

Table 1: Summary of equality and inequality constraints under an optimistic scenario

| Date | <u>CO_2 Inequality Constraint</u> | | <u>Equality Constraint</u> | |
|------|--|--------------------|----------------------------|-------------|
| | CO_2 Lower Bound | CO_2 Upper Bound | CH_4 | N_2O |
| | (SSP1-1.9) | (SSP 1-2.6) | (SSP 1-1.9) | (SSP 1-1.9) |
| 2024 | 424.222 | 424.899 | 1875.310 | 334.653 |
| 2025 | 426.303 | 427.451 | 1866.105 | 335.220 |
| 2026 | 428.203 | 429.942 | 1854.492 | 335.750 |
| 2027 | 429.927 | 432.373 | 1840.639 | 336.245 |
| 2028 | 431.481 | 434.748 | 1824.707 | 336.705 |
| 2029 | 432.871 | 437.067 | 1806.825 | 337.130 |
| 2030 | 434.098 | 439.335 | 1787.121 | 337.520 |
| 2031 | 435.167 | 441.551 | 1765.736 | 337.876 |
| 2032 | 436.110 | 443.698 | 1743.814 | 338.214 |
| 2033 | 436.951 | 445.758 | 1722.428 | 338.549 |
| 2034 | 437.689 | 447.736 | 1701.541 | 338.880 |
| 2035 | 438.325 | 449.632 | 1681.141 | 339.209 |
| 2036 | 438.855 | 451.450 | 1661.179 | 339.534 |
| 2037 | 439.284 | 453.190 | 1641.634 | 339.857 |
| 2038 | 439.608 | 454.855 | 1622.478 | 340.177 |
| 2039 | 439.830 | 456.446 | 1603.680 | 340.495 |
| 2040 | 439.950 | 457.962 | 1585.221 | 340.809 |
| 2041 | 439.968 | 459.408 | 1567.070 | 341.122 |
| 2042 | 439.910 | 460.779 | 1549.307 | 341.429 |
| 2043 | 439.798 | 462.074 | 1531.982 | 341.731 |
| 2044 | 439.631 | 463.295 | 1515.075 | 342.026 |
| 2045 | 439.406 | 464.441 | 1498.566 | 342.315 |
| 2046 | 439.123 | 465.512 | 1482.415 | 342.597 |
| 2047 | 438.782 | 466.510 | 1466.602 | 342.873 |
| 2048 | 438.383 | 467.435 | 1451.098 | 343.143 |
| 2049 | 437.923 | 468.286 | 1435.903 | 343.407 |
| 2050 | 437.404 | 469.066 | 1420.966 | 343.665 |