

**(Mid Case) Forecast for Updated Scoping Plan - MMTCO<sub>2</sub>e (AR4)**

<b>Scoping Plan Category</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Transportation</b>	<b>171.5</b>	<b>170.6</b>	<b>168.4</b>	<b>172.7</b>	<b>174.4</b>	<b>176.4</b>	<b>178.1</b>	<b>179.7</b>	<b>181.4</b>	<b>182.8</b>	<b>183.9</b>	<b>185.3</b>
<b>On Road</b>	<b>158.6</b>	<b>157.5</b>	<b>155.1</b>	<b>159.2</b>	<b>160.5</b>	<b>162.1</b>	<b>163.4</b>	<b>164.6</b>	<b>165.9</b>	<b>166.9</b>	<b>167.6</b>	<b>168.7</b>
Passenger Vehicles	122.5	121.5	119.0	122.1	122.9	123.5	123.9	124.5	125.2	125.6	125.7	126.2
Heavy Duty Trucks	36.1	36.0	36.1	37.0	37.7	38.7	39.5	40.1	40.7	41.3	41.9	42.5
<b>Ships &amp; Commercial Boats</b>	<b>3.7</b>	<b>3.7</b>	<b>3.8</b>	<b>4.0</b>	<b>4.0</b>	<b>4.2</b>	<b>4.3</b>	<b>4.5</b>	<b>4.7</b>	<b>4.8</b>	<b>5.0</b>	<b>5.1</b>
<b>Aviation (Intrastate)</b>	<b>4.0</b>	<b>3.8</b>	<b>3.7</b>	<b>3.9</b>	<b>4.0</b>	<b>4.1</b>	<b>4.2</b>	<b>4.3</b>	<b>4.3</b>	<b>4.4</b>	<b>4.5</b>	<b>4.6</b>
<b>Rail</b>	<b>1.9</b>	<b>2.3</b>	<b>2.5</b>	<b>2.3</b>	<b>2.4</b>	<b>2.5</b>	<b>2.5</b>	<b>2.6</b>	<b>2.6</b>	<b>2.7</b>	<b>2.7</b>	<b>2.8</b>
<b>Off Road [1]</b>	<b>2.2</b>	<b>2.0</b>	<b>2.1</b>	<b>2.2</b>	<b>2.3</b>	<b>2.4</b>	<b>2.5</b>	<b>2.6</b>	<b>2.7</b>	<b>2.8</b>	<b>2.9</b>	<b>3.0</b>
<b>Unspecified</b>	<b>1.1</b>	<b>1.2</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>
<b>Electric Power</b>	<b>103.6</b>	<b>90.1</b>	<b>86.6</b>	<b>93.4</b>	<b>94.6</b>	<b>95.9</b>	<b>97.2</b>	<b>98.6</b>	<b>99.8</b>	<b>100.9</b>	<b>102.3</b>	<b>103.8</b>
<b>In-State Generation</b>	<b>55.5</b>	<b>46.5</b>	<b>39.7</b>	<b>46.9</b>	<b>48.1</b>	<b>49.4</b>	<b>50.7</b>	<b>52.1</b>	<b>53.3</b>	<b>54.4</b>	<b>55.8</b>	<b>57.3</b>
Natural Gas	48.9	40.6	34.5	41.0	42.2	43.5	44.8	46.2	47.3	48.5	49.9	51.4
Other Fuels	5.3	4.8	3.9	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Fugitive and Process Emissions	1.3	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
<b>Imported Electricity</b>	<b>48.0</b>	<b>43.6</b>	<b>46.9</b>	<b>46.5</b>	<b>46.5</b>	<b>46.5</b>	<b>46.5</b>	<b>46.5</b>	<b>46.5</b>	<b>46.5</b>	<b>46.5</b>	<b>46.5</b>
Unspecified Imports	15.0	13.5	15.5	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
Specified Imports	33.1	30.1	31.3	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8
<b>Commercial and Residential</b>	<b>44.2</b>	<b>45.2</b>	<b>45.5</b>	<b>45.5</b>	<b>45.9</b>	<b>46.4</b>	<b>46.8</b>	<b>47.3</b>	<b>47.9</b>	<b>48.4</b>	<b>49.0</b>	<b>49.5</b>
<b>Residential Fuel Use</b>	<b>28.7</b>	<b>29.4</b>	<b>29.9</b>	<b>29.9</b>	<b>30.1</b>	<b>30.2</b>	<b>30.3</b>	<b>30.6</b>	<b>30.8</b>	<b>31.1</b>	<b>31.4</b>	<b>31.7</b>
Natural Gas	26.3	27.0	27.5	27.5	27.7	27.9	28.0	28.2	28.4	28.7	29.0	29.3
Other Fuels	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
<b>Commercial Fuel Use</b>	<b>14.6</b>	<b>14.8</b>	<b>14.9</b>	<b>14.7</b>	<b>14.9</b>	<b>15.2</b>	<b>15.6</b>	<b>15.9</b>	<b>16.2</b>	<b>16.5</b>	<b>16.7</b>	<b>17.0</b>
Natural Gas	12.6	12.5	12.6	12.5	12.7	13.0	13.4	13.7	14.0	14.3	14.5	14.8
Other Fuels	2.0	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
<b>Commercial Cogeneration Heat Output</b>	<b>0.9</b>	<b>0.9</b>	<b>0.8</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>
<b>Industrial</b>	<b>85.3</b>	<b>92.0</b>	<b>94.4</b>	<b>91.5</b>	<b>92.0</b>	<b>92.6</b>	<b>93.0</b>	<b>93.2</b>	<b>93.3</b>	<b>93.5</b>	<b>93.6</b>	<b>93.7</b>
<b>Refineries</b>	<b>28.3</b>	<b>30.4</b>	<b>30.1</b>	<b>29.7</b>	<b>29.7</b>	<b>29.7</b>	<b>29.7</b>	<b>29.7</b>	<b>29.7</b>	<b>29.7</b>	<b>29.7</b>	<b>29.7</b>
<b>General Fuel Use</b>	<b>17.6</b>	<b>20.2</b>	<b>21.6</b>	<b>21.2</b>	<b>21.7</b>	<b>22.1</b>	<b>22.4</b>	<b>22.7</b>	<b>23.0</b>	<b>23.3</b>	<b>23.6</b>	<b>23.9</b>
Natural Gas	11.5	13.5	14.5	14.6	15.0	15.4	15.7	16.0	16.3	16.6	16.9	17.2
Other Fuels	6.1	6.8	7.1	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
<b>Oil &amp; Gas Extraction [2]</b>	<b>17.1</b>	<b>16.2</b>	<b>16.2</b>	<b>15.7</b>	<b>15.6</b>	<b>15.7</b>	<b>15.7</b>	<b>15.5</b>	<b>15.2</b>	<b>15.0</b>	<b>14.7</b>	<b>14.5</b>
Fuel Use	15.9	15.0	14.9	14.6	14.5	14.6	14.6	14.4	14.2	13.9	13.7	13.5
Fugitive Emissions	1.2	1.2	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0
<b>Cement Plants</b>	<b>5.7</b>	<b>5.6</b>	<b>6.1</b>	<b>5.8</b>	<b>5.8</b>	<b>5.8</b>	<b>5.8</b>	<b>5.8</b>	<b>5.8</b>	<b>5.8</b>	<b>5.8</b>	<b>5.8</b>
Clinker Production	3.6	3.5	4.1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Fuel Use	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
<b>Cogeneration Heat Output</b>	<b>10.3</b>	<b>12.5</b>	<b>12.6</b>	<b>11.8</b>	<b>11.8</b>	<b>11.8</b>	<b>11.8</b>	<b>11.8</b>	<b>11.8</b>	<b>11.8</b>	<b>11.8</b>	<b>11.8</b>
<b>Other Fugitive and Process Emissions</b>	<b>6.3</b>	<b>7.2</b>	<b>7.7</b>	<b>7.2</b>	<b>7.3</b>	<b>7.4</b>	<b>7.5</b>	<b>7.7</b>	<b>7.8</b>	<b>7.9</b>	<b>8.0</b>	<b>8.1</b>
<b>Recycling and Waste</b>	<b>8.1</b>	<b>8.2</b>	<b>8.3</b>	<b>8.3</b>	<b>8.4</b>	<b>8.5</b>	<b>8.6</b>	<b>8.7</b>	<b>8.9</b>	<b>9.0</b>	<b>9.2</b>	<b>9.4</b>
<b>Landfills [3]</b>	<b>7.8</b>	<b>7.9</b>	<b>8.0</b>	<b>8.0</b>	<b>8.1</b>	<b>8.2</b>	<b>8.3</b>	<b>8.4</b>	<b>8.6</b>	<b>8.7</b>	<b>8.9</b>	<b>9.1</b>
<b>Composting</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>
<b>High GWP</b>	<b>14.1</b>	<b>16.1</b>	<b>17.3</b>	<b>19.1</b>	<b>20.6</b>	<b>22.2</b>	<b>23.7</b>	<b>25.3</b>	<b>26.9</b>	<b>28.5</b>	<b>30.1</b>	<b>31.5</b>
<b>Ozone Depleting Substance (ODS) Substitutes</b>	<b>13.5</b>	<b>15.4</b>	<b>16.6</b>	<b>18.4</b>	<b>20.0</b>	<b>21.5</b>	<b>23.1</b>	<b>24.7</b>	<b>26.3</b>	<b>27.9</b>	<b>29.4</b>	<b>30.9</b>
<b>Electricity Grid SF6 Losses [4]</b>	<b>0.3</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Semiconductor Manufacturing [3]</b>	<b>0.3</b>	<b>0.5</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>
<b>Agriculture</b>	<b>35.0</b>	<b>34.9</b>	<b>35.4</b>	<b>34.8</b>	<b>34.9</b>	<b>35.0</b>	<b>35.1</b>	<b>35.2</b>	<b>35.4</b>	<b>35.6</b>	<b>35.8</b>	<b>36.2</b>
<b>Livestock</b>	<b>23.5</b>	<b>23.0</b>	<b>23.0</b>	<b>22.9</b>	<b>23.0</b>	<b>23.1</b>	<b>23.2</b>	<b>23.4</b>	<b>23.6</b>	<b>23.8</b>	<b>24.0</b>	<b>24.4</b>
Enteric Fermentation (Digestive Process)	11.3	11.1	11.1	11.1	11.1	11.2	11.2	11.3	11.4	11.4	11.5	11.7
Manure Management	12.2	11.8	11.9	11.8	11.9	11.9	12.0	12.1	12.2	12.3	12.5	12.7
<b>Crop Growing &amp; Harvesting</b>	<b>8.8</b>	<b>9.1</b>	<b>8.8</b>	<b>8.9</b>	<b>8.9</b>	<b>8.9</b>	<b>8.9</b>	<b>8.9</b>	<b>8.9</b>	<b>8.9</b>	<b>8.9</b>	<b>8.9</b>
Fertilizers	7.3	7.6	7.2	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Soil Preparation and Disturbances	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Crop Residue Burning	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>General Fuel Use</b>	<b>2.7</b>	<b>2.8</b>	<b>3.7</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>
Diesel	1.8	2.0	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Natural Gas	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Gasoline	0.2	0.2	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Other Fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL GROSS EMISSIONS</b>	<b>461.8</b>	<b>457.0</b>	<b>455.9</b>	<b>465.4</b>	<b>470.8</b>	<b>476.9</b>	<b>482.4</b>	<b>488.0</b>	<b>493.5</b>	<b>498.7</b>	<b>503.9</b>	<b>509.4</b>