Is Cooling the Earth Cost-Effective?: An Evaluation of "Cool Earth"
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Giving What We Can has started to investigate the cost-effectiveness of climate change organizations. One of the organizations investigated is Cool Earth, which aims to fight climate change by helping to protect rainforest. Overall, we estimate that Cool Earth will reduce a tonne of CO2 for about $1.34, thereby averting a DALY for about $6700, though this figure contains a high degree of uncertainty.

Summary

- Cool Earth aims to fight global warming by combating the deforestation of the rainforest.
- Cool Earth safeguards rainforest by using donated money to help develop rainforest communities economically to a point where they do better by not selling their land to loggers.
- Perhaps more importantly, Cool Earth is thinking strategically by targeting rainforest that is more imminently at risk and aiming to use regions of rainforest a "wall" to block off a much wider landscape from illegal logging.
- Climate change poses significant risks. The World Health Organization states that increased climate change will eventually result in more exposure to thermal extremes and weather disasters, which will increase the incidence of malaria, diarrhoea, and malnutrition and The Stern Review, conducted by the UK Treasury, estimates that there is a substantial economic cost to climate change, potentially reducing global GDP by 5% and up to 20% with more pessimistic assumptions.
- Cool Earth plans to charge £70 to £80 ($109 to $126) per acre for current projects.
- Cool Earth estimates this from their measurements (based on periodic transect sampling) and other research on the areas in which they work suggest that each acre will hold 260 tonnes of CO2.
- Cool Earth monitors protected areas through community rangers and satellite imagery and no deforestation has been detected in Cool Earth's protected areas. This has been verified by the International Arm of the French Forestry Commission.
- Nearby forests that were not protected are relevantly similar and have been 30% to 40%

cleared. Because of this and additional facts about demand for wood and logging, we can expect that an acre directly protected by Cool Earth results in about half an acre being preserved on net.

- Therefore, Cool Earth can avert a DALY for about $6700. This estimate is highly uncertain however, and does not take into account the additional benefit of Cool Earth's support of the local community through economic development.

- This is good, but not as good as our top recommended charity, the Against Malaria Foundation, which could avert a DALY for $32.07 to $71.20, and therefore is more than 90x more cost-effective.

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Introduction

What is Cool Earth?

Cool Earth was founded in 2007 in the United Kingdom by businessman Johan Eliasch and MP Frank Field, who were concerned with protecting the rainforest and the impact that deforestation might have on the environment.

Cool Earth aims to fight global warming through fighting deforestation in the rainforest. They use donated money to help develop rainforest communities economically to a point where they do better by not selling their land to loggers. Cool Earth does not buy rainforest directly, but rather provides economic incentives to make sure the local communities opt not to sell their rainforest to loggers.

The Case in Favour of the Project

Who We Spoke With

Kitty Jenkin, project officer.

Cool Earth's Plan

Cool Earth is currently aiming to protect about more than 250K acres of at-risk rainforest in the region of Democracia in Brazil, the Awacachi Corridor of Ecuador, and in the Rio Ene Valley of Peru, and have upcoming projects in Lubutu, Congo, and Awajún, Peru. Cool Earth aims to help these regions through economic assistance -- setting up infrastructure and finding ways for these regions to propser without logging, thus allowing them to not sell their rainforest to loggers.

Generally, Cool Earth aims to support their communities so they will maintain legal association over the land and save it from being logged. Support is decided democratically at community meetings and is spent across six areas: poverty, health, education, micro credit, sustainable incomes and conservation training.

In Rio Ene Valley, Cool Earth is collaborating with a local partner organization, Ecotribal, to help the Ashaninka tribe along with some nearby communities. In the Awacachi Corridor, Cool Earth is helping support bamboo and cacao production to help generate what Cool Earth claims are sustainable jobs for the native people, in order to give them the income they would've otherwise received through selling

their rainforest to loggers. Cool Earth works with a local partner organization, Fundación Sirua, that helps provide seeds and technical advice to help improve yields.

Perhaps more importantly, Cool Earth is thinking strategically about these regions and using them as a "wall" to block off a much wider landscape from illegal logging. In particular, Cool Earth regards the Awacachi Corridor as "a key strategic site that [...] reinforces the conversation of over 350,000 hectacres" and considers it a "gaping hole in the defences of the Ecuadorean rainforest". The Rio Ene Valley, along with the neighboring Ashaninka Communal Reserve, is also seen as a "buffer zone for Otishi National Park".

Cool Earth's Case for Impact

Based on claims of Cool Earth and our own assumptions and estimates, it's plausible that Cool Earth can (1) protect rainforest for less than $206/acre and (2) that protecting acre of rainforest will prevent at least 260 tonnes of CO2. This means that Cool Earth could prevent a tonne of CO2 for potentially less than $1.34.

Analysis

Does climate change prevent us with a legitimate concern worth taking action on?

- The World Health Organization states that increased climate change will eventually result in more exposure to thermal extremes and weather disasters, which will increase the incidence of malaria, diarrhoea, and malnutrition.

- The Stern Review, conducted by the UK Treasury, estimates that there is a substantial economic cost to climate change, potentially reducing global GDP by 5% and up to 20% with more pessimistic assumptions.

- These methods of assessing the impact of climate change do not take into account additional negative side-effects, including but not limited to damage to culture, forced migration, and biodiversity loss.

Does Cool Earth have a credible case that additional efforts will save the rainforest for less than $206/acre?

- Cool Earth plans to charge £70 to £80 ($109 to $126) per acre for current projects.
- Past projects have successfully protected an acre for $154 on average.
- Cool Earth has, to date, claimed to protect 352,091 acres on a budget of £2,630,145, which is £7/acre ($11/acre).
- New projects are rather similar to past projects.

Does Cool Earth have a credible case that an acre of saved rainforest will prevent 260 tonnes of CO2?

- Cool Earth estimates this from their measurements (based on periodic transect sampling) and other research on the areas in which they work suggest that each acre will hold 260 tonnes of CO2.
- This is likely to be an underestimate because it doesn't account for the amount of carbon held by the soil or the fact that deforestation produces greenhouse gasses other than CO2.
- The alternative use of the land by the native population does not involve significant CO2 production.
- While the trees may still be cut down in the long-term, the short-term savings of CO2 is most relevant to climate change.

Does Cool Earth actually succeed in preventing deforestation in their protected areas?

- Cool Earth monitors protected areas through community rangers and satellite imagery and no deforestation has been detected in Cool Earth's protected areas. This has been verified by the International Arm of the French Forestry Commission.
- If Cool Earth forms partnerships correctly, the economic incentive should be strong enough to prevent deforestation, since the communities' livelihoods will now depend upon keeping the forest intact.

Would Cool Earth's protected areas actually be deforested, absent Cool Earth's intervention?

- Nearby forests that were not protected are relevantly similar and have been 30% to 40% cleared (Soruce: International Arm of the French Forestry Commission).
- Cool Earth's own estimates predict about 30% of the forests would have been cleared.
- The protected forests were "slated to be cut" by loggers.
- No one else is doing comparable preservation work which would have spared those forests if Cool Earth had not been involved, and who will not move to other similar forests given that Cool Earth is involved.

Does Cool Earth actually reduce deforestation, as opposed to merely displace it to other areas?

- According to Cool Earth, most logging is not done by career loggers, so when the native community moves on to do some other job as a result of Cool Earth funding, the loggers do as well. Therefore, it's unlikely those who would log the protected forest would just move to a different forest.
- Because wood is sold rather than land, wood price is the most relevant market factor. While protecting forests does increase the price of wood and therefore increase demand for logging, the elasticity of wood is such that the demand increases by less than half (Source: Food and Agriculture Organization of the United Nations Report; Jonsson, et. al. 2012)
- Therefore, we can expect that an acre directly protected by Cool Earth results in about half an acre being preserved on net.

Where does Cool Earth rank compare to currently recommended charities?

- The World Health Organization estimates that averting about 5000 tonnes of CO2 would avert about 1 DALY, though this is a highly uncertain estimate.
- If we take this claim at face value, Cool Earth can averting a DALY for about $6700.
- This estimate does not take into account the additional benefit of Cool Earth's support of the

local community through economic development.

- Our top recommended charity, the Against Malaria Foundation, could avert a DALY for $32.07 to $71.20, which is 90x to 210x more cost-effective (Source: GiveWell).

Does Cool Earth have room for more funding?

- According to Cool Earth, there are communities who would like to avoid deforestation with Cool Earth, but for whom there is not yet funding do a full project. Additionally, existing projects could be scaled.

- According to Cool Earth, the unsponsored forest in the Ashaninka project could still take £1.22M ($1.9M) over the next three years, and that is just one project.