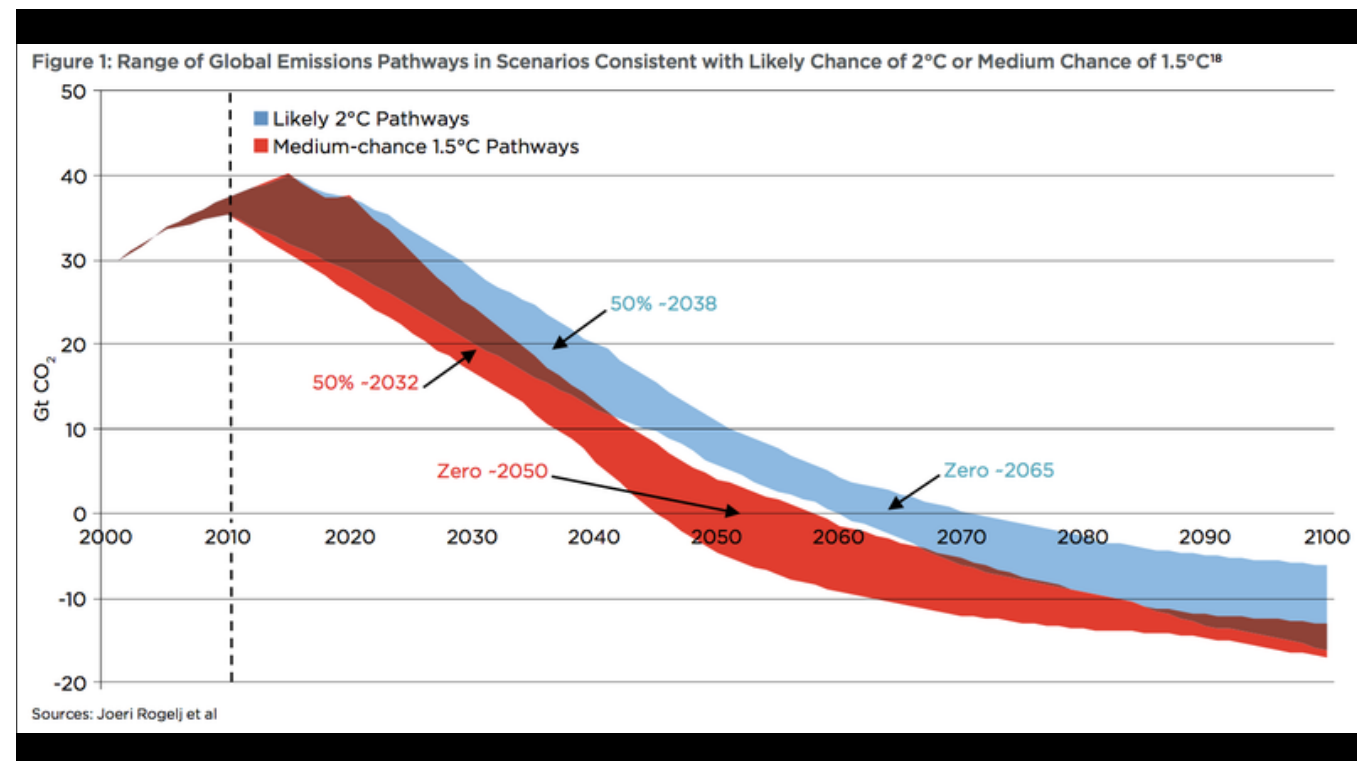


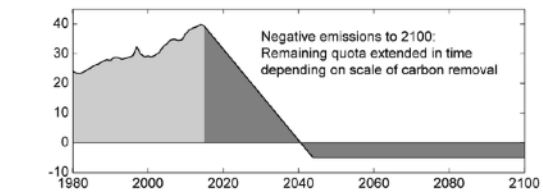
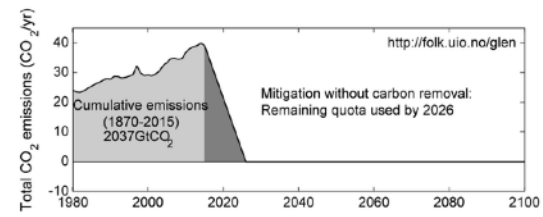
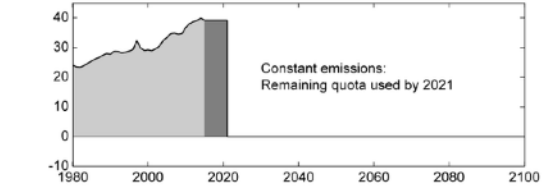
AN ETHEREUM AND IPFS-BASED SOLUTION TO SOLVE CLIMATE CHANGE

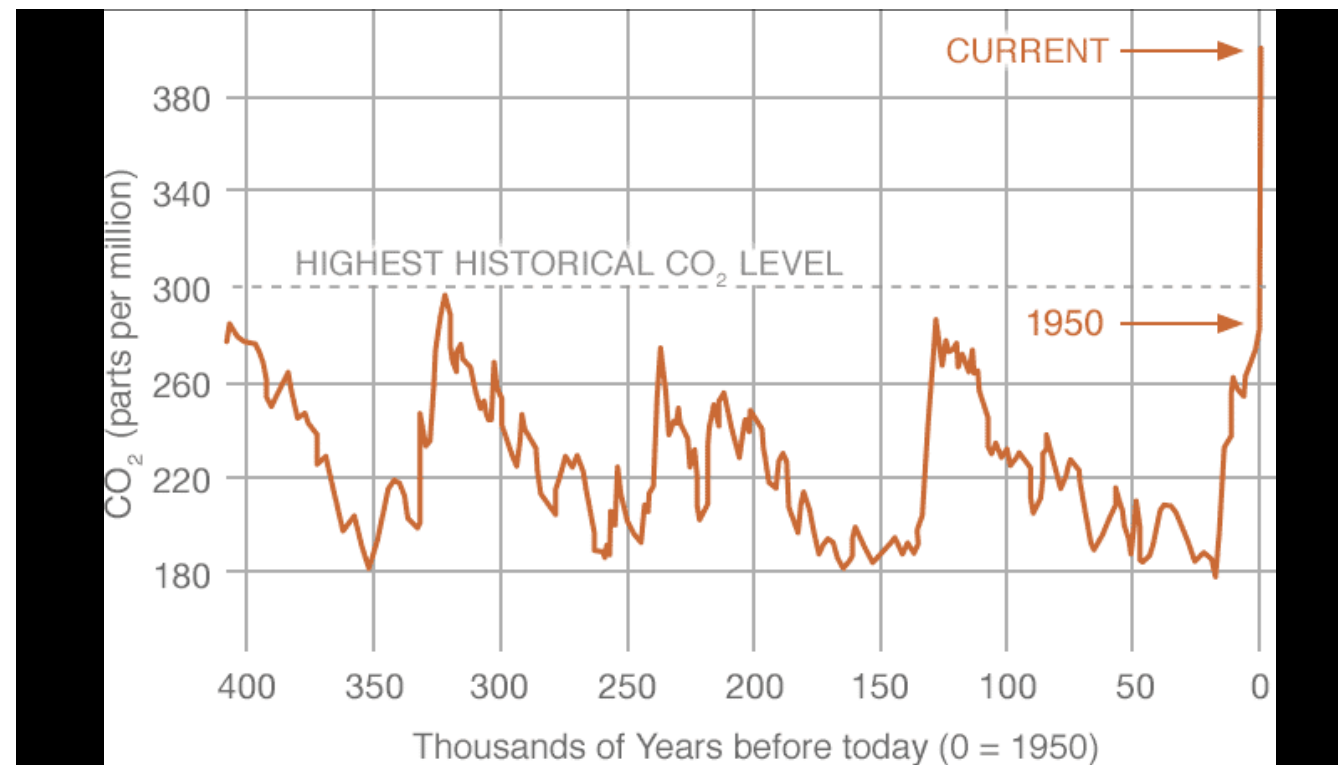
CARBON HARVEST



If we are to have any chance at hitting the 1.5 degree target set in Paris last year, we need to stop emitting RIGHT NOW
But we all know that's not going to happen.
So carbon removal of some sort is going to be required.

Can emit about 210GtCO₂ from 2016 for a 66% chance at 1.5C





A better and more useful metric is CO₂ ppm. Currently we're at 405 or so. Current rate of growth is 3-4ppm per year

We want to get to 350ppm

It's actually worse than you think.

The oceans are oversaturated, and as we remove CO₂ from the air, the oceans will equalize and off-gas an equivalent amount.

We need to remove much more CO₂ than 50ppm-equivalent.

<http://iopscience.iop.org/article/10.1088/1748-9326/10/9/094013>

HOW MUCH CO₂?

40
GIGATONS

Approximate amount of
global CO₂ emissions
every year

700
GIGATONS

Approximate amount of
previously-emitted CO₂
that must be removed to
get to 350ppm

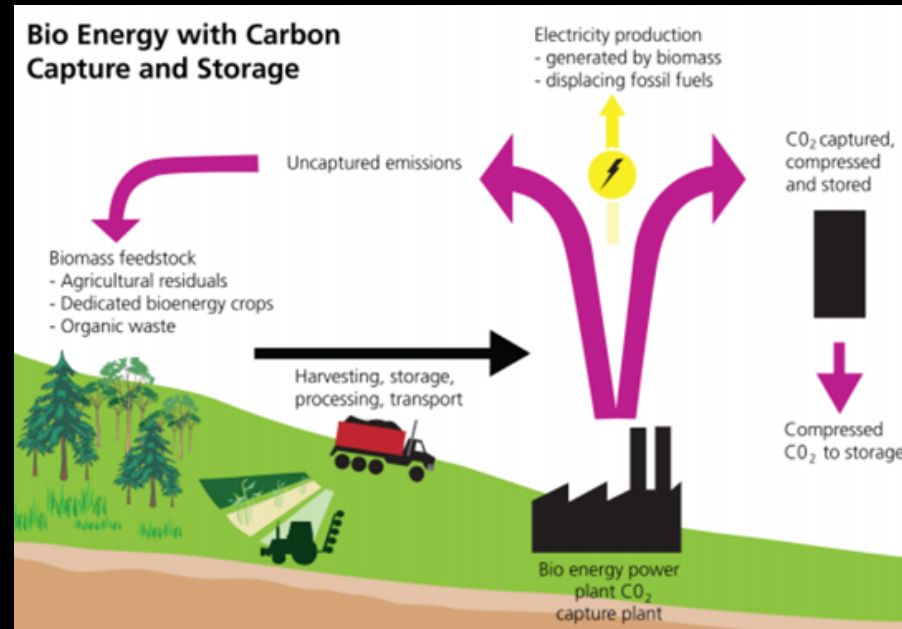
1 gigaton = 1 billion tons

Individual carbon footprint is ~25-50 tons/year

HOW DO WE GET TO 350PPM?

Going to walk through several different methods that have been developed for carbon removal. This isn't really a competition, because it's going to require a mix of all these to be successful. The hard part is measuring (life cycle analysis) how effective any individual actually is.

BIOENERGY CARBON CAPTURE & SEQUESTRATION



Necessary, but requires a ton of land to grow enough crops to offset emissions

SOIL RESTORATION



Better practices (using cover crops, crop rotations, holistic systems) can store in soil 30-50% of the CO₂ we need to remove



<https://vimeo.com/80518559> This is a great short documentary explaining how farmers can sequester carbon dioxide by changing their practices in a win-win situation

MINERALIZATION



Rather, it would be dissolved in large volumes of water and pumped into porous, basaltic rock — a dark-colored volcanic rock that forms from the cooling of lava — and undergo a chemical reaction, aided by all the water, that would turn the carbon dioxide into a carbonate by binding it with calcium, magnesium or iron that naturally occurs in high amounts in basalt. In two years, they report, over 95 percent of injected carbon dioxide had become mineral.

https://www.washingtonpost.com/news/energy-environment/wp/2016/06/09/scientists-in-iceland-have-a-solution-to-our-carbon-dioxide-problem-turn-it-into-stone/?utm_term=.1ff5c7ce1a6c

These are incredibly useful and large-scale actions, but the people doing them need to be incentivized. We will pay them to sequester CO₂ with Carbon Harvest's token: the Harvest (HAR).

HOW IT WORKS

1. A farmer installs a connected CO₂ sensor in their soil
2. The sensor reports soil CO₂ amounts periodically and data is stored in IPFS
3. Farmer is distributed a quantity of HAR proportional to how much CO₂ sequestered
4. HAR can be exchanged for fiat by selling carbon offset credits on the carbon markets

CARBON MARKETS

	2015	2014*	% CHANGE	ALL YEARS**
VOLUME:*	84 MtCO ₂ e	77 MtCO ₂ e	+10%	0.99 BtCO ₂ e
VALUE:***	\$278 M	\$298 M	-7%	\$4.6 B
AVERAGE PRICE:***	\$3.3 / tonne	\$3.8 / tonne	-14%	\$4.6 / tonne

Figure 8: Transacted Volume, Average Price, and Price Range by Project Type, 2015

