

# THE PHANTOM OF THE COP21 OPERA: BIOENERGY WITH CARBON CAPTURE AND STORAGE

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## NEGATIVE EMISSIONS: CLIMATE SAVIOUR IN PARIS?

BIOENERGY WITH CARBON CAPTURE AND STORAGE (BECCS) IS BEING HYPED AS A CLIMATE SAVIOUR - BUT WHAT WILL IT ACTUALLY MEAN?

**FOREST DESTRUCTION**

Excessive demand for wood and agricultural products is one of the main underlying causes of forest destruction. A vast new demand for BECCS can only make it worse.

**CONVERSION TO MONOCULTURE & LANDGRABBING**

Huge areas of land would need to be converted to monoculture tree plantations and energy crops - perhaps as much land as is currently used to grow food world-wide.

**BECCS/"NEGATIVE EMISSIONS" POWER STATION**

BECCS power stations would burn wood, energy crops, or biofuels, and capture some of the carbon they emit. Building such power stations would be technically extremely challenging, hugely expensive, and nobody has shown that it could work.

**SEQUESTRATION AND STORAGE?**

Some of this carbon would be stored underground, but there's growing evidence that "sequestered" CO<sub>2</sub> can leak out.

**ENHANCED OIL RECOVERY**

More likely is that the carbon would be pumped into ageing oil fields, to squeeze even more out of them. Significant amounts of CO<sub>2</sub> would come back out with the oil, and even if some was sequestered, more CO<sub>2</sub> would be emitted by the extra oil.

**BUSINESS AS USUAL FOR DIRTY INDUSTRY**

In the meantime, dirty, polluting industries could continue emitting carbon, as their emissions would be "offset" by the "carbon negative" power stations.

**CONCLUSION? CLIMATE CHAOS**

If BECCS worked it would be a recipe for disaster - but even if it doesn't, hype about it legitimises more fossil fuel burning and thus more warming.

**BECCS AND "CARBON NEGATIVE" HYPE IS A DANGEROUS DISTRACTION FROM THE REAL ISSUES AT PARIS**

The chances of BECCS being implemented are next to none - it's too expensive and untested. But, as a Shell Climate Advisor said: "BECCS can help us to keep burning fossil fuels until the end of the century." BECCS hype must be stopped in order to focus on the real issues: keeping fossil fuels in the ground and finding equitable and just solutions to global climate change.

by Oliver Munnion, Global Forest Coalition blog

Yesterday I went to a briefing at the COP21 summit on how realistic achieving a 1.5 degree target as part of the Paris climate deal is, as opposed to the 2 degree target that was first proposed. At the end of the briefing, I spoke to the climate scientist who had been outlining the case that 1.5 degrees is achievable, and handed him a copy of our new report, which questions all of the underlying assumptions of Bioenergy with Carbon Capture and Storage (BECCS).

He looked at me and said: "You do realise that 1.5 degrees won't work without BECCS, right?"

To which I replied: "Yes, but BECCS won't work either."

"Without BECCS, it's impossible," he replied again.

Here was a well respected, well published, and socially-conscious climate scientist, participating in an NGO briefing, and advocating the roll-out of bioenergy with carbon capture and storage at an unprecedented scale. Though he didn't actually say so. This short but bizarre conversation neatly highlights the crux of the problem with any emissions reductions targets that will come out of Paris. Achieving them will be based on a phantom technology, that can't be scaled up, and is as likely to save the planet from climate chaos as the miraculous arrival to Earth of carbon-sequestering extra terrestrials.

Most of the Intergovernmental Panel on Climate Change's (IPCC) scenarios that limit global temperature increases to 2 degrees include some form of "negative emissions". That's the idea that carbon can be sucked out of the atmosphere and stored in a solid form, not in the atmosphere. Exactly like a tree does. But according to the IPCC, the most appropriate technology that will be capable of doing this is BECCS, where carbon is captured from bioenergy infrastructure like biomass power stations or biofuel refineries, and pumped underground.

This is really significant – it means that the IPCC and most of its models don't think that limiting global temperature rises to 2 degrees is possible through emissions reductions alone (achieved through, say, leaving fossil fuels in the ground and halting deforestation) without a technology that, for all intents and purposes, doesn't exist yet. And it's for this reason that the Paris climate agreement will use the language of "net emissions reductions", instead of simply "emissions reductions".

The 1.5, 2 or 3 degrees debate is a purely a semantic one if underlying all of these targets is the belief by governments and industry that they can keep on polluting, because negative emissions technologies will allow this pollution to be offset. It's also semantic because nobody knows for sure how sensitive the climate actually is to greenhouse gases. The only possibility of avoiding 1.5 degrees warming would be for climate sensitivity to be at the lowest end of what models suggests. Which is hardly something that can be negotiated in Paris.

Dangerously high CO2 levels in the atmosphere do require us to work towards meaningful and applicable responses. And these do exist – keeping fossil fuels in the ground, ending the destruction of ecosystems and soils, and tackling emissions from agriculture are real and proven ways of ending greenhouse gas emissions. And we do need to find proven ways of removing past emissions from the atmosphere. Replacing industrial agriculture with agroecology, and allowing degraded and destroyed ecosystems to regenerate or helping to restore them, are proven ways of doing so. But proposing sci-fi "solutions" like BECCS to the climate crisis is totally irresponsible.

Biofuelwatch has just published the first critical and in-depth study on BECCS. The report examines the different BECCS technologies proposed, and the role of the IPCC in this debate. So far, only very small-scale BECCS projects have been attempted, and have all involved capturing some CO2 from ethanol refining. However, the carbon emissions from the fossil fuels burned to power the refineries are greater than the amount of carbon captured, and not even the companies involved say that these projects are carbon-negative. In relation to carbon capture from power plants, the report also carefully examines the experience with coal-fired Carbon Capture and Storage (CCS) projects. It looks in detail at the technical and economic viability of the technologies involved, at the credibility of the idea that large-scale BECCS could be carbon-negative, at the evidence regarding the reliability of carbon storage, and at the greenhouse gas impacts of combining Carbon Capture and Storage with Enhanced Oil Recovery.

The report can be downloaded [here](#), and for more on the BECCS issue in the context of the Paris climate talks, please read [this article](#) by Biofuelwatch co-Director Almuth Ernsting.