

# Negative Emission Technologies in the Climate Change Plan update

## A Friends of the Earth Scotland Briefing

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**Friends of the Earth Scotland**

### Summary

Friends of the Earth Scotland has serious concerns about the reliance on Negative Emission Technologies (NETs) in the draft Climate Change Plan update, particularly:

- The lack of a 'plan b' if NETs don't deliver as promised, crucial given the clear historic trend for NETs to be over-promised and under-delivered, and new research finding that existing CCS is being predominantly used for carbon emitting oil extraction that wouldn't have otherwise been possible.
- The same research shows that a focus on CCS will not help achieve 2030 CO<sub>2</sub> emission reduction targets, and questions should be asked over assumptions underpinning the NETs figures in the CCPu
- Bioenergy Carbon Capture and Storage (BECCS) is not carbon neutral and has adverse effects on biodiversity, forestry, land use and soil carbon.
- CCS is fundamentally unnecessary in sectors where more cost effective and cleaner options to cut CO<sub>2</sub> exist, such as focusing investment into wide scale renewables and energy efficiency

### No Plan B

The CCPu update includes a caveat that if *"new evidence indicates that NETs are not developing at an appropriate rate to meet the envelope from 2030, we will reassess the scale and role of NETs in the next Climate Change Plan, including any need to re-allocate emissions reductions across other sectors"*.

This is incredibly worrying and, without an existing backup plan, could leave the Government with only a short window to recoup any emission reduction failures, after spending hundreds of millions of pounds of public funds on projects that weren't able to deliver crucial emission reductions. This would also mean other sectors being assigned additional reductions with shorter timescales.

During the last full Climate Change Plan publication in 2017 the Environment Climate Change and Land Reform Committee (ECCLR) were [critical of the Scottish Government](#) having included NETs in the plan without clear evidence of the assumptions made for NETs, as well as a lack of an alternative in the plan should they fail. This led to NETs being taken out of the final plan. Since that date there is no evidence to suggest that the deployment of

NETs has accelerated. The Scottish Government should be asked to provide evidence on why it feels confident that NETs will be ready by the late 2020s, and provide clarity on what plan is in place should NETs fail to deliver at the scale assumed.

### Lack of Transparency on Emission Reduction Calculations

Given the CPPu makes consistent reference to a 10MtCO<sub>2</sub>e potential emission extraction by NETS by 2030, clarity should be sought on why the entire NETs chapter has provided no evidence or explanation of the calculations behind these figures. The Government must be transparent and publish the assumptions of the emission reductions envelopes and where these figures came from, particularly if they have come from companies with a vested financial interest in CCS.

In addition, the large jump in emissions reductions through NETs from 2029-2030, from 0.5MtCO<sub>2</sub>e to 3.8MtCO<sub>2</sub>e, must be explored further - particularly given 2030 is the year of our crucial 75% emissions target. There is no evidence given to show that CCS would be expected to come on stream before the early

2030s, which is widely viewed as a generous 'best case scenario'.

### **Over-promising and under-delivering**

There is a historical precedent of NETs being over-promised and under-delivered, including G8 commitments to launch 20 large scale projects & Internal Energy Agency committing to 100 projects by 2020 with only 5 insubstantial projects materialising by 2020. The [Tyndall Centre report](#) shows that current capacity in the energy sector is just 2.4 MtCO<sub>2</sub> a year. This compares to the International Energy Agency's (IEA) estimate of 310 MtCO<sub>2</sub> a year in the energy sector by 2030, an increase of 129 times from today. In the last week alone, the US' only CCS plant [shut down](#), and Enel, one of the world's largest utility companies, announced it would [refocus to avoid relying](#) on CCS given a lack of success in implementing the technology.

The Tyndall Centre report also confirms that *"deployment has been far slower than predicted with sites in development in 2010 with a potential capacity of 150M a year ultimately resulting in 39mt by 2020"* and concludes that in terms of projects in development, that there is an *"inconsistency between CCS projects...and interim and long-term expectations"*. In contrast, while CCS has repeatedly failed to deliver at scale, the report comments on faster than expected progress on renewables, energy storage, and technologies which reduced demand for polluting fossil fuel activities.

### **Bioenergy Carbon Capture and Storage**

BECCS presents a false solution to reducing emissions for a number of reasons, not least that, as set out above, the CCS technology it depends on is unviable. The update uses Drax power station as an example to base potential emissions reductions on - however Drax has not stored any of the carbon it has captured, and remains the UK's single greatest emitter of carbon dioxide. In fact, no BECCS operation exists at scale that provides carbon negativity. The prominence of BECCs in the update is therefore deeply concerning.

BECCS, at any scale, would require a huge amount of land and agrochemical inputs which

would have impacts on our wider land use, biodiversity and food security. In 2019, Drax biomass electricity plant burned [more than the UK's entire annual wood production](#) to meet only 0.81% of the country's final energy demand. Much of our existing biomass comes from the southeastern USA, with monoculture pine plantations being [expanded at the expense of diverse forest ecosystems](#) which are being cut for UK power generation. A Climate Change Plan that has no regard for emissions from global deforestation is far from credible and deeply unethical.

We support policy and funding being given to proven emission reduction solutions like stopping high polluting emissions at source, investing in energy efficiency, upscaling renewable technologies and investing in the restoration of peatlands, wetlands and diverse forestry ecosystems.

### **Conclusions**

The first draft of Scotland's Climate Change Plan update is far too reliant on technologies coming online at an unevidenced pace and scale. The final update to the plan must not have an overreliance on these technologies, and instead focus on greater ambition in known paths to reduce emissions.

Priority should be given to investing in phasing out emissions at source, speeding up renewable energy and heat, as well as measures to ensure energy efficiency.

We would like to see a target of 100% of electricity generated in Scotland to come from renewables by 2030, and 85% of all energy to be generated from renewables by 2030. Further, our current target of reaching EPC C for all buildings by 2035 is too late for the climate crisis, and in order to meet climate and fuel poverty targets this should be brought forward to 2030.

### **For more information contact:**

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