Figure 1. Comparison between average emission factors for Euro 4–6 diesel and gasoline vehicles measured using Artemis urban, road and motorway hot start driving cycles and the COPCETE model prediction for the 2016 (pink and light blue) and 2025 fleets (purple and dark blue). Left: Diesel NO\textsubscript{x} emissions. Right: Gasoline CO emissions.
## Appendix B

Emission factors for regulated pollutants from Euro 4–6 diesel and gasoline vehicles

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>No. 1</th>
<th>No. 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Euro 5 Diesel DPF</td>
<td>Euro 5 Diesel DPF</td>
</tr>
<tr>
<td>Artemis cycle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO₂ (g/km)</td>
<td>150 ± 1</td>
<td>150 ± 1</td>
</tr>
<tr>
<td>NOx (mg/km)</td>
<td>763 ± 188</td>
<td>591 ± 140</td>
</tr>
<tr>
<td>HC (mg/km)</td>
<td>12 ± 2</td>
<td>17 ± 5</td>
</tr>
<tr>
<td>CO (mg/km)</td>
<td>42 ± 14</td>
<td>16 ± 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>No. 3</th>
<th>No. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Euro 4 Diesel DPF</td>
<td>Euro 5 Diesel DPF</td>
</tr>
<tr>
<td>Artemis cycle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO₂ (g/km)</td>
<td>198 ± 3</td>
<td>108 ± 1</td>
</tr>
<tr>
<td>NOx (mg/km)</td>
<td>503 ± 46</td>
<td>292 ± 19</td>
</tr>
<tr>
<td>HC (mg/km)</td>
<td>21 ± 3</td>
<td>8 ± 3</td>
</tr>
<tr>
<td>CO (mg/km)</td>
<td>372 ± 75</td>
<td>282 ± 71</td>
</tr>
</tbody>
</table>

### N°5 Euro 6 Diesel

<table>
<thead>
<tr>
<th>ArtROAD</th>
<th>ArtUrb C</th>
<th>ArtUrb H</th>
<th>ArtMW</th>
<th>WLTC</th>
<th>NEDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ (g/km)</td>
<td>80 ± 2</td>
<td>140 ± 4</td>
<td>130 ± 4</td>
<td>108 ± 1</td>
<td>100 ± 2</td>
</tr>
<tr>
<td>CO (mg/km)</td>
<td>30 ± 9</td>
<td>263 ± 66</td>
<td>40 ± 12</td>
<td>16 ± 4</td>
<td>100 ± 25</td>
</tr>
<tr>
<td>NOₓ (mg/km)</td>
<td>613 ± 160</td>
<td>610 ± 160</td>
<td>1076 ± 146</td>
<td>201 ± 149</td>
<td>323 ± 85</td>
</tr>
<tr>
<td>HC (mg/km)</td>
<td>12 ± 1</td>
<td>67 ± 17</td>
<td>35 ± 9</td>
<td>16 ± 4</td>
<td>25 ± 6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>No. 6</th>
<th>No. 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Euro 4 gasoline</td>
<td>Euro 5 gasoline</td>
</tr>
<tr>
<td>Artemis cycle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO₂ (g/km)</td>
<td>186 ± 2</td>
<td>154 ± 0.5</td>
</tr>
<tr>
<td>NOₓ (mg/km)</td>
<td>122 ± 112</td>
<td>11 ± 2</td>
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</tbody>
</table>

2
<table>
<thead>
<tr>
<th>(mg/km)</th>
<th>24</th>
<th>70</th>
<th>31</th>
<th>31</th>
<th>31</th>
<th>31</th>
</tr>
</thead>
<tbody>
<tr>
<td>HC (mg/km)</td>
<td>6 ± 0.8</td>
<td>20 ± 5</td>
<td>6 ± 0.5</td>
<td>32 ± 2</td>
<td>69 ± 14</td>
<td>4 ± 0.6</td>
</tr>
<tr>
<td>CO (mg/km)</td>
<td>21 ± 4</td>
<td>39 ± 1</td>
<td>83 ± 6</td>
<td>954 ± 157</td>
<td>490 ± 98</td>
<td>32 ± 13</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>No. 8 Euro 6 gasoline</th>
</tr>
</thead>
<tbody>
<tr>
<td>ArtROAD</td>
</tr>
<tr>
<td><strong>CO(_2)</strong> (g/km)</td>
</tr>
<tr>
<td><strong>CO</strong> (mg/km)</td>
</tr>
<tr>
<td><strong>NO(_x)</strong> (mg/km)</td>
</tr>
<tr>
<td><strong>HC</strong> (mg/km)</td>
</tr>
</tbody>
</table>

ArtUrb C/H: Artemis urban with cold or hot start
ArtROAD: Artemis road
ArtMW: Artemis motorway