	-142.4	-127.2	-100.9				
Adjustment 2018 (accepted)	-172.3	-174.5	-177.4	-180.4	-171.5	-148.9	-123.2			
Adjustment 2019 (accepted)	-172.3	-174.5	-177.4	-180.3	-171.4	-148.8	-123.3	93.7		
Adjustment 2020 (accepted)	-297.8	-302.3	-301.3	-306.1	-294.5	-269.0	-244.3	-214.9	-174.6	
Adjustment 2021 (proposal)										
Change against Adjustment 2020										

The noticeable differences between the 2017 and 2018 adjustment proposals resulted from an ad-hoc revision of the *Handbook Emission Factors for Road Transport* (HBEFA, version 3.3) in the aftermath of the so-called "Diesel-gate". ⁸⁾

The even bigger changes between adjustment 2019 and adjustment proposal 2020 result from an additional rather fundamental revision of of the *Handbook Emission Factors for Road Transport* now available in version 4.1 > 9 strongly effecting the TREMOD model underlying Germany's emission reporting for road transport and hence any adjustments of NO, x, emissions.

With such major model revision between submissions 2019 and 2020, the current adjustment proposal differs significantly from the adjustment applied for and accepted in 2019.

Adjustment description as provided in IIRs 2014 and 2015:

image Description%20Adjustment%20DE-A%20-%20NOx%20from%201.A.3.b%20Road%20transport%20-%20IIRs%202014%20%26%202015.pdf

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