

WeForest : FAQ



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What is WeForest?

WeForest is a Swiss non-profit NGO promoting permaculture-based reforestation to combat global warming, poverty and water shortages. Our aim is sustainable, bio-diverse and ecologically compatible reforestation. We fund reforestation projects across the world using microfinance and support permaculture techniques, education and dissemination. WeForest is based on research developed over the last 30 years.

What is Permaculture?

Permaculture is the conscious design and maintenance of agriculturally productive ecosystems that have the diversity, stability and resilience of natural ecosystems. It is the harmonious integration of landscape and people providing their food, energy, shelter, and other material and non-material needs in a sustainable way. Without permanent agriculture there is no possibility of a stable social order.

Permaculture aims to create systems that will sustain not only for the present, but for future generations. It was first developed by Australians Bill Mollison and David Holmgren during the 1970s. Our partner Geoff Lawton with the Permaculture Research Institute of Australia has taken on this work globally.

The word permaculture is a combination of the words permanent, agriculture and culture

Permaculture is an " Ethical Design Science " that creates positive design solutions to climate change for the required supply lines of global humanity. (Geoff Lawson)

The intent is that by rapidly training individuals in a core set of design principles, those individuals can design their own environments and build increasingly self-sufficient human settlements

Is WeForest an official charity?

It is a Registered Swiss NGO (Stiftung) under Neo Institute No. CH-310.7.001.935-7 Industriestrasse 3, Appenzell, 9050, Switzerland. We are applying for ZEWO status in Switzerland.

What is our objective?

To plant 20 million km² of trees by 2020, recovering more than half of the 39 million km² of degraded farmland that existed in 2009. This is comparable to the current tropical forest (which according to UNEP was 26 million km² in 2005). Just to give an idea, South America is roughly 17 million km²: so we need to reforest a little over that surface.--

Who founded WeForest and when?

Bill Liao, a successful Australian philanthropist and entrepreneur, founded WeForest in early 2009. He is also co founder of www.Xing.com and www.Neo.org, a social networking site where people can make a personal commitment to the future of the earth.

Who are the board members of WeForest?

Our advisory panel is composed of qualified scientists, recognized public figures, successful business people and social entrepreneurs who have been chosen because of their commitment to making a difference to the environment and a strong belief in reforestation as a powerful way of healing the earth.

Who is managing WeForest?

WeForest works with volunteers - a whole network of people supporting us. Marie Noelle Keijzer joined WeForest in Nov 09 as CEO. She brings 17 years of senior leadership experience from various multinationals, where she led global projects and managed large international teams. She is French, lives in Belgium and speaks 7 languages.

Where are our projects ?

1. Our first project is in Brazil. WeForest contributed to the replanting of 22 hectares at 'Fazenda Ambiental Fortaleza' (from a total of 284 hectares). Our main partner <http://www.openworldfoundation.org/> is providing for the planting and care of more than one million (1,000,000) trees over a ten year period in the Minas Gerais and São Paulo regions of Brazil. We work with landowners to reforest land with native tree saplings of the original "Mata Atlântica" (Atlantic Rainforest). This generates a positive social impact in local communities (including jobs, education, and promoting local handicrafts).
2. We have a project starting in **Kenya (Kilifi)**, 45 min away from Mombasa/Malindi. <http://bit.ly/71I9B>. This 5,000 acre (2080 hectares) farm on the coast of Kenya has been a sisal plantation, dairy and most recently, real estate opportunity. The farm is managed by Chris Wilson, an advocate for change in Kenya and a charitable supporter of a number of initiatives around education and medicine within the Kilifi area. Our objective is to take a master plan approach in developing a community that is recognized globally for its natural beauty and as a model for sustainable 'African' economic development.
3. In **Chipata, Zambia** we are converting a large farm (32 hectares) to permaculture food forestry and producing radio programs advising all rural Zambia on how to replicate what we do. Part of the land will also be allocated to an experimental demonstration of permaculture farming.
4. In 2010 we start planting in **St Kitts & Nevis**: The twin island federation of St. Kitts & Nevis, located in the heart of the Caribbean was forced to abandon the cultivation of sugar cane in 2006 after over 300 years of continuous cultivation, due to a WTO ruling. This has led to the abandonment of over 10,000 acres of sugarcane lands, most of which is now neglected. Within the first semester of 2010, WeForest (St Kitts) will design and plant a permaculture plot, which will serve as a pilot project for the rest of the abandoned lands. WeForest will also develop a permaculture institute in St. Kitts, which will be used to train both local and international students.
5. We will be supporting another project in 2010 called "Isaan New Life" or "Striking At The Heart Of Poverty in Thailand". Isaan is a region in the northeast of **Thailand**, comprising several provinces. It is one of the most disadvantaged and under-developed parts of the country. *Isaan New Life* was started in 2007 with the ambitious aim of transforming the rural community of Sakon Nakhon (one of nineteen provinces in the region covering an area of 9,605.8 km² and with a population of around one million people) as a learning model (or showcase) for others to emulate.
6. We have land made available for reforestation in **Belize, Tanzania**, and even more to be formalized in Congo, Cameroon, Burundi...many countries are interested...

What makes WeForest different from all the other organizations planting trees?

Thousands of organizations are protecting trees or eco systems. Hundreds of organizations protect rainforest. Very few are replanting; we would love to partner and share best practices with anyone who is designing and planting permaculture food-forests.

How much land do we need?

For a single project, not much is required. The ideal project size is the land area typically used by local farmers to produce their needs, in terms of size, landscape profile and soil quality; not exceptionally good or bad but typical of what local people have to deal with. To extend this further, into a community forestry example, then an extra area is required that can at least provide a family with a permanent forest system that provide for all their forest needs sustainably. This can vary greatly in location and area normally used by local peoples. In summary, the size of a local family farm plus an extra half for a learning center is a good size to start with. Once we can prove the concept to the local community, we can expand.

How much funding do we need to start a project?

Most of the cost goes into setting up the nursery for saplings, funding the permaculture designers and maintaining/controlling the plants for many years. The cost will vary according to the geographical area, the local availability of designers and the cost of labor. On average we can start a project with 10,000€.

How much does planting a tree cost?

Planting a tree is not as simple as digging a hole in the ground, putting in a tree and letting it grow. Site selection, climate, and protection from wildlife are just some of the issues that must be considered. Also for tree carbon programs and cloud creation and their positive impact on climate change, long term viability is needed.

In terms of the cost of the tree itself: whether you plant an acacia or a baobab the price can vary from a factor 10.

But as mentioned, the main cost however is not in the tree itself but from the planting and caring. Our numerous studies show that on average:

- 20% of the cost is for land (selecting the site, testing the soil, purchasing the land, fees and taxes).
- 20% for planting (clearing the sites, buying/growing the saplings, fertilizing the site, and planting)
- 40% for maintenance and care for 25 yrs (agro-forestry engineers, farm workers, administrative expenses)
- 20% for permaculture and project management support

Where does the money come from that is being donated?

Initially most of the funding came from Bill Liao our founder. Currently WeForest is applying to various foundations and working with several corporations. However a big part of our funding comes from individuals wanting to contribute and plant trees.

How do I know the money arrives at the project?

WeForest currently only counts on volunteers who are committed to this cause. All our funding goes to our projects worldwide. Eventually a small portion of our funding will cover overheads, including occasional travel to projects.

Who are our partners?

Our vision is to have everyone in the world involved directly and indirectly in tree planting: we welcome all partnerships. We love the idea of joining efforts with other people who plant trees - especially if they are children! - or with organizations fighting poverty, supporting Women's empowerment or promoting health.

What do we mean by a "way to combat global warming" ?

Forests make clouds, and cloud cover reflects sunlight back into space thus cooling our planet. Permaculture forest can cool our planet and provide more water, jobs and food. Several scientists, including Walter Jeyne, microbiologist and ecologist, have demonstrated this work. See his white paper on our [reference](http://bit.ly/Y2EF4) tab. From a recent article in the New Scientist, <http://bit.ly/Y2EF4>. "*Scientists have known for some time that forests recycle rain. Up to half the precipitation falling on a typical tropical rainforest evaporates or transpires from trees. This keeps the air above moist. Ocean winds can spread the moisture to create more rain. But now Victor Gorshkov and Anastassia Makarieva of the St Petersburg Nuclear Physics Institute in Russia say that forests also create winds that pump moisture across continents.*"

Why slowing down CO2 emissions is only part of the climate change solution.

"Research by NASA show the world's oceans initially absorb most CO2 we emit and then release it back over 25-50 years. This lag period ends with 60% of the CO2 back in the air. Much of CO2 released in the 1970s and 80s is still held in ocean. It therefore follows that we are locked into an accelerating CO2 level in the air, beyond the 382 parts per million we have today, irrespective of CO2 emission reductions. We had the opportunity and the warning in the 1970s and we failed to act. It is now 25 years too late to fix the issue by just reducing emissions. We have to do more". Walter Jeyne, microbiologist and ecologist with an interest in Earth Systems.

How bad is the deforestation problem?

About 32 million acres (=130 000 km²) of forests are cut down each year - *an area about the size of England or New York State*. The emissions generated by this deforestation are comparable to those of China and the United States combined, according to the Eliasch Review.

Is logging always a bad thing?

Conventional logging operations commonly harvest selected mature trees using heavy machinery to extract the logs to poorly constructed feeder roads. Many landowners, governments and non-governmental organizations (NGOs) perceive the benefits of these conventional operations to be insufficient to compensate for the environmental degradation and social costs incurred.

Community eco-forestry has been considered one of the most promising options of combining forest conservation with rural development and poverty reduction objectives. Eco-Forestry is a term that collectively describes activities that sustainably utilize forest resources with as much benefit as possible being retained by the resource owner. This approach to forest management has considerable benefits in terms of the sustainability of resource use, in assisting grass roots rural community development and in ensuring environment conservation. Eco-forestry is an alternative to industrial logging. Using minimal impact harvesting methods, landowners fell a small number of carefully selected trees, process and transport the timber without damaging the surrounding forest.

Eco-timber is sold to local and overseas markets, providing local people with independence, an income and employment while protecting their forest resources for the future. Greenpeace estimates that 'eco' timber provides up to ten times more profit to local communities than large scale logging operations. Eco-Forestry allows us to continue to use the resources within the forest without destroying it - ensuring that the present and future generations of local people will continue to benefit. It allows development while protecting the resources and the environment.

What if I plant a tree in my garden? Does it help?

It will sequester some carbon but not create clouds. You need large-scale forests and tropical regions are best: plantations of oil palms or eucalyptus will not do it; on the contrary, it will only stress the water resources.

Why is Rainforest so important?

Rainforest plays a critical role in regional weather by contributing moisture through transpiration - the process by which plants release water through their leaves - as well as chemicals and air borne micro-organisms that have the effect of seeding the moisture into clouds. It is estimated that the Amazon creates 50-80% of its own rainfall through this process. Thus, as forest is felled, degraded, and cleared less moisture is evaporated / transpired into the atmosphere and critically in warm climates nothing is released to seed the clouds.

The result: fewer rain clouds are formed and less precipitation falls on the forest -- NASA researchers confirmed this with their finding that during the Amazon dry season there was a distinct pattern of lower rainfall and warmer temperatures over deforested regions. The forest becomes drier contributing to a positive feedback loop where rainforest is replaced with savanna which transpires less and less moisture and is more susceptible to fires, which in themselves may alter regional climate by inhibiting cloud formation.

Importance of Rainforest on climate change:

- Rainforests make clouds and rain, increasing cloud cover directly cools the planet. This effect is not included in standard climate models due to the continued over focus on carbon as the only mechanism to judge climate change. The effect of forest created cloud cover is immediate and much larger than the effect of carbon sinking.
- Rainforests are also carbon sinks especially if timber is also sustainably harvested for use in durable goods such as furniture and timber house frames.
- Deforestation is both a carbon emitter and a cloud cover reducer: Deforestation in the tropics accounts for nearly 20 per cent of carbon emissions due to human activities and 50% of our total rainforest has been lost in the last 60 years alone. Maintaining forests as carbon sinks will make a significant contribution to stabilizing atmospheric greenhouse gas concentrations.
- Forest canopy shields the understory from harsh and intense sunlight,
- Trees anchor soil and prevent erosion and provide windbreaks for crops.
- They regulate the water cycle by absorbing and redistributing rainwater. They release tiny particles or organisms that actually seed clouds
- They convert sunlight into life.

What constitutes a rainforest?

A rainforest is vertically divided into at least six layers:

1. the *over-story*, refers to the crowns of emergent trees which soar 20-100 feet above the rest of the canopy.

2. the *canopy* is the dense ceiling of closely spaced trees and their branches
3. the *understory*, is the term for more widely spaced, smaller tree species and juvenile individuals that form a broken layer below the canopy
4. the *shrub* layer, is characterized by shrubby species and juvenile trees that grow only 5-20 feet off the forest floor.
5. the *forest floor* is the ground layer of the forest made up of the trunks of trees, fungus, and low-growing vegetation.
6. There is a less well-understood *subsurface* layer that generally includes many species of insect and large fungal mats or massive organisms.

These layers are not always distinct and can vary from forest to forest, but serve as a good model of the vegetative and mechanical structures of the forest.

Besides attracting a broad array of wildlife, the canopy plays an important role in regulating regional and global climate because it is the principal site of the interchange of heat, water vapor, and atmospheric gases. In addition to collecting solar energy and regulating the climate, the canopy shields the understory from harsh and intense sunlight, drying winds, and heavy rainfall, and retains the moisture of the forest below.

What do you mean by food-forest?

Forest gardening (also known as 3-Dimensional Gardening) is a food production and land management system based on replicating woodland ecosystems, but substituting trees (such as fruit or nut trees), bushes, shrubs, herbs and vegetables which have yields directly useful to humans. By exploiting the premise of companion planting, these can be intermixed to grow on multiple levels in the same area, as with the plants in the forest.

How does the cloud seeding work?

In the natural rainmaking process, warm, moist air rises into the atmosphere, begins to cool and forms droplets of water. Cloud droplets form around cloud nuclei - cloud nuclei in higher latitudes nearer the planets poles are often formed by ice crystals, but in warmer and tropical regions, there is a vast and complex aerial ecology with micro-organisms such as symbiotic plant leaf bacteria and also certain chemicals released by trees forming the majority of cloud seeding and nucleation. While dust and other particulate matter also play a role, it is the forests of the tropics that really create the rain. Cloud droplets then group together in to clouds (it takes millions of cloud droplets to form one raindrop), which can precipitate in one of two ways. In higher temperatures, droplets in the clouds merge with countless other droplets and become heavy enough to fall as rain. In lower temperatures, the droplets form ice crystals. Other droplets freeze onto these ice crystals, which grow larger and heavier until gravity takes charge and they fall to the ground as rain, snow, or hail, depending on how much they have warmed in the process.

Some facts about Global Warming

As stated by The United Nations Intergovernmental Panel on Climate Change: "the global increases in carbon dioxide concentration are due primarily to fossil fuel use and land-use change, while those of methane and nitrous oxide are primarily due to agriculture" (since 1750).

Greenhouse Gases such as CO₂ and Methane re-absorb heat reflected from the Earth's surface, thus trapping the heat in our atmosphere.

Deforestation and melting polar and glacial ice: when trees are cut down, they no longer produce cloud cover and when ice melts, the ground / ocean is no longer white. Combined, this reduces the albedo effect, which reflects the sun's energy back into space resulting in significant additional energy being trapped at ground level.

Solar irradiance: while a component of recent global warming may have been caused by the increased solar activity of the last solar cycle (a few tenths of a percent), that component was very small compared to the effects of additional greenhouse gases, according to a NASA Goddard Institute for Space Studies (GISS).

Earth's temperature: How does it all work?

- Short wavelength (optical wavelengths) radiation from the sun reaches the top of the atmosphere.
- Clouds reflect 17% back into space. If the earth gets more cloudy, as some climate models predict and which will happen if we succeed in reforestation, more radiation will be reflected back and less will reach the surface
- 8% is scattered backwards by air molecules: (Note: blue light, being approximately 1.7 times shorter wavelength than red light, is scattered about 10 times more efficiently. These multiple scatterings are the reason the sky is blue).
- 6% is actually directly reflected off the surface back into space
- So the total reflectivity of the earth is 31%. This is technically known as an Albedo. Note that during Ice Ages,

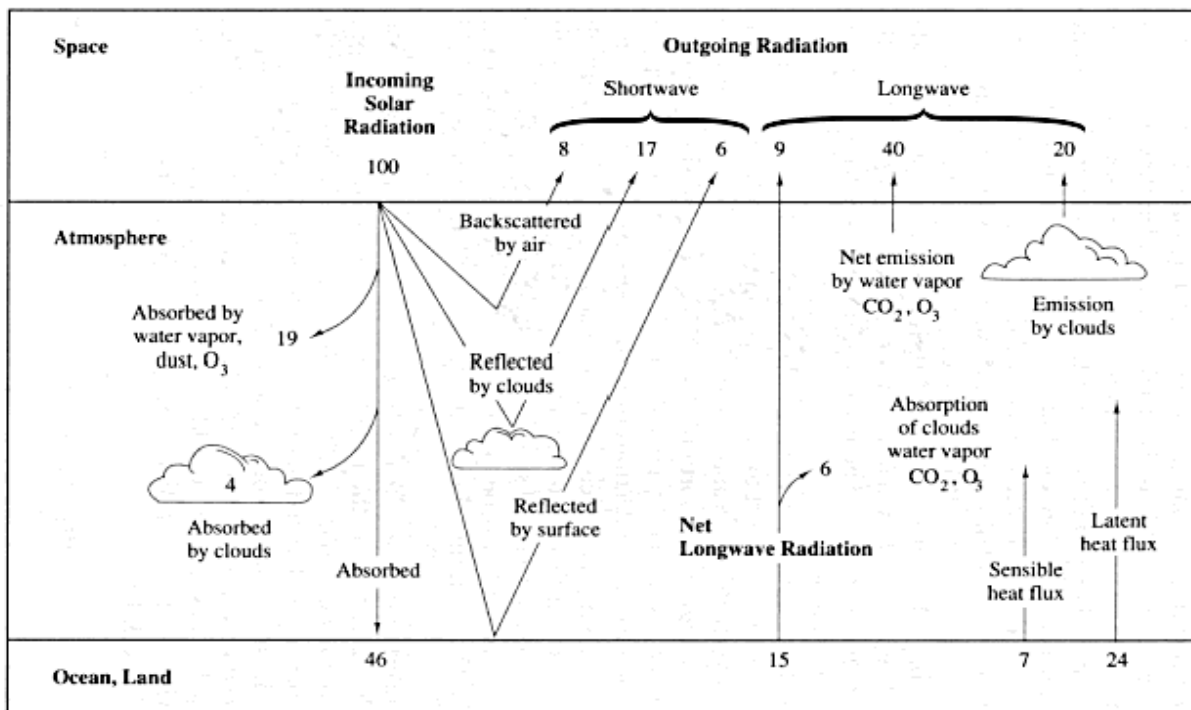
the Albedo of the earth increases, as more of its surface is reflective. This, of course, exacerbates the problem.

What Happens to the 69% of the incoming radiation that doesn't get reflected back?

- 19% gets absorbed directly by dust, ozone and water vapor in the upper atmosphere. This region is called the stratosphere and it's heated by this absorbed radiation. Loss of stratospheric ozone is causing the stratosphere to cool with time, which, of course, greatly confuses the issue of global warming.
- Clouds, located in the troposphere, absorb 4%. This is the lower part of the earth's atmosphere where weather happens.
- The remaining 47% of the sunlight that is on top of the earth's atmosphere reaches the surface. Most of it is re-radiated back into space by the net emission of the atmosphere and the clouds. The rest is temporarily stored as energy and emitted back later.

What are the concentration increases of GHG since 1750?

- Carbon Dioxide(CO2): 280 ppm-360 ppm (+29%) burning of carbon based fuels (factor 1)
- Nitrous Oxides (N2O): 280 ppb-360 ppb (+11%) fossil fuels and fertilizers
- Methane(CH4): 0.70 ppm - 1.70 ppm- (+143%) anaerobic bacteria in rice fields, cows, sewage (factor 25)... Frozen methane (methane hydrates) also found in the Arctic Ice Caps will be released due to global warming thus exacerbating the problem. This is far more serious that people realize or has been reported.
- CFC's : refrigeration and spray cans (factor 10,000 ! compared to CO2)



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