

Net-Zero America - new jersey state report

2021-03-05

These data underlie graphs and tables presented in the Princeton Net-Zero America study:

E. Larson, C. Greig, J. Jenkins, E. Mayfield, A. Pascale, C. Zhang, J. Drossman, R. Williams, S. Pacala, R. Socolow, EJ Baik, R. Birdsey, R. Duke, R. Jones, B. Haley, E. Leslie, K. Paustian, and A. Swan, Net-Zero America: Potential Pathways, Infrastructure, and Impacts, interim report, Princeton University, Princeton, NJ, December 15, 2020. Report available at https://netzeroamerica.princeton.edu.

Notes

- These data are all data from the study available at https://netzeroamerica.prince-ton.edu.
- The Net-Zero America study describes five pathways to reach net-zero emissions and one "no new policies" reference scenario. In this document, state-level results are grouped by scenario. For some scenarios, the study generated national, but not statelevel results.
- Within results for a given scenario, data tables are organized into corresponding sections of the full net-zero study (e.g., Pillar 1, Pillar 2, etc.)
- For Pillar 6 (Land sinks), values shown are maximum carbon storage potentials.

Data by category and subcategory

| 1 | E+ scenario - PILLAR 1: Efficiency/Electrification - Commercial | . 1 |
|----|--|------|
| 2 | E+ scenario - PILLAR 1: Efficiency/Electrification - Electricity demand | . 1 |
| 3 | E+ scenario - PILLAR 1: Efficiency/Electrification - Overview | . 1 |
| 4 | E+ scenario - PILLAR 1: Efficiency/Electrification - Residential | . 1 |
| 5 | E+ scenario - PILLAR 1: Efficiency/Electrification - Transportation | . 2 |
| 6 | E+ scenario - PILLAR 2: Clean Electricity - Generating capacity | 2 |
| 7 | E+ scenario - PILLAR 2: Clean Electricity - Generation | . 2 |
| 8 | E+ scenario - PILLAR 3: Clean fuels - Bioenergy | 3 |
| 9 | E+ scenario - PILLAR 4: CCUS - CO2 capture | 3 |
| 10 | E+ scenario - PILLAR 4: CCUS - CO2 pipelines | 3 |
| 11 | E+ scenario - PILLAR 4: CCUS - CO2 storage | 4 |
| 12 | E+ scenario - PILLAR 6: Land sinks - Agriculture | 4 |
| 13 | E+ scenario - PILLAR 6: Land sinks - Forests | 5 |
| 14 | E+ scenario - IMPACTS - Fossil fuel industries | . 7 |
| 15 | E+ scenario - IMPACTS - Health | . 7 |
| 16 | E+ scenario - IMPACTS - Jobs | . 7 |
| 17 | E- scenario - PILLAR 1: Efficiency/Electrification - Commercial | 9 |
| 18 | E- scenario - PILLAR 1: Efficiency/Electrification - Electricity demand | 9 |
| 19 | E- scenario - PILLAR 1: Efficiency/Electrification - Overview | 9 |
| 20 | E- scenario - PILLAR 1: Efficiency/Electrification - Residential | 9 |
| 21 | E- scenario - PILLAR 1: Efficiency/Electrification - Transportation | 10 |
| 22 | E- scenario - PILLAR 6: Land sinks - Agriculture | 10 |
| 23 | E- scenario - PILLAR 6: Land sinks - Forests | . 11 |
| 24 | E- scenario - IMPACTS - Health | 13 |
| 25 | E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Commercial | 14 |
| 26 | E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Electricity demand . | 14 |
| 27 | E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Overview | 14 |
| 28 | E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Residential | 14 |
| 29 | E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Transportation | 15 |
| 30 | E+RE+ scenario - PILLAR 2: Clean Electricity - Generating capacity | 15 |
| 31 | E+RE+ scenario - PILLAR 2: Clean Electricity - Generation | 15 |
| 32 | E+RE+ scenario - PILLAR 6: Land sinks - Agriculture | 16 |
| 33 | E+RE+ scenario - PILLAR 6: Land sinks - Forests | 16 |
| 34 | E+RE+ scenario - IMPACTS - Health | . 19 |
| 35 | E+RE- scenario - PILLAR 1: Efficiency/Electrification - Commercial | . 19 |
| 36 | E+RE- scenario - PILLAR 1: Efficiency/Electrification - Electricity demand | . 19 |
| 37 | E+RE- scenario - PILLAR 1: Efficiency/Electrification - Overview | . 19 |
| 38 | E+RE- scenario - PILLAR 1: Efficiency/Electrification - Residential | 20 |
| 39 | E+RE- scenario - PILLAR 1: Efficiency/Electrification - Transportation | 20 |
| 40 | E+RE- scenario - PILLAR 2: Clean Electricity - Generating capacity | 21 |
| 41 | E+RE- scenario - PILLAR 2: Clean Electricity - Generation | 21 |
| 42 | E+RE- scenario - PILLAR 6: Land sinks - Agriculture | 21 |
| 43 | E+RE- scenario - PILLAR 6: Land sinks - Forests | 22 |

| 44 | E+RE- scenario - IMPACTS - Health | 24 |
|----|---|----|
| 45 | E-B+ scenario - PILLAR 1: Efficiency/Electrification - Commercial | 25 |
| 46 | E-B+ scenario - PILLAR 1: Efficiency/Electrification - Electricity demand | 25 |
| 47 | E-B+ scenario - PILLAR 1: Efficiency/Electrification - Overview | 25 |
| 48 | E-B+ scenario - PILLAR 1: Efficiency/Electrification - Residential | 25 |
| 49 | E-B+ scenario - PILLAR 1: Efficiency/Electrification - Transportation | 26 |
| 50 | E-B+ scenario - PILLAR 2: Clean Electricity - Generating capacity | 26 |
| 51 | E-B+ scenario - PILLAR 2: Clean Electricity - Generation | 26 |
| 52 | E-B+ scenario - PILLAR 3: Clean fuels - Bioenergy | 26 |
| 53 | E-B+ scenario - PILLAR 4: CCUS - CO2 capture | 27 |
| 54 | E-B+ scenario - PILLAR 4: CCUS - CO2 pipelines | 27 |
| 55 | E-B+ scenario - PILLAR 4: CCUS - CO2 storage | 27 |
| 56 | E-B+ scenario - PILLAR 6: Land sinks - Agriculture | 27 |
| 57 | E-B+ scenario - PILLAR 6: Land sinks - Forests | 28 |
| 58 | E-B+ scenario - IMPACTS - Health | 31 |
| 59 | REF scenario - PILLAR 1: Efficiency/Electrification - Commercial | 31 |
| 60 | REF scenario - PILLAR 1: Efficiency/Electrification - Electricity demand | 32 |
| 61 | REF scenario - PILLAR 1: Efficiency/Electrification - Overview | 32 |
| 62 | REF scenario - PILLAR 1: Efficiency/Electrification - Residential | 32 |
| 63 | REF scenario - PILLAR 1: Efficiency/Electrification - Transportation | 32 |
| 64 | REF scenario - PILLAR 6: Land sinks - Forests | 33 |
| 65 | REF scenario - PILLAR 6: Land sinks - Forests - REF only | 35 |
| 66 | REF scenario - IMPACTS - Health | 35 |

Table 1: E+ scenario - PILLAR 1: Efficiency/Electrification - Commercial

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|-------|--------|--------|-------|-------|-------|-------|
| Commercial HVAC investment in 2020s - Cumulative 5-yr (million \$2018) | 0 | 41,628 | 45,491 | 0 | 0 | 0 | 0 |
| Sales of cooking units - Electric Resistance (%) | 18.5 | 33.7 | 75.3 | 83.5 | 83.9 | 84 | 84 |
| Sales of cooking units - Gas (%) | 81.5 | 66.3 | 24.7 | 16.5 | 16.1 | 16 | 16 |
| Sales of space heating units - Electric Heat Pump (%) | 0.831 | 16.8 | 53.8 | 78.3 | 81.8 | 82 | 81.9 |
| Sales of space heating units - Electric Resistance (%) | 2.64 | 4.45 | 11.2 | 16.1 | 17 | 17 | 17.2 |
| Sales of space heating units - Fossil (%) | 8.14 | 11.7 | 2.29 | 0.1 | 0 | 0 | 0 |
| Sales of space heating units - Gas Furnace (%) | 88.4 | 67.1 | 32.7 | 5.5 | 1.14 | 0.906 | 0.899 |
| Sales of water heating units - Electric Heat Pump (%) | 0.247 | 7.96 | 43.7 | 60.3 | 62.3 | 62.4 | 62.4 |
| Sales of water heating units - Electric Resistance (%) | 1.46 | 5.37 | 23 | 35.5 | 37.3 | 37.4 | 37.4 |
| Sales of water heating units - Gas Furnace (%) | 97.6 | 85.5 | 33 | 4.08 | 0.216 | 0 | 0 |
| Sales of water heating units - Other (%) | 0.649 | 1.16 | 0.372 | 0.184 | 0.175 | 0.176 | 0.176 |

Table 2: E+ scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| Electricity distribution capital invested - | | 3.49 | 3.59 | 11.3 | 12.3 | 10 | 10.7 |
| Cumulative 5-yr (billion \$2018) | | | | | | | |

Table 3: E+ scenario - PILLAR 1: Efficiency/Electrification - Overview

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Final energy use - Commercial (PJ) | 306 | 301 | 289 | 269 | 251 | 242 | 241 |
| Final energy use - Industry (PJ) | 130 | 131 | 133 | 133 | 134 | 135 | 137 |
| Final energy use - Residential (PJ) | 376 | 351 | 316 | 265 | 217 | 183 | 164 |
| Final energy use - Transportation (PJ) | 683 | 640 | 573 | 490 | 414 | 364 | 340 |

Table 4: E+ scenario - PILLAR 1: Efficiency/Electrification - Residential

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|-------|-------|-------|-------|------|
| Residential HVAC investment in 2020s vs. | 0 | 7.13 | 8.05 | 0 | 0 | 0 | 0 |
| REF - Cumulative 5-yr (billion \$2018) | | | | | | | |
| Sales of cooking units - Electric | 33.6 | 47.7 | 91.1 | 99.5 | 100 | 100 | 100 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 66.4 | 52.3 | 8.94 | 0.45 | 0 | 0 | 0 |
| Sales of space heating units - Electric | 4.07 | 17.8 | 67.1 | 90.9 | 93.9 | 94.1 | 94 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 6.87 | 9.53 | 5.27 | 2.94 | 2.62 | 2.66 | 2.75 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 9.77 | 15 | 4.87 | 2.25 | 2.08 | 2.05 | 1.99 |
| Sales of space heating units - Gas (%) | 79.3 | 57.7 | 22.7 | 3.87 | 1.37 | 1.23 | 1.23 |
| Sales of water heating units - Electric | 0 | 7.03 | 39.6 | 53.9 | 55.6 | 55.7 | 55.7 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 17.8 | 33.3 | 37.6 | 43.3 | 44.2 | 44.3 | 44.3 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 79.1 | 57.8 | 22.4 | 2.77 | 0.146 | 0 | 0 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 3.14 | 1.9 | 0.397 | 0.064 | 0.049 | 0.049 | 0.05 |

Table 5: E+ scenario - PILLAR 1: Efficiency/Electrification - Transportation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|-------|-------|-------|-------|-------|-------|
| Light-duty vehicle capital costs - | 0 | 1,151 | 2,985 | 4,782 | 7,266 | 7,885 | 7,530 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Public EV charging plugs - DC Fast (1000 | 0.341 | 0 | 1.73 | 0 | 7.27 | 0 | 11.7 |
| units) | | | | | | | |
| Public EV charging plugs - L2 (1000 units) | 0.794 | 0 | 41.6 | 0 | 175 | 0 | 281 |
| Vehicle sales - Heavy-duty - diesel (%) | 97.2 | 92.1 | 67 | 23.3 | 4.22 | 0.628 | 0 |
| Vehicle sales - Heavy-duty - EV (%) | 0.588 | 3.81 | 19 | 45.6 | 57.4 | 59.6 | 60 |
| Vehicle sales - Heavy-duty - gasoline (%) | 0.227 | 0.227 | 0.176 | 0.066 | 0.013 | 0.002 | 0 |
| Vehicle sales - Heavy-duty - hybrid (%) | 0.082 | 0.09 | 0.077 | 0.031 | 0.007 | 0.001 | 0 |
| Vehicle sales - Heavy-duty - hydrogen FC | 0.392 | 2.54 | 12.7 | 30.4 | 38.2 | 39.7 | 40 |
| (%) | | | | | | | |
| Vehicle sales - Heavy-duty - other (%) | 1.5 | 1.23 | 1.07 | 0.568 | 0.163 | 0.038 | 0 |
| Vehicle sales - Light-duty - diesel (%) | 1.28 | 1.58 | 1.15 | 0.366 | 0.07 | 0.013 | 0 |
| Vehicle sales - Light-duty - EV (%) | 4.81 | 17.9 | 50.5 | 83.4 | 96.5 | 99.3 | 100 |
| Vehicle sales - Light-duty - gasoline (%) | 88.4 | 74.9 | 44.6 | 14.9 | 3.08 | 0.584 | 0 |
| Vehicle sales - Light-duty - hybrid (%) | 5.29 | 5.17 | 3.5 | 1.27 | 0.314 | 0.07 | 0 |
| Vehicle sales - Light-duty - hydrogen FC | 0.109 | 0.324 | 0.182 | 0.055 | 0.011 | 0.002 | 0 |
| (%) | | | | | | | |
| Vehicle sales - Light-duty - other (%) | 0.09 | 0.085 | 0.053 | 0.018 | 0.004 | 0.001 | 0 |
| Vehicle sales - Medium-duty - diesel (%) | 64.7 | 59.7 | 42.3 | 14.4 | 2.59 | 0.384 | 0 |
| Vehicle sales - Medium-duty - EV (%) | 0.784 | 5.07 | 25.3 | 60.8 | 76.5 | 79.5 | 80 |
| Vehicle sales - Medium-duty - gasoline (%) | 33.7 | 33.3 | 25.5 | 9.32 | 1.77 | 0.277 | 0 |
| Vehicle sales - Medium-duty - hybrid (%) | 0.363 | 0.402 | 0.341 | 0.14 | 0.03 | 0.005 | 0 |
| Vehicle sales - Medium-duty - hydrogen | 0.196 | 1.27 | 6.33 | 15.2 | 19.1 | 19.9 | 20 |
| FC (%) | | | | | | | |
| Vehicle sales - Medium-duty - other (%) | 0.253 | 0.255 | 0.205 | 0.083 | 0.019 | 0.004 | 0 |

Table 6: E+ scenario - PILLAR 2: Clean Electricity - Generating capacity

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|-------|-------|-------|-------|-------|--------|--------|
| Capital invested - Biomass power plant | 0 | 0.008 | 0.35 | 0 | 0 | 0.019 | 0 |
| (billion \$2018) | | | | | | | |
| Capital invested - Biomass w/ccu allam | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| power plant (billion \$2018) | | | | | | | |
| Capital invested - Biomass w/ccu power | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| plant (billion \$2018) | | | | | | | |
| Capital invested - Offshore Wind - Base | 0 | 0.236 | 0.183 | 0.208 | 0.284 | 41.2 | 14.5 |
| (billion \$2018) | | | | | | | |
| Capital invested - Offshore Wind - | 0 | 0.236 | 0.231 | 0.226 | 0.132 | 34.2 | 20.6 |
| Constrained (billion \$2018) | | | | | | | |
| Capital invested - Solar PV - Base (billion | 0 | 1.39 | 1.17 | 0.71 | 0 | 0 | 0 |
| \$2018) | | | | | | | |
| Capital invested - Solar PV - Constrained | 0 | 3.68 | 0.736 | 0.911 | 0 | 0 | 0 |
| (billion \$2018) | | | | | | | |
| Capital invested - Wind - Constrained | 0 | 0 | 0 | 0.075 | 0.536 | 0 | 0 |
| (billion \$2018) | | | | | | | |
| Installed (cumulative) - OffshoreWind - | 0 | 83.2 | 159 | 261 | 425 | 28,362 | 39,330 |
| Base land use assumptions (MW) | | | | | | | |
| Installed (cumulative) - Rooftop PV (MW) | 1,929 | 2,892 | 3,843 | 5,079 | 6,573 | 8,274 | 10,225 |
| Installed (cumulative) - Solar - Base land | 772 | 1,809 | 2,789 | 3,433 | 3,433 | 3,433 | 3,433 |
| use assumptions (MW) | | | | | | | |
| Installed (cumulative) - Wind - Base land | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| use assumptions (MW) | | | | | | | |

Table 7: E+ scenario - PILLAR 2: Clean Electricity - Generation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---------------------------------------|------|------|------|------|------|------|------|
| Biomass power plant (GWh) | 0 | 14.6 | 701 | 701 | 701 | 741 | 741 |
| Biomass w/ccu allam power plant (GWh) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Biomass w/ccu power plant (GWh) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 7: E+ scenario - PILLAR 2: Clean Electricity - Generation (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|-------|-------|-------|------|---------|--------|
| OffshoreWind - Base land use | 0 | 355 | 322 | 441 | 705 | 123,317 | 50,720 |
| assumptions (GWh) | | | | | | | |
| OffshoreWind - Constrained land use | 0 | 355 | 322 | 441 | 705 | 123,317 | 50,720 |
| assumptions (GWh) | | | | | | | |
| Solar - Base land use assumptions (GWh) | 1,439 | 1,871 | 1,727 | 1,127 | 0 | 0 | 0 |
| Solar - Constrained land use assumptions | 77.8 | 1,461 | 920 | 571 | 0 | 0 | 0 |
| (GWh) | | | | | | | |
| Wind - Base land use assumptions (GWh) | 30.5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wind - Constrained land use assumptions | 30.5 | 0 | 0 | 124 | 784 | 0 | 0 |
| (GWh) | | | | | | | |

Table 8: E+ scenario - PILLAR 3: Clean fuels - Bioenergy

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Biomass purchases (million \$2018/year) | 0 | 1.81 | 65.2 | 66.1 | 66.2 | 67.3 | 67.3 |
| Conversion capital investment - | 0 | 8.36 | 390 | 27.3 | 2.77 | 22.9 | 0 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Number of facilities - Allam power w ccu | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (quantity) | | | | | | | |
| Number of facilities - Beccs hydrogen | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (quantity) | | | | | | | |
| Number of facilities - Diesel (quantity) | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| Number of facilities - Diesel ccu (quantity) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of facilities - Power (quantity) | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of facilities - Power ccu | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (quantity) | | | | | | | |
| Number of facilities - Pyrolysis (quantity) | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| Number of facilities - Pyrolysis ccu | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (quantity) | | | | | | | |
| Number of facilities - Sng (quantity) | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of facilities - Sng ccu (quantity) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 9: E+ scenario - PILLAR 4: CCUS - CO2 capture

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|------------------------------------|------|------|------|------|------|------|------|
| Annual - All (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Annual - BECCS (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Annual - Cement and lime (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Annual - NGCC (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative - All (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative - BECCS (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative - Cement and lime (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative - NGCC (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |

Table 10: E+ scenario - PILLAR 4: CCUS - CO2 pipelines

| Thomas | | | 0000 | 0005 | 0070 | 00/5 | 0050 |
|--|------|------|------|------|------|------|------|
| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| All (km) | | 0 | 107 | 142 | 142 | 142 | 142 |
| Cumulative investment - All (million | | 0 | 230 | 438 | 438 | 438 | 438 |
| \$2018) | | | | | | | |
| Cumulative investment - Spur (million | | 0 | 0 | 0 | 0 | 0 | 0 |
| \$2018) | | | | | | | |
| Cumulative investment - Trunk (million | | 0 | 230 | 438 | 438 | 438 | 438 |
| \$2018) | | | | | | | |
| Spur (km) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Trunk (km) | | 0 | 107 | 142 | 142 | 142 | 142 |

Table 11: E+ scenario - PILLAR 4: CCUS - CO2 storage

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| CO2 storage (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Injection wells (wells) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Resource characterization, appraisal, permitting costs (million \$2020) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells and facilities construction costs (million \$2020) | | 0 | 0 | 0 | 0 | 0 | 0 |

Table 12: E+ scenario - PILLAR 6: Land sinks - Agriculture

| Table 12: E+ Scenario - PILLAR 6: Land Sink | | | 0000 | 0005 | 0040 | 00/5 | 0050 |
|---|------|------|------|------|------|------|-------|
| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| Carbon sink potential - Aggressive | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 tC02e/y) | | | | | | | 0/1 |
| Carbon sink potential - Aggressive | | | | | | | -341 |
| deployment - Cropland measures (1000 | | | | | | | |
| tCO2e/y) | | | | | | | 0.00 |
| Carbon sink potential - Aggressive | | | | | | | -8.38 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | -349 |
| deployment - Total (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -178 |
| deployment - Cropland measures (1000 | | | | | | | |
| tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -4.19 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -182 |
| deployment - Total (1000 tCO2e/y) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 0 |
| Aggressive deployment - Corn-ethanol to | | | | | | | |
| energy grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 172 |
| Aggressive deployment - Cropland | | | | | | | |
| measures (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 15.2 |
| Aggressive deployment - Permanent | | | | | | | |
| conservation cover (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 188 |
| Aggressive deployment - Total (1000 | | | | | | | 100 |
| hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | U |
| grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 89.9 |
| deployment - Cropland measures (1000 | | | | | | | 07.7 |
| hectares) | | | | | | | |
| , | | | | | | | 7.62 |
| Land impacted for carbon sink - Moderate | | | | | | | 7.62 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 hectares) | | | | | | | 07/ |
| Land impacted for carbon sink - Moderate | | | | | | | 97.6 |
| deployment - Total (1000 hectares) | | | | | | | |

Table 13: E+ scenario - PILLAR 6: Land sinks - Forests

| Carbon sink potential High - Accelerate regeneration (1000 t002e/v) Carbon sink potential - High - All (not counting owerlap) (1000 t002e/v) -3,576 Carbon sink potential - High - Avoid deforestation (1000 t002e/v) Carbon sink potential - High - Avoid deforestation (1000 t002e/v) Carbon sink potential - High - Extend rotation length (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Reforest crepland (1000 t002e/v) Carbon sink potential - High - Reforest crepland (1000 t002e/v) Carbon sink potential - High - Reforest productivity (1000 t002e/v) Carbon sink potential - High - Restore productivity (1000 t002e/v) Carbon sink potential - Low - Accelerate regeneration (1000 t002e/v) Carbon sink potential - Low - Accelerate regeneration (1000 t002e/v) Carbon sink potential - Low - Accelerate regeneration (1000 t002e/v) Carbon sink potential - Low - Avoid deforestation (1000 t002e/v) Carbon sink potential - Low - Avoid deforestation (1000 t002e/v) Carbon sink potential - Low - Fixth (1000 topic - 1000 topi | Table 13: E+ scenario - PILLAR 6: Land sin | ks - Forests | | | | | | |
|--|--|--------------|------|------|------|------|------|--------|
| regeneration (1000 t002e/n) Carbon sink potential - High - All (not counting overlap) (1000 t002e/n) Carbon sink potential - High - All (not counting overlap) (1000 t002e/n) Carbon sink potential - High - All (not counting overlap) (1000 t002e/n) Carbon sink potential - High - Extend rotation length (1000 t002e/n) Carbon sink potential - High - Improve plantations (1000 t002e/n) Carbon sink potential - High - Improve plantations (1000 t002e/n) Carbon sink potential - High - Increase retention of HWP (1000 t002e/n) Carbon sink potential - High - Increase retention of HWP (1000 t002e/n) Carbon sink potential - High - Reforest coulside forests (1000 t002e/n) Carbon sink potential - High - Reforest coulside forests (1000 t002e/n) Carbon sink potential - High - Reforest pasture (1000 t002e/n) Carbon sink potential - High - Reforest productivity (1000 t002e/n) Carbon sink potential - High - Reforest productivity (1000 t002e/n) Carbon sink potential - Low - Accelerate regeneration (1000 t002e/n) Carbon sink potential - Low - Accelerate regeneration (1000 t002e/n) Carbon sink potential - Low - All finot counting overlap) (1000 t002e/n) Carbon sink potential - Low - All finot counting overlap) (1000 t002e/n) Carbon sink potential - Low - Fatend rotation length (1000 t002e/n) Carbon sink potential - Low - Fatend rotation length (1000 t002e/n) Carbon sink potential - Low - Improve plantations (1000 t002e/n) Carbon sink potential - Low - Increase retention of HWP (1000 t002e/n) Carbon sink potential - Low - Increase retention of HWP (1000 t002e/n) Carbon sink potential - Low - Reforest pasture (1000 t002e/n) Carbon sink potential - Low - Reforest pasture (1000 t002e/n) Carbon sink potential - Low - Reforest productivity (1000 t002e/n) Carbon sink potential - High - All finot productivity (1000 t002e/n) Carbon sink potential - High - Reforest pasture (1000 t0002e/n) Carbon sink potential - High - Febreat potential - High - Febreat productivity (1000 t002e/n) Carbon sink potential - High - Febreat potential - High - Febreat | Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| Carbon sink potential - High - All (not counting overlap) (1000 t020z/y) Carbon sink potential - High - Avoid deforestation (1000 t020z/y) Carbon sink potential - High - Extend rotation length (1000 t020z/y) Carbon sink potential - High - Extend rotation length (1000 t020z/y) Carbon sink potential - High - Improve plantations (1000 t020z/y) Carbon sink potential - High - Improve plantations (1000 t020z/y) Carbon sink potential - High - Improve plantations (1000 t020z/y) Carbon sink potential - High - Improve plantations (1000 t020z/y) Carbon sink potential - High - Improve plantations (1000 t020z/y) Carbon sink potential - High - Improve plantations (1000 t020z/y) Carbon sink potential - High - Reforest properties of the post potential - High - Reforest properties (1000 t020z/y) Carbon sink potential - High - Reforest productivity (1000 t020z/y) Carbon sink potential - High - Reforest productivity (1000 t020z/y) Carbon sink potential - Low - Accelerate representation (1000 t020z/y) Carbon sink potential - Low - Accelerate representation (1000 t020z/y) Carbon sink potential - Low - Accelerate representation (1000 t020z/y) Carbon sink potential - Low - Accelerate representation (1000 t020z/y) Carbon sink potential - Low - Accelerate representation (1000 t020z/y) Carbon sink potential - Low - Accelerate representation (1000 t020z/y) Carbon sink potential - Low - Extend contains (1000 t020z/y) Carbon sink potential - Low - Extend contains (1000 t020z/y) Carbon sink potential - Low - Extend contains (1000 t020z/y) Carbon sink potential - Low - Extend contains (1000 t020z/y) Carbon sink potential - Low - Extend contains (1000 t020z/y) Carbon sink potential - Low - Extend contains (1000 t020z/y) Carbon sink potential - Low - Reforest contains (1000 t020z/y) Carbon sink potential - Low - Reforest contains (1000 t020z/y) Carbon sink potential - Mid - Accelerate repenentation (1000 t020z/y) Carbon sink potential - Mid - Reforest contains (1000 t002z/y) Carbon si | Carbon sink potential - High - Accelerate | | | | | | | -68.4 |
| Carbon sink potential - High - Retorest Carbon sink potential - High - Impress Carbon sink potential - High - Retorest Carbon sink potential - Low - Accelerate Carbon sink potential - Low - Accelerate Carbon sink potential - Low - Audit Carbon sink potential - Low - Extend Carbon sink potential - Low - Extend Carbon sink potential - Low - Extend Carbon sink potential - Low - Improve Carbon sink potential - Low - Retorest | regeneration (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Restore Carbon sink potential - High - Increase Carbon sink potential - High - Reforest Carbon sink potential - High - Restore Carbon sink potential - High - Restore Carbon sink potential - High - Restore Carbon sink potential - Low - Accelerate regeneration (1000 tCO2e/v) Carbon sink potential - Low - Accelerate Carbon sink potential - Low - Auli (Inct counting overlap) (1000 tCO2e/v) Carbon sink potential - Low - Auli (Inct counting overlap) (1000 tCO2e/v) Carbon sink potential - Low - Auli (Inct counting overlap) (1000 tCO2e/v) Carbon sink potential - Low - Extend Carbon sink potential - Low - Extend Carbon sink potential - Low - Fixtend Carbon sink potential - | Carbon sink potential - High - All (not | | | | | | | -3,576 |
| Carbon sink potential + High - Avoid deforsestation (1000 t002e/v) Carbon sink potential + High - Extend rotation length (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Improve plantations (1000 t002e/v) Carbon sink potential - High - Reforest productively (1000 t002e/v) Carbon sink potential - High - Reforest productively (1000 t002e/v) Carbon sink potential - High - Reforest productively (1000 t002e/v) Carbon sink potential - High - Restore productively (1000 t002e/v) Carbon sink potential - Low - Accelerate regeneration (1000 t002e/v) Carbon sink potential - Low - Accelerate regeneration (1000 t002e/v) Carbon sink potential - Low - Accelerate regeneration (1000 t002e/v) Carbon sink potential - Low - Avoid deforestation (1000 t002e/v) Carbon sink potential - Low - Avoid deforestation (1000 t002e/v) Carbon sink potential - Low - Avoid deforestation (1000 t002e/v) Carbon sink potential - Low - Avoid deforestation (1000 t002e/v) Carbon sink potential - Low - Extend rotation length (1000 t002e/v) Carbon sink potential - Low - Extend rotation length (1000 t002e/v) Carbon sink potential - Low - Extend rotation length (1000 t002e/v) Carbon sink potential - Low - February Carbon sink potential - Low - Improve Carbon sink potential - Low - Improve Carbon sink potential - Low - February Carbon sink potential - Mid- Accelerate regeneration (1000 t002e/v) Carbon sink potential - Mid Reforest Carbon sink potential - Mid Reforest Carbo | | | | | | | | • |
| deforestation 1000 CCO2e/v Carbon sink potential - High - Extend 9-69 rotation length 1000 t CO2e/w - 6.74 | | | | | | | | -1 305 |
| Carbon sink potential - High - Extend | | | | | | | | 1,000 |
| rotation length [1000 tC02e/v] Carbon sink potential - High - Improve plantations [1000 tC02e/v] Carbon sink potential - High - Increase retention of HWP [1000 tC02e/v] Carbon sink potential - High - Increase tree outside forests [1000 tC02e/v] Carbon sink potential - High - Reforest cropland [1000 tC02e/v] Carbon sink potential - High - Reforest cropland [1000 tC02e/v] Carbon sink potential - High - Reforest pasture [1000 tC02e/v] Carbon sink potential - High - Restore productivity [1000 tC02e/v] Carbon sink potential - Low - Accelerate respensive productivity [1000 tC02e/v] Carbon sink potential - Low - All [not coordinate productivity [1000 tC02e/v] Carbon sink potential - Low - Avoid deforestation [1000 tC02e/v] Carbon sink potential - Low - Avoid deforestation [1000 tC02e/v] Carbon sink potential - Low - Avoid deforestation [1000 tC02e/v] Carbon sink potential - Low - Extend rotation length [1000 tC02e/v] Carbon sink potential - Low - Improve plantations [1000 tC02e/v] Carbon sink potential - Low - Improve plantations [1000 tC02e/v] Carbon sink potential - Low - Improve plantations [1000 tC02e/v] Carbon sink potential - Low - Improve plantations [1000 tC02e/v] Carbon sink potential - Low - Improve plantations [1000 tC02e/v] Carbon sink potential - Low - Reforest posture plantations [1000 tC02e/v] Carbon sink potential - Low - Reforest posture [1000 tc02e/v] Carbon sink potential - Low - Reforest posture [1000 tc02e/v] Carbon sink potential - Low - Reforest posture [1000 tc02e/v] Carbon sink potential - Low - Reforest posture [1000 tc02e/v] Carbon sink potential - Iow - Reforest posture [1000 tc02e/v] Carbon sink potential - Iow - Reforest posture [1000 tc02e/v] Carbon sink potential - Iow - Reforest posture [1000 tc02e/v] Carbon sink potential - Iow - Reforest posture [1000 tc02e/v] Carbon sink potential - Iow - Reforest posture [1000 tc02e/v] Carbon sink potential - Iow - Reforest posture [1000 tc02e/v] Carbon sink potential - Iow - Reforest posture [1000 tc02e/v] Carbon sink potential - Iow - Reforest po | 7 | | | | | | | 040 |
| Carbon sink potential - High - Improve plantations (1000 L002e/v) Carbon sink potential - High - Increase retention of HWP (1000 L002e/v) Carbon sink potential - High - Increase treater of the HWP (1000 L002e/v) Carbon sink potential - High - Reforest cropland (1000 L002e/v) Carbon sink potential - High - Reforest cropland (1000 L002e/v) Carbon sink potential - High - Reforest cropland (1000 L002e/v) Carbon sink potential - High - Reforest cropland (1000 L002e/v) Carbon sink potential - High - Restore productivity (1000 L002e/v) Carbon sink potential - Low - Accelerate regeneration (1000 L002e/v) Carbon sink potential - Low - Accelerate regeneration (1000 L002e/v) Carbon sink potential - Low - Alf (10t carbon sink potential - Low - Alf (10t carbon sink potential - Low - Low - Alf (10t carbon sink potential - Low - Low - Alf (10t carbon sink potential - Low - Low - Alf (10t carbon sink potential - Low - Low - Alf (10t carbon sink potential - Low - Low - Low - Alf (10t carbon sink potential - Low - Increase treation of HWP (1000 L002e/v) Carbon sink potential - Low - Increase treation of HWP (1000 L002e/v) Carbon sink potential - Low - Increase trees outside forests (1000 L002e/v) Carbon sink potential - Low - Increase trees outside forests (1000 L002e/v) Carbon sink potential - Low - Reforest carbon sink potential - Mid - Accelerate regeneration (1000 L002e/v) Carbon sink potential - Mid - Reforest carbon s | | | | | | | | -909 |
| plantations (1000 t002e/v) | • | | | | | | | |
| 172 Carbon sink potential - High - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - High - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - High - Reforest corpland (1000 tC02e/y) Carbon sink potential - High - Reforest corpland (1000 tC02e/y) Carbon sink potential - High - Reforest productivity (1000 tC02e/y) Carbon sink potential - High - Reforest productivity (1000 tC02e/y) Carbon sink potential - Low - Accelerate productivity (1000 tC02e/y) Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Low - Extend rotation length (1000 tC02e/y) Carbon sink potential - Low - Extend rotation length (1000 tC02e/y) Carbon sink potential - Low - Extend rotation length (1000 tC02e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Low - Reforest received reverse outside forests (1000 tC02e/y) Carbon sink potential - Low - Reforest received reverse outside forests (1000 tC02e/y) Carbon sink potential - Low - Reforest received repland (1000 tC02e/y) Carbon sink potential - Low - Reforest received repland (1000 tC02e/y) Carbon sink potential - Low - Reforest received repland (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Reforest received rec | | | | | | | | -6.74 |
| retention of HWP (1000 tC02e/v) Carbon sink potential - High - Reforest cropland (1000 tC02e/v) Carbon sink potential - High - Reforest cropland (1000 tC02e/v) Carbon sink potential - High - Reforest cropland (1000 tC02e/v) Carbon sink potential - High - Reforest productivity (1000 tC02e/v) Carbon sink potential - High - Reforest productivity (1000 tC02e/v) Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Low - All (not counting overlap) (1000 tC02e/v) Carbon sink potential - Low - All (not counting overlap) (1000 tC02e/v) Carbon sink potential - Low - Awold deforestation (1000 tC02e/v) Carbon sink potential - Low - Extend rotation length (1000 tC02e/v) Carbon sink potential - Low - Factor rotation length (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Reforest reso outside forests (1000 tC02e/v) Carbon sink potential - Low - Reforest reso outside forests (1000 tC02e/v) Carbon sink potential - Low - Reforest repland (1000 tC02e/v) Carbon sink potential - Low - Reforest ropland (1000 tC02e/v) Carbon sink potential - Low - Reforest ropland (1000 tC02e/v) Carbon sink potential - Low - Reforest regeneration (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Audin deforestation of the Potential - Mid - Audin deforestation (1000 tC02e/v) Carbon sink potential - Mid - Retend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Retend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Retend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Retend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Retend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Retend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Retend rotation length (1000 tC02e/v) C | | | | | | | | |
| Carbon sink potential - High - Reforest Carbon sink potential - Low - Accelerate Carbon sink potential - Low - Accelerate Carbon sink potential - Low - Accelerate Carbon sink potential - Low - All (not corporate) Carbon sink potential - Low - All (not corporate) Carbon sink potential - Low - All (not corporate) Carbon sink potential - Low - Avoid Carbon sink potential - Low - Avoid Carbon sink potential - Low - Avoid Carbon sink potential - Low - Extend Carbon sink potential - Low - Extend Carbon sink potential - Low - Improve Carbon sink potential - Low - Increase Carbon sink potential - Low - Reforest Carbon sink potential - Mid - Audid Carbon sink potential - Mid - Reforest Car | | | | | | | | -172 |
| trees outside forests (1000 tC02e/v) Carbon sink potential - High - Reforest cropland (1000 tC02e/v) Carbon sink potential - High - Reforest productivity (1000 tC02e/v) Carbon sink potential - High - Restore productivity (1000 tC02e/v) Carbon sink potential - Low - Restore productivity (1000 tC02e/v) Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Low - Aucilerate regeneration (1000 tC02e/v) Carbon sink potential - Low - Aucilerate regeneration (1000 tC02e/v) Carbon sink potential - Low - Aucilerate deforestation (1000 tC02e/v) Carbon sink potential - Low - Aucilerate rotation length (1000 tC02e/v) Carbon sink potential - Low - Extend rotation length (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Reforest reso soutside forests (1000 tC02e/v) Carbon sink potential - Low - Reforest reconstate forests (1000 tC02e/v) Carbon sink potential - Low - Reforest repland (1000 tC02e/v) Carbon sink potential - Low - Reforest repland (1000 tC02e/v) Carbon sink potential - Low - Reforest repland (1000 tC02e/v) Carbon sink potential - Low - Reforest repland (1000 tC02e/v) Carbon sink potential - Low - Reforest regeneration (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Aucilerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Aucilerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Aucilerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Reforest rotation length (1000 tC02e/v) Carbon sink potential - Mid - Reforest reso totation for the WP (1000 tC02e/v) Carbon sink potential - Mid - Reforest rotation length (1000 tC02e/v) Carbon sink potential - Mid - Reforest rotation length (1000 tC02e/v) Carbon sink potential - Mid - Reforest reso totation forest (1000 tC02e/v) Carbon sink potential - Mid - Reforest reso totation forest (1000 tC02e/v) Carbon | | | | | | | | |
| Carbon sink potential - High - Reforest cropland (1000 tCO2e/v) Carbon sink potential - High - Reforest productivity (1000 tCO2e/v) | Carbon sink potential - High - Increase | | | | | | | -269 |
| Carbon sink potential - High - Reforest Garbon sink potential - High - Restore Garbon sink potential - High - Restore Garbon sink potential - High - Restore Garbon sink potential - Low - Accelerate regeneration (1000 t022e/y) Garbon sink potential - Low - Accelerate regeneration (1000 t022e/y) Garbon sink potential - Low - All (not counting overlap) (1000 t022e/y) Garbon sink potential - Low - All (not counting overlap) (1000 t022e/y) Garbon sink potential - Low - All (not counting overlap) (1000 t022e/y) Garbon sink potential - Low - Extend Garbon sink potential - Low - Extend Garbon sink potential - Low - Improve Garbon sink potential - Low - Increase retention of HWP (1000 t022e/y) Garbon sink potential - Low - Reforest Garbon sink potential - Nid - Accelerate Garbon sink potential - Nid - Reforest Gar | trees outside forests (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Reforest pasture (1000 tCO2e/v) Carbon sink potential - High - Restore productivity (1000 tCO2e/v) | Carbon sink potential - High - Reforest | | | | | | | 0 |
| Carbon sink potential - High - Reforest pasture (1000 tC02e/y) Carbon sink potential - High - Restore productivity (1000 tC02e/y) Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Low - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Low - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Low - Extend rotation length (1000 tC02e/y) Carbon sink potential - Low - Extend rotation length (1000 tC02e/y) Carbon sink potential - Low - Improve plantations (1000 tC02e/y) Carbon sink potential - Low - Improve plantations (1000 tC02e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) Carbon sink potential - Low - Reforest productivity (1000 tC02e/y) Carbon sink potential - Low - Restore productivity (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Reforest recent time of HWP (1000 tC02e/y) Carbon sink potential - Mid - Reforest recent time of HWP (1000 tC02e/y) Carbon sink potential - Mid - Reforest recent time of HWP (1000 tC02e/y) Carbon sink potential - Mid - Reforest recent time forest potential - Mid - Reforest recent | | | | | | | | |
| pasture (1000 tcO2e/y) Carbon sink potential - High - Restore -478 productivity (1000 tcO2e/y) Carbon sink potential - Low - Accelerate -34,3 regeneration (1000 tcO2e/y) Carbon sink potential - Low - All (not counting overlap) (1000 tcO2e/y) Carbon sink potential - Low - All (not counting overlap) (1000 tcO2e/y) Carbon sink potential - Low - Avoid -218 deforestation (1000 tcO2e/y) Carbon sink potential - Low - Extend -372 rotation length (1000 tcO2e/y) -3,43 pasture (1000 tcO2e/y) -3,43 pasture (1000 tcO2e/y) -3,43 pasture (1000 tcO2e/y) -57,4 retend (10 | | | | | | | | -308 |
| Carbon sink potential - High - Restore productivity (1000 tC02e/v) Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Low - All (not counting overlap) (1000 tC02e/v) Carbon sink potential - Low - All (not counting overlap) (1000 tC02e/v) Carbon sink potential - Low - Avoid deforestation (1000 tC02e/v) Carbon sink potential - Low - Extend rotation length (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Restore production sink potential - Low - Restores trees outside forests (1000 tC02e/v) Carbon sink potential - Low - Restores trees outside forests (1000 tC02e/v) Carbon sink potential - Low - Restores trees outside forests (1000 tC02e/v) Carbon sink potential - Low - Restores trees outside forests (1000 tC02e/v) Carbon sink potential - Low - Restores trees outside forests (1000 tC02e/v) Carbon sink potential - Low - Restore productivity (1000 tC02e/v) Carbon sink potential - Low - Restore productivity (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/v) Carbon sink potential - Mid - Limprove -5.02 Carbon sink potential - Mid - Improve -5.02 Carbon sink potential - Mid - Increase -115 Carbon sink potential - Mid - Restore -161 Carbon sink potential - Mid - Restore -162 Carbon sink potential - Mid - Restore -163 Carbon sink potential - Mid - Restore -165 Carbo | · | | | | | | | 000 |
| productivity (1000 t002e/v) Carbon sink potential - Low - Accelerate regeneration (1000 tc02e/v) Carbon sink potential - Low - All (not counting overlap) (1000 tc02e/v) Carbon sink potential - Low - All (not counting overlap) (1000 tc02e/v) Carbon sink potential - Low - Avoid deforestation (1000 tc02e/v) Carbon sink potential - Low - Extend rotation length (1000 tc02e/v) Carbon sink potential - Low - Improve plantations (1000 tc02e/v) Carbon sink potential - Low - Improve plantations (1000 tc02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tc02e/v) Carbon sink potential - Low - Increase reso outside forests (1000 tc02e/v) Carbon sink potential - Low - Increase reso outside forests (1000 tc02e/v) Carbon sink potential - Low - Reforest cropland (1000 tc02e/v) Carbon sink potential - Low - Reforest pasture (1000 tc02e/v) Carbon sink potential - Low - Reforest pasture (1000 tc02e/v) Carbon sink potential - Low - Restore productivity (1000 tc02e/v) Carbon sink potential - Low - Restore productivity (1000 tc02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tc02e/v) Carbon sink potential - Mid - Accelerate -51.4 Carbon sink potential - Mid - Increase -50.2 Car | | | | | | | | _/,70 |
| Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Low - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Low - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Low - Extend rotation length (1000 tC02e/y) Carbon sink potential - Low - Extend rotation length (1000 tC02e/y) Carbon sink potential - Low - Improve plantations (1000 tC02e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) Carbon sink potential - Low - Reforest propagation (1000 tC02e/y) Carbon sink potential - Low - Reforest propagation (1000 tC02e/y) Carbon sink potential - Low - Reforest productivity (1000 tC02e/y) Carbon sink potential - Low - Reforest productivity (1000 tC02e/y) Carbon sink potential - Hid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate retential - Mid - Accelerate retentia | | | | | | | | -410 |
| Pregeneration (1000 CO2e/y) Carbon sink potential - Low - Ali (not counting overlap) (1000 CO2e/y) Carbon sink potential - Low - Avoid deforestation (1000 CO2e/y) Carbon sink potential - Low - Extend rotation length (1000 CO2e/y) Carbon sink potential - Low - Extend rotation length (1000 CO2e/y) Carbon sink potential - Low - Improve plantations (1000 tCO2e/y) Carbon sink potential - Low - Improve plantations (1000 tCO2e/y) Carbon sink potential - Low - Increase retentino of HWP (1000 CCO2e/y) Carbon sink potential - Low - Increase trestention of HWP (1000 tCO2e/y) Carbon sink potential - Low - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Low - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Low - Reforest productivity (1000 tCO2e/y) Carbon sink potential - Low - Restore productivity (1000 tCO2e/y) Carbon sink potential - Low - Restore productivity (1000 tCO2e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tCO2e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Reforest reconsist potential - Mid - Reforest - Reforest reconsist potential - Mid - Reforest | | | | | | | | 0/ 0 |
| Carbon sink potential - Low - All (not counting overlap) (1000 tCO2e/y) Carbon sink potential - Low - Avoid deforestation (1000 tCO2e/y) Carbon sink potential - Low - Extend rotation length (1000 tCO2e/y) Carbon sink potential - Low - Extend rotation length (1000 tCO2e/y) Carbon sink potential - Low - Improve plantations (1000 tCO2e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Low - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Low - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Low - Reforest Carbon sink potential - Mid - Accelerate regeneration (1000 tCO2e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tCO2e/y) Carbon sink potential - Mid - Avoid Carbon sink potential - Mid - Aroid Carbon sink potential - Mid - Improve Carbon sink potential - Mid - Improve Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase Carbon sink potential - Mid - Increase Carbon sink potential - Mid - Increase Carbon sink potential - Mid - Reforest Carbon sink poten | | | | | | | | -34.3 |
| Carbon sink potential - Low - Avoid deforestation (1000 tCO2e/y) Carbon sink potential - Low - Extend - 372 | | | | | | | | |
| Carbon sink potential - Low - Avoid deforestation (1000 tCO2e/y) Carbon sink potential - Low - Extend rotation length (1000 tCO2e/y) Carbon sink potential - Low - Improve plantations (1000 tCO2e/y) Carbon sink potential - Low - Improve plantations (1000 tCO2e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Low - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Low - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Low - Reforest Carbon sink potential - Low - Restore productivity (1000 tCO2e/y) Carbon sink potential - Low - Restore productivity (1000 tCO2e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tCO2e/y) Carbon sink potential - Mid - All (Inot counting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - All (Inot counting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tCO2e/y) Carbon sink potential - Mid - Avoid -761 Carbon sink potential - Mid - Settend rotation length (1000 tCO2e/y) Carbon sink potential - Mid - Improve plantations (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Mid - Reforest reconstinal - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential | | | | | | | | -963 |
| deforestation (1000 tCO2e/y) Carbon sink potential - Low - Extend rotation length (1000 tCO2e/y) Carbon sink potential - Low - Improve plantations (1000 tCO2e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Low - Reforest trees outside forests (1000 tCO2e/y) Carbon sink potential - Low - Reforest rocal sink potential - Low - Restore productivity (1000 tCO2e/y) Carbon sink potential - Low - Restore productivity (1000 tCO2e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tCO2e/y) Carbon sink potential - Mid - All (not conting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - All (not conting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - Avoid reforestation (1000 tCO2e/y) Carbon sink potential - Mid - Extend rotation length (1000 tCO2e/y) Carbon sink potential - Mid - Improve retential - Mid - Improve retential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Reforest reconstituted forests (1000 tCO2e/y) Carbon sink potential - Mid - Reforest reconstitute - | | | | | | | | |
| Carbon sink potential - Low - Extend -372 | Carbon sink potential - Low - Avoid | | | | | | | -218 |
| Protation length (1000 tC02e/v) Carbon sink potential - Low - Improve plantations (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase trees outside forests (1000 tC02e/v) Carbon sink potential - Low - Reforest cropland (1000 tC02e/v) Carbon sink potential - Low - Reforest productivity (1000 tC02e/v) Carbon sink potential - Low - Reforest productivity (1000 tC02e/v) Carbon sink potential - Low - Restore productivity (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/v) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/v) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Improve plantations (1000 tC02e/v) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Mid - Reforest porpland (1000 tC02e/v) Carbon sink potential - Mid - Reforest porpland (1000 tC02e/v) Carbon sink potential - Mid - Reforest porpland (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Restores Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Restores Carbon sink potential - Mid - Restores Carbon sink potential - Mid - Re | deforestation (1000 tCO2e/y) | | | | | | | |
| Protation length (1000 tC02e/v) Carbon sink potential - Low - Improve plantations (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase trees outside forests (1000 tC02e/v) Carbon sink potential - Low - Reforest cropland (1000 tC02e/v) Carbon sink potential - Low - Reforest productivity (1000 tC02e/v) Carbon sink potential - Low - Reforest productivity (1000 tC02e/v) Carbon sink potential - Low - Restore productivity (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/v) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/v) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Improve plantations (1000 tC02e/v) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Mid - Reforest porpland (1000 tC02e/v) Carbon sink potential - Mid - Reforest porpland (1000 tC02e/v) Carbon sink potential - Mid - Reforest porpland (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Restores Carbon sink potential - Mid - Reforest pospature (1000 tC02e/v) Carbon sink potential - Mid - Restores Carbon sink potential - Mid - Restores Carbon sink potential - Mid - Re | Carbon sink potential - Low - Extend | | | | | | | -372 |
| Carbon sink potential - Low - Improve plantations (1000 tC02e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/y) -574. | • | | | | | | | |
| Plantations (1000 tC02e/y) Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Low - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) Carbon sink potential - Low - Reforest pasture (1000 tC02e/y) Carbon sink potential - Low - Restore productivity (1000 tC02e/y) Carbon sink potential - Low - Restore productivity (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest position of the Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mi | | | | | | | | -3 43 |
| Carbon sink potential - Low - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Low - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Low - Reforest 0 cropland (1000 tCO2e/y) Carbon sink potential - Low - Reforest 0 carbon sink potential - Low - Reforest 23.3 pasture (1000 tCO2e/y) 23.3 pasture (1000 tCO2e/y) 24.5 pasture (1000 tCO2e/y) 25.6 pasture (1000 tCO2e/y) | · | | | | | | | 0.40 |
| retention of HWP (1000 tC02e/v) Carbon sink potential - Low - Increase trees outside forests (1000 tC02e/v) Carbon sink potential - Low - Reforest cropland (1000 tC02e/v) Carbon sink potential - Low - Reforest cropland (1000 tC02e/v) Carbon sink potential - Low - Reforest pasture (1000 tC02e/v) Carbon sink potential - Low - Restore productivity (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/v) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/v) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/v) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/v) Carbon sink potential - Mid - Improve plantations (1000 tC02e/v) Carbon sink potential - Mid - Improve plantations (1000 tC02e/v) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/v) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/v) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/v) Carbon sink potential - Mid - Reforest 0 carbon s | | | | | | | | E7 /. |
| Carbon sink potential - Low - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) Carbon sink potential - Low - Reforest productivity (1000 tC02e/y) Carbon sink potential - Low - Restore productivity (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Setend counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Extend counting in the potential - Mid - Extend counting in the potential - Mid - Extend counting (1000 tC02e/y) Carbon sink potential - Mid - Increase plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) | | | | | | | | -57.4 |
| trees outside forests (1000 tC02e/y) Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) Carbon sink potential - Low - Reforest pasture (1000 tC02e/y) Carbon sink potential - Low - Reforest pasture (1000 tC02e/y) Carbon sink potential - Low - Restore productivity (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - Aurold deforestation (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore | | | | | | | | 0/1 |
| Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) Carbon sink potential - Low - Reforest pasture (1000 tC02e/y) | | | | | | | | -94.1 |
| Carbon sink potential - Low - Reforest -23.3 | | | | | | | | |
| Carbon sink potential - Low - Reforest pasture (1000 tC02e/y) | | | | | | | | 0 |
| Dasture (1000 tC02e/y) Carbon sink potential - Low - Restore productivity (1000 tC02e/y) Darbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Reforest Carbon sink potential - Mid - Restore Carb | | | | | | | | |
| Carbon sink potential - Low - Restore productivity (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) | Carbon sink potential - Low - Reforest | | | | | | | -23.3 |
| Carbon sink potential - Low - Restore productivity (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) | pasture (1000 tCO2e/y) | | | | | | | |
| productivity (1000 tC02e/y) Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | -161 |
| Carbon sink potential - Mid - Accelerate regeneration (1000 tC02e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | |
| regeneration (1000 tCO2e/y) Carbon sink potential - Mid - All (not counting overlap) (1000 tCO2e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tCO2e/y) Carbon sink potential - Mid - Extend rotation length (1000 tCO2e/y) Carbon sink potential - Mid - Improve plantations (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | -51 4 |
| Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase resolution of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | 01.4 |
| counting overlap) (1000 tC02e/y) Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | • ,,, | | | | | | | 0.070 |
| Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -181 -181 -185 -185 -185 -187 -187 -187 -187 -187 -188 -189 | | | | | | | | -2,269 |
| deforestation (1000 tC02e/y) Carbon sink potential - Mid - Extend rotation length (1000 tC02e/y) Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -165 pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore | | | | | | | | |
| Carbon sink potential - Mid - Extend rotation length (1000 tCO2e/y) Carbon sink potential - Mid - Improve plantations (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Restore | • | | | | | | | -761 |
| rotation length (1000 tCO2e/y) Carbon sink potential - Mid - Improve plantations (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | |
| Carbon sink potential - Mid - Improve plantations (1000 tC02e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | • | | | | | | | -671 |
| plantations (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Restore - 319 | rotation length (1000 tCO2e/y) | | | | | | | |
| plantations (1000 tCO2e/y) Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Restore - 319 | Carbon sink potential - Mid - Improve | | | | | | | -5.02 |
| Carbon sink potential - Mid - Increase retention of HWP (1000 tC02e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | plantations (1000 tCO2e/v) | | | | | | | |
| retention of HWP (1000 tCO2e/y) Carbon sink potential - Mid - Increase trees outside forests (1000 tCO2e/y) Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | -115 |
| Carbon sink potential - Mid - Increase trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore | | | | | | | | 110 |
| trees outside forests (1000 tC02e/y) Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | 101 |
| Carbon sink potential - Mid - Reforest cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | -101 |
| cropland (1000 tC02e/y) Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | |
| Carbon sink potential - Mid - Reforest pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -165 | • | | | | | | | 0 |
| pasture (1000 tC02e/y) Carbon sink potential - Mid - Restore -319 | | | | | | | | |
| Carbon sink potential - Mid - Restore | Carbon sink potential - Mid - Reforest | | | | | | | -165 |
| Carbon sink potential - Mid - Restore | | | | | | | | |
| | | | | | | | | -319 |
| | | | | | | | | |
| | productivity (1000 tCO2e/y) | | | | | | | |

Table 13: E+ scenario - PILLAR 6: Land sinks - Forests (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|-----------|
| Land impacted for carbon sink potential - | | | | | | | 11.2 |
| High - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 177 |
| High - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 494 |
| High - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 2.48 |
| High - Improve plantations (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| High - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 25.5 |
| High - Increase trees outside forests | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| High - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 8.74 |
| High - Reforest pasture (1000 hectares) | | | | | | | . |
| Land impacted for carbon sink potential - | | + | | | | | 158 |
| High - Restore productivity (1000 | | | | | | | 100 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | + | | | | | 877 |
| High - Total impacted (over 30 years) | | | | | | | 011 |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | + | | | | | 5.6 |
| Low - Accelerate regeneration (1000 | | | | | | | 5.0 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 166 |
| Low - Avoid deforestation (over 30 years) | | | | | | | 100 |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 189 |
| Low - Extend rotation length (1000 | | | | | | | 107 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.24 |
| | | | | | | | 1.24 |
| Low - Improve plantations (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | 10 / |
| Land impacted for carbon sink potential - | | | | | | | 13.4 |
| Low - Increase trees outside forests | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Reforest cropland (1000 hectares) | | | | | | | 4 =4 |
| Land impacted for carbon sink potential - | | | | | | | 1.51 |
| Low - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 95.8 |
| Low - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 473 |
| Low - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | T | | | | | 8.4 |
| Mid - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |

| | | | | _ | |
|--------------|--------------|--------------------------|----------------|-----------|-------------|
| Table 13. Ex | ccanario - | DIII $\Lambda D A \cdot$ | Land sinks - | Enracte | lcontinuedl |
| Table 15. LT | occiiui iu - | FILLAN U. | Luiiu siiiks - | ו טו בטנט | lcontinucui |

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Land impacted for carbon sink potential - | | | | | | | 171 |
| Mid - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 342 |
| Mid - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.87 |
| Mid - Improve plantations (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 19.5 |
| Mid - Increase trees outside forests (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 11 |
| Mid - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 193 |
| Mid - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 747 |
| Mid - Total impacted (over 30 years) (1000 | | | | | | | |
| hectares) | | | | | | | |

Table 14: E+ scenario - IMPACTS - Fossil fuel industries

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|--------|
| Natural gas consumption - Annual (tcf) | | 596 | 503 | 403 | 303 | 191 | 132 |
| Natural gas consumption - Cumulative | | 0 | 0 | 0 | 0 | 0 | 12,141 |
| (tcf) | | | | | | | |
| Natural gas production - Annual (tcf) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Oil consumption - Annual (million bbls) | | 160 | 138 | 108 | 79.4 | 57.2 | 35.6 |
| Oil consumption - Cumulative (million | | 0 | 0 | 0 | 0 | 0 | 3,314 |
| bbls) | | | | | | | |
| Oil production - Annual (million bbls) | | 0 | 0 | 0 | 0 | 0 | 0 |

Table 15: E+ scenario - IMPACTS - Health

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|-------|-------|-------|-------|-------|-------|
| Monetary damages from air pollution - Coal (million 2019\$) | | 975 | 0.677 | 0.673 | 0.627 | 0.41 | 0.028 |
| Monetary damages from air pollution - Natural Gas (million 2019\$) | | 721 | 538 | 367 | 359 | 245 | 100 |
| Monetary damages from air pollution - Transportation (million 2019\$) | | 3,928 | 3,747 | 2,908 | 1,717 | 789 | 300 |
| Premature deaths from air pollution - Coal (deaths) | | 110 | 0.076 | 0.076 | 0.071 | 0.046 | 0.003 |
| Premature deaths from air pollution - Natural Gas (deaths) | | 81.4 | 60.8 | 41.4 | 40.6 | 27.6 | 11.3 |
| Premature deaths from air pollution - Transportation (deaths) | | 442 | 421 | 327 | 193 | 88.7 | 33.7 |

Table 16: E+ scenario - IMPACTS - Jobs

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|--------|--------|--------|--------|--------|--------|
| By economic sector - Agriculture (jobs) | | 81.7 | 243 | 271 | 229 | 187 | 151 |
| By economic sector - Construction (jobs) | | 11,359 | 11,076 | 13,094 | 13,576 | 32,022 | 34,571 |
| By economic sector - Manufacturing | | 13,162 | 24,229 | 24,490 | 19,330 | 24,937 | 19,631 |
| (jobs) | | | | | | | |
| By economic sector - Mining (jobs) | | 3,110 | 2,210 | 1,447 | 893 | 518 | 276 |

Table 16: E+ scenario - IMPACTS - Jobs (continued)

| Table 16: E+ Scending - IMPACTS - Jubs (CC | - | | | | | | |
|--|------|--------|---------|---------|--------|---------|--------|
| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| By economic sector - Other (jobs) | | 1,388 | 1,462 | 1,835 | 2,076 | 3,898 | 5,731 |
| By economic sector - Pipeline (jobs) | | 749 | 664 | 527 | 373 | 246 | 163 |
| By economic sector - Professional (jobs) | | 4,624 | 4,637 | 5,486 | 5,831 | 16,754 | 20,653 |
| By economic sector - Trade (jobs) | | 3,826 | 3,528 | 3,815 | 3,934 | 9,786 | 12,578 |
| By economic sector - Utilities (jobs) | | 9,854 | 9,936 | 12,948 | 13,999 | 35,997 | 31,142 |
| By education level - All sectors - | | 15,146 | 18,317 | 20,396 | 19,406 | 40,441 | 40,573 |
| Associates degree or some college (jobs) By education level - All sectors - | | 9,888 | 11,721 | 12,678 | 11,817 | 24,557 | 25,102 |
| Bachelors degree (jobs) | | 9,000 | 11,721 | 12,010 | 11,017 | 24,551 | 25,102 |
| By education level - All sectors - Doctoral | | 296 | 308 | 337 | 331 | 799 | 931 |
| degree (jobs) | | 270 | 300 | 331 | 331 | 177 | 731 |
| By education level - All sectors - High | | 20,577 | 25,102 | 27,709 | 26,009 | 52,564 | 51,966 |
| school diploma or less (jobs) | | 20,011 | 20,102 | 21,107 | 20,007 | 02,00 : | 0.,700 |
| By education level - All sectors - Masters | | 2,249 | 2,536 | 2,793 | 2,679 | 5,983 | 6,324 |
| or professional degree (jobs) | | _,, | _,,,,, | _,. , , | 2,0.7 | 3,755 | 0,02 . |
| By resource sector - Biomass (jobs) | | 350 | 670 | 771 | 691 | 681 | 647 |
| By resource sector - CO2 (jobs) | | 0 | 234 | 209 | 0 | 0 | 0 |
| By resource sector - Coal (jobs) | | 209 | 70 | 0 | 0 | 0 | 0 |
| By resource sector - Grid (jobs) | | 10,677 | 12,029 | 19,548 | 21,831 | 69,149 | 58,759 |
| By resource sector - Natural Gas (jobs) | | 7,886 | 6,335 | 5,401 | 6,079 | 4,247 | 3,788 |
| By resource sector - Nuclear (jobs) | | 1,833 | 1,803 | 1,540 | 953 | 360 | 0.169 |
| By resource sector - Oil (jobs) | | 7,097 | 5,643 | 4,064 | 2,777 | 1,868 | 1,091 |
| By resource sector - Solar (jobs) | | 20,012 | 30,166 | 31,521 | 25,480 | 25,447 | 30,596 |
| By resource sector - Wind (jobs) | | 90.1 | 1,033 | 859 | 2,432 | 22,592 | 30,016 |
| Median wages - Annual - All (\$2019 per | | 68,976 | 67,710 | 69,100 | 70,944 | 74,431 | 75,716 |
| job) | | | | | | | |
| On-Site or In-Plant Training - Total jobs - 1 | | 7,815 | 9,291 | 10,346 | 9,862 | 20,695 | 20,676 |
| to 4 years (jobs) | | | | | | | |
| On-Site or In-Plant Training - Total jobs - 4 | | 3,020 | 3,238 | 3,715 | 3,720 | 8,466 | 8,688 |
| to 10 years (jobs) | | | | | | | |
| On-Site or In-Plant Training - Total jobs - | | 7,869 | 9,562 | 10,457 | 9,788 | 19,941 | 20,322 |
| None (jobs) | | | | | =10 | 1.100 | |
| On-Site or In-Plant Training - Total jobs - | | 397 | 467 | 532 | 518 | 1,128 | 1,128 |
| Over 10 years (jobs) | | 00.057 | 05 / 0/ | 00.070 | 07.057 | 7/ 11/ | 7/ 000 |
| On-Site or In-Plant Training - Total jobs - | | 29,054 | 35,426 | 38,863 | 36,354 | 74,114 | 74,082 |
| Up to 1 year (jobs) On-the-Job Training - All sectors - 1 to 4 | | 10,014 | 11,830 | 13,206 | 12,638 | 26,734 | 26,766 |
| years (jobs) | | 10,014 | 11,030 | 13,200 | 12,036 | 20,134 | 20,100 |
| On-the-Job Training - All sectors - 4 to 10 | | 2,920 | 3,101 | 3,600 | 3,646 | 8,415 | 8,669 |
| years (jobs) | | 2,720 | 0,101 | 0,000 | 0,040 | 0,410 | 0,007 |
| On-the-Job Training - All sectors - None | | 2,620 | 3,093 | 3,371 | 3,165 | 6,459 | 6,678 |
| (jobs) | | _, | -, | 5,511 | 57.55 | 5, 121 | 2,2.2 |
| On-the-Job Training - All sectors - Over 10 | | 512 | 653 | 698 | 632 | 1,186 | 1,188 |
| years (jobs) | | | | | | | |
| On-the-Job Training - All sectors - Up to 1 | | 32,088 | 39,308 | 43,038 | 40,160 | 81,549 | 81,595 |
| year (jobs) | | | | | | | |
| Related work experience - All sectors - 1 | | 17,245 | 20,578 | 22,680 | 21,423 | 44,534 | 44,801 |
| to 4 years (jobs) | | | | | | | |
| Related work experience - All sectors - 4 | | 11,147 | 13,241 | 14,621 | 13,857 | 29,072 | 29,285 |
| to 10 years (jobs) | | | 0.000 | 6.107 | 0.400 | 10.000 | 10.050 |
| Related work experience - All sectors - | | 6,888 | 8,228 | 9,137 | 8,692 | 18,002 | 18,050 |
| None (jobs) | | 0.007 | 0.071 | / 105 | 0.070 | 7.010 | 7710 |
| Related work experience - All sectors - | | 3,094 | 3,841 | 4,185 | 3,872 | 7,812 | 7,719 |
| Over 10 years (jobs) Related work experience - All sectors - Up | | 9,782 | 12,096 | 13,290 | 12,397 | 24,923 | 25,041 |
| to 1 year (jobs) | | 7,102 | 12,070 | 13,270 | 12,371 | 24,723 | 20,041 |
| Wage income - All (million \$2019) | | 3,322 | 3,926 | 4,417 | 4,274 | 9,256 | 9,458 |
| vvago moomo - An (million 42017) | | 0,022 | 3,720 | 4,411 | 7,414 | 7,230 | 7,430 |

Table 17: E- scenario - PILLAR 1: Efficiency/Electrification - Commercial

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|--------|--------|------|-------|-------|-------|
| Commercial HVAC investment in 2020s - | 0 | 41,604 | 45,411 | 0 | 0 | 0 | 0 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Sales of cooking units - Electric | 18.5 | 21.6 | 27.5 | 43 | 64.5 | 77.7 | 82.3 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 81.5 | 78.4 | 72.5 | 57 | 35.5 | 22.3 | 17.7 |
| Sales of space heating units - Electric | 0.831 | 10.8 | 15 | 27.7 | 49.8 | 69 | 77.8 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 2.64 | 3.4 | 4.18 | 6.57 | 10.9 | 14.6 | 16.6 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 8.14 | 13.5 | 12.9 | 9.99 | 5 | 1.6 | 0.431 |
| Sales of space heating units - Gas Furnace | 88.4 | 72.3 | 67.9 | 55.8 | 34.4 | 14.9 | 5.15 |
| (%) | | | | | | | |
| Sales of water heating units - Electric | 0.247 | 1.77 | 5.84 | 17.8 | 37.6 | 53.1 | 59.7 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 1.46 | 2.65 | 4.65 | 10.7 | 21.4 | 30.9 | 35.4 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 97.6 | 94.3 | 88.2 | 70.5 | 40.4 | 15.7 | 4.7 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 0.649 | 1.31 | 1.29 | 1.01 | 0.586 | 0.311 | 0.212 |

Table 18: E- scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| Electricity distribution capital invested - | | 2.76 | 2.76 | 4.34 | 4.53 | 9.51 | 10.3 |
| Cumulative 5-yr (billion \$2018) | | | | | | | |

Table 19: E- scenario - PILLAR 1: Efficiency/Electrification - Overview

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Final energy use - Commercial (PJ) | 306 | 301 | 299 | 297 | 292 | 284 | 276 |
| Final energy use - Industry (PJ) | 130 | 131 | 133 | 135 | 136 | 137 | 139 |
| Final energy use - Residential (PJ) | 376 | 353 | 337 | 317 | 287 | 250 | 214 |
| Final energy use - Transportation (PJ) | 684 | 645 | 598 | 556 | 522 | 481 | 433 |

Table 20: E- scenario - PILLAR 1: Efficiency/Electrification - Residential

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|-------|-------|-------|
| Residential HVAC investment in 2020s vs. | 0 | 7.14 | 8.46 | 0 | 0 | 0 | 0 |
| REF - Cumulative 5-yr (billion \$2018) | | | | | | | |
| Sales of cooking units - Electric | 33.3 | 35.1 | 41.2 | 57.3 | 79.6 | 93.4 | 98.2 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 66.7 | 64.9 | 58.8 | 42.7 | 20.4 | 6.57 | 1.77 |
| Sales of space heating units - Electric | 4.07 | 9.27 | 14.9 | 31.5 | 59.1 | 80.8 | 90.2 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 6.87 | 10.2 | 9.71 | 8.26 | 5.82 | 3.82 | 3.01 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 9.77 | 16.9 | 15.8 | 12.4 | 7.29 | 3.83 | 2.52 |
| Sales of space heating units - Gas (%) | 79.3 | 63.6 | 59.6 | 47.8 | 27.8 | 11.6 | 4.3 |
| Sales of water heating units - Electric | 0 | 1.31 | 5.02 | 15.9 | 33.8 | 47.5 | 53.3 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 17.8 | 32.8 | 33.2 | 34.8 | 38 | 41.5 | 43.4 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 79.1 | 63.7 | 59.7 | 47.8 | 27.4 | 10.7 | 3.19 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 3.14 | 2.18 | 2.01 | 1.52 | 0.769 | 0.279 | 0.109 |

Table 21: E- scenario - PILLAR 1: Efficiency/Electrification - Transportation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|-------|-------|-------|-------|-------|-------|
| Light-duty vehicle capital costs - | 0 | 0 | 192 | 391 | 1,332 | 4,152 | 6,062 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Public EV charging plugs - DC Fast (1000 | 0.341 | 0 | 0.582 | 0 | 2.73 | 0 | 7.49 |
| units) | | | | | | | |
| Public EV charging plugs - L2 (1000 units) | 0.794 | 0 | 14 | 0 | 65.6 | 0 | 180 |
| Vehicle sales - Heavy-duty - diesel (%) | 97.4 | 96 | 91.3 | 79.8 | 58.2 | 32.1 | 13.7 |
| Vehicle sales - Heavy-duty - EV (%) | 0.498 | 1.45 | 4.11 | 10.8 | 23.6 | 39.5 | 51 |
| Vehicle sales - Heavy-duty - gasoline (%) | 0.228 | 0.236 | 0.239 | 0.225 | 0.179 | 0.109 | 0.051 |
| Vehicle sales - Heavy-duty - hybrid (%) | 0.083 | 0.094 | 0.104 | 0.107 | 0.092 | 0.06 | 0.03 |
| Vehicle sales - Heavy-duty - hydrogen FC | 0.332 | 0.969 | 2.74 | 7.17 | 15.7 | 26.3 | 34 |
| (%) | | | | | | | |
| Vehicle sales - Heavy-duty - other (%) | 1.5 | 1.28 | 1.46 | 1.95 | 2.25 | 1.96 | 1.14 |
| Vehicle sales - Light-duty - diesel (%) | 1.3 | 1.75 | 2.01 | 1.58 | 0.994 | 0.506 | 0.218 |
| Vehicle sales - Light-duty - EV (%) | 2.2 | 5.38 | 13.2 | 28.1 | 50.8 | 73.6 | 88.2 |
| Vehicle sales - Light-duty - gasoline (%) | 90.8 | 86.1 | 77.4 | 63.9 | 43.5 | 23.2 | 10.3 |
| Vehicle sales - Light-duty - hybrid (%) | 5.5 | 6.26 | 6.92 | 6.17 | 4.49 | 2.58 | 1.22 |
| Vehicle sales - Light-duty - hydrogen FC | 0.112 | 0.372 | 0.311 | 0.232 | 0.161 | 0.088 | 0.041 |
| (%) | | | | | | | |
| Vehicle sales - Light-duty - other (%) | 0.091 | 0.095 | 0.085 | 0.073 | 0.052 | 0.028 | 0.013 |
| Vehicle sales - Medium-duty - diesel (%) | 64.8 | 62.2 | 57.7 | 49.4 | 35.6 | 19.6 | 8.37 |
| Vehicle sales - Medium-duty - EV (%) | 0.664 | 1.94 | 5.49 | 14.3 | 31.4 | 52.6 | 68 |
| Vehicle sales - Medium-duty - gasoline (%) | 33.8 | 34.7 | 34.7 | 31.9 | 24.4 | 14.2 | 6.33 |
| Vehicle sales - Medium-duty - hybrid (%) | 0.363 | 0.418 | 0.464 | 0.478 | 0.414 | 0.275 | 0.141 |
| Vehicle sales - Medium-duty - hydrogen | 0.166 | 0.485 | 1.37 | 3.58 | 7.86 | 13.2 | 17 |
| FC (%) | | | | | | | |
| Vehicle sales - Medium-duty - other (%) | 0.253 | 0.266 | 0.279 | 0.286 | 0.258 | 0.184 | 0.102 |

Table 22: E- scenario - PILLAR 6: Land sinks - Agriculture

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|-------|
| Carbon sink potential - Aggressive | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | -341 |
| deployment - Cropland measures (1000 | | | | | | | |
| tCO2e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | -8.38 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | -349 |
| deployment - Total (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -178 |
| deployment - Cropland measures (1000 | | | | | | | |
| tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -4.19 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -182 |
| deployment - Total (1000 tCO2e/y) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 0 |
| Aggressive deployment - Corn-ethanol to | | | | | | | |
| energy grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 172 |
| Aggressive deployment - Cropland | | | | | | | |
| measures (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 15.2 |
| Aggressive deployment - Permanent | | | | | | | |
| conservation cover (1000 hectares) | | | | | | | |

Table 22: E- scenario - PILLAR 6: Land sinks - Agriculture (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Land impacted for carbon sink - | | | | | | | 188 |
| Aggressive deployment - Total (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 89.9 |
| deployment - Cropland measures (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 7.62 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 97.6 |
| deployment - Total (1000 hectares) | | | | | | | |

Table 23: E- scenario - PILLAR 6: Land sinks - Forests

| Table 23: E- scenario - PILLAR 6: Land sink | | | | | | | |
|---|------|------|------|------|------|------|--------|
| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| Carbon sink potential - High - Accelerate | | | | | | | -68.4 |
| regeneration (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - All (not | | | | | | | -3,576 |
| counting overlap) (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Avoid | | | | | | | -1,305 |
| deforestation (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - High - Extend | | | | | | | -969 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Improve | | | | | | | -6.74 |
| plantations (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Increase | | | | | | | -172 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Increase | | | | | | | -269 |
| trees outside forests (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Reforest | | | | | | | 0 |
| cropland (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Reforest | | | | | | | -308 |
| pasture (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Restore | | | | | | | -478 |
| productivity (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Accelerate | | | | | | | -34.3 |
| regeneration (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - All (not | | | | | | | -963 |
| counting overlap) (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Avoid | | | | | | | -218 |
| deforestation (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Extend | | | | | | | -372 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Improve | | | | | | | -3.43 |
| plantations (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Increase | | | | | | | -57.4 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Increase | | | | | | | -94.1 |
| trees outside forests (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Reforest | | | | | | | 0 |
| cropland (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Reforest | | | | | | | -23.3 |
| pasture (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Restore | | | | | | | -161 |
| productivity (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Accelerate | | | | | | | -51.4 |
| regeneration (1000 tCO2e/y) | | | | | | | |

Table 23: E- scenario - PILLAR 6: Land sinks - Forests (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|--------|
| Carbon sink potential - Mid - All (not | | | | | | | -2,269 |
| counting overlap) (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Mid - Avoid | | | | | | | -761 |
| deforestation (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Mid - Extend | | | | | | | -671 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Improve | | | | | | | -5.02 |
| plantations (1000 tCO2e/y) | | | | | | | 445 |
| Carbon sink potential - Mid - Increase | | | | | | | -115 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Increase | | | | | | | -181 |
| trees outside forests (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Mid - Reforest | | | | | | | 0 |
| cropland (1000 tC02e/y) | | | | | | | 4/5 |
| Carbon sink potential - Mid - Reforest | | | | | | | -165 |
| pasture (1000 tCO2e/y) | | | | | | | 010 |
| Carbon sink potential - Mid - Restore | | | | | | | -319 |
| productivity (1000 tCO2e/y) | | | | | | | 44.0 |
| Land impacted for carbon sink potential - | | | | | | | 11.2 |
| High - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | 477 |
| Land impacted for carbon sink potential - | | | | | | | 177 |
| High - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 494 |
| High - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | 0.70 |
| Land impacted for carbon sink potential - High - Improve plantations (1000 | | | | | | | 2.48 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| High - Increase retention of HWP (1000 | | | | | | | U |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 25.5 |
| High - Increase trees outside forests | | | | | | | 20.0 |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| High - Reforest cropland (1000 hectares) | | | | | | | U |
| Land impacted for carbon sink potential - | | | | | | | 8.74 |
| High - Reforest pasture (1000 hectares) | | | | | | | 0.14 |
| Land impacted for carbon sink potential - | | | | | | | 158 |
| High - Restore productivity (1000 | | | | | | | 100 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 877 |
| High - Total impacted (over 30 years) | | | | | | | 011 |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 5.6 |
| Low - Accelerate regeneration (1000 | | | | | | | 0.0 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 166 |
| Low - Avoid deforestation (over 30 years) | | | | | | | 100 |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | + | | | | + | 189 |
| Low - Extend rotation length (1000 | | | | | | | 107 |
| hectares) | | [| | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.24 |
| Low - Improve plantations (1000 | | | | | | | 1.24 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Increase retention of HWP (1000 | | | | | | | J |
| hectares) | | [| | | | | |

Table 23: E- scenario - PILLAR 6: Land sinks - Forests (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Land impacted for carbon sink potential - | | | | | | | 13.4 |
| Low - Increase trees outside forests | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.51 |
| Low - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 95.8 |
| Low - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 473 |
| Low - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 8.4 |
| Mid - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 171 |
| Mid - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 342 |
| Mid - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.87 |
| Mid - Improve plantations (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 19.5 |
| Mid - Increase trees outside forests (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 11 |
| Mid - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 193 |
| Mid - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 747 |
| Mid - Total impacted (over 30 years) (1000 | | | | | | | |
| hectares) | | | | | | | |

Table 24: E- scenario - IMPACTS - Health

| 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|------|-------|------------------------------------|---|--|--|---|
| | 975 | 0.677 | 0.673 | 0.627 | 0.41 | 0.028 |
| | | | | | | |
| | 678 | 395 | 187 | 88.8 | 27.1 | 20.6 |
| | | | | | | |
| | 4,005 | 4,154 | 4,132 | 3,799 | 3,086 | 2,158 |
| | | | | | | |
| | 110 | 0.076 | 0.076 | 0.071 | 0.046 | 0.003 |
| | | | | | | |
| | 76.6 | 44.6 | 21.1 | 10 | 3.05 | 2.33 |
| | | | | | | |
| | 450 | 467 | 465 | 427 | 347 | 243 |
| | | | | | | |
| | 2020 | 975 678 4,005 110 76.6 | 975 0.677 678 395 4,005 4,154 110 0.076 76.6 44.6 | 975 0.677 0.673 678 395 187 4,005 4,154 4,132 110 0.076 0.076 76.6 44.6 21.1 | 975 0.677 0.673 0.627 678 395 187 88.8 4,005 4,154 4,132 3,799 110 0.076 0.076 0.071 76.6 44.6 21.1 10 | 975 0.677 0.673 0.627 0.41 678 395 187 88.8 27.1 4,005 4,154 4,132 3,799 3,086 110 0.076 0.076 0.071 0.046 76.6 44.6 21.1 10 3.05 |

Table 25: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Commercial

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|--------|--------|-------|-------|-------|-------|
| Commercial HVAC investment in 2020s - | 0 | 41,628 | 45,491 | 0 | 0 | 0 | 0 |
| Cumulative 5-yr (million \$2018) | | , | | | | | |
| Sales of cooking units - Electric | 18.5 | 33.7 | 75.3 | 83.5 | 83.9 | 84 | 84 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 81.5 | 66.3 | 24.7 | 16.5 | 16.1 | 16 | 16 |
| Sales of space heating units - Electric | 0.831 | 16.8 | 53.8 | 78.3 | 81.8 | 82 | 81.9 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 2.64 | 4.45 | 11.2 | 16.1 | 17 | 17 | 17.2 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 8.14 | 11.7 | 2.29 | 0.1 | 0 | 0 | 0 |
| Sales of space heating units - Gas Furnace | 88.4 | 67.1 | 32.7 | 5.5 | 1.14 | 0.906 | 0.899 |
| (%) | | | | | | | |
| Sales of water heating units - Electric | 0.247 | 7.96 | 43.7 | 60.3 | 62.3 | 62.4 | 62.4 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 1.46 | 5.37 | 23 | 35.5 | 37.3 | 37.4 | 37.4 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 97.6 | 85.5 | 33 | 4.08 | 0.216 | 0 | 0 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 0.649 | 1.16 | 0.372 | 0.184 | 0.175 | 0.176 | 0.176 |

Table 26: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| Electricity distribution capital invested - | | 3.49 | 3.59 | 11.3 | 12.3 | 10 | 10.7 |
| Cumulative 5-yr (billion \$2018) | | | | | | | |

Table 27: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Overview

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Final energy use - Commercial (PJ) | 306 | 301 | 289 | 269 | 251 | 242 | 241 |
| Final energy use - Industry (PJ) | 130 | 131 | 133 | 133 | 134 | 135 | 137 |
| Final energy use - Residential (PJ) | 376 | 351 | 316 | 265 | 217 | 183 | 164 |
| Final energy use - Transportation (PJ) | 683 | 640 | 573 | 490 | 414 | 364 | 340 |

Table 28: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Residential

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|-------|-------|-------|-------|------|
| Residential HVAC investment in 2020s vs. | 0 | 7.13 | 8.05 | 0 | 0 | 0 | 0 |
| REF - Cumulative 5-yr (billion \$2018) | | | | | | | |
| Sales of cooking units - Electric | 33.6 | 47.7 | 91.1 | 99.5 | 100 | 100 | 100 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 66.4 | 52.3 | 8.94 | 0.45 | 0 | 0 | 0 |
| Sales of space heating units - Electric | 4.07 | 17.8 | 67.1 | 90.9 | 93.9 | 94.1 | 94 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 6.87 | 9.53 | 5.27 | 2.94 | 2.62 | 2.66 | 2.75 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 9.77 | 15 | 4.87 | 2.25 | 2.08 | 2.05 | 1.99 |
| Sales of space heating units - Gas (%) | 79.3 | 57.7 | 22.7 | 3.87 | 1.37 | 1.23 | 1.23 |
| Sales of water heating units - Electric | 0 | 7.03 | 39.6 | 53.9 | 55.6 | 55.7 | 55.7 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 17.8 | 33.3 | 37.6 | 43.3 | 44.2 | 44.3 | 44.3 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 79.1 | 57.8 | 22.4 | 2.77 | 0.146 | 0 | 0 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 3.14 | 1.9 | 0.397 | 0.064 | 0.049 | 0.049 | 0.05 |

Table 29: E+RE+ scenario - PILLAR 1: Efficiency/Electrification - Transportation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|-------|-------|-------|-------|-------|-------|
| Light-duty vehicle capital costs - | 0 | 1,151 | 2,985 | 4,782 | 7,266 | 7,885 | 7,530 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Public EV charging plugs - DC Fast (1000 | 0.341 | 0 | 1.73 | 0 | 7.27 | 0 | 11.7 |
| units) | | | | | | | |
| Public EV charging plugs - L2 (1000 units) | 0.794 | 0 | 41.6 | 0 | 175 | 0 | 281 |
| Vehicle sales - Heavy-duty - diesel (%) | 97.2 | 92.1 | 67 | 23.3 | 4.22 | 0.628 | 0 |
| Vehicle sales - Heavy-duty - EV (%) | 0.588 | 3.81 | 19 | 45.6 | 57.4 | 59.6 | 60 |
| Vehicle sales - Heavy-duty - gasoline (%) | 0.227 | 0.227 | 0.176 | 0.066 | 0.013 | 0.002 | 0 |
| Vehicle sales - Heavy-duty - hybrid (%) | 0.082 | 0.09 | 0.077 | 0.031 | 0.007 | 0.001 | 0 |
| Vehicle sales - Heavy-duty - hydrogen FC | 0.392 | 2.54 | 12.7 | 30.4 | 38.2 | 39.7 | 40 |
| (%) | | | | | | | |
| Vehicle sales - Heavy-duty - other (%) | 1.5 | 1.23 | 1.07 | 0.568 | 0.163 | 0.038 | 0 |
| Vehicle sales - Light-duty - diesel (%) | 1.28 | 1.58 | 1.15 | 0.366 | 0.07 | 0.013 | 0 |
| Vehicle sales - Light-duty - EV (%) | 4.81 | 17.9 | 50.5 | 83.4 | 96.5 | 99.3 | 100 |
| Vehicle sales - Light-duty - gasoline (%) | 88.4 | 74.9 | 44.6 | 14.9 | 3.08 | 0.584 | 0 |
| Vehicle sales - Light-duty - hybrid (%) | 5.29 | 5.17 | 3.5 | 1.27 | 0.314 | 0.07 | 0 |
| Vehicle sales - Light-duty - hydrogen FC | 0.109 | 0.324 | 0.182 | 0.055 | 0.011 | 0.002 | 0 |
| (%) | | | | | | | |
| Vehicle sales - Light-duty - other (%) | 0.09 | 0.085 | 0.053 | 0.018 | 0.004 | 0.001 | 0 |
| Vehicle sales - Medium-duty - diesel (%) | 64.7 | 59.7 | 42.3 | 14.4 | 2.59 | 0.384 | 0 |
| Vehicle sales - Medium-duty - EV (%) | 0.784 | 5.07 | 25.3 | 60.8 | 76.5 | 79.5 | 80 |
| Vehicle sales - Medium-duty - gasoline (%) | 33.7 | 33.3 | 25.5 | 9.32 | 1.77 | 0.277 | 0 |
| Vehicle sales - Medium-duty - hybrid (%) | 0.363 | 0.402 | 0.341 | 0.14 | 0.03 | 0.005 | 0 |
| Vehicle sales - Medium-duty - hydrogen | 0.196 | 1.27 | 6.33 | 15.2 | 19.1 | 19.9 | 20 |
| FC (%) | | | | | | | |
| Vehicle sales - Medium-duty - other (%) | 0.253 | 0.255 | 0.205 | 0.083 | 0.019 | 0.004 | 0 |

Table 30: E+RE+ scenario - PILLAR 2: Clean Electricity - Generating capacity

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|-------|-------|-------|--------|--------|--------|
| Capital invested - Offshore Wind - Base | 0 | 0.236 | 0.183 | 0.38 | 22.9 | 33.3 | 4.26 |
| (billion \$2018) | | | | | | | |
| Capital invested - Solar PV - Base (billion | 0 | 4.45 | 0.529 | 0 | 0 | 0 | 5.3 |
| \$2018) | | | | | | | |
| Capital invested - Wind - Base (billion | 0 | 0 | 0 | 0 | 0 | 0.524 | 0.315 |
| \$2018) | | | | | | | |
| Installed (cumulative) - OffshoreWind - | 0 | 83.2 | 159 | 345 | 13,537 | 36,114 | 39,330 |
| Base land use assumptions (MW) | | | | | | | |
| Installed (cumulative) - Solar - Base land | 772 | 4,096 | 4,538 | 4,538 | 4,538 | 4,538 | 10,263 |
| use assumptions (MW) | | | | | | | |
| Installed (cumulative) - Wind - Base land | 9 | 9 | 9 | 9 | 9 | 269 | 434 |
| use assumptions (MW) | | | | | | | |

Table 31: E+RE+ scenario - PILLAR 2: Clean Electricity - Generation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|-------|-------|------|--------|---------|--------|
| OffshoreWind - Base land use | 0 | 355 | 322 | 801 | 57,655 | 101,667 | 15,060 |
| assumptions (GWh) | | | | | | | |
| OffshoreWind - Constrained land use | 0 | 355 | 410 | 797 | 57,365 | 44,869 | 71,214 |
| assumptions (GWh) | | | | | | | |
| Solar - Base land use assumptions (GWh) | 1,439 | 6,021 | 777 | 0 | 0 | 0 | 10,318 |
| Solar - Constrained land use assumptions | 1,439 | 3,674 | 1,956 | 0 | 0 | 0 | 17,104 |
| (GWh) | | | | | | | |
| Wind - Base land use assumptions (GWh) | 30.5 | 0 | 0 | 0 | 0 | 868 | 483 |
| Wind - Constrained land use assumptions | 30.5 | 0 | 0 | 675 | 233 | 0 | 0 |
| (GWh) | | | | | | | |

Table 32: E+RE+ scenario - PILLAR 6: Land sinks - Agriculture

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|-------|
| Carbon sink potential - Aggressive | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 tC02e/y) | | | | | | | 0/1 |
| Carbon sink potential - Aggressive | | | | | | | -341 |
| deployment - Cropland measures (1000 | | | | | | | |
| tCO2e/y) | | | | | | | 0.00 |
| Carbon sink potential - Aggressive | | | | | | | -8.38 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tCO2e/y) | | | | | | | 0/0 |
| Carbon sink potential - Aggressive | | | | | | | -349 |
| deployment - Total (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -178 |
| deployment - Cropland measures (1000 | | | | | | | |
| tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -4.19 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -182 |
| deployment - Total (1000 tC02e/y) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 0 |
| Aggressive deployment - Corn-ethanol to | | | | | | | |
| energy grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 172 |
| Aggressive deployment - Cropland | | | | | | | |
| measures (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 15.2 |
| Aggressive deployment - Permanent | | | | | | | |
| conservation cover (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 188 |
| Aggressive deployment - Total (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 89.9 |
| deployment - Cropland measures (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 7.62 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | T | | T | | | | 97.6 |
| deployment - Total (1000 hectares) | | | | | | | |

Table 33: E+RE+ scenario - PILLAR 6: Land sinks - Forests

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|--------|
| Carbon sink potential - High - Accelerate | | | | | | | -68.4 |
| regeneration (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - All (not | | | | | | | -3,576 |
| counting overlap) (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Avoid | | | | | | | -1,305 |
| deforestation (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Extend | | | | | | | -969 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Improve | | | | | | | -6.74 |
| plantations (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Increase | | | | | | | -172 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |

Table 33: E+RE+ scenario - PILLAR 6: Land sinks - Forests (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|-------|
| Carbon sink potential - High - Increase | | | | | | | -269 |
| trees outside forests (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - High - Reforest cropland (1000 tCO2e/y) | | | | | | | (|
| Carbon sink potential - High - Reforest pasture (1000 tC02e/y) | | | | | | | -308 |
| Carbon sink potential - High - Restore productivity (1000 tCO2e/y) | | | | | | | -478 |
| Carbon sink potential - Low - Accelerate regeneration (1000 tC02e/y) | | | | | | | -34.3 |
| Carbon sink potential - Low - All (not counting overlap) (1000 tC02e/y) | | | | | | | -96 |
| Carbon sink potential - Low - Avoid deforestation (1000 tC02e/y) | | | | | | | -218 |
| Carbon sink potential - Low - Extend rotation length (1000 tCO2e/y) | | | | | | | -37: |
| Carbon sink potential - Low - Improve plantations (1000 tCO2e/y) | | | | | | | -3.43 |
| Carbon sink potential - Low - Increase retention of HWP (1000 tC02e/y) | | | | | | | -57.4 |
| Carbon sink potential - Low - Increase trees outside forests (1000 tC02e/y) | | | | | | | -94. |
| Carbon sink potential - Low - Reforest cropland (1000 tC02e/y) | | | | | | | (|
| Carbon sink potential - Low - Reforest pasture (1000 tCO2e/y) | | | | | | | -23. |
| Carbon sink potential - Low - Restore productivity (1000 tCO2e/y) | | | | | | | -16 |
| Carbon sink potential - Mid - Accelerate regeneration (1000 tCO2e/y) | | | | | | | -51. |
| Carbon sink potential - Mid - All (not counting overlap) (1000 tC02e/y) | | | | | | | -2,26 |
| Carbon sink potential - Mid - Avoid deforestation (1000 tC02e/y) | | | | | | | -76 |
| Carbon sink potential - Mid - Extend rotation length (1000 tCO2e/y) | | | | | | | -67 |
| Carbon sink potential - Mid - Improve plantations (1000 tCO2e/y) | | | | | | | -5.0 |
| Carbon sink potential - Mid - Increase retention of HWP (1000 tCO2e/y) | | | | | | | -11 |
| Carbon sink potential - Mid - Increase trees outside forests (1000 tCO2e/y) | | | | | | | -18 |
| Carbon sink potential - Mid - Reforest cropland (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Reforest pasture (1000 tCO2e/y) | | | | | | | -16 |
| Carbon sink potential - Mid - Restore productivity (1000 tCO2e/y) | | | | | | | -31 |
| Land impacted for carbon sink potential - High - Accelerate regeneration (1000 | | | | | | | 11. |
| nectares) Land impacted for carbon sink potential - | | | | | | | 17 |
| High - Avoid deforestation (over 30 years) (1000 hectares) Land impacted for carbon sink potential - High - Extend rotation length (1000 | | | | | | | 49 |
| hectares) Land impacted for carbon sink potential - High - Improve plantations (1000 | | | | | | | 2.4 |

Table 33: E+RE+ scenario - PILLAR 6: Land sinks - Forests (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| Land impacted for carbon sink potential - High - Increase retention of HWP (1000 | | | | | | | 0 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 25.5 |
| High - Increase trees outside forests | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - High - Reforest cropland (1000 hectares) | | | | | | | 0 |
| Land impacted for carbon sink potential - | | | | | | | 8.74 |
| High - Reforest pasture (1000 hectares) | | | | | | | 0.14 |
| Land impacted for carbon sink potential - | | | | | | | 158 |
| High - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 877 |
| High - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 5.6 |
| Low - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 166 |
| Low - Avoid deforestation (over 30 years) (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 189 |
| Low - Extend rotation length (1000 | | | | | | | 109 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.24 |
| Low - Improve plantations (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 13.4 |
| Low - Increase trees outside forests | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Reforest cropland (1000 hectares) | | | | | | | 1 [1 |
| Land impacted for carbon sink potential - Low - Reforest pasture (1000 hectares) | | | | | | | 1.51 |
| Land impacted for carbon sink potential - | | | | | | | 95.8 |
| Low - Restore productivity (1000 | | | | | | | 73.0 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 473 |
| Low - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 8.4 |
| Mid - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 171 |
| Mid - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) Land impacted for carbon sink potential - | | | | | | | 342 |
| Mid - Extend rotation length (1000 | | | | | | | 342 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.87 |
| Mid - Improve plantations (1000 hectares) | | | | | | | 1.01 |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Increase retention of HWP (1000 | | | | | | | J |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 19.5 |
| Mid - Increase trees outside forests (1000 | | | | | | | |
| hectares) | | | | | | | |

| Table 33: <i>E+RE+</i> | scenario - | DTII AR 6. | I and sinks - | Forests | (continued) |
|------------------------|-------------|-------------|---------------|------------|-------------|
| I ADIC JJ. LTNLT | acenui iu - | · FILLAN O. | LUHU ƏHINƏ " | rui cata i | COHILINGER |

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 11 |
| Mid - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 193 |
| Mid - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 747 |
| Mid - Total impacted (over 30 years) (1000 | | | | | | | |
| hectares) | | | | | | | |

Table 34: E+RE+ scenario - IMPACTS - Health

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---------------------------------------|------|-------|-------|-------|-------|-------|-------|
| Monetary damages from air pollution - | | 975 | 0.677 | 0.673 | 0.627 | 0.41 | 0.028 |
| Coal (million 2019\$) | | | | | | | |
| Monetary damages from air pollution - | | 628 | 462 | 296 | 227 | 84.3 | 15.7 |
| Natural Gas (million 2019\$) | | | | | | | |
| Monetary damages from air pollution - | | 3,928 | 3,747 | 2,908 | 1,717 | 789 | 300 |
| Transportation (million 2019\$) | | | | | | | |
| Premature deaths from air pollution - | | 110 | 0.076 | 0.076 | 0.071 | 0.046 | 0.003 |
| Coal (deaths) | | | | | | | |
| Premature deaths from air pollution - | | 70.8 | 52.2 | 33.4 | 25.6 | 9.52 | 1.77 |
| Natural Gas (deaths) | | | | | | | |
| Premature deaths from air pollution - | | 442 | 421 | 327 | 193 | 88.7 | 33.7 |
| Transportation (deaths) | | | | | | | |

Table 35: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Commercial

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|-------|--------|--------|-------|-------|-------|-------|
| Commercial HVAC investment in 2020s - Cumulative 5-yr (million \$2018) | 0 | 41,628 | 45,491 | 0 | 0 | 0 | 0 |
| Sales of cooking units - Electric Resistance (%) | 18.5 | 33.7 | 75.3 | 83.5 | 83.9 | 84 | 84 |
| Sales of cooking units - Gas (%) | 81.5 | 66.3 | 24.7 | 16.5 | 16.1 | 16 | 16 |
| Sales of space heating units - Electric Heat Pump (%) | 0.831 | 16.8 | 53.8 | 78.3 | 81.8 | 82 | 81.9 |
| Sales of space heating units - Electric Resistance (%) | 2.64 | 4.45 | 11.2 | 16.1 | 17 | 17 | 17.2 |
| Sales of space heating units - Fossil (%) | 8.14 | 11.7 | 2.29 | 0.1 | 0 | 0 | 0 |
| Sales of space heating units - Gas Furnace (%) | 88.4 | 67.1 | 32.7 | 5.5 | 1.14 | 0.906 | 0.899 |
| Sales of water heating units - Electric Heat Pump (%) | 0.247 | 7.96 | 43.7 | 60.3 | 62.3 | 62.4 | 62.4 |
| Sales of water heating units - Electric Resistance (%) | 1.46 | 5.37 | 23 | 35.5 | 37.3 | 37.4 | 37.4 |
| Sales of water heating units - Gas Furnace (%) | 97.6 | 85.5 | 33 | 4.08 | 0.216 | 0 | 0 |
| Sales of water heating units - Other (%) | 0.649 | 1.16 | 0.372 | 0.184 | 0.175 | 0.176 | 0.176 |

Table 36: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| Electricity distribution capital invested - | | 3.49 | 3.59 | 11.3 | 12.3 | 10 | 10.7 |
| Cumulative 5-yr (billion \$2018) | | | | | | | |

Table 37: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Overview

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|------------------------------------|------|------|------|------|------|------|------|
| Final energy use - Commercial (PJ) | 306 | 301 | 289 | 269 | 251 | 242 | 241 |

Table 37: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Overview (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Final energy use - Industry (PJ) | 130 | 131 | 133 | 133 | 134 | 135 | 137 |
| Final energy use - Residential (PJ) | 376 | 351 | 316 | 265 | 217 | 183 | 164 |
| Final energy use - Transportation (PJ) | 683 | 640 | 573 | 490 | 414 | 364 | 340 |

Table 38: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Residential

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|-------|-------|-------|-------|------|
| Residential HVAC investment in 2020s vs. | 0 | 7.13 | 8.05 | 0 | 0 | 0 | 0 |
| REF - Cumulative 5-yr (billion \$2018) | | | | | | | |
| Sales of cooking units - Electric | 33.6 | 47.7 | 91.1 | 99.5 | 100 | 100 | 100 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 66.4 | 52.3 | 8.94 | 0.45 | 0 | 0 | 0 |
| Sales of space heating units - Electric | 4.07 | 17.8 | 67.1 | 90.9 | 93.9 | 94.1 | 94 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 6.87 | 9.53 | 5.27 | 2.94 | 2.62 | 2.66 | 2.75 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 9.77 | 15 | 4.87 | 2.25 | 2.08 | 2.05 | 1.99 |
| Sales of space heating units - Gas (%) | 79.3 | 57.7 | 22.7 | 3.87 | 1.37 | 1.23 | 1.23 |
| Sales of water heating units - Electric | 0 | 7.03 | 39.6 | 53.9 | 55.6 | 55.7 | 55.7 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 17.8 | 33.3 | 37.6 | 43.3 | 44.2 | 44.3 | 44.3 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 79.1 | 57.8 | 22.4 | 2.77 | 0.146 | 0 | 0 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 3.14 | 1.9 | 0.397 | 0.064 | 0.049 | 0.049 | 0.05 |

Table 39: E+RE- scenario - PILLAR 1: Efficiency/Electrification - Transportation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|-------|-------|-------|-------|-------|-------|
| Light-duty vehicle capital costs - | 0 | 1,151 | 2,985 | 4,782 | 7,266 | 7,885 | 7,530 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Public EV charging plugs - DC Fast (1000 | 0.341 | 0 | 1.73 | 0 | 7.27 | 0 | 11.7 |
| units) | | | | | | | |
| Public EV charging plugs - L2 (1000 units) | 0.794 | 0 | 41.6 | 0 | 175 | 0 | 281 |
| Vehicle sales - Heavy-duty - diesel (%) | 97.2 | 92.1 | 67 | 23.3 | 4.22 | 0.628 | 0 |
| Vehicle sales - Heavy-duty - EV (%) | 0.588 | 3.81 | 19 | 45.6 | 57.4 | 59.6 | 60 |
| Vehicle sales - Heavy-duty - gasoline (%) | 0.227 | 0.227 | 0.176 | 0.066 | 0.013 | 0.002 | 0 |
| Vehicle sales - Heavy-duty - hybrid (%) | 0.082 | 0.09 | 0.077 | 0.031 | 0.007 | 0.001 | 0 |
| Vehicle sales - Heavy-duty - hydrogen FC | 0.392 | 2.54 | 12.7 | 30.4 | 38.2 | 39.7 | 40 |
| (%) | | | | | | | |
| Vehicle sales - Heavy-duty - other (%) | 1.5 | 1.23 | 1.07 | 0.568 | 0.163 | 0.038 | 0 |
| Vehicle sales - Light-duty - diesel (%) | 1.28 | 1.58 | 1.15 | 0.366 | 0.07 | 0.013 | 0 |
| Vehicle sales - Light-duty - EV (%) | 4.81 | 17.9 | 50.5 | 83.4 | 96.5 | 99.3 | 100 |
| Vehicle sales - Light-duty - gasoline (%) | 88.4 | 74.9 | 44.6 | 14.9 | 3.08 | 0.584 | 0 |
| Vehicle sales - Light-duty - hybrid (%) | 5.29 | 5.17 | 3.5 | 1.27 | 0.314 | 0.07 | 0 |
| Vehicle sales - Light-duty - hydrogen FC | 0.109 | 0.324 | 0.182 | 0.055 | 0.011 | 0.002 | 0 |
| (%) | | | | | | | |
| Vehicle sales - Light-duty - other (%) | 0.09 | 0.085 | 0.053 | 0.018 | 0.004 | 0.001 | 0 |
| Vehicle sales - Medium-duty - diesel (%) | 64.7 | 59.7 | 42.3 | 14.4 | 2.59 | 0.384 | 0 |
| Vehicle sales - Medium-duty - EV (%) | 0.784 | 5.07 | 25.3 | 60.8 | 76.5 | 79.5 | 80 |
| Vehicle sales - Medium-duty - gasoline (%) | 33.7 | 33.3 | 25.5 | 9.32 | 1.77 | 0.277 | 0 |
| Vehicle sales - Medium-duty - hybrid (%) | 0.363 | 0.402 | 0.341 | 0.14 | 0.03 | 0.005 | 0 |
| Vehicle sales - Medium-duty - hydrogen | 0.196 | 1.27 | 6.33 | 15.2 | 19.1 | 19.9 | 20 |
| FC (%) | | | | | | | |
| Vehicle sales - Medium-duty - other (%) | 0.253 | 0.255 | 0.205 | 0.083 | 0.019 | 0.004 | 0 |

Table 40: E+RE- scenario - PILLAR 2: Clean Electricity - Generating capacity

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|-------|-------|-------|-------|------|------|
| Capital invested - Offshore Wind - Base | | 0.451 | 0.447 | 0.359 | 0.621 | 4.07 | 1.56 |
| (billion \$2018) | | | | | | | |
| Capital invested - Offshore Wind - | | 0.507 | 0.267 | 0.527 | 0.533 | 3.39 | 1.03 |
| Constrained (billion \$2018) | | | | | | | |
| Capital invested - Solar PV - Base (billion | | 0.566 | 0.667 | 0.657 | 0.669 | 0 | 0 |
| \$2018) | | | | | | | |
| Capital invested - Solar PV - Constrained | | 0.309 | 1.06 | 0.212 | 0.31 | 0 | 0 |
| (billion \$2018) | | | | | | | |
| Capital invested - Wind - Base (billion | | 0 | 0 | 0 | 0 | 0 | 0 |
| \$2018) | | | | | | | |
| Capital invested - Wind - Constrained | | 0 | 0 | 0 | 0 | 0 | 0 |
| (billion \$2018) | | | | | | | |

Table 41: E+RE- scenario - PILLAR 2: Clean Electricity - Generation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|------|-------|-------|-------|--------|-------|
| OffshoreWind - Base land use | 0 | 677 | 801 | 754 | 1,517 | 11,890 | 5,163 |
| assumptions (GWh) | | | | | | | |
| OffshoreWind - Constrained land use | 0 | 765 | 475 | 1,108 | 1,308 | 9,913 | 3,398 |
| assumptions (GWh) | | | | | | | |
| Solar - Base land use assumptions (GWh) | 1,439 | 774 | 1,014 | 1,055 | 1,143 | 0 | 0 |
| Solar - Constrained land use assumptions | 1,439 | 423 | 1,583 | 339 | 526 | 0 | 0 |
| (GWh) | | | | | | | |
| Wind - Base land use assumptions (GWh) | 30.5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wind - Constrained land use assumptions | 30.5 | 0 | 0 | 0 | 0 | 0 | 0 |
| (GWh) | | | | | | | |

Table 42: E+RE- scenario - PILLAR 6: Land sinks - Agriculture

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|--------|--------|------|------|------|------|-------|
| Carbon sink potential - Aggressive | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | -341 |
| deployment - Cropland measures (1000 | | | | | | | |
| tCO2e/y) | | | | | | | 0.00 |
| Carbon sink potential - Aggressive | | | | | | | -8.38 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tC02e/y) Carbon sink potential - Aggressive | | | | | | | -349 |
| deployment - Total (1000 tC02e/y) | | | | | | | -349 |
| Carbon sink potential - Moderate | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | U |
| grasses (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Moderate | + | + | | | | | -178 |
| deployment - Cropland measures (1000 | | | | | | | -110 |
| tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -4.19 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -182 |
| deployment - Total (1000 tCO2e/y) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 0 |
| Aggressive deployment - Corn-ethanol to | | | | | | | |
| energy grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 172 |
| Aggressive deployment - Cropland | | | | | | | |
| measures (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | \Box | \top | | | | | 15.2 |
| Aggressive deployment - Permanent | | | | | | | |
| conservation cover (1000 hectares) | | | | | | | |
| | | | | | | | |

Table 42: E+RE- scenario - PILLAR 6: Land sinks - Agriculture (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Land impacted for carbon sink - | | | | | | | 188 |
| Aggressive deployment - Total (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 0 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 89.9 |
| deployment - Cropland measures (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 7.62 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 97.6 |
| deployment - Total (1000 hectares) | | | | | | | |

Table 43: E+RE- scenario - PILLAR 6: Land sinks - Forests

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|--------|
| Carbon sink potential - High - Accelerate | | | | | | | -68.4 |
| regeneration (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - All (not | | | | | | | -3,576 |
| counting overlap) (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Avoid | | | | | | | -1,305 |
| deforestation (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - High - Extend | | | | | | | -969 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Improve | | | | | | | -6.74 |
| plantations (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Increase | | | | | | | -172 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Increase | | | | | | | -269 |
| trees outside forests (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Reforest | | | | | | | (|
| cropland (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Reforest | | | | | | | -308 |
| pasture (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - High - Restore | | | | | | | -478 |
| productivity (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Accelerate | | | | | | | -34.3 |
| regeneration (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - All (not | | | | | | | -963 |
| counting overlap) (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Avoid | | | | | | | -218 |
| deforestation (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Low - Extend | | | | | | | -372 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Improve | | | | | | | -3.43 |
| plantations (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Increase | | | | | | | -57.4 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Increase | | | | | | | -94. |
| trees outside forests (1000 tCO2e/y) | | | | | | | , |
| Carbon sink potential - Low - Reforest | | | | | | | (|
| cropland (1000 tC02e/y) | | | | | | | • |
| Carbon sink potential - Low - Reforest | | | | | | | -23.3 |
| pasture (1000 tC02e/y) | | | | | | | 20.0 |
| Carbon sink potential - Low - Restore | | | | | | | -16 |
| productivity (1000 tCO2e/y) | | | | | | | -10 |
| Carbon sink potential - Mid - Accelerate | | + | | | | | -51.4 |
| regeneration (1000 tCO2e/y) | | | | | | | -51.4 |

Table 43: E+RE- scenario - PILLAR 6: Land sinks - Forests (continued)

| Item Carbon sink potential - Mid - All (not | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 -2,269 |
|---|------|------|------|------|------|------|----------------|
| counting overlap) (1000 tC02e/y) | | | | | | | -2,203 |
| Carbon sink potential - Mid - Avoid | | | | | | | -76 |
| deforestation (1000 tC02e/y) | | | | | | | -10 |
| Carbon sink potential - Mid - Extend | | | | | | | -67 |
| rotation length (1000 tC02e/y) | | | | | | | -01 |
| = , | | | | | | | Г 00 |
| Carbon sink potential - Mid - Improve | | | | | | | -5.02 |
| plantations (1000 tC02e/y) | | | | | | | 441 |
| Carbon sink potential - Mid - Increase | | | | | | | -115 |
| retention of HWP (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Mid - Increase | | | | | | | -18 |
| trees outside forests (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Reforest | | | | | | | (|
| cropland (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Reforest | | | | | | | -165 |
| pasture (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Restore | | | | | | | -319 |
| productivity (1000 tCO2e/y) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 11.2 |
| High - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 17 |
| High - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 494 |
| High - Extend rotation length (1000 | | | | | | | • • • |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 2.48 |
| High - Improve plantations (1000 | | | | | | | 2.70 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | (|
| High - Increase retention of HWP (1000 | | | | | | | , |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 25.5 |
| High - Increase trees outside forests | | | | | | | 25.8 |
| • | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | (|
| High - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 8.74 |
| High - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 158 |
| High - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 87 |
| High - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 5.6 |
| Low - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 160 |
| Low - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 18 |
| Low - Extend rotation length (1000 | | | | | | | .0 |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | + | + | 1.2 |
| | | | | | | | 1.2 |
| Low - Improve plantations (1000 | | | | | | | |
| hectares) | | | | | | + | |
| Land impacted for carbon sink potential - | | | | | | | (|
| Low - Increase retention of HWP (1000 | | | [| | | | |

Table 43: E+RE- scenario - PILLAR 6: Land sinks - Forests (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Land impacted for carbon sink potential - | | | | | | | 13.4 |
| Low - Increase trees outside forests | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.51 |
| Low - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 95.8 |
| Low - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 473 |
| Low - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 8.4 |
| Mid - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 171 |
| Mid - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 342 |
| Mid - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.87 |
| Mid - Improve plantations (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 19.5 |
| Mid - Increase trees outside forests (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 11 |
| Mid - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 193 |
| Mid - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 747 |
| Mid - Total impacted (over 30 years) (1000 | | | | | | | |
| hectares) | | | | | | | |

Table 44: E+RE- scenario - IMPACTS - Health

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---------------------------------------|------|-------|-------|-------|-------|-------|-------|
| Monetary damages from air pollution - | | 975 | 0.677 | 0.673 | 0.627 | 0.41 | 0.028 |
| Coal (million 2019\$) | | | | | | | |
| Monetary damages from air pollution - | | 679 | 537 | 605 | 482 | 214 | 59.1 |
| Natural Gas (million 2019\$) | | | | | | | |
| Monetary damages from air pollution - | | 3,928 | 3,747 | 2,908 | 1,717 | 789 | 300 |
| Transportation (million 2019\$) | | | | | | | |
| Premature deaths from air pollution - | | 110 | 0.076 | 0.076 | 0.071 | 0.046 | 0.003 |
| Coal (deaths) | | | | | | | |
| Premature deaths from air pollution - | | 76.6 | 60.7 | 68.3 | 54.4 | 24.2 | 6.67 |
| Natural Gas (deaths) | | | | | | | |
| Premature deaths from air pollution - | | 442 | 421 | 327 | 193 | 88.7 | 33.7 |
| Transportation (deaths) | | | | | | | |

Table 45: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Commercial

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|--------|--------|------|-------|-------|-------|
| Commercial HVAC investment in 2020s - | 0 | 41,604 | 45,411 | 0 | 0 | 0 | 0 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Sales of cooking units - Electric | 18.5 | 21.6 | 27.5 | 43 | 64.5 | 77.7 | 82.3 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 81.5 | 78.4 | 72.5 | 57 | 35.5 | 22.3 | 17.7 |
| Sales of space heating units - Electric | 0.831 | 10.8 | 15 | 27.7 | 49.8 | 69 | 77.8 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 2.64 | 3.4 | 4.18 | 6.57 | 10.9 | 14.6 | 16.6 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 8.14 | 13.5 | 12.9 | 9.99 | 5 | 1.6 | 0.431 |
| Sales of space heating units - Gas Furnace | 88.4 | 72.3 | 67.9 | 55.8 | 34.4 | 14.9 | 5.15 |
| (%) | | | | | | | |
| Sales of water heating units - Electric | 0.247 | 1.77 | 5.84 | 17.8 | 37.6 | 53.1 | 59.7 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 1.46 | 2.65 | 4.65 | 10.7 | 21.4 | 30.9 | 35.4 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 97.6 | 94.3 | 88.2 | 70.5 | 40.4 | 15.7 | 4.7 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 0.649 | 1.31 | 1.29 | 1.01 | 0.586 | 0.311 | 0.212 |

Table 46: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| Electricity distribution capital invested - | | 2.76 | 2.76 | 4.34 | 4.53 | 9.51 | 10.3 |
| Cumulative 5-yr (billion \$2018) | | | | | | | |

Table 47: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Overview

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Final energy use - Commercial (PJ) | 306 | 301 | 299 | 297 | 292 | 284 | 276 |
| Final energy use - Industry (PJ) | 130 | 131 | 133 | 135 | 136 | 137 | 139 |
| Final energy use - Residential (PJ) | 376 | 353 | 337 | 317 | 287 | 250 | 214 |
| Final energy use - Transportation (PJ) | 684 | 645 | 598 | 556 | 522 | 481 | 433 |

Table 48: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Residential

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|-------|-------|-------|
| Residential HVAC investment in 2020s vs. | 0 | 7.14 | 8.46 | 0 | 0 | 0 | 0 |
| REF - Cumulative 5-yr (billion \$2018) | | | | | | | |
| Sales of cooking units - Electric | 33.3 | 35.1 | 41.2 | 57.3 | 79.6 | 93.4 | 98.2 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 66.7 | 64.9 | 58.8 | 42.7 | 20.4 | 6.57 | 1.77 |
| Sales of space heating units - Electric | 4.07 | 9.27 | 14.9 | 31.5 | 59.1 | 80.8 | 90.2 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 6.87 | 10.2 | 9.71 | 8.26 | 5.82 | 3.82 | 3.01 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 9.77 | 16.9 | 15.8 | 12.4 | 7.29 | 3.83 | 2.52 |
| Sales of space heating units - Gas (%) | 79.3 | 63.6 | 59.6 | 47.8 | 27.8 | 11.6 | 4.3 |
| Sales of water heating units - Electric | 0 | 1.31 | 5.02 | 15.9 | 33.8 | 47.5 | 53.3 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 17.8 | 32.8 | 33.2 | 34.8 | 38 | 41.5 | 43.4 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 79.1 | 63.7 | 59.7 | 47.8 | 27.4 | 10.7 | 3.19 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 3.14 | 2.18 | 2.01 | 1.52 | 0.769 | 0.279 | 0.109 |

Table 49: E-B+ scenario - PILLAR 1: Efficiency/Electrification - Transportation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|-------|-------|-------|-------|-------|-------|
| Light-duty vehicle capital costs - | 0 | 0 | 192 | 391 | 1,332 | 4,152 | 6,062 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Public EV charging plugs - DC Fast (1000 | 0.341 | 0 | 0.582 | 0 | 2.73 | 0 | 7.49 |
| units) | | | | | | | |
| Public EV charging plugs - L2 (1000 units) | 0.794 | 0 | 14 | 0 | 65.6 | 0 | 180 |
| Vehicle sales - Heavy-duty - diesel (%) | 97.4 | 96 | 91.3 | 79.8 | 58.2 | 32.1 | 13.7 |
| Vehicle sales - Heavy-duty - EV (%) | 0.498 | 1.45 | 4.11 | 10.8 | 23.6 | 39.5 | 51 |
| Vehicle sales - Heavy-duty - gasoline (%) | 0.228 | 0.236 | 0.239 | 0.225 | 0.179 | 0.109 | 0.051 |
| Vehicle sales - Heavy-duty - hybrid (%) | 0.083 | 0.094 | 0.104 | 0.107 | 0.092 | 0.06 | 0.03 |
| Vehicle sales - Heavy-duty - hydrogen FC | 0.332 | 0.969 | 2.74 | 7.17 | 15.7 | 26.3 | 34 |
| (%) | | | | | | | |
| Vehicle sales - Heavy-duty - other (%) | 1.5 | 1.28 | 1.46 | 1.95 | 2.25 | 1.96 | 1.14 |
| Vehicle sales - Light-duty - diesel (%) | 1.3 | 1.75 | 2.01 | 1.58 | 0.994 | 0.506 | 0.218 |
| Vehicle sales - Light-duty - EV (%) | 2.2 | 5.38 | 13.2 | 28.1 | 50.8 | 73.6 | 88.2 |
| Vehicle sales - Light-duty - gasoline (%) | 90.8 | 86.1 | 77.4 | 63.9 | 43.5 | 23.2 | 10.3 |
| Vehicle sales - Light-duty - hybrid (%) | 5.5 | 6.26 | 6.92 | 6.17 | 4.49 | 2.58 | 1.22 |
| Vehicle sales - Light-duty - hydrogen FC | 0.112 | 0.372 | 0.311 | 0.232 | 0.161 | 0.088 | 0.041 |
| (%) | | | | | | | |
| Vehicle sales - Light-duty - other (%) | 0.091 | 0.095 | 0.085 | 0.073 | 0.052 | 0.028 | 0.013 |
| Vehicle sales - Medium-duty - diesel (%) | 64.8 | 62.2 | 57.7 | 49.4 | 35.6 | 19.6 | 8.37 |
| Vehicle sales - Medium-duty - EV (%) | 0.664 | 1.94 | 5.49 | 14.3 | 31.4 | 52.6 | 68 |
| Vehicle sales - Medium-duty - gasoline (%) | 33.8 | 34.7 | 34.7 | 31.9 | 24.4 | 14.2 | 6.33 |
| Vehicle sales - Medium-duty - hybrid (%) | 0.363 | 0.418 | 0.464 | 0.478 | 0.414 | 0.275 | 0.141 |
| Vehicle sales - Medium-duty - hydrogen | 0.166 | 0.485 | 1.37 | 3.58 | 7.86 | 13.2 | 17 |
| FC (%) | | | | | | | |
| Vehicle sales - Medium-duty - other (%) | 0.253 | 0.266 | 0.279 | 0.286 | 0.258 | 0.184 | 0.102 |

Table 50: E-B+ scenario - PILLAR 2: Clean Electricity - Generating capacity

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|-------|-------|------|------|------|------|
| Capital invested - Biomass power plant (billion \$2018) | 0 | 0.008 | 0.352 | 0 | 0 | 0 | 0 |
| Capital invested - Biomass w/ccu allam power plant (billion \$2018) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Capital invested - Biomass w/ccu power plant (billion \$2018) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 51: E-B+ scenario - PILLAR 2: Clean Electricity - Generation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---------------------------------------|------|------|------|------|------|------|------|
| Biomass power plant (GWh) | 0 | 16.3 | 707 | 707 | 707 | 707 | 707 |
| Biomass w/ccu allam power plant (GWh) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Biomass w/ccu power plant (GWh) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 52: E-B+ scenario - PILLAR 3: Clean fuels - Bioenergy

| | • | 0, | | | | | |
|--|------|------|------|------|------|------|-------|
| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| Biomass purchases (million \$2018/year) | 0 | 14.3 | 180 | 183 | 183 | 184 | 593 |
| Conversion capital investment - | 0 | 9.36 | 392 | 34.4 | 5.46 | 9 | 4,899 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Number of facilities - Allam power w ccu | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (quantity) | | | | | | | |
| Number of facilities - Beccs hydrogen | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (quantity) | | | | | | | |
| Number of facilities - Diesel (quantity) | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| Number of facilities - Diesel ccu (quantity) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of facilities - Power (quantity) | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of facilities - Power ccu | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (quantity) | | | | | | | |
| Number of facilities - Pyrolysis (quantity) | 0 | 0 | 0 | 1 | 1 | 1 | 7 |
| | | | | | | | |

Table 52: E-B+ scenario - PILLAR 3: Clean fuels - Bioenergy (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| Number of facilities - Pyrolysis ccu | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (quantity) | | | | | | | |
| Number of facilities - Sng (quantity) | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of facilities - Sng ccu (quantity) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 53: E-B+ scenario - PILLAR 4: CCUS - CO2 capture

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|------------------------------------|------|------|------|------|------|------|------|
| Annual - All (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Annual - BECCS (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Annual - Cement and lime (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Annual - NGCC (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative - All (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative - BECCS (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative - Cement and lime (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative - NGCC (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |

Table 54: E-B+ scenario - PILLAR 4: CCUS - CO2 pipelines

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| All (km) | | 0 | 107 | 142 | 142 | 142 | 142 |
| Cumulative investment - All (million \$2018) | | 0 | 230 | 438 | 438 | 460 | 460 |
| Cumulative investment - Spur (million \$2018) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Cumulative investment - Trunk (million \$2018) | | 0 | 230 | 438 | 438 | 460 | 460 |
| Spur (km) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Trunk (km) | | 0 | 107 | 142 | 142 | 142 | 142 |

Table 55: E-B+ scenario - PILLAR 4: CCUS - CO2 storage

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| CO2 storage (MMT) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Injection wells (wells) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Resource characterization, appraisal, permitting costs (million \$2020) | | 0 | 0 | 0 | 0 | 0 | 0 |
| Wells and facilities construction costs (million \$2020) | | 0 | 0 | 0 | 0 | 0 | 0 |

Table 56: E-B+ scenario - PILLAR 6: Land sinks - Agriculture

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---------------------------------------|------|------|------|------|------|------|-------|
| Carbon sink potential - Aggressive | | | | | | | -18.8 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | -324 |
| deployment - Cropland measures (1000 | | | | | | | |
| tCO2e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | 0 |
| deployment - Cropland to woody energy | | | | | | | |
| crops (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | 0 |
| deployment - Pasture to energy crops | | | | | | | |
| (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | -7.83 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Aggressive | | | | | | | -351 |
| deployment - Total (1000 tCO2e/y) | | | | | | | |

Table 56: E-B+ scenario - PILLAR 6: Land sinks - Agriculture (continued)

| Table 56: E-B+ scenario - PILLAR 6: Land s | | | | 0005 | 0010 | | 0050 |
|--|------|------|------|------|------|-------------|-------|
| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| Carbon sink potential - Moderate | | | | | | | -18.8 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -169 |
| deployment - Cropland measures (1000 | | | | | | | |
| tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | 0 |
| deployment - Cropland to woody energy | | | | | | | |
| crops (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | 0 |
| deployment - Pasture to energy crops | | | | | | | |
| (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -3.91 |
| deployment - Permanent conservation | | | | | | | |
| cover (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Moderate | | | | | | | -191 |
| deployment - Total (1000 tCO2e/y) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 9.08 |
| Aggressive deployment - Corn-ethanol to | | | | | | | |
| energy grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 403 |
| Aggressive deployment - Cropland | | | | | | | |
| measures (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 4.53 |
| Aggressive deployment - Cropland to | | | | | | | |
| woody energy crops (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 2.71 |
| Aggressive deployment - Pasture to | | | | | | | |
| energy crops (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 14.2 |
| Aggressive deployment - Permanent | | | | | | | |
| conservation cover (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - | | | | | | | 434 |
| Aggressive deployment - Total (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 9.08 |
| deployment - Corn-ethanol to energy | | | | | | | |
| grasses (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 85.2 |
| deployment - Cropland measures (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 4.53 |
| deployment - Cropland to woody energy | | | | | | | |
| crops (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 2.71 |
| deployment - Pasture to energy crops | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | + | | | | 7.12 |
| deployment - Permanent conservation | | | | | | | 1.12 |
| cover (1000 hectares) | | | | | | | |
| Land impacted for carbon sink - Moderate | | | | | | | 109 |
| deployment - Total (1000 hectares) | | | | | | | 10 9 |
| deproyment - rotar (1000 nectares) | | | | | | | |

Table 57: E-B+ scenario - PILLAR 6: Land sinks - Forests

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|--------|
| Carbon sink potential - High - Accelerate regeneration (1000 tCO2e/y) | | | | | | | -68.4 |
| Carbon sink potential - High - All (not counting overlap) (1000 tC02e/y) | | | | | | | -3,576 |
| Carbon sink potential - High - Avoid deforestation (1000 tCO2e/y) | | | | | | | -1,305 |

Table 57: E-B+ scenario - PILLAR 6: Land sinks - Forests (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|--------|
| Carbon sink potential - High - Extend | | | | | | | -969 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Improve | | | | | | | -6.74 |
| plantations (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Increase | | | | | | | -172 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Increase | | | | | | | -269 |
| trees outside forests (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Reforest | | | | | | | 0 |
| cropland (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Reforest | | | | | | | -308 |
| pasture (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Restore | | | | | | | -478 |
| productivity (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Accelerate | | | | | | | -34.3 |
| regeneration (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - All (not | | | | | | | -963 |
| counting overlap) (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Avoid | | | | | | | -218 |
| deforestation (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Extend | | | | | | | -372 |
| rotation length (1000 tCO2e/y) | | | | | | | 0.2 |
| Carbon sink potential - Low - Improve | | | | | | | -3.43 |
| plantations (1000 tCO2e/y) | | | | | | | 0.40 |
| Carbon sink potential - Low - Increase | | | | | | | -57.4 |
| retention of HWP (1000 tCO2e/y) | | | | | | | 01.4 |
| Carbon sink potential - Low - Increase | | | | | | | -94.1 |
| trees outside forests (1000 tC02e/y) | | | | | | | -74.1 |
| Carbon sink potential - Low - Reforest | | | | | | | 0 |
| cropland (1000 tCO2e/y) | | | | | | | U |
| Carbon sink potential - Low - Reforest | | | | | | | -23.3 |
| pasture (1000 tC02e/y) | | | | | | | -23.3 |
| Carbon sink potential - Low - Restore | | | | | | | -161 |
| | | | | | | | -101 |
| productivity (1000 tC02e/y) | | | | | | | F1 / |
| Carbon sink potential - Mid - Accelerate | | | | | | | -51.4 |
| regeneration (1000 tC02e/y) | | | | | | | 0.070 |
| Carbon sink potential - Mid - All (not | | | | | | | -2,269 |
| counting overlap) (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Mid - Avoid | | | | | | | -761 |
| deforestation (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Extend | | | | | | | -671 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Improve | | | | | | | -5.02 |
| plantations (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Mid - Increase | | | | | | | -115 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Increase | | | | | | | -181 |
| trees outside forests (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Reforest | | | | | | | 0 |
| cropland (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Reforest | | | | | | | -165 |
| pasture (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Restore | | | | | | | -319 |
| productivity (1000 tCO2e/y) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 11.2 |
| High - Accelerate regeneration (1000 | | | | | | | _ |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 177 |
| High - Avoid deforestation (over 30 years) | | | | | | | |
| HIGH - WOULD REID! ESTATION LINKEL OF ACTIVITIES | | | 1 | | | | |

Table 57: E-B+ scenario - PILLAR 6: Land sinks - Forests (continued)

| Ttom | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | |
| Land impacted for carbon sink potential - | | | | | | | 494 |
| High - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 2.48 |
| High - Improve plantations (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| High - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 25.5 |
| High - Increase trees outside forests | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| High - Reforest cropland (1000 hectares) | | | | | | | U |
| | | | | | | | 0.7/ |
| Land impacted for carbon sink potential - | | | | | | | 8.74 |
| High - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 158 |
| High - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 877 |
| High - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 5.6 |
| Low - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 166 |
| Low - Avoid deforestation (over 30 years) | | | | | | | 100 |
| | | | | | | | |
| (1000 hectares) | | | | | | | 100 |
| Land impacted for carbon sink potential - | | | | | | | 189 |
| Low - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.24 |
| Low - Improve plantations (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 13.4 |
| Low - Increase trees outside forests | | | | | | | 10.4 |
| (1000 hectares) | | | | | | | |
| | | | | | | | 0 |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.51 |
| Low - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 95.8 |
| Low - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 473 |
| Low - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 8.4 |
| Mid - Accelerate regeneration (1000 | | | | | | | 0.4 |
| | | | | | | | |
| hectares) | | | | | | | 474 |
| Land impacted for carbon sink potential - | | | | | | | 171 |
| Mid - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 342 |
| Mid - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | - | 1.87 |
| Mid - Improve plantations (1000 hectares) | | | | | | | 1.01 |
| - na Improve plantations (1000 lieutal 65) | | | | | | | |

Table 57: E-B+ scenario - PILLAR 6: Land sinks - Forests (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 19.5 |
| Mid - Increase trees outside forests (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 11 |
| Mid - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 193 |
| Mid - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 747 |
| Mid - Total impacted (over 30 years) (1000 | | | | | | | |
| hectares) | | | | | | | |

Table 58: E-B+ scenario - IMPACTS - Health

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---------------------------------------|------|-------|-------|-------|-------|-------|-------|
| Monetary damages from air pollution - | | 975 | 0.677 | 0.673 | 0.627 | 0.41 | 0.028 |
| Coal (million 2019\$) | | | | | | | |
| Monetary damages from air pollution - | | 666 | 369 | 221 | 185 | 109 | 29.7 |
| Natural Gas (million 2019\$) | | | | | | | |
| Monetary damages from air pollution - | | 4,005 | 4,154 | 4,132 | 3,799 | 3,086 | 2,158 |
| Transportation (million 2019\$) | | | | | | | |
| Premature deaths from air pollution - | | 110 | 0.076 | 0.076 | 0.071 | 0.046 | 0.003 |
| Coal (deaths) | | | | | | | |
| Premature deaths from air pollution - | | 75.2 | 41.6 | 24.9 | 20.8 | 12.3 | 3.35 |
| Natural Gas (deaths) | | | | | | | |
| Premature deaths from air pollution - | | 450 | 467 | 465 | 427 | 347 | 243 |
| Transportation (deaths) | | | | | | | |

Table 59: REF scenario - PILLAR 1: Efficiency/Electrification - Commercial

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|--------|--------|-------|-------|-------|-------|
| Commercial HVAC investment in 2020s - | 0 | 41,117 | 42,334 | 0 | 0 | 0 | 0 |
| Cumulative 5-yr (million \$2018) | | | | | | | |
| Sales of cooking units - Electric | 18.5 | 19.4 | 19.4 | 19.6 | 19.7 | 19.8 | 19.9 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 81.5 | 80.6 | 80.6 | 80.4 | 80.3 | 80.2 | 80.1 |
| Sales of space heating units - Electric | 0.831 | 15.4 | 41.5 | 62.9 | 66.3 | 66.6 | 66.5 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 2.64 | 4.05 | 8.88 | 20.9 | 30.7 | 32.3 | 32.6 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 8.14 | 13.2 | 10.3 | 4.62 | 0.695 | 0.058 | 0 |
| Sales of space heating units - Gas Furnace | 88.4 | 67.4 | 39.3 | 11.6 | 2.31 | 0.996 | 0.899 |
| (%) | | | | | | | |
| Sales of water heating units - Electric | 0.247 | 0.326 | 0.328 | 0.328 | 0.329 | 0.331 | 0.332 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 1.46 | 1.94 | 1.92 | 1.93 | 1.93 | 1.93 | 1.93 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 97.6 | 96.4 | 96.3 | 96.3 | 96.3 | 96.3 | 96.3 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 0.649 | 1.34 | 1.42 | 1.41 | 1.43 | 1.46 | 1.47 |

Table 60: REF scenario - PILLAR 1: Efficiency/Electrification - Electricity demand

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|------|------|------|------|------|------|------|
| Electricity distribution capital invested - | | 2.77 | 2.78 | 8.27 | 8.93 | 8.04 | 8.51 |
| Cumulative 5-yr (billion \$2018) | | | | | | | |

Table 61: REF scenario - PILLAR 1: Efficiency/Electrification - Overview

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Final energy use - Commercial (PJ) | 306 | 305 | 307 | 309 | 314 | 329 | 352 |
| Final energy use - Industry (PJ) | 130 | 134 | 140 | 145 | 151 | 158 | 164 |
| Final energy use - Residential (PJ) | 376 | 350 | 336 | 325 | 318 | 315 | 313 |
| Final energy use - Transportation (PJ) | 684 | 651 | 614 | 593 | 597 | 615 | 636 |

Table 62: REF scenario - PILLAR 1: Efficiency/Electrification - Residential

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Residential HVAC investment in 2020s vs. | 0 | 6.64 | 7 | 0 | 0 | 0 | 0 |
| REF - Cumulative 5-yr (billion \$2018) | | | | | | | |
| Sales of cooking units - Electric | 32.8 | 32.8 | 32.8 | 32.8 | 32.8 | 32.8 | 32.8 |
| Resistance (%) | | | | | | | |
| Sales of cooking units - Gas (%) | 67.2 | 67.2 | 67.2 | 67.2 | 67.2 | 67.2 | 67.2 |
| Sales of space heating units - Electric | 2.27 | 23.8 | 24.8 | 26.1 | 26.8 | 27.3 | 28.1 |
| Heat Pump (%) | | | | | | | |
| Sales of space heating units - Electric | 7.12 | 8.97 | 8.81 | 8.6 | 8.48 | 7.9 | 7.12 |
| Resistance (%) | | | | | | | |
| Sales of space heating units - Fossil (%) | 9.93 | 13.6 | 7.36 | 3.84 | 3.54 | 3.54 | 3.56 |
| Sales of space heating units - Gas (%) | 80.7 | 53.6 | 59.1 | 61.5 | 61.2 | 61.2 | 61.3 |
| Sales of water heating units - Electric | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heat Pump (%) | | | | | | | |
| Sales of water heating units - Electric | 17.8 | 32.6 | 32.5 | 32.5 | 32.5 | 32.5 | 32.4 |
| Resistance (%) | | | | | | | |
| Sales of water heating units - Gas Furnace | 79.1 | 65.2 | 65.2 | 65.3 | 65.3 | 65.3 | 65.3 |
| (%) | | | | | | | |
| Sales of water heating units - Other (%) | 3.14 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |

Table 63: REF scenario - PILLAR 1: Efficiency/Electrification - Transportation

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|-------|-------|-------|-------|-------|-------|-------|
| Vehicle sales - Heavy-duty - diesel (%) | 98.1 | 98.2 | 97.9 | 97 | 95.6 | 93.5 | 91.6 |
| Vehicle sales - Heavy-duty - EV (%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicle sales - Heavy-duty - gasoline (%) | 0.229 | 0.242 | 0.257 | 0.274 | 0.294 | 0.317 | 0.343 |
| Vehicle sales - Heavy-duty - hybrid (%) | 0.083 | 0.096 | 0.112 | 0.13 | 0.15 | 0.174 | 0.202 |
| Vehicle sales - Heavy-duty - hydrogen FC (%) | 0.119 | 0.138 | 0.16 | 0.186 | 0.216 | 0.25 | 0.29 |
| Vehicle sales - Heavy-duty - other (%) | 1.51 | 1.31 | 1.57 | 2.37 | 3.69 | 5.71 | 7.57 |
| Vehicle sales - Light-duty - diesel (%) | 1.29 | 1.74 | 2.14 | 2 | 1.79 | 1.66 | 1.58 |
| Vehicle sales - Light-duty - EV (%) | 4.44 | 6.75 | 7.58 | 9.37 | 11.3 | 12.9 | 14.1 |
| Vehicle sales - Light-duty - gasoline (%) | 88.8 | 84.9 | 82.5 | 80.3 | 78.1 | 76.2 | 74.7 |
| Vehicle sales - Light-duty - hybrid (%) | 5.31 | 6.12 | 7.41 | 7.95 | 8.45 | 8.89 | 9.18 |
| Vehicle sales - Light-duty - hydrogen FC (%) | 0.109 | 0.367 | 0.331 | 0.29 | 0.285 | 0.284 | 0.294 |
| Vehicle sales - Light-duty - other (%) | 0.09 | 0.094 | 0.09 | 0.09 | 0.09 | 0.088 | 0.09 |
| Vehicle sales - Medium-duty - diesel (%) | 65.2 | 63.5 | 61.6 | 59.6 | 58 | 56.5 | 55.2 |
| Vehicle sales - Medium-duty - EV (%) | 0.027 | 0.105 | 0.329 | 0.671 | 0.895 | 0.973 | 0.993 |
| Vehicle sales - Medium-duty - gasoline (%) | 34 | 35.5 | 37 | 38.5 | 39.7 | 40.8 | 41.7 |
| Vehicle sales - Medium-duty - hybrid (%) | 0.365 | 0.427 | 0.496 | 0.577 | 0.674 | 0.793 | 0.929 |
| Vehicle sales - Medium-duty - hydrogen FC (%) | 0.175 | 0.208 | 0.242 | 0.285 | 0.339 | 0.409 | 0.487 |
| Vehicle sales - Medium-duty - other (%) | 0.255 | 0.271 | 0.298 | 0.345 | 0.42 | 0.528 | 0.671 |

Table 64: REF scenario - PILLAR 6: Land sinks - Forests

| Table 04. KET Scellal to - PILLAK O. Lalla Si | | | 0000 | 0005 | 00/0 | 00/5 | 0050 |
|---|------|------|------|------|---------------------------------------|------|---------|
| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| Carbon sink potential - High - Accelerate | | | | | | | -68.4 |
| regeneration (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - All (not | | | | | | | -3,576 |
| counting overlap) (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Avoid | | | | | | | -1,305 |
| deforestation (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Extend | | | | | | | -969 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Improve | | | | | | | -6.74 |
| plantations (1000 tCO2e/y) | | | | | | | 0.14 |
| Carbon sink potential - High - Increase | | | | | | | -172 |
| | | | | | | | -172 |
| retention of HWP (1000 tCO2e/y) | | | | | | | 0/0 |
| Carbon sink potential - High - Increase | | | | | | | -269 |
| trees outside forests (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Reforest | | | | | | | 0 |
| cropland (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Reforest | | | | | | | -308 |
| pasture (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - High - Restore | | | | | | | -478 |
| productivity (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Accelerate | | | | | | | -34.3 |
| regeneration (1000 tCO2e/y) | | | | | | | 04.0 |
| Carbon sink potential - Low - All (not | | | | | | | -963 |
| • | | | | | | | -963 |
| counting overlap) (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Low - Avoid | | | | | | | -218 |
| deforestation (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Extend | | | | | | | -372 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Improve | | | | | | | -3.43 |
| plantations (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Increase | | | | | | | -57.4 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Increase | | | | | | | -94.1 |
| trees outside forests (1000 tC02e/y) | | | | | | | -74.1 |
| | | | | | | | 0 |
| Carbon sink potential - Low - Reforest | | | | | | | U |
| cropland (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Low - Reforest | | | | | | | -23.3 |
| pasture (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Low - Restore | | | | | | | -161 |
| productivity (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Accelerate | | | | | | | -51.4 |
| regeneration (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - All (not | | | | | | | -2,269 |
| counting overlap) (1000 tC02e/y) | | | | | | | 2,207 |
| Carbon sink potential - Mid - Avoid | | | | | | | -761 |
| | | | | | | | -101 |
| deforestation (1000 tC02e/y) | | | | | | | |
| Carbon sink potential - Mid - Extend | | | | | | | -671 |
| rotation length (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Improve | | | | | | | -5.02 |
| plantations (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Increase | | | | | | | -115 |
| retention of HWP (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Increase | | | | | | | -181 |
| trees outside forests (1000 tC02e/y) | | | | | | | 101 |
| Carbon sink potential - Mid - Reforest | | | - | | + | | 0 |
| · | | | | | | | U |
| cropland (1000 tC02e/y) | | | | | | | 4 |
| Carbon sink potential - Mid - Reforest | | | | | | | -165 |
| pasture (1000 tCO2e/y) | | | | | | | |
| Carbon sink potential - Mid - Restore | | | T | T | | | -319 |
| productivity (1000 tCO2e/y) | | | | | | | |
| | | | | | · · · · · · · · · · · · · · · · · · · | | |

Table 64: REF scenario - PILLAR 6: Land sinks - Forests (continued)

| Item Table 64: REF SCENARIO - PILLAR 6: LUNU SII | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Land impacted for carbon sink potential - | | | | | | | 11.2 |
| High - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 177 |
| High - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 494 |
| High - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 2.48 |
| High - Improve plantations (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| High - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 25.5 |
| High - Increase trees outside forests | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| High - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 8.74 |
| High - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 158 |
| High - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 877 |
| High - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 5.6 |
| Low - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 166 |
| Low - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 189 |
| Low - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.24 |
| Low - Improve plantations (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 13.4 |
| Low - Increase trees outside forests | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Low - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.51 |
| Low - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 95.8 |
| Low - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | T | T | | | | 473 |
| Low - Total impacted (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 8.4 |
| Mid - Accelerate regeneration (1000 | | | | | | | |
| hectares) | | | | | | | |

Table 64: REF scenario - PILLAR 6: Land sinks - Forests (continued)

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|------|------|------|------|------|------|
| Land impacted for carbon sink potential - | | | | | | | 171 |
| Mid - Avoid deforestation (over 30 years) | | | | | | | |
| (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 342 |
| Mid - Extend rotation length (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 1.87 |
| Mid - Improve plantations (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Increase retention of HWP (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 19.5 |
| Mid - Increase trees outside forests (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 0 |
| Mid - Reforest cropland (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 11 |
| Mid - Reforest pasture (1000 hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 193 |
| Mid - Restore productivity (1000 | | | | | | | |
| hectares) | | | | | | | |
| Land impacted for carbon sink potential - | | | | | | | 747 |
| Mid - Total impacted (over 30 years) (1000 | | | | | | | |
| hectares) | | | | | | | |

Table 65: REF scenario - PILLAR 6: Land sinks - Forests - REF only

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|--------|------|--------|------|------|------|--------|
| Business-as-usual carbon sink - Natural | 0.55 | | -1.73 | | | | -1.55 |
| uptake (Mt CO2e/y) | | | | | | | |
| Business-as-usual carbon sink - Retained | -0.047 | | -0.084 | | | | -0.088 |
| in Hardwood Products (Mt CO2e/y) | | | | | | | |
| Business-as-usual carbon sink - Total (Mt | 0.503 | | -1.82 | | | | -1.64 |
| CO2e/y) | | | | | | | |

Table 66: REF scenario - IMPACTS - Health

| Item | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---------------------------------------|------|-------|-------|-------|-------|-------|-------|
| Monetary damages from air pollution - | | 2,530 | 1,621 | 1,520 | 1,481 | 1,455 | 1,336 |
| Coal (million 2019\$) | | | | | | | |
| Monetary damages from air pollution - | | 490 | 504 | 775 | 798 | 818 | 790 |
| Natural Gas (million 2019\$) | | | | | | | |
| Monetary damages from air pollution - | | 3,992 | 4,196 | 4,392 | 4,611 | 4,833 | 5,068 |
| Transportation (million 2019\$) | | | | | | | |
| Premature deaths from air pollution - | | 286 | 183 | 172 | 167 | 164 | 151 |
| Coal (deaths) | | | | | | | |
| Premature deaths from air pollution - | | 55.3 | 56.9 | 87.5 | 90.1 | 92.3 | 89.1 |
| Natural Gas (deaths) | | | | | | | |
| Premature deaths from air pollution - | | 449 | 472 | 494 | 519 | 544 | 570 |
| Transportation (deaths) | | | | | | | |