CBC

Missing the forest for the trees: In climate change fight, simplest solutions might be the most obvious

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A worker plants seedlings for reforestation in Peru in this 2014 file photo. A recent study suggests there is global capacity to plant at least 1.25 trillion more trees worldwide, which could take 205 gigatonnes of carbon out of the atmosphere. (Enrique

At a time when the news is awash with stories of the Amazon forest burning, Greenland ice melting, hurricanes intensifying, and global climate strikes spreading, it is easy to feel exhausted and helpless. Lost among this wave of pessimism and impending doom is the occasional positive story that inspires personal involvement.

For example, a recent research study suggests a way to make a real impact — at the cost of what many of us spend on a cup of coffee once a week over the course of a year.

The study by Swiss scientists, recently published in the prestigious journal Science, assessed the global potential for tree restoration using over 78,000 satellite photo measurements and artificial intelligence to generate predictive models.

The results shocked even the scientists who conducted the work: without interfering with agricultural and urban lands, there was potential to add at least 0.9 billion hectares of forest to the globe — an area roughly the size of the United States.

What this means in terms of the potential to store carbon is staggering. A whopping 205 gigatonnes of carbon could be taken out of the atmosphere when the 1.2 trillion trees planted on the available land fully mature, which represents about 25 per cent of all the

carbon in the atmosphere. This also amounts to almost two-thirds of all carbon humans are estimated to have contributed to the atmospheric pool.

Canada in a position to lead

Where this story hits closer to home is when the tree restoration potentials are discussed by region and country. More than 50 per cent of the total available area lies within the boundaries of only six nations (Russia, the U.S., Canada, Australia, Brazil and China). With the potential to add 78.4 million hectares of forests, Canada ranks third, which places it in an important position for leadership and responsibility.

Considering the world population currently sits at around 7.7 billion, the planting of the additional 1.2 trillion trees would mean a personal share of 155 trees. For an average family of four, this means 620 trees. Very few families would have the ability and means to do this on their own.

However, both local and international organizations exist that will engage in large-scale reforestation (restoring existing forests) or afforestation (converting marginal lands to forests for the first time) activities.

For example, reputable organizations such as Eden Reforestation Projects, Tree Sisters, Trees for the Future and others plant trees in the developing world to provide local employment, poverty reduction, and ecological restoration. At the low end, with a cost of 10 cents to 35 cents per tree, these organizations put seedlings into the ground and manage their growth in countries such as Nepal, Madagascar, Haiti, Indonesia, Mozambique and Kenya.

So, for anywhere between $62 to $217, a family could sponsor their share of trees. This is equals to a $2 cup of coffee a week for anywhere between eight months to two years.

Supporting forestation projects is an accessible way for people to make a tangible, measurable difference in the fight against global warming, says Nazim Cicek. (Justin Tang/The Canadian Press)

If one wants to put their hard-earned dollars to use locally, Tree Canada will contribute to the National Greening Program for $4 per seedling. This program lets you choose among five sites for reforestation in B.C., the Prairies, Ontario, Quebec and the Atlantic/North regions, using native tree species.

Not a silver bullet

Unfortunately, with a warming climate, it is estimated that the available land for forest restoration and tree planting will shrink over time. And without reducing the emission of new carbon into the atmosphere, fighting global climate change will be an uphill battle.

Tree planting is not a silver bullet. Planting initiatives large enough in scale to have an impact on atmospheric carbon concentrations will have to involve relatively dense forestation in remote, marginal and protected lands.

And even if all unused lands are used for forestation, a limit for carbon storage will be reached when trees are fully mature.

But planting trees is presently considered the most economical way to absorb and store carbon that is currently in the atmosphere — and carbon sequestration and storage can play a major role during a transitional period where our societies de-carbonize by displacing fossil fuels with non-emitting alternatives, adopting wide-scale electrification, and improving energy efficiency.

A prime example is the corporate giant Amazon, which recently announced that it will be carbon neutral across its businesses by 2040 (10 years ahead of the Paris climate accord target) by investing in alternative energy and purchasing 100,000 electric delivery vans. Notably, it will simultaneously invest $100 million in reforestation across the globe to remove existing carbon from the atmosphere.

While planting more trees is not a 'silver bullet' in the climate change fight, forestation is current considered the most economical way to absorb and store carbon that is currently in the atmosphere — which can play a major role during a transitional period as we move away from fossil fuels, says Cicek. (Fred Tanneau/Getty Images)

Emerging technologies that integrate biomass energy (biofuels, direct combustion, or production of electricity) with carbon capture and storage (through injection of carbon dioxide into geological formations, chemical fixing, or conversion to soil amendments such as biochar), have the potential to not only close the carbon cycle but reverse emissions.

These technologies are being hailed as the next generation in biomass energy applications and will create demand for forestry biomass.

Reducing personal or family emissions can be difficult and at times overwhelming, and can result in exhaustion, apathy, and even denial. Financial barriers, logistics, and inconvenience can stymie a switch to electric and public transportation, improvements to home energy efficiency, or adoption of new consumption and waste management patterns.

Relying on others to solve the problem, whether that's regional or federal governments (through taxation and regulation powers), industry, the scientific community, or intergovernmental organizations has so far proven ineffective.

Supporting tree restoration and forestation projects is an important and accessible way for individuals and families to make a tangible, measurable difference in the fight against global warming. Sometimes the most obvious solutions are also the simplest.

With all the information that is flooding our lives, it is easy to miss the forest for the trees.

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