Electricity from genetically engineered trees: It’s not as crazy as it sounds—but is it ethical?

What if trees could provide electricity to cities? …. This surrealist idyll isn’t too far-fetched, say a team of researchers from China, Italy and Japan. They’ve been working to harvest usable electricity from plants by experimenting with the “triboelectric” effect in tree foliage.

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Colombian-American industrial designer Catalina Lotero is part of the multi-disciplinary team, and explained their work at the recent Design Indaba conference in Cape Town.

Leaves, which are positively charged, produce small amounts of electricity when they come in contact with the tree trunk or any other negatively-charged material Lotero says. The team is looking to build out this energy capacity into a “biological microgrid” called Raiki.

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To transform trees to efficient power generators, Lotero and her classmates used synthetic biology techniques—a.k.a. genetic engineering—on an elm tree. They tweaked the branch formation, increased the leaf thickness and density, added a pest-repellent gene, and accelerated its growth rate.

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Lotero and her teammates are reflecting on the ethical implications of their aspirations …. “What if people get excited about trees and take down crops, fruit trees, and everything else…What would happen to wildlife?,” Lotero mused.

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