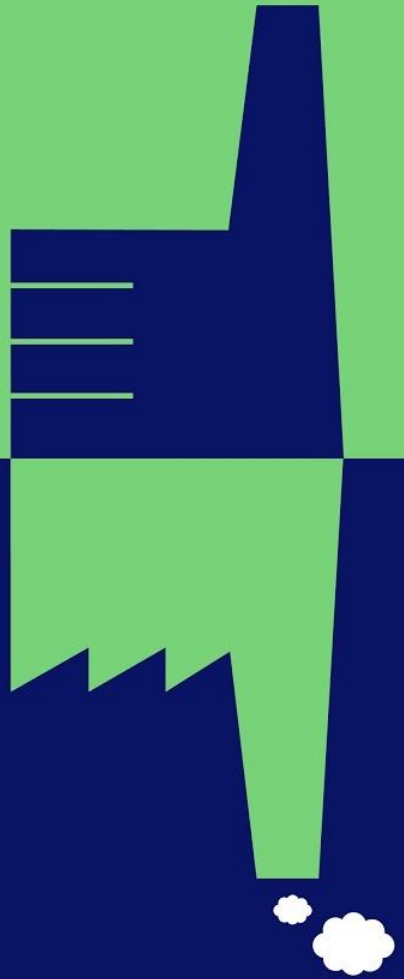
Carbon Capture | by drax



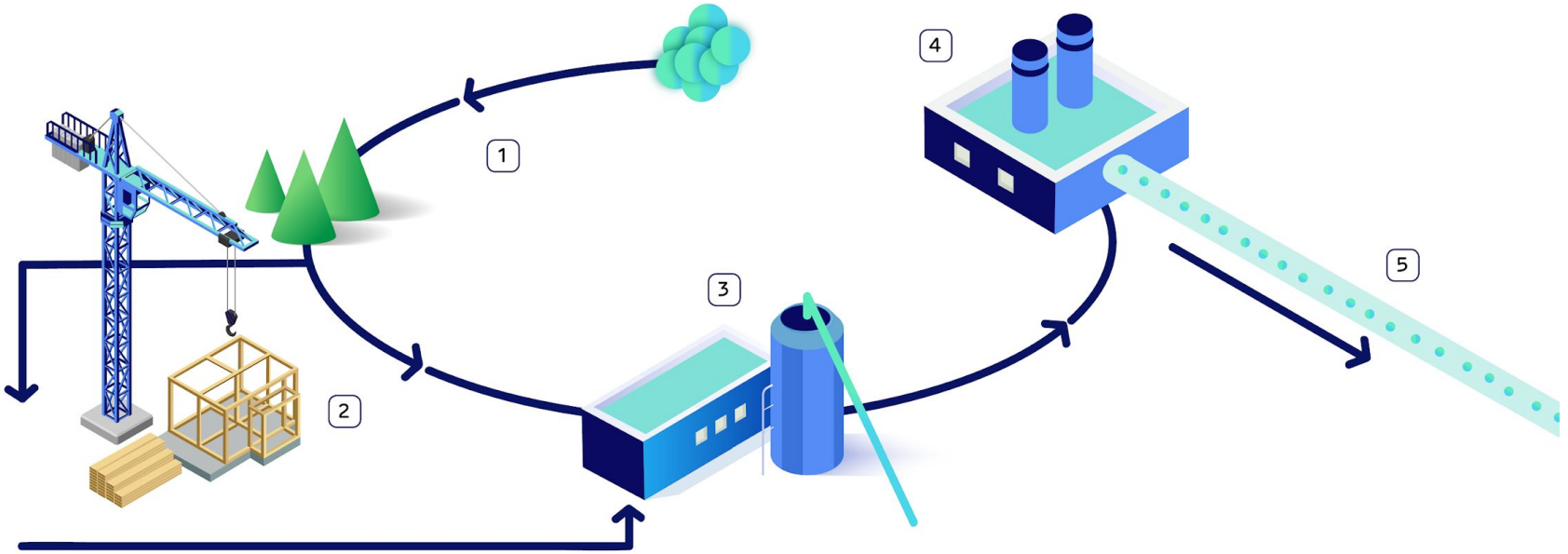
BECCS: Carbon Negative / Climate Positive

Karl Smyth
Head of BECCS Strategy & Engagement

13 October 2021

An introduction to the BECCS process at Drax

Carbon Capture | by drax



KEY

CO_2

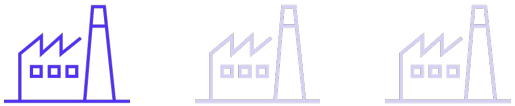
1 Sustainably managed working forests absorb carbon dioxide (CO_2) from the atmosphere as they grow
2 Wood is used in industries such as construction
3 Low-grade, waste wood and residues from saw mills and forests are turned into biomass pellets
4 Biomass is used to generate carbon neutral electricity
5 CO_2 produced is captured, transported and stored permanently – removing it from the carbon cycle

The scale of action required by 2050 will be profound

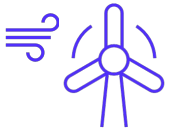
Examples of the level of capital activity needed to meet sustainable potential

BECCS[1]

~200 16Mt BECCS plants,
or 1 in 3 of today's at-scale coal plants converted

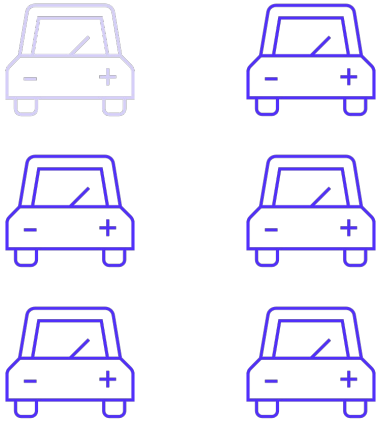


~550Gw of generation capacity (illustratively, if done via BECCS on power), comparable to 2018 global wind capacity[2]



DACS[4]

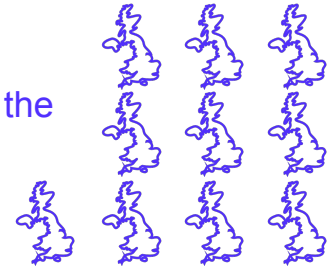
~4000 1Mt scale DACS plants, more than 6 times the number of automobile factories globally today[3]



NCS[5]

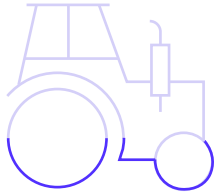
~248Mha of land shifts,
i.e., 1.5% of land area

10X
the size of the UK



~470Mha of agricultural land with adjustments (i.e., different techniques)

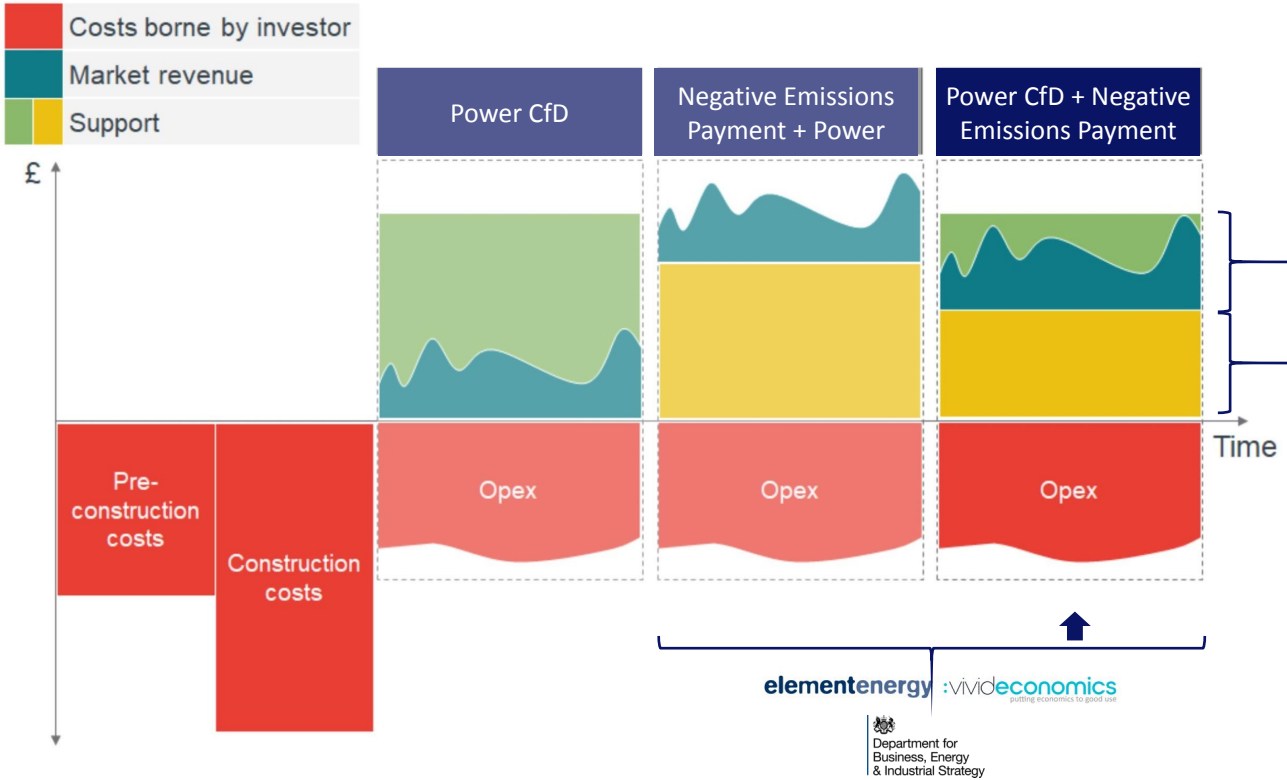
~1/4
of global cropland



1. To get to ~3Gt of BECCS; Assumes that all BECCS negative emissions are delivered through power plants, in reality a portfolio is more likely
2. Irena 2018
3. Statista; DACS plants with higher capacity are likely to be built over time, which would reduce the overall number of plants required
4. To get to ~4Gt of DACS
5. To get to ~2-5Gt of NCS

BECCS: Delivering clean electricity and negative emissions

Carbon Capture | by drax



Simple, implementable structure based on precedents:
Power CfD

Negative Emissions Payment

elementenergy :vivideconomics

Department for Business, Energy & Industrial Strategy

Realising the value of negative emissions

Carbon Capture by drax

Other players contributing | ## No. players | Potential areas of focus



1. Source: Ecosystem Marketplace yearly report 2013 https://www.forest-trends.org/wp-content/uploads/imported/sovcm-full-report-aug-13-version-pdf.pdf
2. Active - Source: https://cdm.unfccc.int/DOE/list/index.html
3. Top 3 buyers in 2018 and Microsoft
4. Source: South Pole https://www.southpole.com/clients
5. Source: Google adwords market data
6. Example of direct to customer purchases through climeworks platform

thank you