

Ice on Fire makes dangerous concessions to technofix fantasies

June 19, 2019



By promoting high-risk technologies as “solutions”, DiCaprio’s new film contributes to derailing serious climate efforts

by Dru Jay

Ice on Fire, a new documentary from HBO produced and narrated by Leonardo DiCaprio, could have been an important contribution to climate education. The film highlights the urgency of the current crisis, important aspects of climate science, and practices that could play a major role in reducing carbon emissions.

However, the film’s writers also portray dangerous, high-risk geoengineering technologies as climate solutions.

The specific climate geoengineering technologies promoted by *Ice on Fire* present direct risks to ecological systems and livelihoods (about which more below).

But equally if not more dangerous are the effects these technologies have on policy and the public mindset.

The fantasy that geoengineering methods will work is a threat to the urgent need to reduce climate-changing emissions. And that is the main reason why the fossil fuel industry has been a consistent supporter of a variety of climate geoengineering techniques.

Unfortunately, *Ice on Fire* directly contributes to the false narratives the fossil fuel giants have been promoting for decades.

In one disturbing sequence, Professor Peter Wadhams of Cambridge University says of the need to reduce emissions:

“There isn’t the oomph in the world to do this. They talk in the Paris agreement how we need to reduce our carbon emissions, to keep temperature rise at some low level, but in fact, of course, we won’t be able to do that. The technology that can save us is something that can take carbon dioxide out of the atmosphere. So it ought to be obvious that the biggest research effort that man is involved in should be to develop [geoengineering proposal] Direct Air Capture methods that work. If we do that, then we can save the world. So why don’t we do it?”

Wadhams is saying that the things we have the technology to do right away – reducing emissions drastically – are

not possible because we lack “oomph”, so we should put our hope and public funding into a dangerous, unproven technology that would allow the fossil fuel industry to continue extracting.

Wadhams isn't the only example. DiCaprio as narrator, as well as several other scientists interviewed for the film, downplay the possibility of emissions reductions.

Not highlighted by the film: system change, or changes in consumption and production patterns.

Ice on Fire does not examine issues of equity, corporate power, and it does not broach the nature of capitalism or our existing economic system.

It is likely no coincidence that the scientists and experts appearing in the film are almost exclusively white, North American or European, and predominantly male. Voices, experts, victims, or on the ground footage from the Global South are almost non-existent.

In all these ways, the film's narrative is disturbingly aligned with the fossil fuel industry and the billionaires who continue to profit from the causes of climate chaos.

Ice on Fire's Techno-Solutions

Direct Air Capture (DAC)

Exemplified by Swiss company Climeworks, DAC is an energy-intensive method of removing CO₂ and other greenhouse gases directly from the atmosphere. Large fans move ambient air through a filter, where a chemical adsorbent produces stream of pure CO₂. This carbon then needs to be stored.

Because DAC is extremely expensive, the main way that the technology is made cost-effective is by using the resulting carbon for Enhanced Oil Recovery, pumping it into oil wells to dislodge hard-to-reach deposits. Because of this economic limitation, DAC is actually likely to result in *increased* carbon emissions overall.

But even if DAC were heavily subsidized and billions of tonnes of CO₂ could be captured and buried every year, the energy and storage needs would be enormous. The film suggests that 300,000 DAC units would be required to reduce emissions by 1%. Climate-friendly energy sources would be used for air capture instead of running zero-carbon transportation systems or heating homes.

One of the most scathing critiques of air capture comes from Leonardo DiCaprio's Foundation. In a post that has recently been removed from their web site, the Foundation's researchers concluded:

“There is only one explanation for why investors and fossil fuel companies continue to pour money into ACC – to keep the ailing fossil fuel industry alive, despite the fact that renewable energy is now cheaper and more reliable. “

Climeworks, a direct air capture company perhaps looking to make use of their publicity boost from the film, recently announced that they are selling travel offset credits.

See also:

- “Best Carbon Capture Facility In World Emits 25 Times More CO₂ Than Sequestered”
- Fuel to the Fire – How Geoengineering Threatens to Entrench Fossil Fuels and Accelerate the Climate Crisis (see page 27)
- Our factsheet on Direct Air Capture

Ocean Fertilization

Ice on Fire features an interview with Professor Stasa Puskari of the Rochester Institute of Technology in Croatia, who attempts to rebrand a discredited technique, ocean fertilization, as “Marine Snow”.

Ocean Fertilization involves dumping iron filings or other “nutrients” such as urea into oceans to stimulate phytoplankton growth. The idea is that the new phytoplankton will absorb atmospheric CO₂, and when the phytoplankton die, the carbon will be sequestered as they sink to the ocean floor.

Researchers have suggested that ocean fertilization could have damaging effects, including deep ocean oxygen depletion, harmful algal blooms and disruption of the marine food chain. Ocean fertilization is banned under the London Protocol and the 196 parties of the UN Convention of Biological Diversity have declared a moratorium on ocean fertilization.

See also:

- [Our factsheet on Ocean Fertilization](#)

Synthetic biology production of fuels and materials

David Nocera and his colleagues at Harvard University claims he can do photosynthesis ten times better than nature, and that through genetically engineered bacteria he can manufacture almost anything (fuels, pharmaceuticals, fertilizers) without relying on fossil fuels. He plans to create “bionic leaves” to generate energy-dense liquid fuels and other materials from carbon dioxide.

Nocera is quite frank about his intention to bolster the fossil-fuel-burning status quo:

“...the costs we’re up against, the developed world has spent tens of trillions of dollars to build what they now use. It’s hard to walk away from a multi-trillion dollar investment that you’ve paid off. So that is what this is all about.”

Attempts to use synthetic biology to produce fuel have so far run into unresolvable issues involving cost and scale. The idea that extracting and converting billions of tonnes of CO₂ into fuel is more efficient than simply not emitting it in the first place strains credulity both in common sense terms and according to the available science.

Synthetic biology companies, unable to produce fuel, have begun to attempt to compete with farmers in the global south to produce replacements for natural products, which could have large-scale negative impacts on land use and local economies.

Many safety concerns about synthetic biology have also not been addressed. For example, what happens when synthetic organisms escape the millions of labs that would be required to make a dent in carbon emissions?

Biochar

Biochar, a technique of turning plant matter into charcoal, could have positive effects at a small scale, but plans to scale it up have generated major controversy. Proposals for growing giant plantations to be burned into biochar and buried in the ground have stoked fears of land grabbing and profiteering.

Ice on Fire does not explicitly promote large scale application of biochar, but also does not clarify the risks of such schemes. The biochar example in the film uncritically promotes offsets and carbon trading, which is another set of highly problematic, dangerous distractions.

See also:

- [Our Biochar factsheet](#)

Using good practices to promote damaging ones

While Ice on Fire also promotes positive practices like organic farming, urban farming, renewable energy and the protection and restoration of natural ecosystems, it mixes these several geoengineering schemes without any explanation that these are risky, unproven and controversial.

To effectively tackle climate change requires strong public mobilization to press for profound changes to the systems that underpins the current technological and corporate development model that is driving climate change.

By citing scientists who claim impartiality while promoting dangerous technologies, Ice on Fire does more harm than good.

The overall narrative promoted by Ice on Fire must be vigorously opposed to make space for what we know: we need systems change, and technofixes promoted by the fossil fuel industry will only distract us from real solutions.