

GLOBE Trees - Trees In The News

Insights on Planting Trees for Carbon Capture and Climate

Scientists address myths over large-scale tree planting - guidance from research
<https://www.bbc.com/news/science-environment-55795816> (26 January 2021)



ALEXANTONELLIRBGKEW

Trees must be able to cope with projected climate change

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It takes at least a century to restore damaged forests



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Undamaged old-growth forests are major long-term carbon sinks



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Africa's Great Green Wall <https://www.facebook.com/bbcearth/videos/africas-great-green-wall/2215877578730575/>



A solution that's slowing desertification on the front lines of climate change

For all the research details see: <https://onlinelibrary.wiley.com/doi/10.1111/gcb.15498>

Di Sacco, A., Hardwick, K.A., Blakesley, D., Brancalion, P.H.S., Breman, E., Cecilio Rebola, L., Chomba, S., Dixon, K., Elliott, S., Ruyonga, G., Shaw, K., Smith, P., Smith, R.J. and Antonelli, A. (2021), Ten golden rules for reforestation to optimize carbon sequestration, biodiversity recovery and livelihood benefits. *Glob Change Biol.* <https://doi.org/10.1111/gcb.15498>

FIGURE 1 - Example of a problematic tree-planting initiative. In the highly degraded but previously mega-diverse lowlands of eastern Madagascar. Large scale reforestation was carried out in the 1980s, covering thousands of hectares with the Australian *Grevillea banksia* and other non-native species. The initial intention was to provide communities with a source of firewood. This goal met with some success, but there were unintended consequences, such as displacement of croplands and exclusion of native biodiversity.





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Summary:

Tree planting is a great solution to reduce future climate change and also protect biodiversity, but the wrong tree in the wrong place can do more harm than good, say experts at the Royal Botanic Gardens, Kew.

Forests are essential to life on Earth. They provide a home to three-quarters of the world's plants and animals, soak up carbon dioxide, and provide food, fuels and medicines. Also, they support aesthetic, cultural, and recreational activities.

A raft (bad pun) of ambitious tree-planting projects are underway around the world to replace the forests being lost.

An African-led movement to plant a 5,000-mile (8,048km) forest wall to fight the climate crisis is set to become the largest living structure on Earth, three times the size of the Great Barrier Reef.

However, planting trees is highly complex, with no universal easy solution.

"If you plant the wrong trees in the wrong place you could be doing more harm than good," said lead researcher Dr Kate Hardwick of RBG Kew.



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The 10 golden rules are:

Protect existing forests first

Keeping forests in their original state is always preferable; undamaged old forests soak up carbon better and are more resilient to fire, storm and droughts. "Whenever there's a choice, we stress that halting deforestation and protecting remaining forests must be a priority," said Prof Alexandre Antonelli, director of science at RGB Kew.

Put local people at the heart of tree-planting projects

Studies show that getting local communities on board is key to the success of tree-planting projects. It is often local people who have most to gain from looking after the forest in the future.

Maximize biodiversity recovery to meet multiple goals

Reforestation should be about several goals, including guarding against climate change, improving conservation and providing economic and cultural benefits.

Select the right area for reforestation

Plant trees in areas that were historically forested but have become degraded, rather than using other natural habitats such as grasslands or wetlands.



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Use natural forest regrowth wherever possible

Letting trees grow back naturally can be cheaper and more efficient than planting trees.

Select the right tree species that can maximize biodiversity

Where tree planting is needed, picking the right trees is crucial. Scientists advise a mixture of tree species naturally found in the local area, including some rare species and trees of economic importance, but avoiding trees that might become invasive.

Make sure the trees are resilient to adapt to a changing climate

Use tree seeds that are suitable for the local climate and how that may change in the future.

Plan ahead: Plan how to source seeds or trees, working with local people.

Learn by doing

Combine scientific knowledge with local knowledge. Ideally, small-scale trials should take place before planting large numbers of trees.

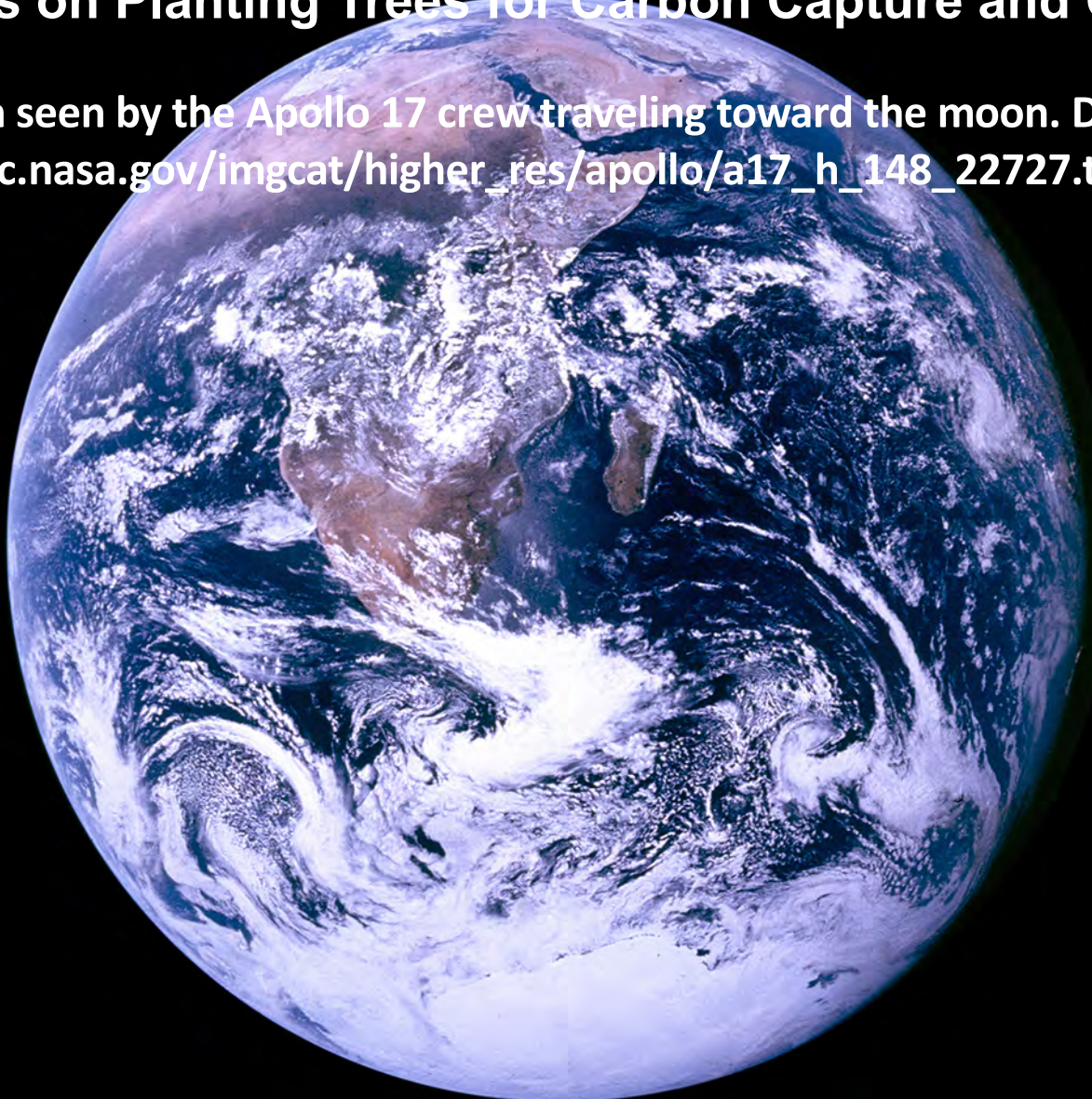
Make it pay

The sustainability of tree re-planting rests on a source of income for all stakeholders, including the poorest.



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View of the Earth seen by the Apollo 17 crew traveling toward the moon. Dec. 7, 1972

https://nssdc.gsfc.nasa.gov/imgcat/higher_res/apollo/a17_h_148_22727.tiff

Related: Planting Trees Sounds Like A Simple Climate Fix. It's Anything But.

https://www.huffpost.com/entry/planting-trees-not-simple-climate-fix_n_601c1627c5b6c0af54d17e98