Carbon prospecting in tropical forests for climate change mitigation

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Supplementary Table 1: Sensitivity analyses measuring the change in climate mitigation potential (CMP) associated with profitable areas. These account for leakage (10%, 20% and 30%), increase in development and maintenance cost (50% and 100%), and opportunity cost (from agricultural rents and timber production).

Country	Original analysis (CMP)	Leakage: 10% (% CMP)	Leakage: 20% (% CMP)	Leakage: 30% (% CMP)	Cost: +50% (% CMP)	Cost: +100% (% CMP)	Opportunity Cost (% CMP)
World	1,783,584,800 ±1,086,018,100	81.9 ±51.1	64.6 ±40.4	48.3 ±30.3	80.4 ±50.4	65.7 ±41.6	52.3 ±33.2
Americas	809,093,200 ±487,743,200	81 ±50.3	62.7 ±39	45.4 ±28.4	76.5 ±47.8	58.6 ±37.2	59.5 ±37.2
Brazil	426,173,000 ±256,966,200	82.1 ± 50.7	65.3 ±40.3	49.5 ±30.7	$82{\pm}50.7$	68.5 ±42.9	62.8 ± 39.3
Bolivia	$95,975,000 \\ \pm 60,827,300$	80.5 ± 52.8	60.8 ±40.2	42 ±28.1	72.3 ±48.1	48.7 ± 33.5	77.8 ± 51.1
Mexico	51,486,600 ±36,756,100	81.7 ± 59.3	63.1 ±46.1	43.8 ± 32.4	75.6 ± 55.6	40.9 ± 32.5	49.1 ±35.9
Peru	$50,817,100 \\ \pm 29,151,800$	74.6 ±45.7	47.8 ± 30.6	24.1 ± 15.7	46.4 ± 30.3	$25\pm\!15.6$	3.8 ± 2.5
Colombia	$40,161,800 \\ \pm 21,079,200$	81.9 ±44	64.2 ± 34.7	47.1 ±25.6	79.1 ±42.9	61.3 ± 34	$33\pm\!18.5$
Venezuela	$35,649,200 \\ \pm 20,640,000$	82.2 ± 48.7	64.3 ± 38.3	47.3 ± 28.4	79.5 ±47.4	62.4 ± 37.7	62.1 ±36.7
Paraguay	$25,038,700 \\ \pm 19,983,200$	82.4 ± 66.9	64.9 ±52.9	49.5 ±40.2	81.4 ±66.2	73.8 ± 59.7	98.6 ± 79.9
Guyana	$18,077,700 \\ \pm 6,308,500$	70.2 ± 27.8	46.8 ± 18.3	$29\pm\!11.5$	51.6 ±20.3	$28.9\pm\!11.8$	18.3 ± 7.6
Ecuador	$12,\!842,\!900 \\ \pm 6,\!670,\!800$	82.9 ±44	66 ± 35.2	48.7 ± 26.4	81.8 ±44.1	62.3 ±34.6	47.5 ±25.8
Suriname	12,206,400 ±3,946,600	75.5 ± 26.3	53.1 ±19.3	28.6 ± 11.2	54.5 ±21.3	25.4 ± 9.9	14.9 ± 5.3
Cuba	$5,772,900 \\ \pm 4,017,400$	70.6 ± 52.9	41.9 ±32.3	17.9 ± 14.6	37.6 ± 30.4	8.5 ± 7.5	85.8 ± 62.5
Argentina	5,642,700 ±4,843,300	84.6 ± 73.5	69.7 ± 60.6	55 ±48	$90{\pm}78.4$	79.9 ± 70.2	34.8 ± 30.3
Guatemala	5,453,000 ±3,363,300	$79 \pm \! 50.8$	55.8 ±37.3	28.1 ±20.3	$56\pm\!39.7$	17.9 ± 13.5	13.1 ±9.1
French Guiana	$4,413,500 \\ \pm 1,314,000$	77.7 ±24.9	56.1 ±18.9	34.3 ±12.1	61.5 ±21.1	29.1 ±11.2	$2.2\pm\!0.8$
Nicaragua	4,355,700 ±2,613,500	68.5 ±44.6	39.1 ±26.6	16 ±11.5	34 ±24	8.1 ±6	64.7 ±40.9
Honduras	3,757,700 ±2,300,100	73.1 ±47.5	48.9 ± 32.2	$27.9 \pm \! 19$	51.6 ±34.6	22.2 ± 15.7	44.3 ±29
Panama	$2,907,800 \\ \pm 1,790,400$	66.9 ± 45.4	39.1 ±27	18.4 ± 13.1	36.7 ±25.9	12.1 ±9	$23 \pm \! 15.4$
Belize	$2,429,400 \\ \pm 1,370,500$	78.7 ± 46.5	55.4 ±33.6	33.5 ±20.8	60.7 ±37.3	33.4 ±20.9	14.6 ±9
Dominican Republic	$2,224,200 \\ \pm 1,475,300$	79.2 ±54.4	57.2 ±40.1	35.7 ±25.4	63.5 ±45	34 ±25.2	37.2 ±25.5
Costa Rica	1,512,000 ±868,300	61.6 ± 39.8	33.3 ±21.8	14.3 ± 9.5	$28.9\pm\!19.2$	$8.4\pm\!5.7$	59.1 ±37.1
El Salvador	720,900 ±484,100	76.1 ± 53.3	51.8 ±36.6	30.4 ±21.9	56.6 ±40.9	24.9 ± 18.3	99.8 ±69
Jamaica	457,900 $\pm 267,700$	73.8 ± 46.5	47.9 ± 30.9	$24.9\pm\!16.7$	47.6 ± 31.3	$17{\pm}11.8$	100 ± 61.7
Trinidad and Tobago	299,300 ±180,600	66.5 ±44.1	39.5 ±26	$20.5\pm\!14$	39.5 ±26.8	15.9 ±10.9	$30.7\pm\!19$

Supplementary Table 1 (con't): Sensitivity analyses measuring the change in climate mitigation potential (CMP) associated with profitable areas. These account for leakage (10%, 20% and 30%), increase in development and maintenance cost (50% and 100%), and opportunity

cost (from agricultural rents and timber production).

	Original	Leakage:	Leakage:	Leakage:	Cost:	Cost:	Opportunity
Country	analysis (CMP)	10% (% CMP)	20% (% CMP)	30% (% CMP)	+50% (% CMP)	+100% (% CMP)	Cost (% CMP)
II '.'	268,500						
Haiti	$\pm 204,800$	74.1 ± 59.7	49.1 ± 39.7	26.2 ± 22.1	51.1 ±42.5	15.6 ± 14.2	27.6 ± 21.6
Bahamas	234,900 ±174,900	83.6 ± 63.2	66.7 ± 50.7	49.7 ± 38.3	83.6 ± 64	63.6 ± 50.4	100 ± 75.3
Guadeloupe	44,800 ±29,700	68.9 ± 49.3	45.2 ± 32.7	24.2 ± 17.9	44 ±31.1	13.1 ± 11.9	100 ± 70.9
Puerto Rico	34,800 ±21,700	82.7 ± 52.7	60.7 ± 40.3	37.8 ± 24.8	63.1 ± 42.4	41.5 ± 28.6	100 ± 63.4
Cayman Islands	24,200 ±15,100	52 ± 38.1	25.5 ± 21.9	5.5 ±4.2	13 ± 12.3	6.4 ±4	100 ± 72.1
Antigua and Barbuda	$23,500 \\ \pm 19,100$	75.4 ± 62.5	56.7 ± 47.3	32.3 ±28	61 ± 53.6	26.7 ± 25.2	100 ± 82.7
Turks and Caicos Islands	$23,300 \\ \pm 18,500$	81 ±66	$58 \pm \! 48.7$	38.9 ± 33.5	67.8 ± 55.5	32.6 ± 29.5	$100\pm\!80.6$
Saint Lucia	21,500 ±12,600	68.4 ± 42.4	$40.7 \pm \! 27$	$16.2\pm\!11.7$	39.7 ± 27.9	10.1 ± 8.5	$100\pm\!63.6$
Martinique	13,400 ±8,200	79 ± 51.4	45.1 ± 29.5	14.7 ± 12.3	40.9 ± 30.8	4.5 ±4	100 ± 61
Grenada	$8,800 \pm 5,100$	67.2 ± 45	0 ± 5.9	0 ± 0	0 ± 0	0 ± 0	$100\pm\!57.8$
Saint Kitts and Nevis	$6,400 \pm 4,400$	61.4 ± 46.2	46.6 ± 32.1	38.9 ± 26.7	62.2 ± 42.8	49.7 ± 34.2	100 ± 72.6
Curaçao Saint Vincent	$3,600 \pm 3,400$	68.5 ± 76.3	0 ± 6.4	0 ±0	0 ± 0	0 ± 0	$100\pm\!119$
and the Grenadines	3,300 ±2,100	87.5 ± 55.6	75 ± 68.4	0 ±0	0 ± 0	0 ±0	$100 \pm \! 85$
Montserrat	$3,200 \pm 2,300$	$68.8\pm\!56.8$	40.8 ± 30.4	34 ± 25.4	54.3 ±40.6	54.3 ± 40.6	100 ± 74.4
Virgin Islands, U.S.	$1,800 \pm 1,200$	$87.5 \pm \! 62$	57.1 ±41.3	$20.8\pm\!19.8$	48.8 ± 41.5	0 ±0	$100\pm\!67.6$
Bonaire, Sint Eustatius and Saba	1,200 ±1,100	50.1 ±45.6	43 ±39	0 ±0	0 ±0	0 ±0	100 ±91.2
Virgin Islands, British	$600 \pm \! 400$	35 ± 22.9	$30{\pm}28$	0 ±0	0 ± 0	0 ±0	100 ± 82.2
Barbados	$200 \pm\! 200$	87.5 ± 71	0 ± 22.5	0 ± 0	0 ± 0	0 ±0	$100\pm\!81.2$
A C	392,659,400	(5.4.52.2	41.2 +22.0	22 5 110 6	42.0 + 22.0	240 110 5	(0.0 ± 55.1
Africa	± 286,485,300 85,257,800	67.4 ± 53.3	41.3 ± 32.8	23.5 ± 18.6	42.8 ± 33.9	24.9 ±19.5	69.9 ± 55.1
DR Congo	±45,293,000	60 ± 37.6	33.5 ± 20.3	18.8 ± 11.2	34.3 ± 20.4	19 ±11.2	39.3 ± 24.3
Angola	51,008,400 $\pm 42,975,100$	66.8 ± 60.5	40.3 ± 36.9	$21\pm\!19.4$	$40\pm\!36.8$	$16.8\pm\!16$	99.1 ± 89.1
Tanzania	33,716,700 ±29,792,000	64.8 ± 61.6	36.1 ± 35	16.4 ± 16.2	32.9 ± 32.3	$10.4\pm\!10.6$	97.8 ± 91.8
Zambia	29,791,200 $\pm 25,981,700$	65.9 ± 62.9	31.1 ±31.4	$10.7 \pm \! 10.8$	23.2 ± 23.6	7 ±6.9	100 ± 92.3
Central African Republic	28,178,200 ±21,167,400	60.9 ±51.5	31.9 ±27.3	14.1 ±12.2	28.4 ±24.5	10.7 ±9.1	96.4 ± 80.5
Mozambique	27,670,900 ±24,102,500	67.1 ±62.7	39.8 ± 37.9	$20\pm\!19.4$	$38.7 \pm \! 37.1$	15.4 ± 15.2	100 ± 92.5
Congo	22,461,100 ±11,264,400	67.4 ±37.7	41.5 ±23.2	$25.7 \pm \! 13.8$	44.7 ±24.3	32.1 ±17.2	22.2 ± 12.4
Cameroon	20,545,600 ±12,299,300	79.5 ±49.4	61.8 ±38.1	47 ±28.8	77.5 ±47.6	68.6 ± 42	21.7 ± 14.2
Gabon	18,982,000 ±6,677,500	77.8 ±29.2	58.8 ±22	$42.8\pm\!16$	71.8 ±26.8	59.1 ±22.1	36.8 ± 14.8

Supplementary Table 1 (con't): Sensitivity analyses measuring the change in climate mitigation potential (CMP) associated with profitable areas. These account for leakage (10%, 20% and 30%), increase in development and maintenance cost (50% and 100%), and opportunity

cost (from agricultural rents and timber production).

Country	Original analysis	Leakage: 10%	Leakage: 20%	Leakage: 30%	Cost: +50%	Cost: +100%	Opportunity Cost
	(CMP)	(% CMP)	(% CMP)	(% CMP)	(% CMP)	(% CMP)	(% CMP)
South Sudan	$11,575,800 \\ \pm 11,390,500$	76.3 ± 74.7	41.7 ±41.5	9.4 ± 9.7	25.6 ± 26	0.8 ± 0.9	100 ± 98.7
Ethiopia	$10,\!327,\!900 \\ \pm 9,\!862,\!700$	75.3 ± 74.5	55.1 ± 54.6	38.3 ± 37.9	65.4 ± 64.8	49.5 ±49	100 ± 99.2
Nigeria	$8,290,900 \\ \pm 7,758,100$	65.5 ± 65.8	38.8 ± 39.1	20.7 ± 21.1	39 ± 39.5	18.1 ± 18.7	42 ±43
Madagascar	6,352,100 ±5,271,300	68 ± 60.5	$43 \pm \! 38.4$	24 ±21.8	44.4 ±39.9	21.8 ± 20.1	61.9 ± 55
Guinea	4,464,600 ±3,965,000	67.3 ± 63.5	41.8 ± 40.1	21.8 ± 21.1	41 ±40	22.3 ± 20.8	74.4 ± 71.4
Côte d'Ivoire	4,243,600 ±3,384,600	67.7 ± 57.7	44.4 ± 37.8	28.9 ± 24.1	50.1 ± 42.2	37.3 ± 31.1	46.1 ± 41.3
Zimbabwe	4,149,900 ±4,142,800	45.5 ±51.3	19.7 ±22.2	8.2 ± 9.2	16.6 ± 18.6	5.7 ± 6.7	100 ± 112.3
Ghana	$3,942,100 \\ \pm 3,366,000$	76.1 ± 67.8	56.5 ± 50	41.2 ± 36.5	69.3 ±61.3	55.1 ±48.9	11.3 ± 11
Liberia	$3,442,400 \\ \pm 1,384,000$	83.7 ±34.5	67.9 ± 28.2	51.5 ±21.7	85.4 ±35.6	68.2 ± 29.4	1.2 ± 0.6
Kenya	$2,360,900 \\ \pm 2,333,000$	72.6 ± 74.7	$49 \pm \! 50.4$	31.3 ±32.2	55.4 ±57	34.2 ± 35.6	55 ±56.5
Senegal	$^{1,934,700}_{\pm 1,947,000}$	47.8 ± 52.8	24.6 ± 26.1	11.6 ±12.2	22.1 ±23.4	6.3 ± 7.4	100 ± 112.5
Uganda	$^{1,711,400}_{\pm 1,505,200}$	63 ±61.2	38.2 ± 35.5	20.6 ± 19.6	40.3 ± 38.8	25.7 ± 23.8	85.3 ± 81.6
Chad	$^{1,711,100}_{\pm 1,736,800}$	58.8 ± 65.8	28 ± 32.3	$9\pm\!10.7$	20.8 ± 24.2	3.1 ±4	$100\pm\!108.8$
Equatorial Guinea	$1,685,500 \\ \pm 535,300$	82.8 ± 27.3	67.4 ± 22.1	52.9 ± 17.5	87 ± 28.5	77.2 ± 25.7	97.1 ± 32.2
Malawi	$^{1,552,200}_{\pm 1,430,200}$	64.7 ± 63.7	38.7 ± 38.6	21.1 ± 21.2	39.5 ± 39.3	17 ± 17.1	100 ± 97.7
Benin	$^{1,481,700}_{\pm 1,472,700}$	50.3 ± 57.3	19.7 ± 22.2	6 ± 7.2	$14\pm\!16.2$	$2.6\pm\!2.9$	$100\pm\!109.2$
Mali	$959,900 \\ \pm 977,000$	16.8 ± 24.5	1 ± 1.6	0 ± 0	$0.2 \pm\! 0.4$	0 ± 0	100 ± 125.2
Sudan	913,800 ±926,100	29.2 ± 38.4	1.7 ± 2.7	0 ±0	0 ±0	0 ± 0	$100\pm\!110.9$
Guinea-Bissau	$900,700 \\ \pm 802,100$	55.1 ± 54.5	27.6 ± 27.1	12.1 ± 12	24.4 ± 24.5	7.4 ± 7.7	100 ± 96.6
Togo	815,600 ±787,000	43 ±48.2	$16.3 \pm \! 19$	5.6 ± 6.3	12.6 ± 13.7	5.2 ± 5.2	82.6 ± 92.4
Sierra Leone	$663,500 \\ \pm 430,300$	78.3 ± 52.6	61.1 ± 40.9	45.1 ± 30.3	$75\pm\!50.3$	59.9 ± 40.6	$18.4 \pm \! 14$
Botswana	356,200 ±360,000	83.2 ±82.9	63.9 ± 63.7	7.7 ± 8.7	35.7 ± 36.8	0 ± 0	100 ± 99.5
South Africa	252,600 ±244,800	65 ± 67.8	39.6 ±41.8	20.6 ± 21.6	40.5 ±42.5	19.9 ± 20.9	100 ± 102.8
Burkina Faso	224,500 ±225,200	40.9 ± 49.3	1.3 ± 4.8	0 ± 0	0 ± 0	0 ± 0	$100\pm\!110.5$
Namibia	211,500 ±216,000	10.5 ± 19.8	4.9 ± 5	0 ±0	0 ±2	0 ± 0	100 ± 127.9
Somalia	$201,100 \\ \pm 204,900$	41.7 ± 51.3	21 ±22.8	$10.3 \pm \! 10.6$	$16.5\pm\!17$	$8.9\pm\!9.1$	100 ± 115.9
Burundi	135,400 ±120,100	62.1 ±57.7	38.1 ±35.1	12.2 ± 11	28.5 ± 26.4	4.2 ±3.7	98 ±90.7

Supplementary Table 1 (con't): Sensitivity analyses measuring the change in climate mitigation potential (CMP) associated with profitable areas. These account for leakage (10%, 20% and 30%), increase in development and maintenance cost (50% and 100%), and opportunity

cost (from agricultural rents and timber production).

Country Country	Original analysis	Leakage: 10%	Leakage: 20%	Leakage: 30%	Cost: +50%	Cost: +100%	Opportunity Cost
	(CMP)	(% CMP)					
Gambia	85,900 ±85,200	70.2 ± 72.1	$40.6 \pm \! 42$	$16.2\pm\!17.2$	33.5 ± 35.6	$3.8 \pm \! 4.8$	100 ± 101.5
Rwanda	52,300 ±44,600	74.2 ± 63.7	55.8 ±47.2	26.8 ± 23.5	60.4 ± 52.4	15.4 ± 13.9	98.5 ± 85.1
Sao Tome and Principe	$35,800 \\ \pm 17,100$	81.7 ± 40.6	63.6 ± 32.6	44 ± 22.8	$74 \pm \! 36.7$	57 ± 28.2	$100\pm\!50.4$
Comoros	$6,000 \pm 3,600$	0 ± 13.6	0 ± 0	0 ± 0	0 ± 0	0 ± 0	100 ± 87.4
Mayotte	$5,900 \pm 3,300$	35.2 ± 24.1	$16.5\pm\!13.5$	0 ± 4.2	$22\pm\!18.5$	0 ± 0	100 ± 68.7
Asia-Pacific	581,832,200 ±311,789,600	85.5 ±46.3	70.8 ±38.5	55.7 ±30.5	91.2 ±49.7	80.2 ±44.4	42 ±23.4
Indonesia	$230,478,400 \\ \pm 99,746,400$	85.5 ± 37.4	71.2 ± 31.2	$56.8 \pm \! 25$	92.4 ±40.7	84.6 ± 37.5	$41.2\pm\!19$
Malaysia	53,632,000 ±21,366,700	86.2 ± 34.6	72.2 ± 29.1	58 ± 23.5	94.2 ±38.1	86.6 ± 35.5	21.3 ± 9.7
India	49,742,000 ±43,362,700	84.9 ± 74.7	69.1 ±61.1	51.4 ±46.2	86.5 ± 77.2	60.1 ± 56	$34.3 \pm \! 30.2$
Thailand	39,054,400 ±26,658,300	85.7 ± 59	71.2 ±49.1	56.3 ±39	92 ±63.6	81.6 ± 57.1	27.3 ± 18.8
Myanmar	35,182,200 ±21,480,500	$83.7 \pm \! 52$	66.9 ±41.9	49.7 ± 31.4	83.1 ±52.4	65.9 ±42.1	10.2 ± 6.8
Australia	33,746,100 ±23,335,000	85.6 ± 59.7	70.2 ± 49.3	54.3 ±38.4	89.6 ± 63	73.9 ± 53.3	96.8 ± 67.3
Cambodia	$\substack{28,307,400 \\ \pm 17,178,600}$	87.2 ± 53	74.3 ±45.2	61.2 ± 37.3	$98.4\pm\!60$	94.1 ±57.9	73.6 ±44.7
China	$28,294,400 \\ \pm 16,089,800$	86.1 ±49.3	72 ±41.3	57.6 ±33.2	93.6 ±53.9	85.4 ±49.6	32.9 ± 20.6
Viet Nam	$\substack{24,031,300 \\ \pm 14,475,100}$	85.9 ±52.1	71.6 ±43.6	57 ±34.9	92.9 ± 56.7	84.1 ±51.8	45.8 ± 28.7
Laos	$^{22,122,800}_{\pm 10,166,500}$	85.3 ±39.8	70.4 ± 32.9	55.3 ±26.1	90.6 ±42.5	79.7 ± 38	43.6 ±21
Papua New Guinea	$16,503,600 \\ \pm 6,223,400$	74.2 ± 30.7	51 ±21.4	$30.8\pm\!13.3$	55.5 ±23.8	$28.9\pm\!13.2$	$24.9 \pm \! 10$
Philippines	10,133,500 ±5,156,000	84.2 ±43.7	68.2 ± 35.6	51.3 ±27.1	85.4 ±45	67.9 ± 36.7	62.3 ± 32.3
Bangladesh	4,154,400 ±2,934,100	86.2 ±61.1	72.4 ± 51.4	58.6 ±41.7	94.8 ±67.4	87.8 ± 63	77.6 ± 55
Sri Lanka	$4,153,800 \\ \pm 2,540,800$	86.8 ± 53.3	73.5 ±45.2	60.3 ±37.1	97.1 ±59.7	91.7 ±57.2	100 ± 61.3
Brunei Darussalam	1,101,000 ±431,600	85.3 ±33.9	70.5 ± 28.2	54.8 ±22.2	90.5 ± 36.4	77.8 ±31.9	48.4 ± 20.9
Taiwan	598,200 ±308,400	83.4 ± 44.1	65.9 ± 35.1	48.6 ± 26.1	81.7 ± 43.9	63.8 ± 35.3	100 ± 52.6
Timor-Leste	471,000 ±261,300	84.9 ±47.7	69.6 ±39.4	53.6 ±30.6	88.8 ± 50.5	74.6 ±43.1	100 ±56
Hong Kong	$124,600 \\ \pm 73,300$	84.6 ± 50.9	66.7 ± 40.6	49.5 ± 30.3	82 ±49.7	60.8 ± 38.4	93.7 ± 55.8
Singapore	$1,200 \pm 1,000$	87.5 ± 73.7	75 ±63.2	62.5 ± 52.6	100 ± 84.2	100 ± 84.2	58.7 ± 49.4

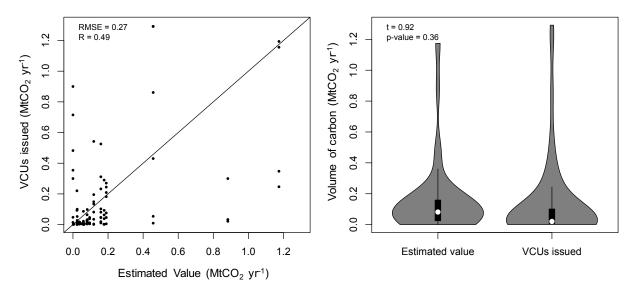
Supplementary Table 2: Comparisons between volumes of estimated investible carbon and verified carbon units (VCUs) issued within verified tropical VCS project areas between 2005–2018. Data obtained from https://verra.org/.

Country	ID	Name	Status	# Years with data	Years	VCUs (MtCO ₂ yr ⁻¹)	Estimated Values (MtCO ₂ yr ⁻¹)
	963	The Purus Project	Verified, under verification	7	2011–2017	0.0095 ± 0.0051	0.0374 ± 0.0011
	977	RMDLT Portel-Para REDD Project	Verification approved	5	2009–2017	0.097 ± 0.113	0.1748 ± 0.0053
Brazil	1112	The Russas Project	Verified, under verification	2	2011–2014	$0.0078 \pm \\ 0.0024$	0.0422 ± 0.0013
	1113	The Valparaiso Project	Verified, under verification	3	2012–2014	0.0032 ± 0.0021	$0.0228 \pm \\ 0.0007$
	1382	The Envira Amazonia Project - A Tropical Forest Conservation Project in Acre, Brazil	Verified, under verification	4	2012–2018	0.0317 ± 0.0374	0.0597 ± 0.0018
Cambodia	1650	Reduced Emissions from Deforestation and Degradation in Keo Seima Wildlife Sanctuary	Verification approved	3	2013–2017	0.1182 ± 0.1575	0.8828 ± 0.0266
Colombia	856	Chocó-Darién Conservation Corridor REDD Project	Verification approved	2	2010–2012	0.0025 ± 0.002	0.0038 ± 0.0001
DR Carra	934	Mai Ndombe REDD+ Project	Verification approved	6	2011–2016	0.6565 ± 0.58	0.4573 ± 0.0137
DR Congo	1359	Isangi REDD+ Project	Verification approved	5	2009–2013	0.0219 ± 0.0243	0.0807 ± 0.0024
Ethiopia	1340	Bale Mountains Eco-region REDD+ Project	Verification approved	4	2012–2015	0.7359 ± 0.5087	1.1743 ± 0.034
Guatemala	1622	REDD+ Project for Caribbean Guatemala: The Conservation Coast	Verified, under verification	7	2012–2018	0.1476 ± 0.1042	0.1899 ± 0.0056
Indonesia	674	Rimba Raya Biodiversity Reserve Project	Verification approved	9	2009–2017	0.1528 ± 0.1728	0.159 ± 0.0035
Kenya	1408	Chyulu Hills REDD+ Project	Verification approved	3	2013–2016	0.1056 ± 0.1089	0.0227 ± 0.0003
Madagascar	1215	The Makira Forest Protected Area in Madagascar	Verification approved	2	2005–2013	0.0026 ± 0.0018	0.0634 ± 0.0016
Malawi	1168	Kulera Landscape REDD+ Program for Co-Managed Protected Areas, Malawi	Verification approved	1	2009–2009	0.0025	0.1765 ± 0.0047
Paraguay	1403	The Paraguay Forest Conservation Project	Verification approved	1	2010–2010	0.0006	$0.0018 \pm \\ 0.0001$

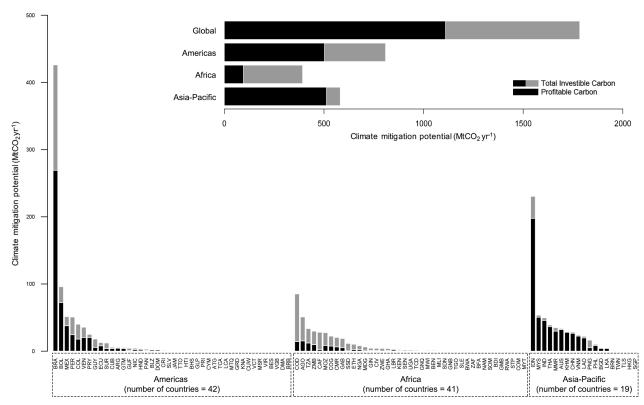
Supplementary Table 2 (con't): Comparisons between volumes of estimated investible carbon and verified carbon units (VCUs) issued within verified tropical VCS project areas between

2005–2018. Data obtained from https://verra.org/.

Country	ID	Name	Status	# Years with data	Years	VCUs (MtCO ₂ yr ⁻¹)	Estimated Values (MtCO ₂ yr ⁻¹)
	844	Madre de Dios Amazon REDD Project	Verification approved	7	2009–2018	0.0174 ± 0.0172	0.0951 ± 0.0028
	944	Alto Mayo Conservation Initiative	Verified, under verification	4	2008–2016	0.0472 ± 0.0396	0.0243 ± 0.0007
Peru	958	Biocorredor Martin Sagrado Project	Verification approved	1	2010–2010	0.005	$\begin{array}{c} 0.0469 \pm \\ 0.0014 \end{array}$
	985	Cordillera Azul National Park REDD Project	Verification approved	7	2008–2017	0.4019 ± 0.3269	0.0001 ± 0
	1360	Forest Management to Reduce Deforestation and Degradation in Shipibo Conibo and Cacataibo Indigenous Communities of Ucayali Region	Verification approved	8	2010–2017	0.1426 ± 0.1762	0.1184 ± 0.0033
Sierra Leone	1201	Gola REDD Project	Verification approved	3	2012–2014	0.0135 ± 0.0122	$0.08 \pm \\ 0.0024$
Tanzania	1325	Mjumita community forest project (Lindi)	Verification approved	1	2012–2012	0.0004	$0.0596 \pm \\ 0.0015$
Zambia	1202	Lower Zambezi REDD+ Project	Verification approved	10	2009–2018	$0.0098 \pm \\ 0.0071$	$\begin{array}{c} 0.0251 \pm \\ 0.0006 \end{array}$
Zimbabwe	902	Kariba REDD+ Project	Verification approved	6	2011–2016	$0.0327 \pm \\ 0.033$	$0.0815 \pm \\ 0.002$



Supplementary Figure 1: Estimates of investible carbon credits are significantly correlated to the verified credits generated from existing verified tropical avoided deforestation projects. Data from Supplementary Table 1.



Supplementary Figure 2: Difference between volumes of investible and profitable carbon credit at global, regional and country levels. Country abbreviations are based on ISO 3166-1 alpha-3 codes.