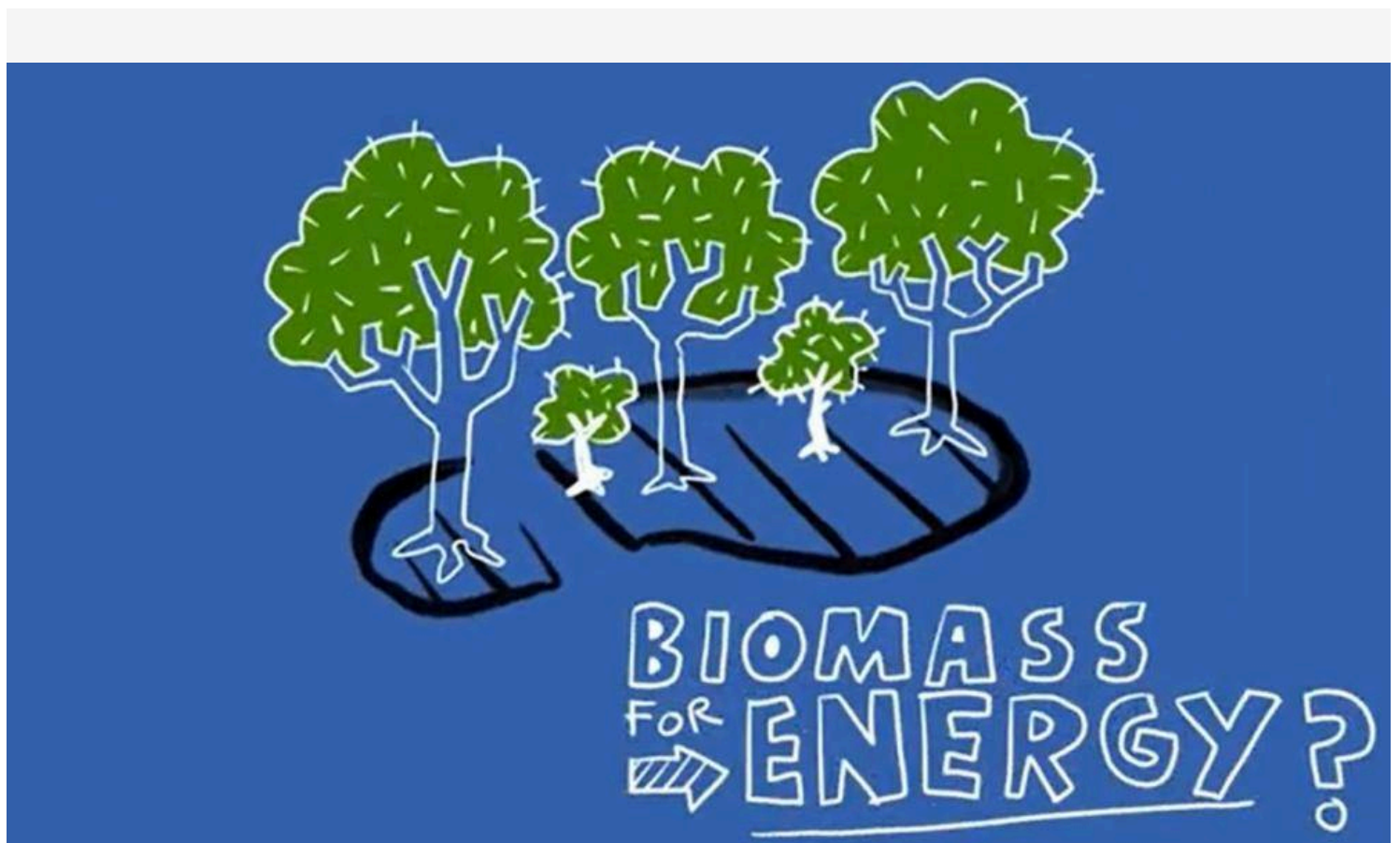


Why burning biomass is not zero-carbon

Short animation explaining why burning biomass produces more carbon dioxide per unit of energy generated than almost all fossil fuels.

EXPLAINER VIDEO

PUBLISHED 17 OCTOBER 2022 — 6 MINUTE WATCH



— Short animation explaining why burning biomass produces more carbon dioxide per unit of energy generated than almost all fossil fuels.

The climate emergency requires countries to transition away from fossil fuels, but it is important to be careful about the alternative energy sources chosen.



In particular, concern is growing over the use of biomass for energy, which is generated when wood or other plant material is burnt to generate heat and electricity. Many governments treat biomass energy as zero-carbon at the point of combustion, and subsidize it in the same way as renewables such as solar or wind, resulting in a large increase in the use of biomass for energy in the UK and the European Union (EU) over the past 15 years.

The treatment of biomass as zero-carbon in policy frameworks rests on the argument that biomass emissions will be reabsorbed by forest growth, particularly from trees planted to replace those cut down to burn.

But growing trees to maturity takes many years and, depending on the feedstock used, biomass burning increases global warming for decades to centuries. This is called the ‘carbon payback period’ – the time it takes for carbon dioxide levels to return to what they would have been if biomass had not been used.

New research from Chatham House and the Woodwell Climate Research Center calculated the real climate impact of burning US wood pellets in the UK and EU. In 2019, according to this analysis, US-sourced pellets burned for energy in the UK were responsible for between 13 million and 16 million tonnes of carbon dioxide, equivalent to the annual greenhouse gas emissions from 6-7 million passenger vehicles.

But because biomass is treated as zero-carbon, almost none of these emissions were included in the UK’s national greenhouse gas reports. And the removal of forest carbon from US forests is not included accurately in US reports, either.

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