SURFACE AREA REQUIRED TO CONTINUOUSLY OFFSET THE ANTHROPOGENIC CO_2 EMISSIONS OF THE WORLD

BY REFORESTATION ALONE

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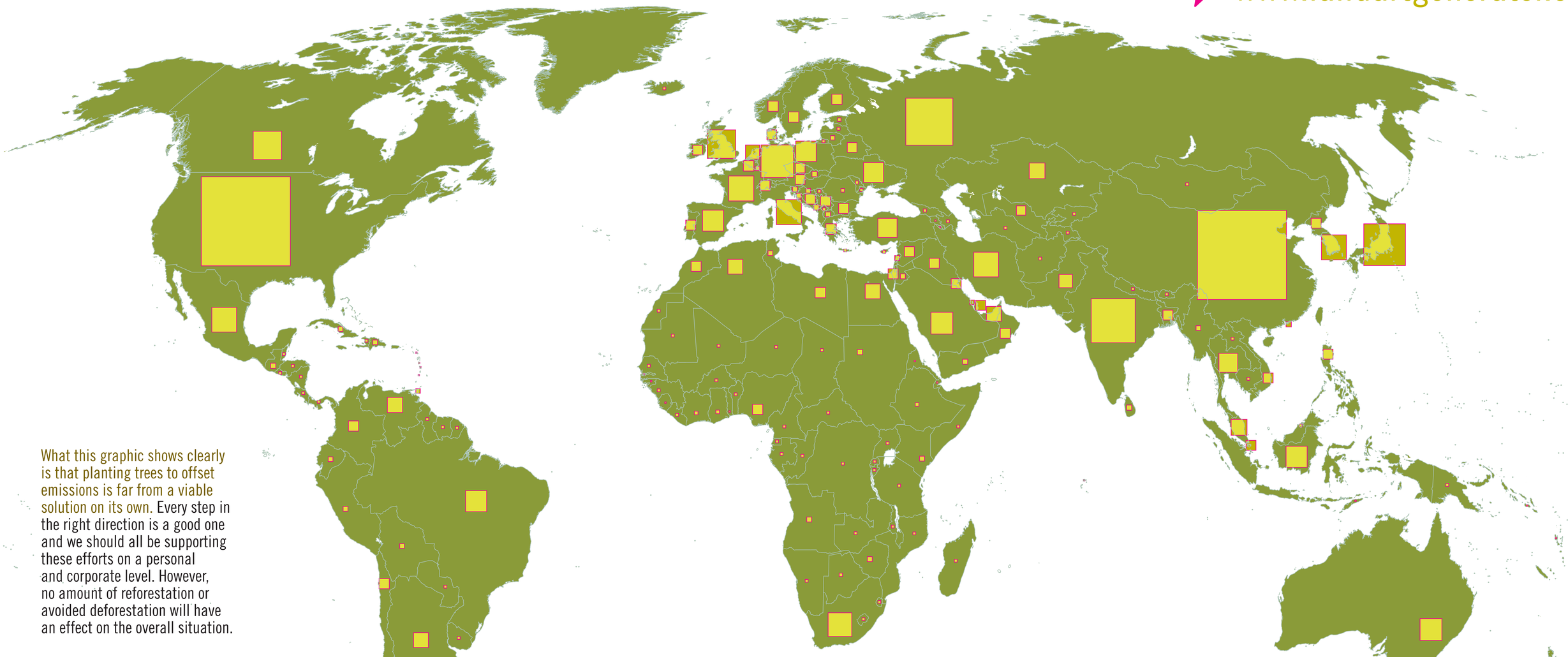

What this graphic shows clearly is that planting trees to offset emissions is far from a viable solution on its own. Every step in the right direction is a good one and we should all be supporting these efforts on a personal and corporate level. However, no amount of reforestation or avoided deforestation will have an effect on the overall situation.

ALL BOXES ARE TO SCALE WITH MAP

THE BOXES SHOWN ON THE MAP IF COMBINED TOGETHER WOULD EQUAL THIS LARGE BOX

28.4 billion tons of CO_2 were emitted by humans in 2006. Planting 22.8 million km^2 of new trees would offset this each year.

4,769km

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- Each country in the world has been given a box which shows the surface area that would be required if we were to plant all of the new trees that would be required to completely offset its total CO_2 emissions.
- Emissions are taken from < http://en.wikipedia.org/wiki/List_of_countries_by_carbon_dioxide_emissions > and are figured per country per year for 2006.
- Number of trees and surface area was calculated as follows:

  100 trees per ton of CO_2 (CO_2 uptake varies greatly per species and latitude, and this is taken as an average)

  2,828mm on-center tree spacing gives $8m^2$ per tree.

  For example, the United States is responsible for 5.75 billion tons of CO_2 annually. Multiplying this by 100 trees and then by $8m^2$ for each tree (x 10^{-6} to convert to km^2), and you arrive at $4,592,449km^2$, or a square 2,143km on a side which is shown.

  The trees would continue to uptake the same amount of CO_2 every year and are assumed to be of average size growth.

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