

制度文書改定案 新旧対照表 (単位発熱量、排出係数等)

| 番号 | 文書 | 項目 | 現行 | | | | | 改定案 | | | | | | |
|----|---------------------------|---|-------------|------|-------------------|---|-----------------|-----------------|-------------|------|---|---------------|-----------------|-----------------|
| 1 | モニタリング・算定規程 (排出削減プロジェクト用) | 別表: 各種係数 (単位発熱量・排出係数等) 燃料の単位発熱量・排出係数等 | 燃料種 | 燃料形態 | 単位 | 単位発熱量 [GJ/単位] | 排出係数 [t-CO2/GJ] | 換算係数 (高位⇒低位発熱量) | 燃料種 | 燃料形態 | 単位 | 単位発熱量 [GJ/単位] | 排出係数 [t-CO2/GJ] | 換算係数 (高位⇒低位発熱量) |
| | | | 輸入原料炭 | 固体 | t | 29.0 | 0.0898 | 0.975 | 輸入原料炭 | 固体 | t | 28.7 | 0.0902 | 0.975 |
| | | | 国産一般炭 | 固体 | t | 22.5 | 0.0913 | 0.975 | 国産一般炭 | 固体 | t | 25.3 | 0.0869 | 0.975 |
| | | | 輸入一般炭 | 固体 | t | 25.7 | 0.0906 | 0.975 | 輸入一般炭 | 固体 | t | 26.0 | 0.0895 | 0.975 |
| | | | 輸入無煙炭 | 固体 | t | 26.9 | 0.0935 | 1.000 | 輸入無煙炭 | 固体 | t | 27.8 | 0.0950 | 1.000 |
| | | | コークス | 固体 | t | 29.4 | 0.1078 | 1.000 | コークス | 固体 | t | 29.2 | 0.1107 | 1.000 |
| | | | 原油 | 液体 | kl | 38.1 | 0.0686 | 0.950 | 原油 | 液体 | kl | 38.2 | 0.0697 | 0.950 |
| | | | ガソリン | 液体 | kl | 34.6 | 0.0671 | 0.950 | ガソリン | 液体 | kl | 33.4 | 0.0686 | 0.950 |
| | | | ナフサ | 液体 | kl | 33.5 | 0.0667 | 0.950 | ナフサ | 液体 | kl | 33.3 | 0.0682 | 0.950 |
| | | | ジェット燃料 | 液体 | kl | 36.7 | 0.0671 | 0.950 | ジェット燃料 | 液体 | kl | 36.3 | 0.0682 | 0.950 |
| | | | 灯油 | 液体 | kl | 36.7 | 0.0678 | 0.950 | 灯油 | 液体 | kl | 36.5 | 0.0686 | 0.950 |
| | | | 軽油 | 液体 | kl | 37.9 | 0.0686 | 0.950 | 軽油 | 液体 | kl | 38.0 | 0.0689 | 0.950 |
| | | | A重油 | 液体 | kl | 39.8 | 0.0693 | 0.950 | A重油 | 液体 | kl | 38.9 | 0.0708 | 0.950 |
| | | | B重油 | 液体 | kl | 40.4 | 0.0704 | 0.975 | B重油 | 液体 | kl | 40.4 | 0.0733 | 0.975 |
| | | | C重油 | 液体 | kl | 42.9 | 0.0715 | 0.975 | C重油 | 液体 | kl | 40.9 | 0.0741 | 0.975 |
| | | | 潤滑油 | 液体 | kl | 40.2 | 0.0704 | 0.975 | 潤滑油 | 液体 | kl | 40.2 | 0.0730 | 0.975 |
| | | | オイルコークス | 固体 | t | 29.9 | 0.0931 | 0.975 | オイルコークス | 固体 | t | 33.3 | 0.0898 | 0.975 |
| | | | LPG | 気体 | t | 50.8 | 0.0590 | 0.925 | LPG | 気体 | t | 50.1 | 0.0601 | 0.925 |
| | | | 天然ガス | 気体 | 千N m ³ | 44.8 | 0.0510 | 0.900 | 天然ガス | 気体 | 千N m ³ | 43.8 | 0.0513 | 0.900 |
| | | | LNG | 気体 | t | 54.7 | 0.0495 | 0.900 | LNG | 気体 | t | 55.0 | 0.0502 | 0.900 |
| | | | 都市ガス | 気体 | 千N m ³ | 44.8 | 0.0502 | 0.900 | 都市ガス | 気体 | 千N m ³ | 44.0 | 0.0517 | 0.900 |
| | | | NGL・コンデンセート | 液体 | kl | 34.8 | 0.0675 | 0.950 | NGL・コンデンセート | 液体 | kl | 34.8 | 0.0671 | 0.950 |
| | | | 製油所ガス | 気体 | 千N m ³ | 44.9 | 0.0521 | 0.900 | 製油所ガス | 気体 | 千N m ³ | 51.0 | 0.0528 | 0.900 |
| | | | コークス炉ガス | 気体 | 千N m ³ | 20.7 | 0.0403 | 0.900 | コークス炉ガス | 気体 | 千N m ³ | 20.9 | 0.0400 | 0.900 |
| | | | 高炉ガス | 気体 | 千N m ³ | 3.4 | 0.0957 | 1.000 | 高炉ガス | 気体 | 千N m ³ | 3.6 | 0.0975 | 1.000 |
| | | | 転炉ガス | 気体 | 千N m ³ | 8.4 | 0.1408 | 1.000 | 転炉ガス | 気体 | 千N m ³ | 8.3 | 0.1529 | 1.000 |
| | | | | | | 【出典】 <ul style="list-style-type: none"> 単位発熱量: 総合エネルギー統計 エネルギーバランス表 <u>2014年4月</u> (資源エネルギー庁) 排出係数: 日本国温室効果ガスインベントリ報告書 <u>2014年4月</u> | | | | | 【出典】 <ul style="list-style-type: none"> 単位発熱量: 資源エネルギー庁「総合エネルギー統計(エネルギーバランス表)2013年度詳細表」2015年4月を基に事務局にて一部単位換算 排出係数: 国立環境研究所温室効果ガスインベントリオフィス編「日本国温室効果ガスインベントリ報告書」<u>2015年4月</u> | | | |

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|----------|--------------------------|-----------------------------------|--|--------|-------------------|--|-----|------|----------|---|-------|----------|---|-------|----------|-------|--------------|----------|-------|--------------|----------|-------|--------------|--|----|-------------------|--|-----|------|----------|---|-------|----------|---|-------|----------|-------|-------|----------|-------|--------------|----------|-------|--------------|
| 1 | モニタリング・算定規程（排出削減プロジェクト用） | 別表：各種係数（単位発熱量・排出係数等） 系統電力の排出係数 | <table border="1" data-bbox="584 193 1296 408"> <thead> <tr> <th rowspan="2">年度</th> <th colspan="2">排出係数 (kg-CO2/kWh)</th> </tr> <tr> <th>全電源</th> <th>限界電源</th> </tr> </thead> <tbody> <tr> <td>平成 21 年度</td> <td>—</td> <td>0.524</td> </tr> <tr> <td>平成 22 年度</td> <td>—</td> <td>0.540</td> </tr> <tr> <td>平成 23 年度</td> <td>0.476</td> <td>(公表され次第追加予定)</td> </tr> <tr> <td>平成 24 年度</td> <td>0.487</td> <td>(公表され次第追加予定)</td> </tr> <tr> <td>平成 25 年度</td> <td>0.570</td> <td>(公表され次第追加予定)</td> </tr> </tbody> </table> <p data-bbox="584 472 680 499">【出典】</p> <ul data-bbox="584 515 1339 1481" style="list-style-type: none"> ● 全電源排出係数：電気事業連合会が毎年発表する「電気事業における環境行動計画」における、調整後排出係数（「地球温暖化対策の推進に関する法律」で定められた方法により京都メカニズムクレジットを反映したもの）を適用 ● 限界電源排出係数：「小規模電源の導入等により代替される系統電力の排出係数の計算結果について（小規模電源導入等による代替系統電力排出係数ワーキンググループ）」の考え方を基に「電力需給の概要（資源エネルギー庁）」の値より算定 <ul data-bbox="640 938 1339 1481" style="list-style-type: none"> －「電力需給の概要」における 10 電力会社の燃焼区分ごとの発電電力量、利用率及び燃料消費量から CO2 排出量を算定（排出係数は、「日本国温室効果ガスインベントリ報告書」のものを使用） －そのうち、運転中利用率の 2 ヶ年平均が 80%以下の石炭火力（実利用率 70%（24 ヶ月中 3 ヶ月の点検期間を想定））及び LNG 火力（実利用率 76.7%（24 ヶ月中 1 ヶ月の点検期間を想定））並びにすべての石油火力を選定し、その発電電力量及び CO2 排出量から限界電源排出係数（発電端）を算定 －当該年度の全電源排出係数（受電端）及び全電源排出係数（発電端）の比率より限界電源排出係数（受電端）を算定 | 年度 | 排出係数 (kg-CO2/kWh) | | 全電源 | 限界電源 | 平成 21 年度 | — | 0.524 | 平成 22 年度 | — | 0.540 | 平成 23 年度 | 0.476 | (公表され次第追加予定) | 平成 24 年度 | 0.487 | (公表され次第追加予定) | 平成 25 年度 | 0.570 | (公表され次第追加予定) | <table border="1" data-bbox="1368 193 2080 408"> <thead> <tr> <th rowspan="2">年度</th> <th colspan="2">排出係数 (kg-CO2/kWh)</th> </tr> <tr> <th>全電源</th> <th>限界電源</th> </tr> </thead> <tbody> <tr> <td>平成 21 年度</td> <td>—</td> <td>0.524</td> </tr> <tr> <td>平成 22 年度</td> <td>—</td> <td>0.540</td> </tr> <tr> <td>平成 23 年度</td> <td>0.476</td> <td>0.569</td> </tr> <tr> <td>平成 24 年度</td> <td>0.487</td> <td>(公表され次第追加予定)</td> </tr> <tr> <td>平成 25 年度</td> <td>0.570</td> <td>(公表され次第追加予定)</td> </tr> </tbody> </table> <p data-bbox="1368 472 1464 499">【出典】</p> <ul data-bbox="1368 515 2123 1481" style="list-style-type: none"> ● 全電源排出係数：電気事業連合会が毎年発表する「電気事業における環境行動計画」における、調整後排出係数（「地球温暖化対策の推進に関する法律」で定められた方法により京都メカニズムクレジットを反映したもの）を適用 ● 限界電源排出係数：「小規模電源の導入等により代替される系統電力の排出係数の計算結果について（小規模電源導入等による代替系統電力排出係数ワーキンググループ）」の考え方を基に「電力需給の概要（資源エネルギー庁）」の値より算定 <ul data-bbox="1424 938 2123 1481" style="list-style-type: none"> －「電力需給の概要」における 10 電力会社の燃焼区分ごとの発電電力量、利用率及び燃料消費量から CO2 排出量を算定（排出係数は、「日本国温室効果ガスインベントリ報告書」のものを使用） －そのうち、運転中利用率の 2 ヶ年平均が 80%以下の石炭火力（実利用率 70%（24 ヶ月中 3 ヶ月の点検期間を想定））及び LNG 火力（実利用率 76.7%（24 ヶ月中 1 ヶ月の点検期間を想定））並びにすべての石油火力を選定し、その発電電力量及び CO2 排出量から限界電源排出係数（発電端）を算定 －当該年度の全電源排出係数（受電端）及び全電源排出係数（発電端）の比率より限界電源排出係数（受電端）を算定 | 年度 | 排出係数 (kg-CO2/kWh) | | 全電源 | 限界電源 | 平成 21 年度 | — | 0.524 | 平成 22 年度 | — | 0.540 | 平成 23 年度 | 0.476 | 0.569 | 平成 24 年度 | 0.487 | (公表され次第追加予定) | 平成 25 年度 | 0.570 | (公表され次第追加予定) |
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| | 全電源 | 限界電源 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 平成 21 年度 | — | 0.524 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 番号 | 文書 | 項目 | 現行 | 改定案 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------------|--|---|--------|--------------|-----|---|-----|----|-----|-----|--------|--------|--------|-----|--------|-----|---------|-------|---------|-------|----------|-------|---------|-----|----------|-------|----------|-----|-----------|-------|-----------|-------|-----------|-----|--------------|-------|--------|-------|---------|-------|---------|-------|-----------|-------|----------|-------|-----------|-------|-----------|-------|-----|--------|--|----------------------|---|----------------------|-------------------------------|----------------------|--|--------|--------------|-----|---|-----|----|-----|-----|--------|--------|--------|-----|--------|----|---------|-------|---------|-------|----------|-------|---------|-----|----------|-------|---------|----|----------|-----|---------|----|-----------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-----|-----------|-------|------------|-----|--------------|-------|--------|-------|---------|--------|---------|-------|---------------|--------|-----------|-------|----------|--------|-----------|-------|-----------|-------|-----------|-------|-----|--------|--|----------------------|---|----------------------|-------------------------------|----------------------|
| 1 | モニタリング・算定規程（排出削減プロジェクト用） | 別表：各種係数（単位発熱量・排出係数等） 各温室効果ガスの地球温暖化係数（GWP） | <table border="1"> <thead> <tr> <th>温室効果ガス</th> <th>地球温暖化係数(GWP)</th> </tr> </thead> <tbody> <tr><td>CO2</td><td>1</td></tr> <tr><td>CH4</td><td>21</td></tr> <tr><td>N2O</td><td>310</td></tr> <tr><td>HFC-23</td><td>11,700</td></tr> <tr><td>HFC-32</td><td>650</td></tr> <tr><td>HFC-41</td><td>150</td></tr> <tr><td>HFC-125</td><td>2,800</td></tr> <tr><td>HFC-134</td><td>1,000</td></tr> <tr><td>HFC-134a</td><td>1,300</td></tr> <tr><td>HFC-143</td><td>300</td></tr> <tr><td>HFC-143a</td><td>3,800</td></tr> <tr><td>HFC-152a</td><td>140</td></tr> <tr><td>HFC-227ea</td><td>2,900</td></tr> <tr><td>HFC-236fa</td><td>6,300</td></tr> <tr><td>HFC-245ca</td><td>560</td></tr> <tr><td>HFC-43-10mee</td><td>1,300</td></tr> <tr><td>PFC-14</td><td>6,500</td></tr> <tr><td>PFC-116</td><td>9,200</td></tr> <tr><td>PFC-218</td><td>7,000</td></tr> <tr><td>PFC-31-10</td><td>7,000</td></tr> <tr><td>PFC-c318</td><td>8,700</td></tr> <tr><td>PFC-41-12</td><td>7,500</td></tr> <tr><td>PFC-51-14</td><td>7,400</td></tr> <tr><td>SF6</td><td>23,900</td></tr> <tr><td>R-404A (HFC-125/HFC-143a/HFC-134a:44/52/4)</td><td>3,260^{注1)}</td></tr> <tr><td>R-407C (HFC-32/HFC-125/HFC-134a:23/25/52)</td><td>1,526^{注1)}</td></tr> <tr><td>R-410A (HFC-32/HFC-125:50/50)</td><td>1,725^{注1)}</td></tr> </tbody> </table> <p>【出典】</p> <ul style="list-style-type: none"> ● C02～SF6：地球温暖化対策の推進に関する法律施行令 ● R-404A～：地球温暖化対策の推進に関する法律施行令、日本フルオロカーボン協会 <p>【注釈】</p> <p>注 1) <u>代表的な混合冷媒の GWP。その他混合冷媒の GWP は、各成分の重量構成比と地球温暖化係数の積を用いた加重平均により算出する。</u></p> | 温室効果ガス | 地球温暖化係数(GWP) | CO2 | 1 | CH4 | 21 | N2O | 310 | HFC-23 | 11,700 | HFC-32 | 650 | HFC-41 | 150 | HFC-125 | 2,800 | HFC-134 | 1,000 | HFC-134a | 1,300 | HFC-143 | 300 | HFC-143a | 3,800 | HFC-152a | 140 | HFC-227ea | 2,900 | HFC-236fa | 6,300 | HFC-245ca | 560 | HFC-43-10mee | 1,300 | PFC-14 | 6,500 | PFC-116 | 9,200 | PFC-218 | 7,000 | PFC-31-10 | 7,000 | PFC-c318 | 8,700 | PFC-41-12 | 7,500 | PFC-51-14 | 7,400 | SF6 | 23,900 | R-404A (HFC-125/HFC-143a/HFC-134a:44/52/4) | 3,260 ^{注1)} | R-407C (HFC-32/HFC-125/HFC-134a:23/25/52) | 1,526 ^{注1)} | R-410A (HFC-32/HFC-125:50/50) | 1,725 ^{注1)} | <table border="1"> <thead> <tr> <th>温室効果ガス</th> <th>地球温暖化係数(GWP)</th> </tr> </thead> <tbody> <tr><td>CO2</td><td>1</td></tr> <tr><td>CH4</td><td>25</td></tr> <tr><td>N2O</td><td>298</td></tr> <tr><td>HFC-23</td><td>14,800</td></tr> <tr><td>HFC-32</td><td>675</td></tr> <tr><td>HFC-41</td><td>92</td></tr> <tr><td>HFC-125</td><td>3,500</td></tr> <tr><td>HFC-134</td><td>1,100</td></tr> <tr><td>HFC-134a</td><td>1,430</td></tr> <tr><td>HFC-143</td><td>353</td></tr> <tr><td>HFC-143a</td><td>4,470</td></tr> <tr><td>HFC-152</td><td>53</td></tr> <tr><td>HFC-152a</td><td>124</td></tr> <tr><td>HFC-161</td><td>12</td></tr> <tr><td>HFC-227ea</td><td>3,220</td></tr> <tr><td>HFC-236fa</td><td>9,810</td></tr> <tr><td>HFC-236ea</td><td>1,370</td></tr> <tr><td>HFC-236cb</td><td>1,340</td></tr> <tr><td>HFC-245ca</td><td>693</td></tr> <tr><td>HFC-245fa</td><td>1,030</td></tr> <tr><td>HFC-365mfc</td><td>794</td></tr> <tr><td>HFC-43-10mee</td><td>1,640</td></tr> <tr><td>PFC-14</td><td>7,390</td></tr> <tr><td>PFC-116</td><td>12,200</td></tr> <tr><td>PFC-218</td><td>8,830</td></tr> <tr><td>パーフルオロシクロプロパン</td><td>17,340</td></tr> <tr><td>PFC-31-10</td><td>8,860</td></tr> <tr><td>PFC-c318</td><td>10,300</td></tr> <tr><td>PFC-41-12</td><td>9,160</td></tr> <tr><td>PFC-51-14</td><td>9,300</td></tr> <tr><td>PFC-91-18</td><td>7,500</td></tr> <tr><td>SF6</td><td>22,800</td></tr> <tr><td>R-404A (HFC-125/HFC-143a/HFC-134a:44/52/4)</td><td>3,920^{注1)}</td></tr> <tr><td>R-407C (HFC-32/HFC-125/HFC-134a:23/25/52)</td><td>1,770^{注1)}</td></tr> <tr><td>R-410A (HFC-32/HFC-125:50/50)</td><td>2,090^{注1)}</td></tr> </tbody> </table> <p>【出典】</p> <ul style="list-style-type: none"> ● C02～SF6：地球温暖化対策の推進に関する法律施行令 ● R-404A～：地球温暖化対策の推進に関する法律施行令、日本フルオロカーボン協会 | 温室効果ガス | 地球温暖化係数(GWP) | CO2 | 1 | CH4 | 25 | N2O | 298 | HFC-23 | 14,800 | HFC-32 | 675 | HFC-41 | 92 | HFC-125 | 3,500 | HFC-134 | 1,100 | HFC-134a | 1,430 | HFC-143 | 353 | HFC-143a | 4,470 | HFC-152 | 53 | HFC-152a | 124 | HFC-161 | 12 | HFC-227ea | 3,220 | HFC-236fa | 9,810 | HFC-236ea | 1,370 | HFC-236cb | 1,340 | HFC-245ca | 693 | HFC-245fa | 1,030 | HFC-365mfc | 794 | HFC-43-10mee | 1,640 | PFC-14 | 7,390 | PFC-116 | 12,200 | PFC-218 | 8,830 | パーフルオロシクロプロパン | 17,340 | PFC-31-10 | 8,860 | PFC-c318 | 10,300 | PFC-41-12 | 9,160 | PFC-51-14 | 9,300 | PFC-91-18 | 7,500 | SF6 | 22,800 | R-404A (HFC-125/HFC-143a/HFC-134a:44/52/4) | 3,920 ^{注1)} | R-407C (HFC-32/HFC-125/HFC-134a:23/25/52) | 1,770 ^{注1)} | R-410A (HFC-32/HFC-125:50/50) | 2,090 ^{注1)} |
| 温室効果ガス | 地球温暖化係数(GWP) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CO2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CH4 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| N2O | 310 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-23 | 11,700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-32 | 650 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-41 | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-125 | 2,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-134 | 1,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-134a | 1,300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-143 | 300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-143a | 3,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-152a | 140 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-227ea | 2,900 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-236fa | 6,300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-245ca | 560 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-43-10mee | 1,300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-14 | 6,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-116 | 9,200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-218 | 7,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-31-10 | 7,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-c318 | 8,700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-41-12 | 7,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-51-14 | 7,400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SF6 | 23,900 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R-404A (HFC-125/HFC-143a/HFC-134a:44/52/4) | 3,260 ^{注1)} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R-407C (HFC-32/HFC-125/HFC-134a:23/25/52) | 1,526 ^{注1)} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R-410A (HFC-32/HFC-125:50/50) | 1,725 ^{注1)} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 温室効果ガス | 地球温暖化係数(GWP) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CO2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CH4 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| N2O | 298 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-23 | 14,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-32 | 675 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-41 | 92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-125 | 3,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-134 | 1,100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-134a | 1,430 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-143 | 353 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-143a | 4,470 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-152 | 53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-152a | 124 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-161 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-227ea | 3,220 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-236fa | 9,810 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-236ea | 1,370 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-236cb | 1,340 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-245ca | 693 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-245fa | 1,030 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-365mfc | 794 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HFC-43-10mee | 1,640 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-14 | 7,390 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-116 | 12,200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-218 | 8,830 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| パーフルオロシクロプロパン | 17,340 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-31-10 | 8,860 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-c318 | 10,300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-41-12 | 9,160 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-51-14 | 9,300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PFC-91-18 | 7,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SF6 | 22,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R-404A (HFC-125/HFC-143a/HFC-134a:44/52/4) | 3,920 ^{注1)} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R-407C (HFC-32/HFC-125/HFC-134a:23/25/52) | 1,770 ^{注1)} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R-410A (HFC-32/HFC-125:50/50) | 2,090 ^{注1)} | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|--|--|--|--|---|
| | | | | <p>【注釈】</p> <p>注 1) <u>代表的な混合冷媒の GWP であり、各成分の重量構成比と GWP の積を用いた加重平均により算出（有効数字 3 桁）。その他混合冷媒の GWP も同様に算出する。</u></p> |
|--|--|--|--|---|

| 番号 | 文書 | 項目 | 現行 | | | | 改定案 | | | |
|----|--------------------------|------|-----|-----------|-----------|--|-----|--|-----------|--|
| | | | Ver | 制定/改定日 | 有効期限 | 内容 | Ver | 制定/改定日 | 有効期限 | 内容 |
| 1 | モニタリング・算定規程（排出削減プロジェクト用） | 改定履歴 | 1.0 | H25.4.17 | H25.9.30 | 新規制定 | 1.0 | H25.4.17 | H25.9.30 | 新規制定 |
| | | | 1.1 | H25.10.1 | H26.1.19 | 別表 系統電力の排出係数 全電源の排出係数（平成 24 年度）を追記 | 1.1 | H25.10.1 | H26.1.19 | 別表 系統電力の排出係数 全電源の排出係数（平成 24 年度）を追記 |
| | | | 1.2 | H26.1.20 | H26.5.6 | 別表 系統電力の排出係数 限界電源の排出係数（平成 22 年度）を追記 | 1.2 | H26.1.20 | H26.5.6 | 別表 系統電力の排出係数 限界電源の排出係数（平成 22 年度）を追記 |
| | | | 2.0 | H26.5.7 | H26.12.25 | 2.6 排出削減量の認証申請時期 排出削減量が一時的に負になるプロジェクトの認証申請時期について追記 別表 燃料の単位発熱量・排出係数等 単位発熱量、排出係数の更新及び単位発熱量については、出典を変更 | 2.0 | H26.5.7 | H26.12.25 | 2.6 排出削減量の認証申請時期 排出削減量が一時的に負になるプロジェクトの認証申請時期について追記 別表 燃料の単位発熱量・排出係数等 単位発熱量、排出係数の更新及び単位発熱量については、出典を変更 |
| | | | 2.1 | H26.12.26 | ＝ | 2.2.3. 分類 III：デフォルト値を利用する方法 （1）電気事業者から供給された電力の排出係数 限界電源排出係数（受電端）が、全電源排出係数（受電端）よりも低い場合には、限界電源排出係数（受電端）として全電源排出係数（受電端）を用いることを追記 別表 系統電力の排出係数 全電源の排出係数（平成 25 年度）を追記 | 2.1 | H26.12.26 | H27.XX.XX | 2.2.3. 分類 III：デフォルト値を利用する方法 （1）電気事業者から供給された電力の排出係数 限界電源排出係数（受電端）が、全電源排出係数（受電端）よりも低い場合には、限界電源排出係数（受電端）として全電源排出係数（受電端）を用いることを追記 別表 系統電力の排出係数 全電源の排出係数（平成 25 年度）を追記 |
| | | | | | 2.2 | H27.XX.XX | ＝ | 別表 燃料の単位発熱量・排出係数等 単位発熱量、排出係数の更新 別表 系統電力の排出係数 限界電源の排出係数（平成 23 年度）を追記 | | |