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 socalled "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+ 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</u> <u>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</u> <u>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



$$\begin{split} \mathsf{EM}_{\mathsf{adjustment}} &= \mathsf{AD}_{\mathsf{curent}} * \mathsf{EF}_{\mathsf{curent}} - \mathsf{AD}_{\mathsf{curent}} * \mathsf{EF}_{\mathsf{original}} = \mathsf{AD}_{\mathsf{curent}} * \\ (\mathsf{EF}_{\mathsf{curent}} - \mathsf{EF}_{\mathsf{original}}) &= \mathsf{EM}_{\mathsf{curent}} - \mathsf{EM}_{\mathsf{curent}} * \mathsf{artificial} *) \end{split}$$

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 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 (2021).

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 6.12 (Knörr et al., 2021a) 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, 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	-296.1	-300.7	-300.4	-305.2	-294.9	-274.9	-250.9	-221.1	-179.6	-144.8

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
- 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

Adjustment o	werview f	oryean	s 2010 to 201	9								
				ictivity Data			Emission			NO, Emi		
NFR Code	Fuel	Year	current in [adjusted o	difference in [%]	current a in [kg		difference in [%]	current		adjustment	difference in [%]
1.A.3.bi	gasoline		796.957	795.957	0%	97.55	84,99	-13%	77.644.842	in [kg] 67,650,906	9.993.935	-13%
1.A.3.b1	diesel oil		529,300	529,300	0%	429,45	160,51	-63%	227.341.096		142.370.635	-63%
1.A.3.bii	gasoline		6.325	6.325	0%	255,87	214,75	-16%	1.618.432	1.358.328	260.104	-16%
1A3bii 1A3bii	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	38.728.949 6.747.534	-72% -23%
1A3bii	diesel oil		566.741	566.741	0%	445,67	271,83	-39%			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		2010	2.079,608	2.079,608	0%			0%	645.965.162	349.851.206	296.113.956	-46%
1.A.3.bi 1.A.3.bi	gasoline diesel oil		794.688 553.564	794,688 553,564	0%	92,09 434,12	81,61 159,22	-11% -63%	73.185.851 240.313.791	64.851.951 88.138.969	8.333.900 162,174,832	-11% -63%
1A3bii	gasoline		6.118	6.118	0%	229.36	198,57	-13%	1.403.081	1.214.776	188.305	-13%
1.A.3.bii	diesel oil		115.967	115.967	0%	481,55	126,92	-74%	55.844.518	14.718.142	41.126.376	-74%
1.A.3.b II	diesel oil		47.365	47.365	0%	692,66	448,99	-24%	28.071.221	21.266.323	6.864.898	-24%
1.A.3.bii 1.A.3.biv	diesel oil gasoline		563.891 19.289	563.891 19.289	0% 0%	410,38 110,79	244,97 171,60	-40% 54%	2.137.002	138.136.342 3.299.162	93.273.929	-40% 54%
1.A.3.b TOT		2011	2.100.883	2.100.883	0%	119,15	17 1,00	0%				-48%
1.A.3.bi	gasoline		750.957	750.957	0%	85,73	78,00	-9%	64.379.994	58.577.229	5.802.765	-9%
1.A.3.b1	diesel oil		555.245	555.245	0%	435,96	158,66	-64%		88.096.699	153.966.203	-64%
1.A.3.bii 1.A.3.bii	gasoline diesel oil		5.657 114.350	5.657 114.350	0%	218,93 481,91	193,15	-12% -75%	1.238.520 55.106.382	1.092.662	145.059 41.365.028	-12% -75%
1A3bii	diesel oil		50.902	50.902	0%	533.22	384,33	-28%	27.141.913	19.963.208	7.578.704	-28%
1A35H	diesel oil		589,585	589,585	0%	381,33	224,00	-41%	224.829.180	132.064.753	92.764.428	-41%
1.A.3.b iv	gasoline		18.268	18.268	0%	107,43	173,28	61%	1.962.546	3.165.439	-1.202.893	61%
1.A.3.b TOT		2012	2.084.964	2.084,964	0%	94.95	24.05	.7%				-49% -2%
1.A.3.bi 1.A.3.bi	gasoline diesel oil		749.114 589.131	749.114 589.131	0%	80,35 437,14	74,85 158,71	-7% -64%	60.190.007 257.533.728	56.071.797 93.499.010	4.118.211	-7% -64%
1A3.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	diesel oil		118.777	118,777	0%	480,60	114,93	-76%	57.083.533	13,650,488	43.433.045	-76%
1.A.3.b II	diesel oil		51,716	51,716	0%	509,54	360,06	-29%	26.350.969	18.620.843	7.730.126	-29%
1.A.3.biii	diesel oil		600.139	600.139	0%	353,06	207,93	-41% 68%	211.887.531 1.902.088	124.788.469 3.197.038	87.099.062 -1.294.951	-41% 68%
1.A.3.b N 1.A.3.b TOT	gasoline AL	2013	18.229 2.132.683	2.132,683	0%	104,34	175,38	85	616,079,063		305,224,692	-50%
1.A.3.bi	gasoline		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%	272.876.061	99.613.892	173.262.169	-63%
1.A.3.bii	gasoline		5.845	5.845	0%	190,34	176,49	-7%	1.112.584	1.031.612	80.972	-7%
1.A.3.bii	diesel oil		128.578 49.143	128.578	0%	475,56	110,96	-77% -27%	61.146.575 23.017.115	14.267.237	46.879.338 6.308.881	-77% -27%
1.A.3.bii 1.A.3.bii	diesel oil diesel oil		572.754	49.143 572.754	0%	468,37 314,05	339,99 196,05	-38%	179.874.133	112.285.582	67.588.551	-38%
1.A.3.b iv	gasoline		18.673	18.673	0%	100,59	179,24	78%	1.878.294	3.346.794	-1.468.499	78%
1.A.3.b TOT		2014	2.153.563	2.153.563	0%			0%	597.120.297			-49%
1.A.3.bi	gasoline		715.156	715.156	0%	74,38	71,73	-4% -43%	53.190.787	51.300.983	1.889.905	4%
1A3bi 1A3bii	diesel oil gasoline		645.565 5.793	645.595 5.793	0%	426,19 187,12	159,80 172,80	-8%	275.130.233 1.083.927	1.000.999	82.928	-63% -8%
1.A.3.bii	diesel oil		135,306	135.306	0%	469,35	107,96	-77%	63.505.443	14.607.490	48.897.953	-77%
1.A.3.bii	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	diesel oil		589.411	589.411	0%	266,69	187,51	-30%	157,109,676	110.520.703	46,668,973	-30%
1.A.3.b I/OT	gasoline	2015	18.459 2.161.976	2.161,976	0%	99,32	100,65	82%	1.833.382	3.334.472	-1.501.090 274.853.670	82% -48%
1.A.3.b i	gasoline	2013	715,272	715.272	0%	70.93	70,65	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%	190,27	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	15.216.007	50.496.726	-77% -27%
1.A.3.bii 1.A.3.bii	diesel oil diesel oil		54.157 594.013	54.157 594.013	0%	424,73 226,31	308,24 180,97	-27% -20%	23.002.109	16.693.117	6.308.992 26.935.637	-27%
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%		302,901,820	250.897.738	-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%
1A3bi 1A3bii	diesel oil gasoline		696.592 6.186	696,592 6,186	0% 0%	390,66 171,15	161,95 167,18	-59% -2%	272.126.091 1.058.799	1.034.211	159.315.370 24.588	-59% -2%
1A3.01	diesel oil		153,284	153,284	0%	424.66	103,89	-76%	65.093.930	15.925.216	49.168.714	-76%
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%		105.245.508	11.424.633	-10%
1.A.3.b iv	gasoline	2017	19,160	19,160	0%	92,83	183,39	98%	1.778.674	3.513.787	-1.735.114 221.079.424	98% -42%
1.A.3.b TOT	gasoline	2017	2.251.437 699.027	2.251,437 699,027	0%	64.42	61,36	6%		47,786,817	-2.753.820	6%
1.A.3.bi	diesel oil		666.074	666.074	0%	371,66	163,30		247.556.063			-56%
1.A.3.bii	gasoline		6.315	6.315	0%	158,22	160,11	1%				1%
1A3bii	diesel oil		154.259		0%	384,71	102,69		59.344.525			-73%
1A3bii 1A3bii	diesel oil diesel oil		51.634 585.186	51,634 585,186	0% 0%	309,76 171,18	263,53 172,10		15.993.526 100.173.337		-537.532	-15% 1%
1.A.3.bit	gaseline		18.497	18,497	0%	171,18 89,66	184,61	100%			-1.756.209	100%
1.A.3.b TOT		2018		2.180.993	0%	20,00	10 1/01	0%	470.758.206	291,139,612		-38%
1.A.3.bi	gasoline		704.691	704.691	0%	62,30	68,45	10%	43.901.941	48.238.025	-4.336.084	10%
1.A.3.b1	diesel oil		663.841	663,841	0%	345,01	165,07		229.566.088			-52%
	gasoline discal of		6.683		0% 0%	146,08 347,42	153,25	5% .71%	976.219 55.303.336	1.024.150	-47.931 39.681.890	-71%
1A3bii 1A3bii	diesel oil diesel oil		159.183 52.939	159,183 52,939	0%	274,41	101,90 247,81		14.527.012			-10%
1A3.bii	diesel oil		596.913	595.913	0%	153,35	169,17		91.380.700	100.809.376	-9.428.676	10%
1.A.3.b iv	gasoline		18.750	18.750	0%	86,05	186,83	117%		3.502.941		117%
1.A.3.b TOT	AL	2019	2.202.000	2.202.000	0%			0%	437.268.744	292,497,497	164.771.268	-33%

				Activity Dat	0	Impli	ed Emission	Factor		NO ₃ Emi	ssions	
NFR Code	Fuel		current in (difference in [N]	current	adjusted	difference in (%)	current	adjusted in [kg]	adjustment	different in [%
			13,686		0%		(LT/M)	-12%	7.996.090	6.986.917	-969.143	100 Ea
		pr-Eus		13,686		884,76						
		Eura 1	76,661	76,661		338,60	207,71	-30%	25.915.925	19.199.292	-7.716.663	
		Eura 2	96.425	96.425	8%	172.06	105.00	-22%	16.590.020	13.020.026	-3.569.995	
	Gaspline	Euro 3	133,139	133,139	9%	58,51	70,18	20%	7.790.384	9.343.433	1.553.129	
		Euro 4	444.591	444.991	9%	42,27	42,19	0%	18.811.389	18,773,529	-37.858	
		Euro 5	31,234	31,234		18,61	42,19	121%	581.142	1.317.737	736.595	1
		Euro 6	0	0	9%	25,08	42,19	62%	2	3	1	
1A3bi.		Gasoline total	795,957	795,957	85	97,55	84,99	.13%	77.644.042	67,650,986	9.993.535	
Passenger		ребиз	1.916	1,916	8%	310,13	264,96	-15%	683.790	687.296	-96.506	
Cars		Eura 1	10.338	10,338	8%	294.62	295,17	-11%	3.066,428	2,741,307	-325.121	
		Euro 2	90.068	50.068	8%	406.90	219.19	-46%	20.372,795	10.974.210	-9.398.584	
		Euro 3	134,025	134,025		542.04	178.54	47%	72,646,173	23.929.236	48,716,957	
	Diesel Oil	Euro 4	279,154	279,154	65	384.37	140.58	43%	107.299.100	39.243.811	-68,055,349	
		Euro S	53,547	53.547		434.70	140.58	-60%	23,276,735	T.52T.796	-15,749,829	
		Euro 6	334	334	68	257.62	140,58	45%	86.044	46.953	-39 891	
		Diesel oil tutal	529,380	529,380	05	69.65	160,51	42%	227,341,096	84,970,461	.149.370.635	
		PCs Total	1.325.307	1.325.337	65.	210,12	115,16	.50%	364.985.938	152.621.367	.152.364.578	
		ha-Ena	1,249	1,249		627.09	646,96	3%	783.320	886.871	23.551	
		Euro 1	367	367		861,05	297,39	45%	386,969	186.020	-200.950	
		Euro 2	1.383	1.393	9%	264,75	184,41	-30%	368.848	256.917	-111.551	
	Casoline	Euro 3	886	895		82,47	90,63	10%	70.631	77.625	6.994	
	Care	Euro 4	2.420	2.420	0%	36,32	44,50	24%	87.987	188,679	20.712	
		Euro S	49	49	0%	15,34	44,90	193%	TSO	2.210	1.458	
		Euro 6	0		8%			Onl)	1	0		
. HASAI		Gasoline total	6.105	6.105	65	265.87	214,75	.16%	1,618,432	1,158,128	-260,104	
Light Duty		рэ-Еиз	4.876	4.826	8%	425,99	306,79	-29%	2.077.142	1,495,903	-681,239	
Vehicles		Eura 1	5.989	5.989	8%	395.59	215.24	-46%	2.369.098	1,299,030	-1.080.069	
(LOV)		Euro 2	13,126	13,126	654	336.76	193,10	43%	4,420,380	2.534.731	-1.885.629	
		Euro 3	33.249	33.249		531.01	150.58	-72%	17.685.883	5.085.780	-12.649.123	
	Diesel Oil	Euro 4	54.581	54.581	0%	491.42	80.00	-82%	26.621.636	4.540.722	-21.501.114	
			1.629	1,629		427.50	80,00		696,296		-651.772	
		Euro S						-79%	996.296	164.434		
		Ears 6	0	0		161,73	80,69	-42%		4	-3	
		Diesel oil tutal	113,450	113,450	6%	475,34	134,96	-72%	54.040.533	15.311.584	-38.728.949	
		LDVs Total	119,775	119,775		464,70	139,18	-70%	55,658,966	16,669,913	-38.989.053	
		pre-Euro	3.382	3.382	9%	1086,25	1029,76	-8%	3,674,067	3.452.644	-221.423	
		Eurol	2,826	2.826		749,41	752,14	0%	2.117.871	2.125.595	7.723	
LABBIE.		Euro I	10.152	10.152	0%	801,86	643,47	-20%	8.140.119	6.532.213	-1.607.906	
Seavy Duty	Diesel Oil	Euro II	15.090	15.090	9%	630,22	45T,25	-20%	10.066.776	T.289.299	-2.797.967	
Vehicles	Desire On	Ears IV	5.461	5.461	8%	448,63	361,66	-02%	2.450.016	1.921.527	-529,409	
Seses		Eura V	10.306	10.326	8%	337,28	182,30	-46%	3.482.417	1.982.544	-1.999.873	
		Ewa VI	O.	Ó	8%			0%		0		
		Buses Total	48,044	48,044	8%	623,00	482,55	-27%	29.931.266	23,183,732	-6.242.534	
		pre-Euro	10,105	10,105	626	1040.16	787,37	-20%	10.510.623	T.754.138	-2.758.485	
		Eurol	5,677	5,677		750.50	575.55	-23%	4.261.383	3.257.601	-993.792	
LA3.bH-		Earl I	38,588	38,588	65	817.62	524.79	-30%	31,525,526	20,234,619	-11,290,507	
Seavy Duty		Euro II	158.933	158.933	8%	636.20	374,48	-30%	101.105.192	20.234.019 59.517.271	-81.608.921	
Vehicle:	Diesel Oil		69,636	69,636		390.94	290.02	-41% -36%	27.183.067		-7.817.232	
Trucks &		Ears IV								20.166.636		
Lorries		Ears V	283.934	283,934		276,62	191,86	-45%	79.640.643	43.116.897	-06.424.746	
		Ews VI	0	0				0%		0		
		Trucks Total	566,741	566,741	65	446,67	271,83	-39%	253,148,243	154.056.160	-99,092,083	
		pre-Care	7.973	7.973	626	122,00	149,16	22%	972.721	1.189.303	216.582	
LA3bir -		Euro 1	5.231	5.231	8%	123,77	185,74	34%	647.479	867.039	219.558	
Motorised		Euro 2	3.587	3.587	0%	941.96	194.21	30%	506.362	686,661	190.309	
Two	Gaspline	Eury 3	2,900	2,900		39.11	194.21	397%	116,190	567,032	452.834	3
Wheelers		Eart 4	0	0				0%		0		
(MQWv)		Eura 6	0	0				0%		0		
		M2Ws Total	19,712	19,712		113.68	168.43	485	2.240.749	3.320.034	1.079.285	
		ments rotal							22111111	3.320.034	1,019,289	
A.J.b. Ross				2,079,688	05	310.62	160,23	.60%	645,965,162	349,851,296	296,113,956	

				Activity Date			nd Emission			NO, Emi		
MFR Code	Fuel		current		difference	CURTERS	adjusted	difference	Current	adjusted	adjustment	
			in [in [N]		g/T/g	in [5]		in [kg]		in [5]
		ребиз	13.063	13.063	9%	890,06	634,69	-10%	7.729.236	6.979.436	-748.801	-1
		Ears 1	61,979	61,979	8%	347,86	240,16	-31%	21,560,430	14.884.961	-6.675.479	-0
		Eura 2	87,083	87,083	8%	179,38	136,68	-24%	15.620.983	11.883,792	-3.727.191	-2
	Gassline	Euro 3	124,330	124,330	8%	61,64	71,52	16%	7.663.891	8.881,671	1.227.780	1
	-	Euro 4	442,185	442,185	9%	43,84	43,68	0%	19.384.914	19.316.439	-58.4TE	
		Euro 5	65.057	65.057	8%	18,58	43,68	135%	1.227.381	2.885.636	1.658.258	13
		Euro 6	1	1	8%	25,00	40,68	60%	17	26	- 11	- 6
1A301.		Gasoline total	754,680	754,688	0%	92,09	81,61	:51%	73,185,651	64.851.951	.8.333.900	
Passenger		рь-Епэ	1.711	1,711	8%	310,90	264,96	-10%	631,983	453.197	-78.606	-1
Cars		Ears 1	8.426	8.426	8%	297.32	296,86	-11%	2,605,115	2.239.997	-265.119	-
		Euro 2	42.514	42.514	8%	407,03	219.27	-46%	17.384,549	9.321,916	-J. 982 634	-
	Diesel Oil	Euro 3	121,429	121,429	8%	555,36	178,55	-68%	67,437,053	21.681.366	45,755,687	4
	Design Off	Euro 4	264.943	264.943	9%	368,08	143,46	-63%	102,817,801	38.089.755	-64.808.946	4
		Euro 5	113,847	113,847	9%	435,12	143,46	-61%	49.536.968	16.332.974	-33 203 994	4
		Euro 6	685	685	9%	253,59	143,46	-45%	180.582	99.754	-80.748	4
		Diesel oil tutal	553,564	553,564	8%	434,12	159,32	.63%	240.313.791	80.130.959	.152.174.832	J
		PCs Total	1.348.252	1.348.252	8%	212,52	113,47	.51%	313.499.642	152,990,910	.160.508.732	
		pa Eura	1,084	1,084	9%	629.26	645,95	3%	682.274	790.373	18.099	
		Euro 1	283	283	8%	858,74	384,47	-85%	243.289	86.158	-157,132	4
		Euro 2	1.164	1,164	9%	266,66	191,66	-28%	310.529	223,189	-87.340	4
	Casaline	Euro 3	TES	783	9%	85,97	95,39	11%	67.320	74.792	7.381	
	Casame	Euro 4	2.562	2.562	0%	37,38	46,51	24%	95.795	119.162	23.376	
		Euro S	241	241	9%	16,13	46,51	180%	3.082	11.130	7.308	1
		Euro 6	0	0	9%	16,00	46,61	283%	1	3	2	2
Light Duty		Gosoline total	6.118	6.118	6%	229,35	198,57	-13%	1,463,061	1,214,776	-188.305	
Vehicles		pa Eura	3.995	3.995	9%	425.09	306,79	-28%	1,698,290	1.225,602	-472.598	4
(LOVA)		Ears 1	4.787	4.787	9%	395,71	215,24	-45%	1.884.360	1.030.425	-863.525	-
		Euro 2	10.818	10.818	9%	336,90	193,29	-43%	3.644.582	2.091.063	-1.553.530	
	Diesel Oil	Euro 3	28.876	26,676	9%	541,53	150,54	-72%	15.637.249	4.346.870	-11.290.379	-
	Preser On	Euro 4	60.832	60.832	0%	490,62	89,36	-82%	30.039.914	5.429.811	-24.610.104	-
		Euro S	6.689	6.609	9%	440,05	89,36	-80%	2.930.198	534.364	-2.336.836	
		Euro 6	0	0	9%	166,21	89,26	-43%	14	8	-6	
		Diesel oil tutal	115.967	115.967	6%	481,55	126,92	-74%	55.844.518	14,718,142	41.126.376	
		LDVs Total	122,085	122,085	6%	468,52	130,61	-350	57,247,599	15,932,918	-41.314.681	
		pre-Euro	2.620	2,620	9%	1082,69	1019,76	-8%	2.836.109	2.671.331	-164.778	
		Eurol	2.258	2.258	9%	752,91	751,40	0%	1,689,787	1.686.297	-3.410	
LABBIE.		Eart I	9.074	9.074	8%	804,17	643,36	-20%	7.297.125	5.837.959	-1.459.156	4
Seavy Duty	Diesel Oil	Ears II	14.007	14.007	9%	633,16	457,38	-20%	9.425.890	6.889.064	-2.616.827	
Vehicles	Design On	Ears IV	6.131	6.131	9%	440,00	361,01	-82%	2.363.330	1.005.274	-498.864	
Beses		Ears V	13,396	13,396	9%	336,60	182,62	-46%	4,689,062	2.446.399	-2.062.663	
		Ewe VI	0	0	9%			0%	0	0		
		Buses Total	47,365	47,365	6%	592,65	448,99	-24%	28.071.221	21.296.323	-6.804.898	
		pre-Cara	8.044	8.044	8%	1038,87	753,88	-26%	8.365.423	6.144.903	-2.210.491	
		Eart	4.384	4.384	9%	750,16	574,04	-23%	3.288.422	2.5%377	-772.044	4
1.A.3.b III -		Eart I	29.277	29.277	8%	817,97	520,31	-36%	23.947.723	15.233.223	-8.714.439	
fleavy Duty Vehicle:	Diesel Oil	Ears II	121.581	121.581	9%	635,56	372,68	-41%	77.271.520	45.312.437	-31.959.894	
Trucks &	Desire On	Ears IV	98.430	98.430	9%	390,26	289,48	-36%	22.977.764	16,989,685	-6.068.019	
Lorries		Eura V	342,176	342,176	9%	279,30	162,00	-46%	95,569,479	52,019,687	43.549.793	
		Ewe VI	0	0	8%			0%	t	0		
		Trucks Total	563,891	563,891	654	410,38	244,97	-80%	231,410,271	138.136.342	-83.273.529	
		pre-Euro	7.389	7.389	8%	122,96	150,24	22%	968,588	1.110.176	201.550	
LA3ble -		Euro 1	4.885	4.885	8%	124,72	165,25	35%	589,299	888.547	209.248	
Motorised		Euro 2	3.544	3.546	8%	137,85	194,58	41%	488.582	689.683	201.851	
Two	Gassine	Ears 3	3.580	3.590	8%	39,59	194,58	392%	140.553	680.034	558.208	3
Wheelers		Ears 4	0	0	8%			0%	ē .	0		
(MWW)		Eura 6	0	0	8%			0%		0		
		M2Ws Total	19,289	19,289	6%	110,79	171,04	54%	2.137,082	3,299,162	1.162.160	

			,	Activity Dat		Impli	ed Emission			NO ₃ Emi		
NFR Code	Fuel		current	adjusted	difference	current	adjusted	difference	current	adjusted	adjustment	differen
			in [TAIL .	in [N]	in p	(LT/gi	in [5]		in [kg]		in [5]
		ребиз	11,661	11,661	9%	607,72	636,39	-12%	7.036.041	6.189.786	-836.256	-1
		Ews 1	47,467	47,467	8%	349,66	241,02	-31%	16.671.746	11.426.129	-6.145.617	-0
		Eura 2	72,761	72,761	9%	184,27	137,92	-25%	13.487,749	10.035.380	-3.372.369	-2
	Gaspline	Euro 3	108.443	108.443	9%	63,89	72,62	14%	6.927.963	7.875.172	547.265	1
	Constitute	Euro 4	488.541	408.541	9%	45.39	45.13	-1%	18.541.861	18.436,716	-105.145	
		Euro 5	101.961	101.961	0%	18,61	45.13	143%	1.887.386	4.681.311	2.703.954	14
		Euro 6	282	282	9%	25,00	45.13	74%	7.338	12,736	5.399	7
14301.		Gasoline total	750.957	750.957	0%	85,73	70,00	.95	64,379,984	50.577.329	5.802.765	
Passenger		ре-Еиз	1.487	1.487	9%	311.98	264,96	-15%	463.963	383.972	49.921	
Cars		Eura 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	2%	406.62	219.27	-45%	13.807.432	T.445.646	-6.361.787	
		Euro 3	163,539	103,539	8%	564.02	178,63	-85%	58.398.037	18.454.837	-39.903.200	
	Diesel Oil	Euro 4	234.943	234.943	8%	390.41	145.46	-62%	91,724,198	34.488.997	-57.315.201	4
		Euro S	173.112	173,112	68	434.89	145.45	-60%	75.284.364	25.383.375	49 530 590	
		Euro 6	1.557	1.557	8%	253.04	145.45	-44%	464.664	220.006	-176.578	
		Diesel oil tutal	555,245	505,245	05	435.96	150,66	.645	242.062.962	80,096,699	.153,966,203	
		PCs Total	1,306,202	1,306,202	65	214.61	112,29	.575	306.642.896	146.673.997	.159,768,968	
		рэ Еиз	962	962	0%	632,00	646,96	2%	667,739	621,150	13.411	
			232	232	8%	863.24	383.22	45%	199.885	70.295	-129.861	
		Errs 1			626		195,74	-20%			-129.901 -74.556	
		Euro 2	989	989		271,16			268.194	193,588		
	Gaseline	Euro 3	835	835	0%	89,38	98,33	10%	74.623	82.092	7.469	
		Euro 4	2.030	2.030	0%	38,49	47,58	24%	78.195	96.681	18.445	
		Euro S	610	610	0%	16,30	47,58	192%	9.941	29.011	19.003	1
LARLE .		Eura 6	0	0	8%	16,37	47,68	210%	2	6	4	3
Light Duty		Gosoline 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	9%	424,46	306,79	-29%	1.368.754	982.083	-376.661	
(LOVA)		Euro 1	3,656	3,696	9%	395,34	215,24	-45%	1.445.580	787.034	-858.526	
		Euro 2	8.479	8.479	8%	336,40	193,39	-43%	2.852.325	1.639.772	-1.212.953	
	Diesel Oil	Euro 3	23,785	23,785	0%	550,53	150,44	-73%	13.050.281	3.586,082	-9.454.139	
	Design Co.	Euro 4	59.485	59.485	0%	494,22	89,85	-82%	29.368.878	5.337.395	-24.021.453	
		Ears 5	15.964	15.964	9%	442,70	89,85	-80%	7.040.461	1.420.906	-6.611.955	
		Euro 6	1	1	9%	161,94	89,86	-41%	122	72	-68	
		Diesel oil total	114,350	114,350	6%	481,91	120,17	-79%	55.106.382	13.741.354	-41.365.828	
		LDVs Total	120,088	129,008	6%	469,51	123,61	-74%	56,344,983	14.834.016	-41.510.887	
		pre-Euro	1.326	1.326	9%	1063,46	1019,45	4%	1.410.646	1.382.283	-58.382	
		Eurol	1,248	1.248	9%	727.34	751.15	3%	907.476	937.184	29.708	
LABBIE.		Euro I	7.768	7.768	0%	760,46	643.34	-10%	6.085.891	4.98T.476	-1.058.413	
Seavy Duty		Ears II	16.483	16.463	9%	629.94	457,51	-21%	9.073.197	6.589.744	-2.403.453	
Vehicles	Diesel Oil	Ears M	6.301	6.331	9%	458,10	361.66	-23%	2.442.179	1.076.777	-666.402	
Buses		Ears V	30.792	20.792	9%	347.94	182,99	-47%	7.219.663	3.797.467	-3.421.096	
		Ears VI	23	23	8%	64.62	182.99	236%	3.961	13.296	9.334	3
		Buses Total	50,962	90.962	8%	513.22	384,33	-26%	27.141.913	19.563.298	3.578.704	
		pro-Caro	6,922	6,922	626	1036.95	758.82	-21%	7.177.543	5,252,345	-1.525.756	
		Eurol	3.630	3,630	65	749,70	570.57	-24%	2.721.326	2.071.111	-650.215	
LA3bH-		Euro I	23.577	23.577	65	818.27	516,43	-31%	19.292.253	12.175.885	-7.116.298	
Seavy Duty		Earl II	96,726	96,726	68	634.65	370.21	-42%	61.307.137	35,000,665	-25.578.472	
Vehicle:	Diesel Oil	Ears IV	90.590	50.550	8%	396,60	280,44	-21%	19.992.680	14.580.877	-6.411.723	
Trucks &		Eas V	485.981	405.981	8%	291,24	152,32	46%	114 149 965	61.826.677	-62 324 279	
Lorries		Eura VI	2.300	2.300	8%	201.04	196,00	0%	108.467	360.323	341.856	2
		Trucks Total	589,585	589,585	97h	381,33	224,00	-415	224.829.180	132,064,753	-82,764,428	-
		pa-Cun	6.790	6.780	656	122,76	151,00	23%	822.538	1.011.920	189.381	
LA3ble -		Ears 1	4.386	4.306	0%	124,61	171,30	30%	536,615	738.050	201.435	
Motorised		Euro 2	3.267	3.267	0%	136,22	194,95	43%	445.007	636.863	191.846	
Two	Gassline	Ears 3	3.984	3.994	0%	39,66	194,95	392%	150.306	770.616	620.230	3
(MDWs)		Ears 4	0	0	9%			0%		0		
Secure		Eura 6	18,268	0	9%			0%		0		
		M2Ws Total		18,268	8%	107,43	173,28	61%	1.962.546	3,165,439	1,202,893	

				Activity Date	9	Impli	ed Emission	Factor		NO, Emi	ssions	
NER Code	Fuel		current		difference	current	adjusted	difference	current	adjusted	adjustment	difference
			in [in [N]	in p	(LT/gr	in [5]		in [kg]		in [5]
		ребиз	11,490	11,490	8%	610,22	619,36	-10%	7.011.641	6.96T.452	-1.044.009	-16
		Eura 1	37,743	37,743	9%	363,78	241,88	-32%	13.362.986	9.129.485	-4.223.901	-00
		Eura 2	62,680	62,600	9%	189,93	139,33	-21%	11,889,922	8.722.244	-3.167.678	-27
	Gassine	Euro 3	97,792	97,792	0%	66.38	73.19	10%	6.481.618	T.156.920	665.303	10
	Continue	Euro 4	397.911	397,911	8%	47,22	46,52	-1%	18,790,345	18.589.937	-280.407	-1
		Euro 5	138.863	138.863	8%	18,60	46,52	150%	2.583.150	6.459.681	3.876.451	150
		Euro 6	2.7%	2.7%	8%	25,99	46,52	79%	70.536	126.237	55.711	75
1A301.		Gasoline total	749,114	749,114	0%	80,35	74,85	.2%	60.190.067	56,071,797	4.118.211	
Passenger		рьена	1,389	1,389	8%	312,26	264,96	-15%	433.981	369.139	46.742	-1
Cars		Ears 1	6.626	6,626	9%	298.42	296,79	-11%	1,678,472	1,580,588	-177.894	-1
		Euro 2	28.437	28.437	9%	406,64	219,91	-45%	11.563.522	6.253.531	-6.309.991	-4
	Diesel Oil	Euro 3	92,795	92,795	9%	574,33	178,67	-85%	53,294,996	16.579.373	-36.715.583	-8
		Euro 4	222.583	222.583	8%	390,58	149,27	-62%	87.588.471	33,225,566	-54.372.905	-5
		Ears 5	233,766	233,766	0%	435,42	149,27	-60%	101.767.275	34.884.768	-66.892.507	-0
		Euro 6	4.536	4.536	8%	258,53	149,27	-42%	1.177.151	677.046	-500.106	-4
		Diesel oil tutal	589,131	589,131	0%	437,54	150,71	.645.	257.533,720	93,499,010	.164.834.718	Á
		PCs Total	1.338.245	1.338.245	6%	217,42	111,77	.53%	317.723.735	149,570,886	.168.152.928	.5
		pa Eura	997 194	997 194	2% 2%	630,81	646,96	2% 45%	568.320	679.293	10.894	4
		Ears 1				863,50	386,27		167,261	59.326	-107.535	
		Euro 2 Euro 3	836 784	836 784	9% 9%	214,42 52,66	291,18	-21%	229.520 72.681	168.265 79.780	-61.255 7.859	-2
	Gaseline	Euro 4	1.099	1.599	8%	40.70	45.89	20%	77.284	92.833	15.549	2
		Euro S	966	966	68	16.67	40.00	193%	16.107	47.260	31.141	110
		Earl 6	1	300	65	17,60	40,00	170%	36	72	21.161	17
14336		Gasoline total	5.578	5,578	676	202.80	184,67	.9%	1,131,209	1.026,727	.104.492	
Light Duty		pro-Euro	2.754	2.754	8%	434,37	306,79	-29%	1,168,757	844.928	-323.828	- 4
Vehicles		Ears 1	2,948	2,948	8%	295,75	215.25	40%	1.166.702	634.586	-832.138	4
(LOV4)		Euro 2	6.982	6.982	626	336.02	193.35	-42%	2.345.147	1.380.014	-896.133	4
		Euro 3	20.421	20.421	65	560.12	150.38	-73%	11,437,995	3,070,913	-8.367.882	-7
	Diesel Oil	Euro 4	55,867	55,667	85	497.72	90.45	-82%	27,775,440	5.048.416	-22.728.824	-8
		Euro S	29,024	29,024	8%	441.97	90.46	-80%	13.181.305	2.687.964	-10.403.361	- 4
		Ears 6	41	41	8%	161.28	90.46	-40%	6.160	3,688	-2.479	- 4
		Diesel oil total	118,777	118,777	6%	490,60	114,90	-76%	\$7,083,533	13,650,488	-43.433.845	- 7
		LDVs Total	124,354	124,354	65	468,14	118,00	-79%	58.214.742	14.677.215	43.537.527	-1
		pre-Euro	1,172	1,172	8%	1066.08	1019.23	4%	1,249,028	1.154.143	-54.885	-
		Eart	1.084	1.054	8%	727,68	750,59	3%	765,620	791.181	24.551	
1A3bii.		Eart I	6.884	6.884	0%	764,07	643,48	-10%	5.334.985	4.378.271	-856.637	-1
Heavy Duty	Diesel Oil	Euro II	13.107	13,107	8%	630,43	457,65	-21%	8.262.880	5.988.226	-2:364.575	-2
Vehicles	Desir On	Ears IV	4.946	4.946	8%	460,55	361,71	-24%	2.279.061	1.739.796	-638.354	-2
Beses		Eura V	24.096	24,096	8%	398,00	183,46	-49%	8.436.683	4.420.743	-4.014.761	-4
		Ewe VI	637	637	8%	44,76	183,46	310%	34,047	98.672	74.525	31
		Buses Total	51,716	51,716	654	509,54	360,06	-29%	26.350.969	18.620.843	-2.230.126	- 4
		pre-Euro	5.863	5.863	9%	1005,72	737,38	-29%	6.072.170	4.322.868	-1.749.303	-2
		Eurol	2.985	2.985	9%	749,27	588,27	-24%	2.176.846	1.680.969	-525.877	-2
1.A.3.b III - Heavy Duty		Ears I	15.444	15.444	0%	818,57	5/13,46	-31%	15.089.861	9.469.975	-5.619.806	-3
Vehicle:	Diesel Oil	Ears II	75.130	75.130	0%	630,53	367,30	-62%	47.587.440	27.587.760	-19.999.600	-4
Trucks &		Ears IV	42.791	42.791	0%	396,90	287,27	-21%	16.936.067	12.289.770	-4.647.837	-2
Lorries		Ears V	436,999	436,999	0%	261,70	162,66	-46%	123,101,324	66,796,496	-66.394.827	-4
		Eara VI	18.020	18.020	0%	60.67	152,65	201%	913.082	2.750.600	1.837.549	29
		Trucks Total	680,139	600,139	6%	353,06	297,90	-41%	211,887,531	124,788,469	-87,099,042	- 4
		pre-Cara	6.382	6.352	656	129,07	151,79	23%	781,736	964.179	182.443	2
f.A.3.b iv -		Ears 1	4.013	4.013	0%	125, 11	173,15	38%	582.073	684.880	192.807	3
Motorised	Country	Euro 2	3.382	3.382	0%	132,24	195,58	40%	436,668	645.884	209.136	4
Two. Wheelers	Gassine	Euro 3	4.562	4.562	0%	39,01	195,58	391%	181.610	882.176	718.565	30
(MQWs)		Eart 4			9%			O/L)		0	:	
		Earl 5				100 00	126.10					
		M2Ws Total	18.229	18.229	654	104,34	175,38	68%	1,902,008	3,197,038	1.294.951	
	Transport b			2,132,683	05	208.00	145,76	.505	616,079,063	390,854,371	305,224,692	

				Activity Dat		Impli	ed Emission			NO ₃ Emi	ssions	
NFR Code	Fuel		current		difference	current	adjusted	difference	CUITERS	adjusted	adjustment	
			in	T.II	in [N]	in p	(LT/gr	in [5]		in [kg]		in [%
		ребиз	11,647	11,647	9%	612,37	644,11	-11%	7.132.689	6.30T.464	-796.844	-
		Ears 1	30.667	30.667	9%	368,77	243,90	-02%	11,002,246	7,480,541	-3.521.706	4
		Euro 2	53,486	53,486	9%	196,58	140,31	-29%	10.514.477	T.684.432	-3.010.044	4
		Euro 3	87,374	87,374	9%	69.31	73.90	7%	6.055.588	6.459,797	404.218	
	Gassline	Euro 4	387,759	367,759	9%	49.15	47.80	-3%	19.089.585	15.535.009	-523.557	
		Euro 5	171,278	171,278	9%	18.59	47.80	157%	3.183.292	8.187.581	5.004.259	1
		Euro 6	10.315	10.315	9%	25.97	47.80	84%	267.050	493,098	225.240	
14301.		Gasoline total	752,526	752,526	05	76,03	73.09	.45	57,215,533	54,998,921	3.316.612	
Passenger		ребиз	1.341	1.341	9%	311.73	264.96	-10%	417.967	366.246	42.722	-
Cars		Ears 1	4.992	4.992	9%	298.92	267.20	-11%	1,462,264	1.307.043	155.161	
		Euro 2	23,934	23,934	8%	406,71	220,45	46%	9.734,484	5,276,400	4.458.884	
			E2,749	82,749	674	588.53	178.81	49%	48.451.830	14,796,246	-33,655,585	
	Diesel Oil	Earn 3										
		Euro 4	211.237	211.237	9%	397,27	151,77	-62%	83.917.680	32.059.973	-51.857.706	
		Euro 5	285.811	285.811	9%	436,38	151,77	-65%	124.721.396	43.376.380	-81.343.096	
		Euro 6	16.081	16.001	9%	259,34	151,77	-41%	4.170.580	2.440.686	-1.729.014	
		Diesel oil tutal	626,045	626.045	8%	435,87	159,12	.63%	272.076.061	99,613,892	.173.262.168	
		PCs Total	1.328.571	1.328.521	8%	219,44	112,15	.53%	330.091.594	154.612.813	.175.478.281	
		ha Ena	896	896	9%	634,74	645.96	2%	568.683	678.724	10.040	
		Ews 1	173	173	9%	868,27	389,96	-64%	150.074	53.575	-96.499	
		Euro 2	T48	T48	9%	284,73	297,11	-21%	212.868	154,839	-58.829	
	Casoline	Euro 3	771	771	9%	98,62	105,21	7%	75.982	81.070	5.678	
	Claseline	Euro 4	1.867	1,667	9%	43.47	50.15	15%	81.139	93.616	12.479	
		Euro S	1.374	1.374	9%	17.91	50.15	193%	23.517	60.910	45.401	
		Euro 6	17	17	9%	18.00	60.16	179%	312	870	667	
. HALAI		Gasoline total	5.845	5.845	65	199.34	176,49	.7%	1,112,584	1.001.612	.86.572	
Light Duty		pre-Eura	2.537	2.537	2%	429.96	306.79	27%	1.065.819	178,259	-297 668	
Vehicles		Ears 1	2,588	2,588	2%	393.62	215.25	45%	987,136	539.808	-447.328	
(LOVA)		Euro 2	6.007	6.007	624	330.61	193.25	-42%	1,985,995	1,160,869	-625.126	
		Euro 3	18,220	18,220	05	571.75	150.58	-74%	10.417.076	2.742.056	-7.875.828	
	Diesel Oil		52.361	52.361	0%	499.70	91.00	42%				
		Euro 4	45.749	45.749	85	439.44	91,09		25.164.485	4.789.746	-16 237 709	
		Ears 5						-79%	20.496.234	4.250.526		
		Eura 6	197	157	9%	161,19	91,09	-40%	29.029	17.974	-11.855	
		Diesel oil tutal	128,578	128,578	6%	475,56	110,96	.77%	61.146.525	14.267.207	-46.879.338	
		LDVs Total	134,423	134,423	8%	463,16	113,81	-29%	62,259,160	15,298,849	-46.960.311	
		pre-Euro	984	984	9%	1069,48	1019,23	-8%	1.052.364	1.002.921	49.443	
		Eurol	105	837	9%	725,12	750,98	3%	689.232	628.359	19.127	
A3bH.		Euro I	5.586	5.586	9%	764,95	643,67	-10%	4.384.328	3.683.441	-790.857	
leavy Duty	Diesel Oil	Euro II	11.221	11,221	9%	631,20	450,38	-21%	7.082.748	5.143.528	-1.539.229	
Vehicles	Desire On	Ears IV	4.270	4.270	9%	461,10	361,79	-24%	1.972.610	1.584.970	-667.630	
Beses		Ears V	22.042	22,042	9%	368,66	183,99	-49%	7,736,921	4.066.632	-3.671.389	
		Eara VI	4,182	4,182	9%	42,78	183,99	330%	178,913	789.476	990,963	
		Buses Total	49,143	49,143	8%	468,37	339,99	-27%	23,017,115	16,718,234	4.308.881	
		pre-Euro	4.782	4.782	8%	1034.34	737.38	-29%	4,945,942	3,525,888	-1.420.134	
		Eurol	2.295	2.295	1%	748.66	581.41	-25%	1,650,688	1,237,759	412,848	
A3bH-		Earl I	13.629	13.629	0%	817.90	510.38	-30%	11,145,889	6,965,738	4.191.131	
leavy Duty		Earl II	54.685	54.685	0%	632.52	364.41	42%	34.589.677	19.927.836	-14.661.841	
Vehicle:	Diesel Oil	Ears IV	36.037	34.037	9%	396.37	286,34	-20%	13,491,199	9.711.896	-3.779.362	
Trucks &		Ears V	389.283	389.263	2%	202,92	163,06	40%	110.112.792	59.569.043	-50 544 749	
Lorries			74.214	34.214	2% 2%	63.06	163,06	189%	3.937.089	11.368.602	7.421.413	
		Ears VI										
		Trucks Total	572,754	572,754	0%	314,05	196,05	-38%	179,874,133	112,295,582	-87.588.551	
		pre-Euro	6.185	6.185	9%	122,65	158,04	29%	756,185	974.368	218.182	
LA3ble -		Ears 1	3.837	3.837	9%	124,71	174,84	40%	478.514	670.859	192.346	
Motorised		Euro 2	3.365	3.365	9%	125,94	196,25	52%	433.874	680.378	226.504	
Two	Gassine	Ears 3	5.385	5.305	9%	39,53	196,25	396%	209.722	1.041.189	831.467	
Wheelers		Ears 4	0	0	9%			0%		0		
(M2W4)		Ears 6	0	0	0%			0%	0	0		
		M2Ws Total	18.673	18,673	8%	100,59	179,34	78%	1.878.294	3,346,794	1.468.499	
												_

				ectivity Date	9	Impli	nd Emission I	Factor		NO, Emi	ssions	
NFR Code	Fuel		current		difference	current	adjusted	difference	current	adjusted	adjustment	difference
			in [in [N]	in p	a/TJj	in [5]		in [kg]		in [5]
		ребиз	11.380	11.380	9%	630,23	644,11	-14%	7.206.112	6.191.942	-1.014.169	-14
		Eura 1	34,112	34,112	0%	371,34	346,71	-34%	8.963.881	6.904.674	-3.029.229	-04
		Ews 2	42,925	42,925	0%	207.78	142,09	-32%	8,918,785	6.099.069	-2.819.646	-32
	Gaspine	Euro 3	72.871	72.871	9%	73,85	74,74	1%	5.381.361	5.446.237	64.887	1
	Casaine	Euro 4	383,474	353,474	9%	52,30	49,02	-6%	18.485.637	17.326.221	-1.159.416	-8
		Euro 5	180.763	180.763	9%	19,11	49,02	157%	3.454.481	8.861.456	5.406.975	157
		Euro 6	29.612	29.612	9%	26,70	49,02	84%	790.781	1.451.493	660.793	84
1A301.		Gasoline total	715.156	715,156	8%	74,38	71,73	.45	53,190,787	51.380.983	.1.889.805	d
Passenger		рьена	1.282	1,282	9%	310,32	264,96	-15%	397,917	339,733	-68.194	-16
Cars		Ears 1	4.219	4.219	9%	299,14	267,84	-10%	1,291,930	1,129,909	-132.821	-9
		Euro 2	19,689	19,689	9%	407,00	220,36	-45%	8.013.587	4.338,719	-3.674.768	-4
	Diesel Oil	Euro 3	71.044	71.044	9%	595,01	179,04	-70%	42.271.648	12.719.962	-29.551.685	-71
		Euro 4	192,410	192,410	9%	401,42	154,07	-62%	77.237.685	29.644.450	47.593.206	-60
		Euro 5	364.346	364.346	9%	434,67	154,07	-65%	132,290,493	45.880.424	-85.400.058	-60
		Euro 6	52.576	52.576	9%	258,76	154,07	-41%	13.657.082	0.100.304	-6.956.77B	-41
		Diesel oil tutal	645,565	645,565	85	496,19	159,88	.63%	275.130.233	183,163,501	.171.966.732	.6
		PCs Total	1.360.721	1.360.721	6%	241,28	113,52	.53%	328.321.020	154,464,484	.173.856.536	-5
		ba Ena	879	879	9%	664,37	645,96	15%	675.300	667.977	-7,404	- 46
		Ears 1	150	150	9%	895,63	311,90	-85%	134,523	-46.851	-87.672	
		Euro 2 Euro 3	629 781	629 781	65 65	298,27	212,94 186,62	-29% 3%	187.533 73.989	133.879 76.155	-53.854 2.156	-2
	Gaseline	Euro 4	1.720	1.720	95	47.06	51,30	9%	80.958	85,245	7.290	
		Euro S	1,620	1,630	68	19.41	51.30	179%	29.012	83,086	53.274	175
		Earl 6	54	54	85	18.71	61,30	174%	1.752	4.994	3.862	17/
14356.		Gasoline total	5.793	5.793	65	197,12	172,80	.8%	1.083.907	1.000.999	49.526	
Light Duty		pro-Euro	2.323	2.323	8%	416,01	306,79	-36%	966,185	712.631	-253.654	- 0
Vehicles		Ears 1	2.106	2.106	2%	391.47	215.25	45%	834,270	453.227	-371.843	-2
(LOV4)		Euro 2	5.025	5.025	25	334.81	193.29	-40%	1,632,296	971.296	-850 529	- 4
		Euro 3	15.781	15,701	05	500.35	150,67	-74%	2.112.414	2.365.713	-6.746.701	-74
	Diesel Oil	Euro 4	47,400	47.400	95	501.73	91.74	42%	23.782.396	4.345.295	-19.434.090	-8
		Euro S	62,116	62,116	9%	406.10	91.78	-79%	27.090.214	5,680,295	-21.392.009	-75
		Earl 6	636	636	9%	164.01	91,74	-40%	97.798	59,230	-09.629	-4
		Diesel oil total	135,386	135,386	8%	463.35	197,96	.77%	63,505,643	14.607.490	48,897,953	.7
		LDVs Total	141,098	141,098	8%	457,76	110,62	-76%	64,589,370	15,688,490	-48.560.881	-7
		pre-Euro	979	979	9%	1070.34	1019.23	-8%	1.048.312	988.255	-50.058	- 4
		Eurol	747	747	9%	730.26	751.91	3%	545.471	581,636	16.168	1
1A3bii.		Eart I	5.211	5.211	9%	767,43	544,45	-10%	4.103.687	3.388.684	-746.883	-9
Heavy Duty	Diesel Oil	Euro II	11.282	11.282	9%	630,00	450,67	-20%	7.141.732	5.174.909	-1.966 E22	-21
Vehicles	Deser On	Ears IV	4.586	4.586	9%	469,70	361,99	-25%	2.154.086	1.614.177	-639.829	-21
Seses		Ears V	34.257	34.267	9%	368,77	184,69	-49%	9.727.068	4.477.641	-4.349.427	-4
		Ewe VI	6.224	6.234	9%	60,13	184,58	247%	277.642	964.226	696.694	24
		Buses Total	52.287	52,287	6%	458,56	327,99	-29%	23,997,817	17,149,448	4.848.379	-2
		pre-Cara	4.319	4.319	9%	1034,69	737,35	-29%	4.468.571	3.184.428	-1.284.143	-2
		Eart	1.883	1.853	9%	748,71	583,48	-26%	1.387.291	1.025.551	-361.740	-21
1A3bH-		Ears I	11.082	11.092	9%	817,98	587,98	-39%	9.072.840	5.633.460	-3.439.391	-3
Heavy Duty Vehicle:	Diesel Oil	Ears II	43.481	43.481	9%	631,55	361,64	-63%	27.460.779	15.724.631	-11.736.167	-6
Trucks &	District Co.	Ears IV	29.233	29.233	9%	396,80	283,72	-20%	11.672.060	9.294.190	-3.278.768	-21
Lorries		Ears V	329,726	329,726	9%	264,17	153,49	-46%	90.413.973	90.456.496	42.967.477	-4
		Eara VI	170,717	120,767	9%	67,49	153,49	167%	9.813.364	26.292.007	16.308.694	16
		Trucks Total	589,411	589,411	6%	264,69	187,61	-30%	157,189,675	110,520,793	-46.668.513	-3
		pre-Euro	5.744	5.744	9%	125,41	157,29	25%	720.441	983,470	183.028	2
f.A.3.b iv -		Ears 1	3.517	3.517	9%	127,40	176,22	35%	448.086	619.819	171.733	3
Motorised		Euro 2	3.382	3.382	0%	127,36	196,93	95%	430.680	685.965	235.306	5
Two. Wheelers	Gassine	Euro 3	5.011	5.011	9%	40,29	196,93	389%	234.136	1.164.415	910.209	38
(MDWs)		Euro 4	4	4	9%	16,96		-180%	69	904	736	1061
(maximum)		Ears 6	0	0	9%	66.65	400.07	0%		0	0 0000 0000	- (
		M2Ws Total	18.459	18.459	6%	99.32	180,65	82%	1.833.382	3.334.472	1.501.890	*
		Total	2,161,976	2,161,976	0%	266.39	139,36	-405	575,901,265	301.077.506	374.853.670	- 4

				Activity Dat		Impli	ed Emission	Factor		NO ₃ Emi	ssions	
NFR Code	Fuel		current		difference	current	adjusted	difference	current	adjusted	adjustment	
			in [in [S]		kg/TJ]	in [5]		in [kg]		in [%]
		ребиз	11.782	11.782	9%	634,76	644,11	-14%	7.479.914	6.410.967	-1.067.967	-
		Ears 1	20.270	20.270	9%	372.26	241,68	-35%	7,645,483	4.090.000	-2.646.596	4
		Ews 2	36.062	36.062	9%	212.78	143,11	-33%	7,671,681	5.160,897	-2.510.693	4
	Gassline	Euro 3	63,039	63.039	9%	28,17	75,50	-1%	4.801.482	4.759.259	42.233	
	Catalia	Euro 4	334.413	334.413	9%	53,74	50,17	-7%	17.969.964	16.777.445	-1.192.468	
		Euro 5	183,374	183,374	9%	19,09	50,17	163%	3.500.T45	9.199.834	5,009,008	11
		Euro 6	66.332	66.332	9%	26,67	50,17	80%	1.768.917	3.327.850	1.958.933	
14301.		Gasoline total	715,272	715,272	8%	70,93	70,65	85.	50,736,967	50,535,049	201.918	
Passenger		ре-биз	1.290	1,290	9%	308.76	264.96	-14%	395.262	339.173	-56,009	
Cars		Ears 1	3.749	3.749	9%	299.38	269.66	-10%	1.122.449	1,011,026	-111.425	
		Euro 2	16,584	16,584	8%	407,19	221,40	46%	6.720.132	3,663,964	-3.066.168	
		Earl 3	61,398	61,398	2%	602.50	179.24	-70%	36,991,999	11,005,049	-25.598.550	
	Diesel Oil	Euro 4	175,840	175,840	25	405.78	155,24	41%	71.352.220	ZT.474.006	43.878.214	
		Euro S	299.684	299.684	05	433.94	195,34	-64%	130.032.044	45,819,229	-83.212.815	
		Euro 6	115.634	116.634	65	268,75	196,34	-40%	30.427.585	10.232.785	-12.194.778	
			675,119	675,119		410.36	160,76	-675	277.041.660		.160.506.430	
		Diesel oil tutal			0%					100.535,230		
		PCs Total	1.390.391	1,390,391	0%	215,75	116,41	-51%	327.778.627	159,070,280	.168.208.347	
		ha-Ena	910	910	9%	662,79	645,96	-1%	589,788	687.663	4.225	
		Ews 1	136	136	9%	900,31	312,78	45%	122,126	42,426	-79.700	
		Euro 2	540	540	9%	309,39	217,84	-21%	162.311	117.797	-84.604	
	Casoline	Euro 3	680	680	9%	108,43	111,97	3%	70.432	72.731	2.299	
	Catema	Euro 4	1.684	1.684	9%	49,06	52,36	7%	75.714	84.003	5.209	
		Euro S	1.724	1.724	9%	19,02	52,36	164%	36.157	90.258	56.100	
		Ears 6	363	363	9%	18,66	62,36	181%	6.764	19.992	12.228	
Albii.		Gasoline total	5,996	5,996	8%	199,27	171,06	.5%	1.068.292	1.013.678	-54.614	
Light Duty Vehicles		рэ.Еиз	2,169	2,169	9%	414.87	306,79	-26%	899.848	665.433	-234.416	
(LOVA)		Euro 1	1,790	1,790	9%	391.09	215.25	-45%	700,169	385.371	-314.798	
Irraed		Euro 2	4.223	4.223	8%	323.43	193,31	-40%	1,365,994	816.452	-549.542	
		Eury 3	13.582	13.582	0%	558.91	150.77	-74%	8.064.323	2.049.233	-5.955.000	
	Diesel Oil	Eura 4	43.141	43.141	9%	504.46	92.40	-82%	21.763.989	3.986.141	-17.777.768	
		Euro S	74.231	78.231	8%	434.10	92.40	-79%	32.223.283	6.050.790	-25.364.503	
		Earl 6	4.901	4.901	8%	163,49	92.40	-40%	795.285	454.676	-300 609	
		Diesel oil total	144.068	144.068	676	416,12	105,62	.77%	65,712,732	15,216,007	-50.496.726	
			149,994		676			-77%			-50.496.726 -50.551.340	
		LDVs Total		149,994		445,23	108,29		66,781,025	16.229.684		
		pre-Euro	891	891	9%	1070,81	1019,23	-8%	954.191	988.234	45.563	
		Eurol	583	583	9%	731,38	752,57	3%	433.675	446.236	12.558	
A3bii.		Euro I	4.375	4.375	0%	768,25	645,03	-10%	3.445.614	2.822.021	-626.594	
leavy Duty	Diesel Oil	Euro II	10.333	10.333	9%	632,67	450,91	-21%	6.539.364	4.741.027	-1.797.536	
Vehicles	Desire On	Ears IV	4.449	4.449	9%	475,90	362,28	-36%	2.117.210	1.586.881	-650 330	
Seses		Ears V	34,390	34,390	9%	366,38	186,22	-49%	8.936.974	4.617.617	-4.418.467	
		Eara VI	9,126	9,126	9%	62,79	186,22	195%	673,066	1,680,401	1,117,336	
		Buses Total	54,157	54,157	8%	494.73	388,24	-27%	23,062,109	16.683,117	-6.308.992	
		preEuro	3.933	3,933	9%	1034.01	737,35	-29%	4.067.249	2,500,319	-1.166.530	
		Eart	1,585	1,585	1%	748.96	587.52	-32%	1.163.462	789.813	-373.589	
A3bH-		Earl I	8.876	8.876	15	817.75	585.52	-38%	7,258,046	4.485,828	-2.771.218	
leavy Duty		Earl II	36,167	36.167	95	630.01	350.55	-0%	21.553.290	12.251.155	-9.302.133	
Vehicle:	Diesel Oil	Ears IV	36.267	26.267	9%	396.94	291,06	-29%	9.640.394	6.945.501	-2.794.893	
Trucks &		Eas V	299,736	269.736	9%	267,22	153.92	-40%	74 600 233	39.979.610	-04.621.623	
Lorries		Eura VI	261,480	261,460	2%	61.77	163.92	149%	16.149.298	40.244.036	24 894 748	
		Trucks Total	594,013	594,013	0%	225,31	180,97	-20%	134,431,899	107,496,262	-26.535.637	
		pre-Euro	5.543	5.543	9%	125,59	155,76	24%	696,072	863.299	167.218	
A3bir -		Ears 1	3.360	3.360	9%	127, 11	177,29	39%	427.113	585,796	168.592	
Motorised		Euro 2	3.375	3.375	9%	125,04	197,68	50%	421.951	870,138	345.127	
Two	Gassline	Ears 3	6.443	6.443	9%	40,30	197,68	391%	259.627	1.273.571	1.013.943	
Wheelers		Ears 4	66	66	9%	17,47	197,68	1031%	1.134	12.802	11.698	1
(M2WH)		Eura 6	0	0	9%			0%	0	0		
		M2Ws Total	18,785	18,785	8%	96,14	181,66	89%	1,805,897	3,452,476	1.606.579	

				Activity Date	9	Impli	ed Emission	Factor		NO, Emi	ssions	
NER Code	Fuel		current		difference	current	adjusted	difference	current	adjusted	adjustment	difference
			in [in [N]	in p	(LT)	in [5]		in [kg]		in [5]
		ребиз	12.292	12.292	8%	636,73	644,11	-14%	7.914.267	6.689.197	-1.126.108	-14
		Eura 1	17,449	17,449	9%	372,99	241,68	-35%	6.609.311	4.217.044	-2.291.267	-06
		Ews 2	30.435	30.435	8%	217,43	141,75	-35%	6.617.570	4.314.140	-2.303.430	-36
	Gassine	Euro 3	54.271	54,271	0%	78.40	76.27	-3%	4.254.938	4.139.376	-115.562	-3
	Continue	Euro 4	315.086	315,086	8%	54,56	51,26	-7%	17.316.320	16.151.861	-1.164.460	-3
		Euro 5	180.245	180.245	8%	19,17	51,26	167%	3.465.382	9.239.815	5.784.513	15
		Euro 6	116,791	114,791	8%	26,66	51,36	92%	3.060.226	5.884.372	2.824.146	10
1A301.		Gasoline total	724.571	734,571	0%	67,66	69,88	35.	49.026.074	50.634,714	1,607,848	
Passenger		рьена	1.310	1.310	8%	306,09	264,96	-13%	480.983	347,020	-63.893	-1
Cars		Ears 1	3.390	3.390	9%	299,17	271,67	-9%	1.002.298	910.182	92.116	4
		Euro 2	13,788	13,788	9%	407,17	222,40	-45%	5.614.130	3.086.393	-2.547.736	-4
	Diesel Oil	Euro 3	52,128	52,128	9%	608,05	179,68	-70%	31,696,478	9.384.798	-22.331.769	-17
		Euro 4	157,647	157,647	8%	410,10	155,34	-61%	64,733,465	24.983.323	-39,740,142	-6
		Euro 5	263,480	263,460	0%	423,99	155,34	-63%	120.157.686	44.873.190	-75.254.455	-5.
		Euro 6	184.760	184.768	8%	262,61	150,34	-40%	48.521.163	29.255.905	-19 365 358	-4
		Diesel oil tutal	696,582	696,582	0%	390,65	161,95	.59%	272.126.091	112,810,721	.159.315.370	.5
		PCs Total	1.421.162	1.421.162	6%	225,98	115,01	-895	321.152.965	163,445,435	.157.207.530	- 4
		pa Eura	940 124	940 124	9%	651,61	646,96	-1% -85%	612.240	686,918	-6.322	á
		Ears 1		485	9%	906,23	312,78		112.083	38.682	-73.401	
		Euro 2 Euro 3	485 586	485 586	9% 9%	302,12 110,57	221,62	-21% 4%	140.344 65.965	192,950	-37.394 2.857	-2
	Gaseline	Euro 4	1.476	1.476	8%	50.72	53.38	5%	74.877	78.8%	3.538	
		Euro S	1,660	1,660	68	21.73	53.38	140%	36.240	89.034	52.706	10
		Earl 6	919	919	65	18,68	63,38	187%	17.062	49,000	21.948	18
14356		Gasoline total	6.186	6.186	65	171.15	167,18	3%	1.059,799	1.034.211	24.500	
Light Duty		pro-Euro	2.067	2.067	8%	413.41	306,79	-26%	850,499	631,163	-219.336	- 4
Vehicles		Ears 1	1.538	1.538	8%	390.47	215.25	45%	600,716	331,158	-269.958	4
(LOV4)		Euro 2	3.580	3,580	626	321.26	193.04	-40%	1.143.793	687.293	456.501	4
		Euro 3	11.664	11.664	65	595.08	150.79	-75%	6.940.879	1.758.747	-5.182.132	-73
	Diesel Oil	Euro 4	39.050	39.050	85	506.78	93.09	-82%	19,789,647	3,635,035	-16.154.612	-8
		Euro S	75.799	75.799	8%	412.66	93.09	-70%	32,790,966	7.054.945	-26,736,811	-7
		Ears 6	19.626	19.625	8%	161.71	93.09	-39%	2.977.439	1.926.976	-1.158.994	-3
		Diesel oil total	153,264	153,264	6%	424,66	103,09	-76%	65,083,930	15,925,216	-49.168.714	.7
		LDVs Total	199,470	199,470	65	414,83	106,35	-74%	66.152.729	16,959,427	-49.193.302	-1
		pre-Euro	736	736	8%	1073.33	1019.23	-8%	790.259	750.425	-39.834	-
		Eart	411	411	8%	731,97	752,57	3%	300.684	389.062	8.459	
1A3bii.		Eart I	3.325	3.325	0%	767,91	645,79	-10%	2,620,067	2.147.450	-472.606	-1
Heavy Duty	Diesel Oil	Euro II	8.678	8.678	8%	631,33	459,12	-21%	5.478.480	3.984.005	-1.494.395	-2
Vehicles	Desir On	Ears IV	3.023	3.023	8%	474,07	362,49	-36%	1.012.300	1.347.600	-464.700	-2
Beses		Eura V	21,913	21,913	8%	360,92	186,84	-49%	7.937.976	4.063,686	-3.894.291	-4
		Ewe VI	14,596	14,596	8%	68.62	186,84	218%	854.215	2.712.680	1.858.375	21
		Buses Total	53,382	50.382	654	379,80	296,71	-21%	19,793,901	15.384.828	4.489.013	-1
		pre-Euro	3,686	3,686	9%	1034,40	737,38	-29%	3.730.272	2,689,016	-1.071.256	-2
		Eurol	1.311	1.311	9%	748,03	465,38	-31%	980.842	614.151	-356.690	-3
1.A.3.b III - Heavy Duty		Ears I	7.067	7.087	0%	817,66	583,45	-30%	5.794.876	3.565.026	-2.226.851	-3
Vehicle:	Diesel Oil	Ears II	36.086	26.006	0%	630,17	365,72	-44%	16.942.661	9.563.641	-7.378.821	-4
Trucks &		Ears IV	30.082	20.002	9%	397,77	279,34	-30%	7.996.414	6.58T.466	-2.368.568	-3
Lorries		Ears V	264,365	264,365	0%	290,16	154,36	-47%	69.290.799	31.636.367	-27.746.342	-4
		Eara VI	335.065	335.065	9%	65.62	154,35	195%	21,985,366	51.718.641	29.733.275	13
		Trucks Total	598,263	598,263	6%	195,02	175,92	-10%	116,671,141	105,246,508	-11.424.633	-1
		pre-Cara	5.336	5.336	656	125,91	157,19	25%	671.888	838.799	166.881	2
f.A.3.b lv -		Ears 1	3.257	3.257	0%	125,39	177,86	41%	411.617	579.244	167.627	4
Motorised	Country	Euro 2	3.396	3.396	0%	122,55	198,33	62%	416.200	673.546	257.348	- (
Two: Wheelers	Gassine	Euro 3	6.741	6.741		40,22	190,33	383%	271.187	1.336.966	1.065.849	30
(MQWs)		Ears 4	430	430	0%	18,29	199,33	986%	7.962	86.270	77.408	56
-		Earl 5	0	0	0%	0,00	400.00	0%		0 000 200	1 215 114	
		M2Ws Total	19,160	19,160	6%	92,83	183,39	98%	1,778,674	3,513,787	1,235,114	
	Transport b		2,251,407	2,251,407	0%	233.43	135,23	-425	525,549,410	384,469,586	221,079,424	

				Activity Dat	0	Impli	led Emission	Factor		NO, Emi	ssions	
NER Code	Fuel		current	adjusted	difference	current	adjusted	difference	current	adjusted	adjustment	different
			in (TAIL .	in [N]	in J	ka/TJ]	in [5]		in [kg]	_	in [5]
		ребиз	12.219	12.219	9%	637,59	644,11	-15%	7.790.966	6.649.721	-1.142.234	-4
		Ears 1	14,362	14,362	8%	374.24	241,68	-35%	6,371,161	3,469,643	-1.902.518	- 0
		Eura 2	34,295	34,295	9%	221.07	111,06	-50%	5.360.977	2,688,163	-2.662.814	- 6
	-	Earn 3	43.642	43.642	0%	80.16	76.96	4%	3.487,781	3.358.617	-139.164	
	Gassline	Euro 4	278,738	278,738	9%	55.56	52.30	-7%	15,683,488	14,578,755	-1.024.743	
		Euro 5	186,830	165,530	0%	19.36	52.30	170%	3.225.282	8.725.668	5.497.456	17
		Euro 6	159.041	159,041	0%	0.00	52.30	0%	4.190.422	8.318.250	4.127.828	2
14301.		Gasoline total	689.027	699.007	0%	64.42	68,36	65.	45.032.996	47,786,817	2.253.820	
Passenger		ребиз	1.363	1.363	9%	303.66	264,96	-13%	395.466	346.173	-68 293	-1
Cars		Ears 1	2.849	2.949	8%	299,17	272,06	-9%	962,432	776,166	-77.277	
		Euro 2	10,784	10,784	2%	407,20	222,87	-45%	4.391.393	2,483,536	-1.987.858	- 4
		Earn 3	40,796	40,795	9%	612.49	180.15	-21%	24,932,029	T.333.241	-17.558.788	-7
	Diesel Oil	Euro 4	130,534	130.534	9%	414.71	160.48	-61%	54,133,837	20.937.329	-33.196.508	-4
		Euro 5	251,212	251,212	9%	415.25	160.48	-61%	104.505.705	40.293.731	-64.273.836	-4
		Euro 6	220,685	229,685	9%	254.87	190.40	-37%	58,284,140	36,680,440	-21.603.708	-3
		Diesel oil tutal	666,074	666,074	0%	371.66	163,30	.565	247,596,063	100,750,604	.130,207,450	.5
		PCs Total	1,365,101	1,365,101	8%	214.34	114,68	.60%	292,589,060	156,555,421	.136.033.639	-
		рэ.Еиз	917	917	2%	664,53	645,96	:1%	596.009	682,662	4.207	
		Euro 1	188	188	2%	911.58	312,78	-86%	98,528	33.805	-84.723	. 4
		Euro 2	377	377	2%	303.64	224.45	-26%	114 682	84,713	-29.889	
		Euro 3	511	511	25	111.02	110.84	6%	57.282	60,739	3.537	
	Gaseline	Euro 4	1.275	1.275	95	52.02	54.36	4%	65.295	69.276	2.500	
		Euro S	140	1.483	9%	23.70	54.36	120%	35.160	80.626	45.465	12
		Eura 6	160	1.643	9%	18,69	64.36	192%	30.660	89.326	68.775	11
LABBE .		Gasoline total	6,315	6.315	676	158,22	160.11	15.	999,199	1.011.138	11.839	- "
Light Duty			1,872	1.872	0%	411,97	306,79	-26%	771.307	674.412	-196.825	4
Vehicles		ha-Ena										
(LOVA)		Earn 1	1.295	1.265	9%	389,84	215,25	-45%	483,129	272.296	-220.842	-
		Euro 2	2.842	2.842	9%	318,56	193,88	-39%	905.309	550,759	-354.540	-3
	Diesel Oil	Euro 3	9.363	9.363	0%	599,10	150,74	-75%	5.689.152	1.411.299	-4.197.B53	-1
		Euro 4	33.232	33.232	9%	509,42	93,81	-82%	16.929.185	3.117.457	-13.811.648	- 4
		Euro S	66.283	66.283	9%	412,92	93,01	-70%	29.654.000	6.217.060	-22.477.826	-1
		Ears 6	39.482	39.482	9%	168,79	93,81	-30%	6.941.616	3.686.228	-2 345 397	-1
		Diesel oil tutal	154,259	154,259	6%	384,71	102,69	-73%	99.344.525	15.840.310	-43.504.215	-
		LDVs Total	160,574	160,574	6%	375,80	194,94	-12%	60.343.725	16,851,449	43.492.276	
		ps-Euro	547	547	9%	1078,16	1019,23	-8%	589.357	557,147	-32.210	
		Eurol	231	237	9%	732,76	752,57	3%	173.678	178.368	4.898	
LABBIE.		Euro I	2.270	2.270	9%	767,63	646,33	-10%	1.788.686	1.467.437	-321.249	-
Seavy Duty	Diesel Oil	Euro II	6.757	6.757	9%	630,09	459,32	-21%	4.262.724	3.103.402	-1.159.232	4
Vehicles	Diese On	Ears N	3.043	3.043	9%	473,96	362,73	-25%	1.439.790	1.073.333	-366.467	4
Beses		Ears V	19,109	18,109	9%	362,42	186,37	-49%	6.663.265	3.376.016	-3.198.249	- 4
		Ears VI	20,670	20,670	9%	56.89	186,37	229%	1,176,026	3.862.314	2,676,208	25
		Buses Total	91,634	51,634	8%	309,75	293,50	-19%	15,993,526	13,687,196	-2.386.420	
		pre-Euro	3.252	3.252	9%	1004.82	737,35	-29%	3.375.389	2.485.071	-579.288	-
		Eart	1.094	1.094	8%	747,82	465,35	-31%	818.052	512.376	-305.674	
A3bH-		Eart I	5.544	5.544	9%	817,44	581,68	-39%	4.532.195	2.781.510	-1.750.688	
leavy Duty		Ears II	20.583	20.583	9%	629,54	363,66	-64%	12.957.751	T.27T.279	-5.600.472	-
Vehicle: Trucks &	Diesel Oil	Ears N	15.912	15.912	9%	398,09	276,23	-31%	6.334.421	4.395.424	-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	-
- Contract		Eura VI	381,799	381,799	8%	68,76	154,68	125%	26.251.482	59.055.898	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	
		Euro 1	2.966	2.965	9%	125.14	177.79	41%	374.114	527.294	153,180	
LA3ble -		Euro 2	3.221	3.221	95	129.33	190,64	65%	387.586	639.833	252:237	
Motorised Two	Gaspine	Eura 3	6.241	6.241	85	40.24	190,64	394%	251.126	1,239,688	908.962	3
Wheelers	- Carron M	Eart 4	1.130	1.130	8%	20.41	199,64	973%	23.066	224.582	201.436	8
(MQWs)		Euro 6	0.130	1.130	9%	0,00	190,04	0%		224.102	201.436	
							184.61		1,458,558	3,454,367	1,256,209	
		M2Ws Total	18.497	18.497	6%	89,66	184,61	1065	1,698,998	3,454,757	1,794,209	9
	d Transport			2,180,963	05	215.85	133,49	.385	470,750,206	291,139,612	.179.618.593	

				Activity Date			od Ereissice			NO ₃ Emi		
NER Code	Fuel		current		difference	CURTERAL	adjusted	difference	CURTOR	adjusted	adjustment	difference
			in [in [N]		g/TJ]	in [5]		in [kg]		in [5]
		ребиз	13.669	13,660	9%	638,68	644,11	-19%	9.664.621	7.382.698	-1.291.822	-107
		Ears 1	12.427	12,427	9%	379,32	241,68	-36%	4,761,480	3.083.383	-1,698,096	-00
		Ews 2	20.086	20,086	9%	225.58	92,50	-69%	4.531,070	1.858.018	-2.673.052	-591
	Gassine	Euro 3	36.216	36.216	9%	82,22	78,12	-8%	2.977.840	2,829,166	-148.673	-81
	Caramin	Euro 4	255,220	255,220	9%	57,04	53,29	-7%	14.558.295	13,589,621	-858.584	-71
		Euro 5	100.537	160.537	9%	19,77	53,29	170%	3.173.726	8.584.386	5.380.628	1705
		Euro 6	206.636	206.636	9%	25,63	53,29	100%	5.295.099	11.010.782	5.715.603	1005
1A301.		Gasoline total	764,691	764,691	8%	62,30	60,45	10%	43,901,941	40,230,025	4.336.004	18
Passenger		ребиз	2.736	2.736	9%	330,76	264,96	-21%	913,199	724.923	-198.275	-211
Care		Ears 1	2.565	2,565	9%	299,00	272,06	-9%	766,913	687,796	49.127	-91
		Ews 2	8.891	8.891	9%	407,19	229.16	-44%	3.620.296	2,037,460	-1.582.826	-445
		Euro 3	33.019	33,019	9%	615.11	180.42	-71%	20,310,125	5.957.403	-14.352.723	-715
	Diesel Gil	Euro 4	111,335	111,335	9%	419.97	162,44	-61%	45,568,685	18,085,228	-28.583.457	-615
		Euro 5	231,784	231,784	9%	410.37	162.44	-60%	95,117,643	37.680.997	-57.456.645	-805
		Euro 6	273.511	273,511	9%	227,30	162.44	-20%	62,169,230	44.429.104	-17.740.054	-295
		Diesel oil tutal	663,041	663,041	0%	345.01	165,07	.52%	229,566,088	189,582,982	.119.983.106	.52
		PCs Total	1,369,532	1,368,512	65	199.83	115,32	.6%	273,468,029	157,821,007	.115.647.829	.42
		pro-Euro	926	926	2%	643.69	645.95	1%	601.469	687.992	3.468	-11
		Eura 1	97	97	8%	915.28	312,78	-86%	88.963	30.396	-58.957	-865
		Euro 2	316	316	25	304.63	224.45	-20%	96,158	70.848	-25.310	-267
		Euro 3	447	447	15	112.68	121.47	8%	50.385	54.293	3.526	85
	Gaseline	Euro 4	1,126	1,105	15	53.00	55.26	4%	59.682	62,199	2.547	45
		Euro S	1.361	1.361	68	25.34	55.26	110%	34.240	74.680	40.432	1101
		Eura 6	2,420	2,420	85	18.75	55,26	190%	45.292	133.753	98.359	190
LABBE.			6.683	6.683	676	146,00	153,25	55	976-219	1.094.150	47.811	9
Light Duty		Gasoline total	1.764	1.764	8%	411.96						
Vehicles		ha-Ena		1,784	2%		306,79	-25% -45%	725,111	641,316	-183.796	261
(LOV4)		Ears 1	1.079			388,52	215,25		420.295	232.255	-188.830	
		Euro 2	2.334	2.334	8%	315,98	194,79	-38%	737,682	454.650	-282.912	-385
	Diesel Oil	Euro 3	7.649	7.649	0%	601,11	150,79	-75%	4.587.943	1.152.711	-3.445.233	-755
		Euro 4	26.711	26.711	9%	512,26	94,57	-82%	14.765.365	2.715.154	-11.993.154	-825
		Euro S	50.714	50.716	9%	434,30	94,57	-70%	25.499.580	5.552.420	-19.567.152	-701
		Ears 6	99.931	98.931	9%	146,19	94,67	-39%	9.614.686	6.672.892	-3.641.614	-361
		Diesel oil tutal	159,183	159,183	8%	347,42	101,90	-71%	55.303.335	16.221.445	-39.081.090	-71
		LDVs Total	165,866	165,866	8%	339,31	193,97	-89%	96.279.554	17,245,596	-39.833.958	-49
		pre-Euro	489	489	9%	1080,20	1019,23	-6%	586.867	478.258	-28.609	-87
		Eart	147	147	9%	736,37	752,57	2%	108.212	110.583	2.381	25
LABBIE.		Eart I	1.611	1.611	9%	788,47	646,77	-10%	1,271,445	1.041.621	-229 824	-105
Seavy Duty	Diesel Oil	Ears II	5.789	5.789	9%	631,66	459,55	-21%	3.686.361	2.623.779	-902.572	-275
Vehicles	Desire On	Ears IV	2.747	2.747	9%	473,92	362,64	-36%	1.362.061	969.413	-332.648	-20
Seses		Ears V	17,120	17,120	9%	362,91	196,84	-49%	6.213.176	3,199,791	-3.014.394	-491
		Ewe VI	25,135	25,135	9%	60.43	186,84	209%	1,518,901	4.686.133	3.177.232	2999
		Buses Total	52,939	52,939	8%	274,41	247,81	-10%	14,527,012	13,118,578	-1.408.434	-10
		pre-Cara	3,140	3,140	9%	1034.96	737,35	-29%	3.250.020	2.315.443	-834.577	-29
		Eurol	909	909	9%	747.60	465.35	-31%	T24.240	453.754	-ZT0.456	-37
1.A.3.b III -		Euro I	4.565	4.565	0%	817.42	581,04	-39%	3.734.343	2.298.967	-1.445.376	-39
fleavy Duty		Euro II	16.377	16.377	9%	629.94	361,58	-44%	10.300.323	5.756.580	4.543.743	-645
Vehicles	Diesel Oil	Ears IV	13.127	13,127	9%	398.86	273.43	-31%	6.236.679	3,589,330	-1.646.349	-311
Trucks & Lorries		Ears V	195.233	125.233	9%	296.13	154.92	-40%	36,960,689	19.481.449	-17,659,158	-40
LOTTES		Ears VI	432,498	432,498	0%	72.08	154,92	119%	31,175,486	67,003,863	35.828.357	116
		Trucks Total	595,913	595,913	8%	150,35	169,17	10%	91,380,780	100,809,376	9.428.676	10
		pročen	4.813	4.813	8%	125.69	184,73	31%	564.987	792,771	187.714	315
		Euro 1	2.835	2.835	15	125.39	177,29	41%	385.486	582.589	147.113	415
LA.3.b iv -		Euro 2	3.084	3.084	95	119.33	190,06	67%	309.224	615.317	346.893	67
Motorised	Gaudine		6.082	5.084	95	40.03	190,06				963.333	397
Two: Wheelers	Cataline	Euro 3						367%	240.284	1.193.617		
(M2Ws)		Ears 4	2.086	2.086	9%	21,69	190,06	917%	43.489	390.667	366.178	817
(married)		Eura 6	0		0%	0,00	101.00	0%		0		01
		M2Ws Total	18,750	18,750	8%	86,05	186,83	117%	1.613.450	3,582,941	1.889.491	117
					05		132,83	335	437,260,744			

REVISION OF ADJUSTMENT PROPOSAL COMPARED TO SUBMISSIONS 2014 to 2019

Table 2: annual NO,,x,, adjustment proposals, in kilotonnes

	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)	-296.1	-300.7	-300.4	-305.2	-294.9	-274.9	-250.9	-221.1	-179.6	-144.8
Change against Adjustment 2020	1.7	1.6	0.9	0.9	-0.4	-5.9	-6.6	-6.2	-5.0	

The noticeable differences between the 2017 and 2018 adjustment proposals resulted from an adhoc 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 > 90 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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