

Appendix 1. Potential economic, conservation and development benefits of carbon trading in Non-Annex 1 countries. For column headings C = carbon, PI = potential annual income, GDP = Gross Domestic Product

| Country | Forest statistics | | | | Economic incentive (annually) | | | Potential co-benefit indicators | | Governance challenge |
|--------------------------|-------------------------------|----------------|----------------------------------|------------------------|--------------------------------|----------------------|-------------------|---------------------------------|------------------------|----------------------|
| | % of total land area forested | Area (1000 ha) | % Avg. annual change (1990-2005) | Avg. C density (tC/ha) | *PI from C trading (€ million) | *PI as % of 2005 GDP | PI per capita (€) | **Biodiversity | **Environmental Health | ***Governance |
| Afghanistan | 1.33 | 867 | -2.80 | 13.5 | 64.4 | 0.04 | 0.07 | | | -1.57 |
| Algeria | 1.00 | 2,277 | 1.50 | 37.5 | 470.1 | 0.01 | 0.20 | -0.08 | -0.33 | -0.61 |
| Angola | 47.40 | 59,104 | -0.20 | 27.0 | 8784.9 | 0.08 | 1.55 | 0.77 | -1.75 | -1.23 |
| Argentina | 11.88 | 33,021 | -0.40 | 34.0 | 6180.5 | 0.02 | 0.70 | 0.10 | 0.85 | -0.58 |
| Armenia | 9.50 | 283 | -1.40 | 33.0 | 51.4 | 0.02 | 0.24 | -0.02 | 0.29 | -0.56 |
| Azerbaijan | 11.33 | 936 | 0.00 | 52.5 | 270.5 | 0.00 | 0.00 | -0.13 | -1.17 | -0.95 |
| Bahamas | 133.07 | 515 | 0.00 | 50.0 | 141.8 | 0.00 | 0.00 | | | 1.32 |
| Bangladesh | 6.05 | 871 | -0.23 | 19.5 | 93.5 | 0.00 | 0.00 | -0.48 | 0.08 | -0.98 |
| Barbados | 4.65 | 2 | 0.67 | 50.0 | 0.6 | 0.00 | 0.00 | | | 1.01 |
| Belize | 71.99 | 1,653 | 0.00 | 105.5 | 960.0 | 0.00 | 0.00 | | | 0.09 |
| Benin | 20.88 | 2,351 | -2.30 | 97.5 | 1261.9 | 1.01 | 4.44 | 0.43 | -0.46 | -0.41 |
| Bhutan | 67.98 | 3,195 | 0.30 | 89.0 | 1565.4 | 0.85 | 2.36 | -0.12 | -0.47 | 0.48 |
| Bolivia | 53.47 | 58,740 | -0.45 | 91.5 | 29587.8 | 1.81 | 15.13 | 0.79 | -0.32 | -0.67 |
| Botswana | 21.10 | 11,943 | -0.95 | 31.5 | 2071.0 | 0.28 | 12.48 | 0.68 | 0.01 | 0.80 |
| Brazil | 56.10 | 477,698 | -0.55 | 104.5 | 274806.5 | 0.26 | 8.63 | 0.09 | 0.56 | -0.18 |
| Brunei | 48.18 | 278 | -0.75 | 102.5 | 156.9 | 0.02 | 2.97 | | | 0.40 |
| Burkina Faso | 29.00 | 6,794 | -0.30 | 8.0 | 299.2 | 0.02 | 0.08 | 0.32 | -0.95 | -0.49 |
| Burundi | 5.46 | 152 | -4.45 | 93.5 | 78.2 | 0.74 | 0.57 | 0.60 | -1.39 | -1.33 |
| Cambodia | 57.71 | 10,447 | -1.55 | 34.5 | 1984.1 | 0.75 | 2.28 | -0.35 | -0.27 | -0.98 |
| Cameroon | 44.68 | 21,245 | -0.95 | 65.5 | 7660.5 | 0.60 | 4.49 | 0.40 | -0.38 | -0.89 |
| Cape Verde | 20.84 | 84 | 2.00 | 63.5 | 29.4 | 0.09 | 1.66 | | | 0.29 |
| Central African Republic | 36.53 | 22,755 | -0.10 | 56.5 | 7077.5 | 0.87 | 2.17 | 0.68 | -1.05 | -1.40 |
| Chad | 9.50 | 11,921 | -0.65 | 8.0 | 525.0 | 0.08 | 0.35 | 0.07 | -1.32 | -1.15 |
| Chile | 21.31 | 16,121 | 0.40 | 134.0 | 11892.0 | 0.05 | 2.61 | -0.50 | 0.84 | 1.30 |
| China | 20.56 | 197,290 | 1.70 | 30.5 | 33125.5 | 0.03 | 0.34 | -0.04 | 0.60 | -0.49 |
| Colombia | 53.32 | 60,728 | -0.10 | 98.0 | 32762.1 | 0.03 | 0.59 | 0.32 | 0.61 | -0.43 |
| Comoros | 2.90 | 5 | -5.70 | 32.5 | 0.9 | 0.25 | 1.04 | | | -1.09 |

Realising the benefits of avoided deforestation

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| Congo | 65.70 | 22,471 | -0.10 | 106.5 | 13174.4 | 0.18 | 2.69 | 0.84 | -1.08 | -1.10 |
| Congo, DR | 56.98 | 133,610 | -0.30 | 112.5 | 82746.3 | 6.24 | 4.56 | 0.60 | -1.84 | -1.53 |
| Costa Rica | 46.79 | 2,391 | -0.35 | 110.0 | 1447.9 | 0.05 | 1.73 | 0.38 | 0.52 | 0.68 |
| Côte d'Ivoire | 32.27 | 10,405 | 0.10 | 65.0 | 3723.2 | 0.03 | 0.250 | 0.01 | -0.69 | -1.22 |
| Djibouti | 0.20 | 6 | 0.00 | 23.0 | 0.8 | 0.00 | 0.000 | | | -0.78 |
| Dominican Republic | 28.24 | 1,376 | 0.00 | 26.5 | 200.7 | 0.00 | 0.000 | -1.20 | 0.00 | -0.52 |
| Ecuador | 38.27 | 10,853 | -1.60 | 75.5 | 4510.8 | 0.32 | 6.074 | 0.21 | 0.44 | -0.73 |
| Egypt | 0.10 | 67 | 2.80 | 53.0 | 19.5 | 0.00 | 0.007 | 0.02 | -1.84 | -0.12 |
| El Salvador | 14.16 | 298 | -1.60 | 101.0 | 165.7 | 0.02 | 0.407 | 0.36 | -0.36 | -0.37 |
| Equatorial Guinea | 58.18 | 1,632 | -0.85 | 79.0 | 709.7 | 0.12 | 12.078 | | | -1.35 |
| Eritrea | 15.40 | 1,554 | -0.30 | 16.0 | 136.9 | 0.05 | 0.074 | | | -0.71 |
| Ethiopia | 11.90 | 13,000 | -1.05 | 39.5 | 2826.8 | 0.35 | 0.410 | 0.08 | -1.10 | -0.93 |
| Fiji | 54.73 | 1,000 | 0.10 | 32.0 | 176.2 | 0.01 | 0.259 | | | -0.17 |
| Gabon | 81.35 | 21,775 | -0.05 | 68.5 | 8211.2 | 0.05 | 2.646 | 0.78 | -0.25 | -0.55 |
| Gambia | 41.68 | 471 | 0.40 | 11.0 | 28.5 | 0.03 | 0.074 | 0.59 | -0.74 | -0.47 |
| Georgia | 39.60 | 2,760 | 0.00 | 48.5 | 736.9 | 0.00 | 0.000 | -0.27 | 0.42 | -0.89 |
| Ghana | 23.13 | 5,517 | -2.00 | 44.0 | 1336.3 | 0.37 | 1.383 | 0.18 | -0.07 | -0.17 |
| Guatemala | 36.16 | 3,938 | -1.25 | 185.5 | 4021.4 | 0.26 | 4.428 | 0.37 | 0.01 | -0.85 |
| Guinea | 27.35 | 6,724 | -0.60 | 57.0 | 2109.9 | 0.55 | 9.865 | 0.16 | -0.83 | -0.95 |
| Guinea-Bissau | 57.36 | 2,072 | -0.45 | 10.0 | 114.1 | 0.25 | 0.057 | 0.60 | -1.02 | -0.99 |
| Guyana | 70.26 | 15,104 | 0.00 | 126.5 | 10518.2 | 0.00 | 0.000 | 0.88 | -1.53 | -0.42 |
| Haiti | 3.78 | 105 | -0.95 | 50.5 | 29.2 | 0.01 | 0.033 | -1.71 | -0.65 | -1.58 |
| Honduras | 41.47 | 4,648 | -3.05 | 52.5 | 1343.3 | 0.82 | 7.206 | -0.07 | 0.17 | -0.66 |
| India | 20.59 | 67,701 | 0.37 | 36.5 | 13603.3 | 0.01 | 0.045 | -0.62 | 0.08 | -0.20 |
| Indonesia | 46.46 | 88,495 | -1.85 | 68.0 | 33127.2 | 0.33 | 3.022 | -0.14 | 0.37 | -0.91 |
| Iran | 6.72 | 11,075 | 0.00 | 74.5 | 4542.1 | 0.00 | 0.000 | -0.08 | 0.08 | -0.71 |
| Jamaica | 31.30 | 339 | 0.00 | 85.5 | 159.6 | 0.00 | 0.068 | -1.20 | 0.66 | -0.42 |
| Jordan | 0.93 | 83 | 0.00 | 18.5 | 8.5 | 0.00 | 0.000 | 0.14 | 0.22 | 0.33 |
| Kazakhstan | 1.22 | 3,337 | -0.20 | 9.0 | 165.3 | 0.00 | 0.020 | 0.02 | -0.09 | -1.04 |
| Kenya | 6.20 | 3,522 | -0.30 | 24.0 | 465.3 | 0.01 | 0.047 | 0.45 | -0.42 | -0.94 |
| Kiribati | 2.74 | 2 | 0.00 | 32.0 | 0.4 | 0.00 | 0.000 | | | 0.12 |
| Korea | 63.12 | 6,265 | -0.10 | 18.0 | 620.8 | 0.00 | | | | 0.42 |
| Kuwait | 0.34 | 6 | 3.10 | 10.5 | 0.3 | 0.00 | 0.005 | -0.66 | 0.08 | 0.68 |
| Kyrgyzstan | 4.35 | 869 | 0.30 | 10.0 | 47.8 | 0.01 | 0.021 | 0.06 | -0.44 | -0.98 |
| Laos | 68.17 | 16,142 | -0.50 | 15.5 | 1377.4 | 0.31 | 1.045 | -0.16 | -0.35 | -1.21 |
| Lebanon | 13.08 | 136 | 0.80 | 11.0 | 8.2 | 0.00 | 0.016 | -0.07 | 0.11 | -0.42 |

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| Lesotho | 0.30 | 8 | 3.05 | 17.0 | 0.7 | 0.00 | 0.009 | | | -0.04 |
| Liberia | 28.32 | 3,154 | -1.70 | 98.0 | 1701.6 | 8.43 | 10.641 | -0.02 | -1.50 | -1.31 |
| Libya | 0.10 | 217 | 0.00 | 10.0 | 11.9 | 0.00 | 0.000 | 0.22 | 0.02 | -0.78 |
| Madagascar | 22.10 | 12,838 | -0.40 | 97.0 | 6855.3 | 0.83 | 1.613 | -0.57 | -0.46 | -0.23 |
| Malawi | 36.20 | 3,402 | -0.90 | 71.5 | 1339.1 | 0.80 | 0.978 | 0.81 | -1.36 | -0.56 |
| Malaysia | 63.35 | 20,890 | -0.55 | 102.5 | 11787.4 | 0.05 | 2.283 | -0.22 | 0.68 | 0.41 |
| Mali | 10.30 | 12,572 | -0.75 | 15.5 | 1072.7 | 0.21 | 0.731 | 0.09 | -1.30 | -0.43 |
| Mauritania | 0.30 | 267 | -3.05 | 3.0 | 4.4 | 0.01 | 0.052 | -0.01 | -1.35 | -0.30 |
| Mexico | 32.80 | 64,238 | -0.45 | 27.0 | 9548.0 | 0.01 | 0.441 | -0.05 | 0.53 | -0.27 |
| Mongolia | 0.00 | 0 | -0.01 | 40.0 | 0.0 | 1.24 | 6.427 | 0.00 | -0.41 | -0.17 |
| Morocco | 9.80 | 4,364 | 0.15 | 20.5 | 492.5 | 0.00 | 0.017 | -0.31 | 0.18 | -0.04 |
| Mozambique | 24.60 | 19,262 | -0.30 | 27.5 | 2916.0 | 0.14 | 0.369 | 0.46 | -1.45 | -0.70 |
| Myanmar | 47.62 | 32,222 | -1.35 | 28.5 | 5055.4 | 1.74 | 1.715 | -0.04 | -0.03 | -1.56 |
| Namibia | 9.30 | 7,661 | -0.90 | 6.0 | 253.0 | 0.05 | 1.185 | 0.65 | 0.27 | 0.20 |
| Nepal | 24.70 | 3,636 | -1.75 | 54.5 | 1090.9 | 0.40 | 0.838 | -0.05 | 0.01 | -0.72 |
| Nicaragua | 39.92 | 5,189 | -1.45 | 80.5 | 2299.5 | 1.02 | 7.160 | 0.58 | 0.08 | -0.50 |
| Niger | 1.00 | 1,266 | -2.35 | 2.0 | 13.9 | 0.02 | 0.040 | 0.23 | -1.53 | -0.90 |
| Nigeria | 12.00 | 11,089 | -3.00 | 92.0 | 5616.1 | 0.27 | 1.575 | -0.05 | -0.95 | -1.28 |
| Oman | 0.01 | 2 | 0.00 | 8.5 | 0.1 | 0.00 | 0.000 | -0.27 | -0.17 | 0.88 |
| Pakistan | 2.39 | 1,902 | -1.95 | 13.5 | 141.4 | 0.00 | 0.019 | -0.06 | -0.53 | -0.83 |
| Panama | 56.86 | 4,294 | -0.15 | 161.0 | 3805.8 | 0.04 | 1.574 | 0.45 | 0.59 | -0.05 |
| Papua New Guinea | 63.60 | 29,437 | -0.50 | 29.0 | 4699.5 | 0.72 | 3.913 | 0.15 | 0.18 | -0.86 |
| Paraguay | 45.42 | 18,475 | -0.90 | 29.5 | 3000.3 | 0.51 | 4.468 | 0.57 | 0.25 | -1.04 |
| Peru | 53.49 | 68,742 | -0.10 | 122.5 | 46357.0 | 0.10 | 2.240 | 0.55 | 0.55 | -0.49 |
| Philippines | 23.87 | 7,162 | -2.45 | 57.0 | 2247.3 | 0.09 | 0.796 | -1.39 | -0.77 | -0.59 |
| Puerto Rico | 45.59 | 408 | 0.07 | 50.0 | 112.3 | 0.00 | 0.019 | | | 0.81 |
| Rwanda | 18.22 | 480 | 3.85 | 93.5 | 247.1 | 0.34 | 0.587 | 0.48 | -0.94 | -0.63 |
| Samoa | 60.21 | 171 | 1.40 | 32.0 | 30.1 | 0.18 | 2.655 | | | 0.34 |
| São Tomé and Príncipe | 28.13 | 27 | 0.00 | 58.0 | 8.6 | 0.00 | 0.000 | | | -0.61 |
| Saudi Arabia | 1.27 | 2,728 | 0.00 | 6.0 | 90.1 | 0.00 | 0.000 | -0.21 | -0.23 | 0.18 |
| Senegal | 44.09 | 8,673 | -0.50 | 15.0 | 716.2 | 0.06 | 0.305 | 0.19 | -0.45 | -0.30 |
| Seychelles | 88.90 | 40 | 0.00 | 24.5 | 5.4 | 0.00 | 0.000 | -0.11 | | -0.08 |
| Sierra Leone | 38.39 | 2,754 | -0.70 | 69.5 | 1053.7 | 0.78 | 1.210 | 0.19 | -1.29 | -0.99 |
| Singapore | 2.94 | 2 | 0.00 | 102.5 | 1.1 | 0.00 | 0.000 | 0.07 | | 2.13 |
| Solomon Islands | 75.16 | 2,172 | -1.60 | 32.0 | 382.6 | 3.14 | 12.755 | 0.04 | | -1.19 |
| South Africa | 7.60 | 9,203 | 0.00 | 40.5 | 2051.8 | 0.00 | 0.000 | -1.32 | 0.09 | 0.40 |

Realising the benefits of avoided deforestation

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|---------------------------------------|-------|--------|-------|-------|---------|------|--------|-------|-------|-------|
| Sri Lanka | 29.46 | 1,933 | -1.35 | 29.5 | 313.9 | 0.02 | 0.219 | -0.84 | 0.74 | -0.10 |
| St. Kitts and Nevis | 13.89 | 5 | 0.00 | 50.0 | 1.4 | 0.00 | | | | 0.53 |
| St. Lucia | 27.42 | 17 | 0.00 | 99.0 | 9.3 | 0.00 | | | | 0.52 |
| St. Vincent and the Grenadines | 28.21 | 11 | 0.80 | 86.5 | 5.2 | 0.02 | | | | 0.55 |
| Sudan | 28.40 | 67,546 | -0.80 | 6.0 | 2231.0 | 0.09 | 0.472 | 0.38 | -0.57 | -1.45 |
| Suriname | 90.50 | 14,776 | 0.00 | 126.5 | 10289.7 | 0.00 | 0.000 | | | 0.05 |
| Swaziland | 31.50 | 541 | 0.90 | 57.5 | 171.2 | 0.08 | 1.393 | | | -0.95 |
| Syria | 2.49 | 461 | 1.40 | 14.0 | 35.5 | 0.00 | 0.024 | 0.36 | 0.03 | -0.57 |
| Tajikistan | 2.88 | 410 | 0.00 | 5.0 | 11.3 | 0.00 | 0.001 | 0.07 | -2.17 | -1.15 |
| Tanzania | 39.90 | 35,257 | -1.05 | 14.5 | 2814.3 | 0.35 | 0.878 | 0.23 | -0.75 | -0.53 |
| Thailand | 28.30 | 14,520 | -0.55 | 77.5 | 6194.8 | 0.03 | 0.636 | -0.12 | 0.66 | -0.15 |
| Togo | 6.80 | 386 | -3.95 | 32.0 | 68.0 | 0.21 | 0.635 | 0.40 | -0.67 | -0.97 |
| Tonga | 5.33 | 4 | 0.00 | 64.5 | 1.4 | 0.00 | 0.000 | 0.89 | | -0.40 |
| Trinidad and Tobago | 44.05 | 226 | -0.25 | 13.5 | 16.8 | 0.00 | 0.042 | 0.89 | 0.60 | 0.09 |
| Tunisia | 6.80 | 1,056 | 3.00 | 1.5 | 8.7 | 0.00 | 0.022 | 0.00 | 0.19 | 0.27 |
| Turkmenistan | 8.46 | 4,127 | 0.00 | 81.5 | 1851.6 | 0.00 | 0.000 | 0.19 | -2.64 | -1.39 |
| Uganda | 18.40 | 3,627 | -2.05 | 5.0 | 99.8 | 0.03 | 0.078 | 0.51 | -0.56 | -0.75 |
| United Arab Emirates | 3.73 | 312 | 1.25 | 30.0 | 51.5 | 0.00 | 0.166 | -0.28 | 0.44 | 1.04 |
| Uruguay | 8.55 | 1,506 | 2.90 | 29.5 | 244.6 | 0.05 | 1.877 | -0.18 | 0.85 | 0.46 |
| Uzbekistan | 7.36 | 3,295 | 0.50 | 5.0 | 90.7 | 0.01 | 0.017 | 0.30 | -0.98 | -1.26 |
| Vanuatu | 36.10 | 440 | 0.00 | 32.0 | 77.5 | 0.00 | 0.000 | | | -0.30 |
| Venezuela | 52.31 | 47,713 | -0.60 | 116.5 | 30599.9 | 0.18 | 7.097 | 0.77 | 0.33 | -1.02 |
| Vietnam | 38.99 | 12,931 | 2.15 | 33.0 | 2349.1 | 0.11 | 0.512 | -0.35 | 0.34 | -0.67 |
| Yemen | 1.04 | 549 | 0.00 | 9.5 | 28.7 | 0.00 | 0.000 | -0.13 | -1.15 | -0.98 |
| Zambia | 57.10 | 42,452 | -0.95 | 52.0 | 12152.3 | 2.31 | 11.285 | 0.77 | -0.79 | -0.64 |
| Zimbabwe | 45.30 | 17,540 | -1.60 | 28.0 | 2703.6 | 1.38 | 3.943 | 0.71 | -0.67 | -1.27 |

*Calculated based on scenario of 10 % deforestation reduction and €15 / tCO₂

**Environmental Sustainability Index (Esty *et al.* 2005)

***Avg value of two World Bank governance indicators (adapted from Kaufmann *et al.* 2005)