Summary of GHG Emissions for Russian Federation
Base year (Convention) = 1990

<table>
<thead>
<tr>
<th>Emissions, in kt CO₂ equivalent</th>
<th>Base year</th>
<th>2000</th>
<th>Last Inventory Year (2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ emissions without LULUCF</td>
<td>2,524,865.1</td>
<td>1,478,184.8</td>
<td>1,834,221.4</td>
</tr>
<tr>
<td>CO₂ net emissions/removals by LULUCF</td>
<td>-106,281.5</td>
<td>500,003.8</td>
<td>604,794.0</td>
</tr>
<tr>
<td>CO₂ net emissions/removals with LULUCF</td>
<td>2,429,583.6</td>
<td>977,374.9</td>
<td>1,230,442.4</td>
</tr>
<tr>
<td>GHG emissions without LULUCF</td>
<td>3,162,627.6</td>
<td>1,892,383.8</td>
<td>2,051,437.4</td>
</tr>
<tr>
<td>GHG net emissions/removals by LULUCF</td>
<td>-3,955.5</td>
<td>-614,944.2</td>
<td>-668,231.3</td>
</tr>
<tr>
<td>GHG net emissions/removals with LULUCF</td>
<td>3,158,672.1</td>
<td>1,277,440.6</td>
<td>1,383,206.1</td>
</tr>
<tr>
<td>Netted CO₂</td>
<td>NE,NA,NO</td>
<td>NE,NA,NO</td>
<td>NE,NA,NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changes in emissions, in percent</th>
<th>From Base year to 2000</th>
<th>From 2000 to Last Inventory Year (2020)</th>
<th>From Base year to Last Inventory Year (2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ emissions without LULUCF</td>
<td>-41.69%</td>
<td>9.88%</td>
<td>-35.92%</td>
</tr>
<tr>
<td>CO₂ net emissions/removals by LULUCF</td>
<td>375.50%</td>
<td>-0.87%</td>
<td>-474.05%</td>
</tr>
<tr>
<td>CO₂ net emissions/removals with LULUCF</td>
<td>-58.76%</td>
<td>4.28%</td>
<td>-58.04%</td>
</tr>
<tr>
<td>GHG emissions without LULUCF</td>
<td>40.16%</td>
<td>6.40%</td>
<td>35.14%</td>
</tr>
<tr>
<td>GHG net emissions/removals by LULUCF</td>
<td>532.93%</td>
<td>22.42%</td>
<td>673.74%</td>
</tr>
<tr>
<td>GHG net emissions/removals with LULUCF</td>
<td>-53.79%</td>
<td>3.84%</td>
<td>-52.02%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average annual growth rates, in percent per year</th>
<th>From Base year to 2000</th>
<th>From 2000 to Last Inventory Year (2020)</th>
<th>From Base year to Last Inventory Year (2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ emissions without LULUCF</td>
<td>-5.25%</td>
<td>0.47%</td>
<td>-1.47%</td>
</tr>
<tr>
<td>CO₂ net emissions/removals by LULUCF</td>
<td>18.87%</td>
<td>0.96%</td>
<td>5.06%</td>
</tr>
<tr>
<td>CO₂ net emissions/removals with LULUCF</td>
<td>-8.39%</td>
<td>0.21%</td>
<td>-4.85%</td>
</tr>
<tr>
<td>GHG emissions without LULUCF</td>
<td>-5.01%</td>
<td>0.40%</td>
<td>-1.43%</td>
</tr>
<tr>
<td>GHG net emissions/removals by LULUCF</td>
<td>20.25%</td>
<td>1.92%</td>
<td>7.96%</td>
</tr>
<tr>
<td>GHG net emissions/removals with LULUCF</td>
<td>-7.43%</td>
<td>0.19%</td>
<td>-2.42%</td>
</tr>
</tbody>
</table>

Change in GHG emissions/removals from 1990 to 2020

1990 (without LULUCF)

- Energy industries: -31.99%
- Manufacturing Industries and Construction: -44.07%
- Transport: -87.18%
- Other sectors: -38.01%
- Fugitive Emissions from Fuels: -30.00%
- CO2 Transport and Storage: -28.55%
- Industrial Processes and Product Use: -24.08%
- Agriculture: -24.08%
- LULUCF: 80.39%
- Waste: 0.00%
- Other: 0.00%

2020 (without LULUCF)

- Energy industries: -87.18%
- Manufacturing Industries and Construction: -80.39%
- Transport: -24.08%
- Other sectors: -31.99%
- Fugitive Emissions from Fuels: -30.00%
- CO2 Transport and Storage: -28.55%
- Industrial Processes and Product Use: -24.08%
- Agriculture: -24.08%
- LULUCF: 80.39%
- Waste: 0.00%
- Other: 0.00%

GHG emissions by gas

1990 (without LULUCF)

- CO2: 80.15%
- CH4: 13.78%
- N2O: 4.41%
- Aggregate F-gases: 1.66%

2020 (without LULUCF)

- CO2: 79.17%
- CH4: 14.59%
- N2O: 4.20%
- Aggregate F-gases: 2.04%

1990 (with LULUCF)

- CO2: 78.65%
- CH4: 14.79%
- N2O: 4.85%
- Aggregate F-gases: 1.70%

2020 (with LULUCF)

- CO2: 68.78%
- CH4: 21.68%
- N2O: 6.72%
- Aggregate F-gases: 2.82%

GHG emissions by sector (without LULUCF)

1990

- Energy: 81.49%
- Industrial Processes and Product Use: 9.02%
- Agriculture: 7.83%
- Waste: 1.67%
- Other: 0.00%

2020

- Energy: 77.88%
- Industrial Processes and Product Use: 11.78%
- Agriculture: 5.69%
- Waste: 4.65%
- Other: 0.00%
Breakdown of GHG emissions within the energy sector

1990:
- 1.A.1. Energy industries - 45.45%
- 1.A.2. Manufacturing Industries and Construction - 8.20%
- 1.A.3. Transport - 12.43%
- 1.A.4. Other sectors - 10.52%
- 1.A.5. Other (not specified elsewhere) - 12.33%
- 1.B. Fugitive Emissions from Fuels - 11.08%
- 1.C. CO2 Transport and Storage - 0.00%

2020:
- 1.A.1. Energy industries - 51.31%
- 1.A.3. Transport - 13.63%
- 1.A.4. Other sectors - 9.49%
- 1.A.5. Other (not specified elsewhere) - 2.55%
- 1.B. Fugitive Emissions from Fuels - 13.57%
- 1.C. CO2 Transport and Storage - 0.00%

Breakdown of GHG emissions within the industrial processes and product use sector

1990:
- 2.A. Mineral Products - 21.85%
- 2.B. Chemical Industry - 28.31%
- 2.C. Metal Production - 48.57%
- 2.D. Non-energy Products from Fuels and Solvent Use - 0.97%
- 2.E. Electronics industry - 0.00%
- 2.F. Product Uses as Substitutes for ODS - 0.00%
- 2.G. Other Product Manufacture and Use - 0.30%
- 2.H. Other - 0.00%

2020:
- 2.A. Mineral Products - 14.89%
- 2.B. Chemical Industry - 30.35%
- 2.C. Metal Production - 44.37%
- 2.D. Non-energy Products from Fuels and Solvent Use - 0.83%
- 2.E. Electronics industry - 0.01%
- 2.F. Product Uses as Substitutes for ODS - 9.07%
- 2.G. Other Product Manufacture and Use - 0.48%
- 2.H. Other - 0.00%

Breakdown of GHG emissions within the agriculture sector

1990:
- 3.A. Enteric Fermentation - 42.50%
- 3.B. Manure management - 11.66%
- 3.C. Rice cultivation - 0.35%
- 3.D. Agricultural Soils - 41.39%
- 3.E. Prescribed Burning of Savannas - 0.00%
- 3.F. Field Burning of Agricultural Residues - 0.00%
- 3.G. Liming - 0.07%
- 3.H. Urea Application - 0.04%
- 3.I. Other Carbon-containing Fertilizers - 0.00%

2020:
- 3.A. Enteric Fermentation - 33.47%
- 3.B. Manure management - 11.09%
- 3.C. Rice cultivation - 0.52%
- 3.D. Agricultural Soils - 53.97%
- 3.E. Prescribed Burning of Savannas - 0.00%
- 3.F. Field Burning of Agricultural Residues - 0.00%
- 3.G. Liming - 0.79%
- 3.H. Urea Application - 0.17%
- 3.I. Other Carbon-containing Fertilizers - 0.00%
- 3.J. Other - 0.00%
Breakdown of GHG emissions within the waste sector

- S.A. Solid Waste Disposal - 50.60%
- S.B. Biological Treatment of Solid Waste - 0.10%
- S.C. Incineration and Open Burning of Waste - 0.00%
- S.D. Wastewater Treatment and Discharge - 49.30%
- S.E. Other - 0.00%

- S.A. Solid Waste Disposal - 70.89%
- S.B. Biological Treatment of Solid Waste - 0.03%
- S.C. Incineration and Open Burning of Waste - 0.00%
- S.D. Wastewater Treatment and Discharge - 29.08%
- S.E. Other - 0.00%

Breakdown of GHG emissions/removals within the LULUCF sector (kt CO$_2$ equivalent)

- 4.A. Forest Land
- 4.B. Cropland
- 4.C. Grassland
- 4.D. Wetlands
- 4.E. Settlements
- 4.F. Other Land
- 4.G. Harvested Wood Products
- 4.H. Other

1990

- 4.A. Forest Land: 53,064.2
- 4.B. Cropland: 3,715.4
- 4.C. Grassland: 18,888.9
- 4.D. Wetlands: 0.0
- 4.E. Settlements: 0.0
- 4.F. Other Land: -5,686.7
- 4.G. Harvested Wood Products: 0.0
- 4.H. Other: 0.0

2020

- 4.A. Forest Land: 69,612.6
- 4.B. Cropland: 3,598.6
- 4.C. Grassland: 2,459.1
- 4.D. Wetlands: 864.4
- 4.E. Settlements: 9,242.3
- 4.F. Other Land: 0.0
- 4.G. Harvested Wood Products: 0.0
- 4.H. Other: 0.0