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| from: | Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director |
| date of receipt: | 12 January 2010 |
| to: | Mr Pierre de BOISSIEU, Secretary-General of the Council of the European Union |
| Subject: | Report from the Commission to the European Parliament and the Council. Monitoring the CO ₂ emissions from new passenger cars in the EU: Data for the year 2008 |

Delegations will find attached Commission document COM(2009)713 final.

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EUROPEAN COMMISSION

Brussels, 12.1.2010
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**REPORT FROM THE COMMISSION
TO THE EUROPEAN PARLIAMENT AND THE COUNCIL**

**Monitoring the CO₂ emissions from new passenger cars in the EU:
data for the year 2008**

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

Monitoring the CO₂ emissions from new passenger cars in the EU: data for the year 2008

1. INTRODUCTION

Following Article 9 of Decision (EC) 1753/2000¹, the Commission is required to submit to the European Parliament and Council annual reports based on the monitoring data submitted by Member States. The present Report concerns the monitoring data for year 2008.

The monitoring and reporting as defined in the Regulation (EC) 443/2009² will replace the one based on Decision (EC) 1753/2000. Article 15 of Regulation (EC) 443/2009 repeals Decision (EC) 1753/2000 with effect from 1 January 2010, with the exception of Articles 4, 9 and 10 until the monitoring report with 2009 data is submitted to the European Parliament.

2. TRENDS IN NEW PASSENGER CARS

2.1. Data quality and processing

In 2008, 26 Member States submitted data according to Decision (EC) 1753/2000. Only Bulgaria did not submit any data. This is not expected to cause large distortions in average emissions because of the comparatively low number of registrations. Manual re-processing of data was necessary for a number of Member States due to the use of other fuel types than agreed upon, handling of unknown vehicles, application of the correction factor and other data implausibilities. These issues were addressed during the data evaluation procedure and they were successfully solved without significant data losses. Caution should be used when analyzing the time series as not all EU Member States are included for all years. While the highest effort is taken to present consistent series, some breaks in trends due to methodology and monitoring improvements might be occurring.

In comparison to the reports in previous years the aggregated data in this report are referring to all fuels (previously only figures with respect to petrol and diesel were reported) and in contrast to earlier reports, the CO₂ emissions figures are not corrected by 0.7%. This correction by 0.7% had been applied in assessing the progress made by the manufacturing associations ACEA, JAMA and KAMA, in order to compensate for a change in the test procedure that took place after their voluntary commitments were made³. These commitments have been superseded by Regulation (EC) 443/2009 and thus no monitoring of progress made by the associations towards their commitments is needed anymore. For reasons of continuity with previous reports, data per vehicle manufacturer association are presented in section 2.4.

¹ Decision (EC) 1753/2000 of the European Parliament and of the Council establishing a scheme to monitor the average specific emissions of CO₂ from new passenger cars, OJ L 202, 10.8.2000.

² Regulation (EC) 443/2009 of the European Parliament and of the Council of 23 April 2009 setting emission performance standards for new passenger cars, OJ L 140, 5.6.2009

³ More information related to the 0.7% correction can be found in COM(2002) 693 final and COM(2004) 78 final.

Data for alternative fuel vehicles are included for the first time in the monitoring report due to their increasing market share and improved data quality. This includes vehicles reported in the following fuel categories: Liquefied Petroleum Gas (LPG), Natural Gas (NG), Electric, Hydrogen, Dual Fuel, Petrol-Bioethanol, Petrol-LPG, Petrol-NG as well as vehicles reported in the category Other.

2.2. Average CO₂ emissions from new passenger cars

The average specific CO₂ emissions in the year 2008 were 153.5 gCO₂/km. This is a decrease by 3.3% or 5.2 grams per kilometre from the previous year (158.7 gCO₂/km in 2007) which is the largest relative drop in specific emissions since the beginning of the monitoring scheme. While some of this reduction may have been due to the onset of the economic crisis, the data indicate that there has not been any substantial downsizing of the car fleet as the average power stayed the same and mass fell only slightly to its 2006 level. Both petrol and diesel vehicles improved by more than 5 grams per kilometre in comparison to the year 2007. Since the year 2000, petrol vehicles improved by 11% while diesel vehicles only by 6%. On the other hand, alternative fuel vehicles (AFV) improved by 34% since year 2000. In 2008 the share of AFV almost doubled since the previous year and AFV are now accounting for 1.3% of new passenger car registrations.

Table 1: Average CO₂ emissions from new passenger cars by fuel

| gCO ₂ /km | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| All fuels | 172.2 | 169.7 | 167.2 | 165.5 | 163.4 | 162.4 | 161.3 | 158.7 | 153.5 |
| Petrol | 177.4 | 175.3 | 173.5 | 171.7 | 170.0 | 168.1 | 164.9 | 161.6 | 156.6 |
| Diesel | 160.3 | 159.7 | 158.1 | 157.7 | 156.2 | 156.5 | 157.9 | 156.3 | 151.1 |
| Alter. fuel | 208.0 | 207.4 | 179.2 | 164.7 | 147.9 | 149.4 | 151.1 | 140.0 | 137.0 |

Table 2: Share of fuel type in new passenger cars

| % | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Petrol | 68.9% | 64.0% | 59.2% | 55.5% | 51.9% | 50.7% | 49.4% | 47.3% | 47.3% |
| Diesel | 31.0% | 35.9% | 40.7% | 44.4% | 47.9% | 49.1% | 50.3% | 51.9% | 51.4% |
| Alter. fuel | 0.1% | 0.1% | 0.1% | 0.1% | 0.2% | 0.3% | 0.3% | 0.7% | 1.3% |

Table 3: Average CO₂ emissions from new passenger cars by member state

| gCO ₂ /km | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Austria | 168.0 | 165.6 | 164.4 | 163.8 | 161.9 | 162.1 | 163.7 | 162.9 | 158.1 |
| Belgium | 166.5 | 163.7 | 161.1 | 158.1 | 156.5 | 155.2 | 153.9 | 152.8 | 147.8 |
| Cyprus | | | | | 173.4 | 173.0 | 170.1 | 170.3 | 165.6 |
| Czech Rep. | | | | | 154.0 | 155.3 | 154.2 | 154.2 | 154.4 |
| Denmark | 175.7 | 172.9 | 170.0 | 169.0 | 165.9 | 163.7 | 162.5 | 159.8 | 146.4 |
| Estonia | | | | | 179.0 | 183.7 | 182.7 | 181.6 | 177.4 |
| Finland | 181.1 | 178.1 | 177.2 | 178.3 | 179.8 | 179.5 | 179.2 | 177.3 | 162.9 |
| France | 163.6 | 159.8 | 156.8 | 155.0 | 153.1 | 152.3 | 149.9 | 149.4 | 140.1 |
| Germany | 182.2 | 179.5 | 177.4 | 175.9 | 174.9 | 173.4 | 172.5 | 169.5 | 164.8 |
| Greece | 180.3 | 166.5 | 167.8 | 168.9 | 168.8 | 167.4 | 166.5 | 165.3 | 160.8 |
| Hungary | | | | | 158.5 | 156.3 | 154.6 | 155.0 | 153.4 |
| Ireland | 161.3 | 166.6 | 164.3 | 166.7 | 167.6 | 166.8 | 166.3 | 161.6 | 156.8 |
| Italy | 155.1 | 158.3 | 156.6 | 152.9 | 150.0 | 149.5 | 149.2 | 146.5 | 144.7 |
| Latvia | | | | | 192.4 | 187.2 | 183.1 | 183.5 | 180.6 |
| Lithuania | | | | | 187.5 | 186.3 | 163.4 | 176.5 | 170.1 |
| Luxembourg | 176.7 | 177.0 | 173.8 | 173.5 | 169.7 | 168.6 | 168.2 | 165.8 | 159.5 |
| Malta | | | | | 148.8 | 150.5 | 145.9 | 147.8 | 146.9 |
| Netherlands | 174.2 | 174.0 | 172.4 | 173.5 | 171.0 | 169.9 | 166.7 | 164.8 | 157.9 |
| Poland | | | | | 154.1 | 155.2 | 155.9 | 153.7 | 153.1 |
| Portugal | 169.2 | | 154.0 | 149.9 | 147.1 | 144.9 | 145.0 | 144.2 | 138.2 |
| Romania | | | | | | | | 154.8 | 156.0 |
| Slovakia | | | | | | 157.4 | 152.0 | 152.7 | 150.1 |
| Slovenia | | | | | 152.7 | 157.2 | 155.3 | 156.3 | 155.9 |
| Spain | 159.2 | 156.8 | 156.4 | 157.0 | 155.3 | 155.3 | 155.6 | 153.2 | 148.2 |
| Sweden | 200.0 | 200.2 | 198.2 | 198.5 | 197.2 | 193.8 | 188.6 | 181.4 | 173.9 |
| UK | 185.4 | 177.9 | 174.8 | 172.7 | 171.4 | 169.7 | 167.7 | 164.7 | 158.2 |

Chart 1: Evolution of CO₂ emissions from new passenger cars by fuel (EU27)

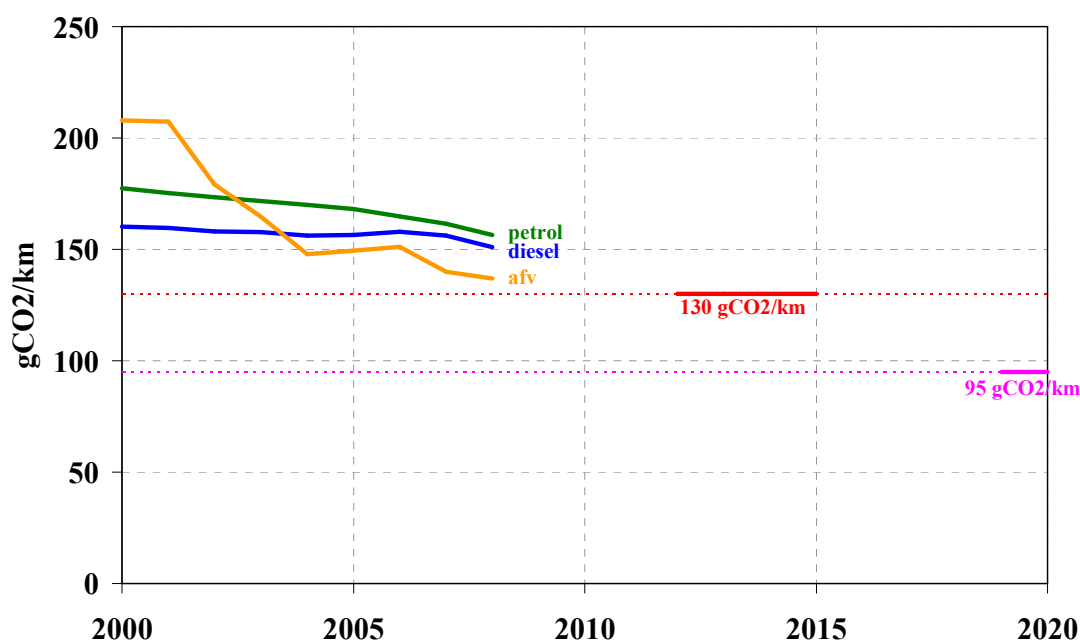


Table 4: Average CO₂ emissions from new passenger cars by region

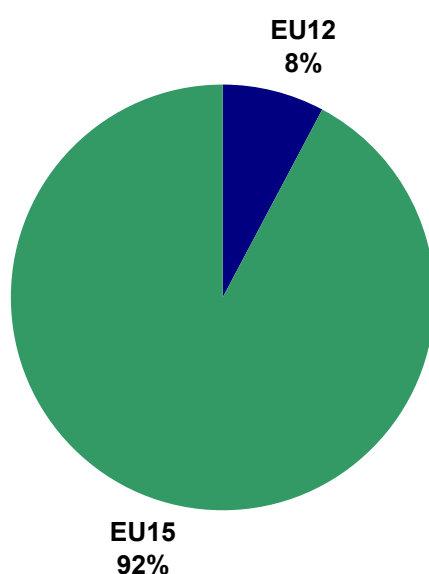
| | EU15 | | | EU10 | | | EU25 / EU27 ⁴ | | |
|------|-----------|--------|--------|-----------|--------|--------|--------------------------|--------|--------|
| | All fuels | Petrol | Diesel | All fuels | Petrol | Diesel | All fuels | Petrol | Diesel |
| 2005 | 162.6 | 168.8 | 156.5 | 158.1 | 159.2 | 155.3 | 162.4 | 168.1 | 156.5 |
| 2006 | 161.5 | 165.4 | 157.9 | 157.3 | 157.9 | 155.8 | 161.3 | 164.9 | 157.9 |
| 2007 | 158.8 | 161.9 | 156.4 | 157.7 | 158.0 | 156.9 | 158.7 | 161.6 | 156.3 |
| 2008 | 153.3 | 156.5 | 151.0 | 155.5 | 155.7 | 155.2 | 153.5 | 156.6 | 151.1 |

In 2008 the EU15 member states accounted for the vast majority of new passenger car registrations. The difference between the EU15 and EU10 in CO₂ emissions of petrol vehicles decreased from almost 10 grams per kilometre in 2005 to less than 1 gram per kilometre in 2008 – new cars in the EU10 having lower CO₂ emissions per kilometre. On the other hand, the average CO₂ emissions of the new diesel passenger cars sold in EU15 are lower than those of the new diesel car fleet sold in EU10. While in 2005-2006 new diesel passenger cars in the EU15 were emitting on average 1-2 grams per kilometre more than the EU10, in 2008 new

⁴ EU15 includes Austria, Belgium, Denmark, Finland, France, Greece, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and UK. EU10 includes Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia and the Slovak Republic. EU25 includes EU15 and EU10. EU27 includes EU25, Romania and Bulgaria. However due to missing data, Bulgaria is currently not included in EU27 for all years, Romania not included for year 2005 and 2006.

diesel passenger cars in the EU15 were emitting on average more than 4 grams less CO₂ per kilometre than new vehicles in the EU10. In total, new passenger cars registered in the EU15 in the year 2008 have lower CO₂ emissions than new passenger cars in the EU10 for the first time since the beginning of monitoring the CO₂ emissions of new passenger cars.

Chart 2: Registrations of new passenger cars by region in year 2008



2.3. Other car characteristics: engine power, engine capacity and mass

While the average engine power of new passenger cars had been increasing in previous years, it remained constant between the years 2007 and 2008. The average engine power of petrol powered vehicles is seen to increase over time much more slowly than that of diesel vehicles. The 2008 data for the average engine power of AFV are confirming the decreasing trend of previous years.

Table 5: Average engine power of new passenger cars by fuel

| kW | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-------------|----------------|----------------|------|------|------|------|------|------|------|
| All fuels | x ⁵ | x ⁵ | 77 | 79 | 80 | 81 | 83 | 84 | 84 |
| Petrol | x ⁵ | x ⁵ | 75 | 76 | 76 | 76 | 77 | 77 | 77 |
| Diesel | 80 | 86 | 81 | 82 | 83 | 85 | 89 | 90 | 90 |
| Alter. fuel | 68 | 75 | 77 | 74 | 69 | 69 | 69 | 61 | 61 |

⁵ excluded due to implausible figures reported by member states

The slowly decreasing trend of the average engine capacity of new passenger cars slightly accelerated in the year 2008. The average engine capacity has seen the strongest drop since the beginning of the reporting.

Table 6: Average engine capacity of new passenger cars by fuel

| cm³ | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------------------|------|------|------|------|------|------|------|------|------|
| All fuels | 1691 | 1714 | 1731 | 1743 | 1730 | 1726 | 1724 | 1719 | 1690 |
| Petrol | 1520 | 1560 | 1570 | 1572 | 1571 | 1573 | 1561 | 1546 | 1518 |
| Diesel | 1984 | 1981 | 1961 | 1948 | 1904 | 1886 | 1885 | 1880 | 1856 |
| Alter. fuel | 1432 | 1602 | 1672 | 1628 | 1581 | 1561 | 1562 | 1424 | 1387 |

The average mass of new passenger cars decreased for the first time, going back to the level of 2006, after it had been continuously increasing in previous years. The mass decreased only slightly for petrol and diesel vehicles. On the other hand, AFV became lighter on average by 34 kg and their average mass is now very close to that of petrol vehicles. Data before 2004 is not shown in the table due to known problems in Member State reporting during that period of time. For data before 2004 as well as detailed explanations of the origin of the mass data and all other mass related notes see Table 2 in the Annex of the previous report COM(2009)9 final.

Table 7: Average mass of new passenger cars by fuel

| kg | 2004 | 2005 | 2006 | 2007 | 2008 |
|-------------|------|------|------|------|------|
| All fuels | 1347 | 1356 | 1372 | 1379 | 1373 |
| Petrol | 1237 | 1235 | 1238 | 1235 | 1228 |
| Diesel | 1463 | 1479 | 1501 | 1510 | 1508 |
| Alter. fuel | 1415 | 1404 | 1392 | 1271 | 1237 |

Table 8: Average mass of new passenger cars by member state

| kg | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-------------|------|------|------|------|------|------|------|------|------|
| Austria | 1290 | 1314 | 1335 | 1426 | 1432 | 1435 | 1449 | 1445 | 1431 |
| Belgium | 1250 | 1288 | 1319 | 1361 | 1375 | 1396 | 1407 | 1423 | 1425 |
| Cyprus | | | | | 1205 | 1277 | 1316 | 1354 | 1372 |
| Czech Rep. | | | | | 1704 | 1242 | 1247 | 1261 | 1275 |
| Denmark | 1253 | | 1306 | 1325 | 1327 | 1324 | 1328 | 1370 | 1320 |
| Estonia | | | | | 1349 | 1408 | 1433 | 1465 | 1456 |
| Finland | 1753 | 1752 | 1759 | 1336 | 1355 | 1381 | 1401 | 1437 | 1442 |
| France | 1221 | 1254 | 1280 | 1305 | 1327 | 1341 | 1349 | 1375 | 1387 |
| Germany | 1310 | 1332 | 1352 | 1381 | 1408 | 1412 | 1424 | 1433 | 1425 |
| Greece | 1186 | 1172 | 1223 | 1262 | 1277 | 1287 | 1304 | 1314 | 1311 |
| Hungary | | | | | 1182 | 1203 | 1237 | 1264 | 1288 |
| Ireland | 1133 | 1248 | 1276 | 1265 | 1314 | 1341 | 1372 | 1441 | 1440 |
| Italy | 1586 | 1604 | 1632 | 1649 | 1259 | 1277 | 1294 | 1287 | 1285 |
| Latvia | | | | | 1452 | 1445 | 1468 | 1502 | 1498 |
| Lithuania | | | | | 1433 | 1448 | 1483 | 1481 | 1467 |
| Luxembourg | 1826 | 1834 | 1851 | 1442 | 1471 | 1487 | 1504 | 1498 | 1490 |
| Malta | | | | | | | | | 1317 |
| Netherlands | 1221 | 1260 | 1264 | 1301 | 1314 | 1337 | 1332 | 1350 | 1323 |
| Poland | | | | | 1181 | 1242 | 1271 | 1304 | 1260 |
| Portugal | | | 1229 | 1254 | 1295 | 1329 | 1352 | 1365 | 1352 |
| Romania | | | | | | | | 1268 | 1286 |
| Slovakia | | | | | | 1174 | | | |
| Slovenia | | | | | 1246 | 1305 | 1316 | 1340 | 1350 |
| Spain | 1137 | 1266 | 1725 | 1317 | 1335 | 1374 | 1395 | 1416 | 1400 |
| Sweden | 1423 | 1448 | 1454 | 1472 | 1467 | 1470 | 1488 | 1503 | 1488 |
| UK | | 1347 | 1356 | 1392 | 1387 | 1374 | 1390 | 1394 | 1380 |

2.4. Monitoring data by association

For reasons of continuity with previous reports, data in this section are presented as per vehicle manufacturer association. In year 2008, CO₂ emissions from new passenger cars decreased for each association. In comparison to 2007, ACEA decreased its average emissions by 4.7 grams, JAMA by 5.8 grams and KAMA by 10.5 grams.

Table 9: Average CO₂ emissions from new passenger cars by association

| gCO₂/km | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| ACEA | 170.4 | 168.2 | 165.6 | 163.7 | 161.8 | 161.1 | 160.8 | 158.1 | 153.3 |
| JAMA | 180.9 | 177.9 | 174.9 | 173.3 | 170.9 | 167.4 | 162.5 | 160.5 | 154.8 |
| KAMA | 185.5 | 186.8 | 184.7 | 180.0 | 168.7 | 167.8 | 165.4 | 161.3 | 150.8 |

While the average mass of new passenger cars produced by ACEA in 2008 stayed at the same level as in 2007, new passenger cars from JAMA and KAMA decreased in weight by 20 kg and 52 kg respectively.

Table 10: Average mass of new passenger cars by association

| kg | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-----------|------|------|------|------|------|------|------|------|------|
| ACEA | 1351 | 1369 | 1418 | 1406 | 1355 | 1365 | 1379 | 1386 | 1385 |
| JAMA | 1308 | 1379 | 1375 | 1380 | 1310 | 1309 | 1322 | 1335 | 1315 |
| KAMA | 1295 | 1366 | 1447 | 1454 | 1298 | 1340 | 1381 | 1371 | 1319 |

The effect of the current financial crisis and economic downturn can be seen in the lower number of new passenger car registrations for each association in the year 2008. When compared to year 2007, we observe a decrease by 8%. This amount of new passenger car registrations corresponds roughly to the amount of registrations observed 4-5 years ago.

Table 11: Registrations of new passenger cars by association (in thousands)

| '000 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| ACEA | 10 864 | 11 088 | 11 602 | 11 481 | 12 163 | 12 024 | 12 114 | 12 401 | 11 509 |
| JAMA | 1 542 | 1 301 | 1 502 | 1 704 | 2 002 | 2 058 | 2 156 | 2 234 | 2 001 |
| KAMA | 415 | 322 | 325 | 427 | 630 | 737 | 714 | 757 | 665 |
| Other ⁶ | 17 | 50 | 71 | 70 | 58 | 39 | 26 | 27 | 24 |
| Total ⁷ | 12 838 | 12 761 | 13 500 | 13 682 | 14 853 | 14 858 | 15 010 | 15 419 | 14 199 |

⁶ includes non-identified new passenger cars (vehicles for which members states did not report correctly the required information)

⁷ total registration of new passenger cars as covered by reporting EU member states