

Episode 56Vi, June 27, 2024. Only planting one trillion trees is not enough to slow climate change.

In Episode 56Vi, 1)World. Burning trees for energy really does heat the climate, scientists argue. 2)World, November 13, 2023. How Much Can Trees Fight Climate Change? Massively, but Not Alone, Study Finds. 3)United States. New York Times newsletter. Trump wanted to plant one trillion trees. 4)United States. The Biden administration's climate policies are expected to cut the country's greenhouse house gas emissions by 40 percent by 2030, from 2005 levels. The Biden administration passed the Inflation Reduction Act, its signature climate law, in 2022, which is helping the United States build renewable energy plants, create battery factories, retrofit homes to make them more efficient, introduce more nature-friendly agricultural practices and a lot more. The plan's tax credits and other provisions have been so popular that its price tag has effectively doubled. 5)United States. Here's Where Biden's Climate Law Is Working, and Where It's Falling Short. Electric vehicles are booming as expected, a new analysis found, but renewable power isn't growing as quickly as hoped. A worker stands on a line of solar panels being installed near a home as he drills the panels into place. The United States added a record amount of renewable energy and batteries last year, but more clean energy is needed to meet the country's climate goals. 6)United States. Supreme Court Blocks Biden Plan on Air Pollution. The Supreme Court temporarily put on hold on Thursday an Environmental Protection Agency "good neighbor" plan to curtail (ozone) air pollution that drifts across state lines, dealing another blow to the Biden administration's efforts to protect the environment. 7)Alabama, Huntsville. ADEM Burn Ban Affects Nearby Counties. 8)California, Oakland. Oakland warehouse fire contained, but area residents told to close windows. 9)Nevada. Indy Explains: How to prepare your home for wildfire season. 10)North Carolina. PurpleAir Newsletter. How CleanAIRE NC Successfully Integrated PurpleAir Sensors. 11)Jamaica. Letter of the Day. Implement laws, fines for those who consistently burn garbage. Jamaica Gleaner. Over the past three evenings, the smell of burning wood. 12)United Kingdom, Croydon. More than 100 Croydon under-5s hospitalized by toxic air. Inside Croydon. particulate matter (PM 2.5) although research by Inside Croydon suggests that Croydon Council is failing to maintain its duties in (air pollution regulation). 13)Europe. Smoke flavoring ban. Are smoky BBQ-flavored chips a health risk? What's behind a ban in Europe. Global News. wood is burned and the smoke is purified. smoke products might contain hazardous chemicals generated during the wood-burning process. 14)China. Large variations in composition and toxicity of ambient particles found in 31 major cities in China. 15)Indonesia. (PDF) The Impact of Atmospheric Stability Affected by Peat Forest Fire on Surface PM2.5, Main Content.

1)World. Burning trees for energy really does heat the climate, scientists argue. MSN. The report from Princeton researcher Timothy Searchinger and Yale economist Steve Berry cuts against the idea at the core of the growing wood. The two also pushed back on the idea that burning wood for energy is carbon neutral because forests are expanding, logic, they argued, which is akin. 2)World, November 13, 2023. How Much Can Trees Fight Climate Change? Massively, but Not Alone, Study Finds. The research, which comes with important caveats, was partly an effort to address the scientific uproar surrounding an earlier paper. The new research drew on input from more than 200 authors and leveraged vast troves of data collected by satellites and on the ground. Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. November 13, 2023. Restoring global forests where they occur naturally could potentially capture an additional 226 gigatons of planet-warming carbon, equivalent to about a third of the amount that humans have released since the beginning of the Industrial Era, according to a new study published on Monday in the journal Nature. The research, with input from more than 200 authors, leveraged vast troves of data collected by satellites and on the ground and was partly an effort to address the controversy surrounding an earlier paper. That study, in 2019, helped to spur the Trillion Trees movement but also caused a scientific uproar. The new conclusions were similar to those in a separate study published last year. Mainly, the extra storage capacity would come from allowing existing forests to recover to maturity. But major caveats remain. Would forests be able to store carbon quickly enough? And how much forest carbon would be

lost to fire, drought and pests as climate change intensifies? The 226 gigatons of storage cannot be achieved without cutting greenhouse gas emissions, said the study's senior author and a professor of ecology at ETH Zurich, a university in Switzerland. "If we continue emitting carbon, as we've done to date, then droughts and fires and other extreme events will continue to threaten the scale of the global forest system, further limiting its potential to contribute." Forests are essential to tackling both the climate and biodiversity crises. They clean our air and water. Trees pull climate-warming carbon (dioxide) out of the (air, through photosynthesis), (but RAWSEP notes that trees do not pull polluting PM2.5 from wood burning out of the air). How much can we rely on trees to get us out of (climate change)? Dr. Crowther was the senior author of a polarizing study on forest carbon in 2019 that drew scientific backlash but also inspired an effort by the World Economic Forum to grow and conserve one trillion trees. In 2019, he acknowledged, careless language led to trees being wrongly painted as a silver bullet for climate change. Now, his biggest fear is that countries and companies will keep treating forests that way, using them for carbon offsets to enable the continued use of fossil fuels. "it will be devastating if major organizations use nature as an excuse to do more harm to our planet." The World Economic Forum's tree program, 1t.org, was started with funding from the chief executive of Salesforce and endorsed by figures from then-President Donald Trump to Jane Goodall. Dr. Crowther himself, a charismatic and media-savvy scientist, is an adviser to the group. His new study's number of 226 gigatons of carbon approximates his previous one of 205, but it gets there very differently. Both papers exclude urban areas, croplands and pastures but include rangelands, where animals may graze at lower densities. In the new research, 61 percent of the additional carbon storage would come from protecting existing forests and the other 39 percent from growing trees in deforested areas with low human footprints. In the 2019 study, all the carbon came from growing trees where they could occur naturally outside of existing forests. More than 50 scientists published seven critiques in Science in 2019, disputing both the analysis and its implications. A critic from 2019, a professor of ecology and conservation biology at Texas A&M University, said its findings relied on inappropriate densities of trees in landscapes where they exist naturally but should remain sparse, like savannas and deserts. In 2022, the world lost 10 percent more primary tropical rainforest than in 2021, though Brazil's current government has made recent progress. In the name of fighting climate change, countries and companies have often invested in failed mass tree plantings or monocultures of commercial, nonnative species that hurt biodiversity. a professor of geography and environmental systems at the University of Maryland, Baltimore County, who works on global forest monitoring, said he believed the new estimate was too high because it did not account for people and fire. "The fact that it aligns with other rough estimates of global carbon (RAWSEP believes they are only talking about CO2 carbon, not carbon in PM2.5, which cannot be reabsorbed by trees) owes more to the unfortunate reality that they share methods and data sources in common than to the truth," he said. He and other scientists also raised concerns about the warming effects that trees can have in colder and drier climates as they absorb heat that would otherwise have been reflected by snow or grass. But there is one thing they all agree on: To tackle both climate change and biodiversity loss, the world must do far more to cut fossil fuels and end deforestation of old-growth forests.

3)United States. New York Times newsletter. Trump wanted to plant one trillion trees. Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. June 27, 2024. Trump wanted to plant one trillion trees. While Trump has called climate change a hoax in the past, he has also said he wants to protect the environment. In 2020, Trump signed onto a plan to plant one trillion trees, and although he hasn't focused on it recently, Republicans have continued to support it. Planting trees is not nearly enough to slow warming, and planting the wrong trees can be really bad for the environment.

4)United States. The Biden administration's climate policies are expected to cut the country's greenhouse house gas emissions by 40 percent by 2030, from 2005 levels. The Biden administration passed the Inflation Reduction Act, its signature climate law, in 2022, which is helping the United States build renewable energy plants, create battery factories, retrofit homes to make them more efficient, introduce more nature-friendly agricultural practices and a lot more. The plan's tax

credits and other provisions have been so popular that its price tag has effectively doubled. 5)United States. Here's Where Biden's Climate Law Is Working, and Where It's Falling Short. Electric vehicles are booming as expected, a new analysis found, but renewable power isn't growing as quickly as hoped. A worker stands on a line of solar panels being installed near a home as he drills the panels into place. The United States added a record amount of renewable energy and batteries last year, but more clean energy is needed to meet the country's climate goals. Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. February 21, 2024. A year and a half after President Biden signed into law a sweeping bill to tackle climate change, sales of electric vehicles have largely boomed in line with expectations. But problems with supply chains, obtaining permits and overcoming local opposition have bogged down one of the climate law's other big goals: generating vastly more electricity from wind, solar and other nonpolluting sources. Even though the United States added record amounts of renewable power and batteries last year, that rapid growth fell short of the levels needed to meet the country's goals for slashing the emissions that are rapidly heating the planet. When the Inflation Reduction Act was approved in 2022, analysts predicted that it would help cut America's greenhouse gas emissions roughly 40 percent below 2005 levels by 2030. The measure contains hundreds of billions of dollars in tax credits and spending for clean energy technologies like wind turbines, solar panels, batteries, electric vehicles and hydrogen fuels. Electric vehicle sales are on track to help fulfill the law's projected emissions reductions after increasing more than 50 percent over the past year. 9.2 percent of all new cars sold in the United States in 2023 were either fully electric or plug-in hybrid models, which was on the high end of what analysts had predicted would happen after the law passed. The Rise of Electric Vehicles. Affordable Models: More efficient manufacturing, falling battery costs and intense competition are lowering sticker prices for battery-powered vehicles to within striking distance of gasoline cars. General Motors said that it would stop making the Chevrolet Malibu, the last affordable sedan in its U.S. model lineup, to produce more electric cars. Tesla is no longer planning to take the lead in expanding the number of places to charge electric vehicles. Potential (Electric Vehicle) buyers are put off by high sticker prices and the relative scarcity of charging stations. Still, if electric vehicle sales only rise between 30 and 40 percent in 2024, a noticeable slowdown from last year, that would be in line with the law's emissions targets. Last year, the United States added a record 32.3 gigawatts of electric capacity to the grid from solar panels, wind turbines and batteries. In many parts of the country, the tax credits provided by the law are making renewable sources of electricity cheaper to build than more polluting sources like coal or natural gas. But when the Inflation Reduction Act passed, analysts had projected that the United States would add an average of 46 to 79 gigawatts of carbon-free electricity to the grid annually in 2023 and 2024. There are projects pending this year that would deliver about 60 gigawatts but not all of them are expected to be completed on time. Wind and solar projects are facing lengthy waits to connect to the nation's clogged electric grids, and it can take a decade or more to get permits for new high-voltage transmission lines and build them. In many parts of the country, new wind or solar farms are facing opposition from local residents. Plans for offshore wind farms have been bogged down by snarled supply chains and shipping restrictions. To meet the law's expected emissions reductions, the nation would need to add roughly 70 to 126 gigawatts of renewable electricity capacity each year between 2025 and 2030. The Inflation Reduction Act also provided hefty tax credits to companies that manufacture batteries, solar panels, wind turbines and other technologies in the United States rather than abroad. Companies invested \$44 billion last year in domestic clean-energy manufacturing, with more planned in the years ahead. 6)United States. Supreme Court Blocks Biden Plan on Air Pollution. The Supreme Court temporarily put on hold on Thursday an Environmental Protection Agency "good neighbor" plan to curtail (ozone) air pollution that drifts across state lines, dealing another blow to the Biden administration's efforts to protect the environment. Three states challenged the administration's "good neighbor" plan, meant to protect downwind states from harmful emissions. Ohio is one of three states that challenged the federal "good neighbor" plan in an appeals court before the Supreme Court stepped in. Reporting from Washington. Excerpts edited by

RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. June 27, 2024. The ruling followed recent decisions chipping away at the agency's authority to address climate change and water pollution. Under the proposal, known as the "good neighbor" plan, factories and power plants in Western and Midwestern states must cut ozone pollution that drifts into Eastern ones. The emissions cause smog and are linked to asthma, lung disease and premature death. The ruling was provisional, but even the temporary loss for the administration will suspend the plan for many months and maybe longer. The vote was 5 to 4, (with all the women on the court, Justices Barrett, Jackson, Kagan and Sotomayer), in dissent. 7)Alabama, Huntsville. ADEM Burn Ban Affects Nearby Counties. WZDX. Exceptions may apply for vegetative and wood burning with prior approval from ADEM and the Alabama Forestry Commission. The smoke from burning. ADEM Burn Ban Still in Effect during extreme heat. 8)California, Oakland. Oakland warehouse fire contained, but area residents told to close windows. KTVU. The fire, which started at 10 p.m. Wednesday near 24th and Wood, burned so hot and the flames and smoke were so intense, firefighters had to ask. 9)Nevada. Indy Explains: How to prepare your home for wildfire season. The Nevada Independent. fire prevention measures and fire terms If a home has a wood-burning stove, KC said it is important to ensure. 10)North Carolina. PurpleAir Newsletter. How CleanAIRE NC Successfully Integrated PurpleAir Sensors. Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. June 27, 2024. Living in an area with an unhealthy level of air quality might be more common than you think. Nearly four in ten Americans live in places with unhealthy levels of air pollution, according to the American Lung Association. One group seeking to educate about this misconception is CleanAIRE NC, whose goal is to "protect North Carolina's air quality and ensure that people have clean air to live healthier, happier lives." Instrumental in advancing this objective was the integration of PurpleAir sensors, the first of which they deployed in 2017. As an organization, CleanAIRE NC dates back to 2002 when the group was formed under the name Carolinas Clean Air Coalition. Since then, the group has grown in size and engaged in many community initiatives and environmental projects. A few years ago, in 2021, they rebranded to what they are today: CleanAIRE NC. A group focused on "Action and Innovation to Restore the Environment," hence, AIRE. CleanAIRE NC's implementation of PurpleAir sensors is a shining example of what expanded air quality networks can do to assist in the proliferation of air quality data. THE HISTORIC WEST END NEIGHBORHOOD. CleanAIRE NC first utilized PurpleAir sensors in the historic West End neighborhood of Charlotte, NC. CleanAIRE NC placed sensors in this neighborhood and monitored the air there over the course of a year. During that year, they developed something they call the "Clearing the Air Report." This report was designed to inform the citizens impacted by poor air quality in West End about the air they were breathing. By doing this on their end, CleanAIRE NC eliminated any barriers to education that might've prevented these people from learning about their air quality. Using the data from the deployed PurpleAir sensors and by fostering West End's support, CleanAIRE NC was able to successfully "advocate for a federal EPA-regulated monitor installment in the Historic West End of Charlotte." SAMSON COUNTY. Speaking of the present day, CleanAIRE NC is currently in the process of setting up a monitoring program in Samson County, NC. This is another area heavily impacted by poor air quality. According to CleanAIRE NC, the county struggles with many pollution and air quality problems due to ubiquitous and unregulated concentrated animal feeding operations (CAFOs). CleanAIRE NC plans to monitor Samson County over a three-year period. Currently, around 24 PurpleAir sensors have been installed in the area. Pending the approval of a few grants, a couple of which are EPA-funded, CleanAIRE NC plans to install even more sensors in Samson County. The goal of this project is to produce tangible data that can assist in challenging the permitting process in North Carolina. EXPANDING THE NETWORK. Since their initial experimentation with PurpleAir sensors in the West End neighborhood, CleanAIRE NC has deployed over 240 sensors in North Carolina. Based on their experience with air quality and PurpleAir sensors, CleanAIRE NC has developed what they call "cluster networks." These are areas in which a minimum of ten sensors have been deployed in an effort to capture the air quality trends of that area. These cluster networks have been particularly useful

when trying to make an air quality case about a specific region, as CleanAIRE NC did in the West End and is trying to do in Samson County. CleanAIRE NC has found that ten is a good minimum number of sensors for an area, as it creates a fairly comprehensive sensor network and allows for a good overview of air quality data. Of course, PurpleAir sensors are hyper-local machines, so the more of them you can get in an area, the better. When someone hosts a PurpleAir sensor, they are inclined to learn about it. As they start to learn more about the sensor, they get introduced to different types of readings and, in turn, learn more about air quality. Conversely, if someone is introduced to the basics of air quality, it is natural to then want to learn about the air that they breathe. This, in turn, leads them to air quality monitoring technology such as PurpleAir.

CHALLENGES. in Samson County, CleanAIRE NC had trouble finding hosts with an appropriate WiFi connection, if any at all. Additionally, it is one thing to get someone to agree to host a sensor; it is another to get a host to fully understand their sensor. Some might want to use the monitors to measure pollutants such as ozone or various VOCs, which PurpleAir sensors are not capable of at present.

WHAT THEY'VE LEARNED. After seven years of utilizing and deploying PurpleAir sensors, CleanAIRE NC has developed a number of useful strategies to streamline the data collection process. The "Clearing the Air" report is only one of many reports that CleanAIRE NC has put together to assist with public education. When communities receive regular reports related to the air that they themselves breathe, they are more likely to engage with that information. When CleanAIRE NC does the heavy lifting of analyzing and presenting the air quality data in a straightforward way, many barriers are removed for relevant community members who may never have previously engaged in this topic or activity. CleanAIRE NC has created an "emissions reporting form," which community members can use to report instances of hyper-local pollution sources. These would be things like backyard barbequing, fire pits, or other sources of pollution that would likely affect a small, concentrated area but not a larger overarching region. This form gives community members an action that they can take even if they are not hosts. Over anything else, CleanAIRE NC would say that the most important goal is to "get as many sensors as you can into the hands of people who really need them." 11)

Jamaica. Letter of the Day. Implement laws, fines for those who consistently burn garbage. Jamaica Gleaner. Over the past three evenings, the smell of burning wood. Meanwhile, I'm choking on someone's coal kiln smoke and burning bush. Jamaica. Smoke hazard in Bull Bay. Jamaica Observer. 12)

United Kingdom, Croydon. More than 100 Croydon under-5s hospitalized by toxic air. Inside Croydon. particulate matter (PM 2.5) although research by Inside Croydon suggests that Croydon Council is failing to maintain its duties in (air pollution regulation). **Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization.** In Croydon, the borough's pro-pollution Mayor has been scoring political points by having cycling infrastructure ripped out, making it more dangerous for people to cycle. This came after he spent most part of a year acting as a Facebook page administrator and "expert" for a group opposing the expansion of ULEZ, London's ultra-low emissions zone. And the council, together with Merton, Kingston and Sutton, continues to spend tens of millions of pounds per year to fund the operation of the Viridor waste incinerator at Beddington, which continues to regularly operate in breach of its licence, with incidents including pumping clouds of acidic pollution into the skies above south London. 13)

Europe. Smoke flavoring ban. Are smoky BBQ-flavored chips a health risk? What's behind a ban in Europe. Global News. wood is burned and the smoke is purified. smoke products might contain hazardous chemicals generated during the wood-burning process. 14)

China. Large variations in composition and toxicity of ambient particles found in 31 major cities in China. Science X, PM OPs in NIOG. The World Health Organization has recently lowered the recommended annual concentration of PM2.5 from 10 µg/m³ to 5 µg/m³, China. Drivers of associations between daytime-nighttime compound temperature extremes and mortality in China. Nature. 15)

Indonesia. (PDF) The Impact of Atmospheric Stability Affected by Peat Forest Fire on Surface PM2.5, ResearchGate. May 20, 2024. Abstract. Pontianak is the capital city of West Kalimantan province, which is affected by forest fires, especially forests on peatlands that also burn peat. The forest and peatland fires produce a lot of smoke-content particulates because of incomplete combustion of underground biomass.