



Where I work Jessika Trancik

I've been an energy-systems researcher at the Massachusetts Institute of Technology in Cambridge for ten years. My research helped to guide US government strategy ahead of the Paris climate-change negotiations, and has been presented to the International Energy Agency in Paris, which helps nations to shape their energy policies.

My team and I model how electric batteries might affect fossil-fuel use, and how they are becoming more affordable and efficient. This information helps governments and policymakers to assess the effects of tax rebates on electric-vehicle purchases, for example. It also helps those considering investing in carmakers, as well as engineers who are developing vehicles and charging infrastructure.

In this picture, taken in late January in Cambridge, I'm holding a tablet loaded with Carboncounter, an app that tells users about vehicles' greenhouse-gas emissions and running costs. I developed it with two of my students in 2016 to help users choose vehicles with low environmental impacts.

Here, I'm matching passing cars with data in the app about emissions and costs for those models. Electric vehicles, for example, score highly on my app because of their lower emissions, but larger, boxy vehicles are less aerodynamic and thus score much worse.

Since the coronavirus pandemic, my team and I have been working from home, meeting regularly online and continuing our work.

Carboncounter is easy to use and customize, so it's popular with climate policymakers and teachers. Quebec and Ontario legislators and university educators have also used it. Legislators can use the data to create incentives for manufacturers to regulate vehicle emissions; to offer consumers rebates; and to fund research into vehicles that are more energy efficient.

I hope that some of these approaches will make high-efficiency electric vehicles more affordable for everyone.

Jessika Trancik is an energy-systems researcher at the Massachusetts Institute of Technology in Cambridge. **Interview by Sarah Boon.**

Photographed for *Nature* by Kayana Szymczak.

Correction

This profile misstated the role of the engineers who benefit from an app Jessica Trancik developed. The engineers are developing vehicles and charging infrastructure, not road networks.