

CO2 Equivalent Emissions Methodology

for Global Witness report “Santander backed major South American deforester Cresud despite net zero pledge”

Global Witness used [Harris et al \(2021\)](#) data provided by Global Forest Watch to provide estimations of the likely CO2 equivalent emissions caused by land use change at Cresud’s farms. The carbon calculations for each farm owned by either Cresud or BrasilAgro are found below.

Please note: our figures attached here reflect land use change emissions filtered for the date of acquisition: i.e. Figures for Fazenda Serra Grande only reflect emission from 2020 onwards.

Country	Farm Name	Owner	Year of Acquisition	Total deforestation on farm since acquisition date	Total estimated CO2 equivalent emissions from land use change in million (tonnes)	Source
Argentina	8 de Julio	Cresud	2007	0.32	6.93178542	Cresud public documents
Argentina	ANTA	Operated by Cresud under concession	2000	35,036.28	6023535.52	Cresud public documents
Argentina	El Tigre	Cresud	2003	5.67	0	Cresud public documents
Argentina	La Gramilla	Cresud	1997	518.63	15033.6577	Cresud public documents
Argentina	La Suiza	Cresud	1998	569.56	53091.0389	Cresud public documents
Argentina	Las Playas	Cresud	1997	1.97	260.201819	Cresud public documents
Argentina	Los Pozos	Cresud	1995	64,032.15	8409162.11	Cresud public documents
Argentina	Recreo (#2)	Cresud	1995	4,291.37	120667.101	Cresud public documents
Argentina	San Nicolas	Cresud	1997	0.78	161.678413	Cresud public documents
Argentina	San Pedro	Cresud	2005	11.61	1944.05399	Cresud public documents
Argentina	Santa Barbara	Cresud	1997	307.45	2483.6068	Cresud public documents
Bolivia	La Primavera	BrasilAgro	2011	24.95	10006.5959	Cresud public documents
Bolivia	Las Londras (#2)	BrasilAgro	2008	5.89	2591.00111	Cresud public documents

Bolivia	San Rafael	BrasilAgro	2008	4.61	1756.16574	Cresud public documents
Brazil	Alto Taquari (#2)	BrasilAgro	2007	16.51	3501.81654	Cresud public documents
Brazil	Araucaria (#2)	BrasilAgro	2007	1,143.88	418621.866	Cresud public documents
Brazil	Chaparral (#2)	BrasilAgro	2007	19,738.72	5135814.54	Cresud public documents
Brazil	Fazenda Arrojadinho	BrasilAgro	2020	27.62	0	Brasil Federal CAR
Brazil	Fazenda Avarandado	BrasilAgro	2013	21.88	9194.68928	Brasil SIGEF Data, Brasil Federal CAR
Brazil	Fazenda Regalito	BrasilAgro	2022	8.23	201.88706	Mato Grosso CAR
Brazil	Fazenda Serra Grande	BrasilAgro	2020	90.16	8605.35473	Brasil Federal CAR
Brazil	Fazenda Xingu	BrasilAgro	2018	6.72	2989.97573	Mato Grosso CAR, Brasil Federal CAR
Brazil	Jatoba (#2)	BrasilAgro	2007	8,968.26	1766944.52	Cresud public documents
Brazil	Nova Burity	BrasilAgro	2007	198.88	22627.3888	Brasil Federal CAR
Brazil	Preferencia (#2)	BrasilAgro	2008	10,400.53	2277190.53	Cresud public documents
Brazil	Sao Jose (#2)	BrasilAgro	2007	142.30	1001.32518	Cresud public documents
Paraguay	Moroti	BrasilAgro	2009	27,719.81	5679966.86	Cresud public documents
			TOTAL	173,294.40	29,967,360.42	

Transatlantic flight GHG emissions :

There is significant disagreement on CO2 emissions per flight and some variance.

As such, Global Witness chose to go triangulate these three data sources calculated by the organisations Atmosfair, ICAO and FutureTracker.

- ICAO / BBC estimate for **economy return transatlantic flight (economy) : 0.67 tonnes CO2**
- Atmosfair / Guardian **return transatlantic flight : 986 tonnes CO2** n.b. “The figures include only the CO2 generated by burning jet fuel, not any emissions embedded in the construction of the plane or any other greenhouse gases that might be produced, such as water vapour.”
- FutureTracker **one-way transatlantic flight : 1.12 tonnes CO2** for a *one-way flight*. This calculation is based on DEFRA conversion factors for GHG released in 2023.

Global Witness chose an intermediate figure of these three analyses to estimate 1 tonne CO2 for one transatlantic flight.

Final estimation:

29 million tonnes of CO2 produced = Approximately 30 million transatlantic flights.