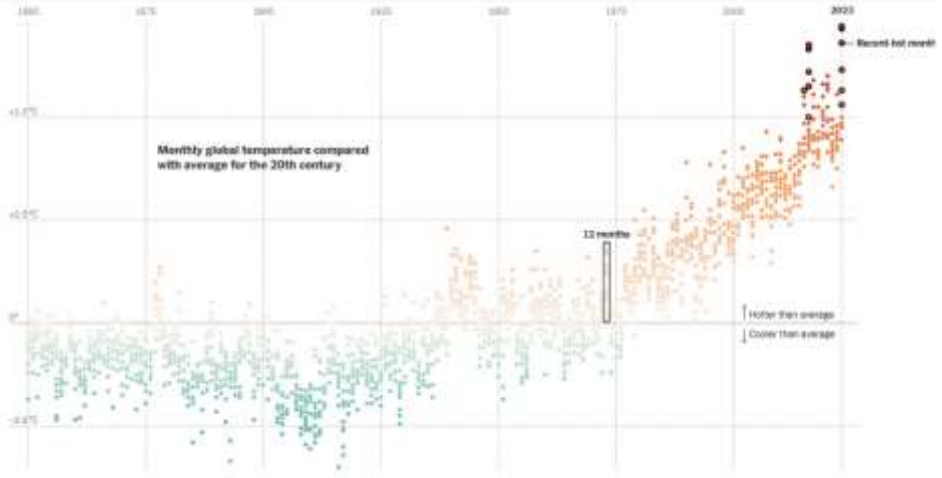
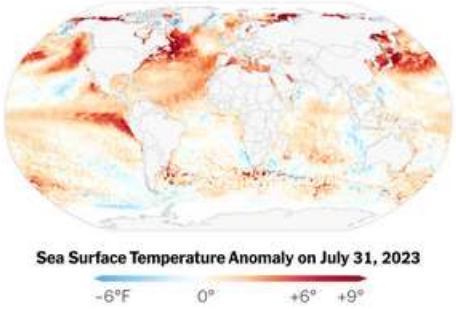
Episode 56NY December 26, 2023. Wood burning emits more C O 2, & emits 450 times the PM2.5 as natural gas burning.

RAWSEP View: There is something about the words "fossil fuel" a description that alliteratively trips off the tongue, that puts a dunce cap on some people when they deign to think about emissions from wood burning. Fossil fuel bad, wood burning neutral, some politicians believe when they put the Carbon Neutral Dunce Cap on. Wood is a solid fuel that emits more C O 2 & emits 450 times the PM2.5 as the fossil fuel natural gas burning. Wood burning emits more PM2.5 and CO2 (a greenhouse gas) than the fossil fuel coal burning. Wind and solar energy is not a large enough share of available energy yet. Which should be the bridge to the cleaner energy sources of wind and solar, natural gas or coal or wood burning? Wood burning is the worst alternative bridge to clean energy. Put on the Climate Change Scientist hat and rate natural gas burning versus wood burning. This comparison of natural gas burning (let alone coal burning) to wood burning, is not officially done worldwide because of the political, unscientific mantra of Carbon Neutrality of Wood burning, which blindfolds the world to the emissions from wood burning when erroneously calculating how far we are getting toward climate change. See https://ecosystems.psu.edu/research/centers/private-forests/news/burning-wood-caring-for-the-earth Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. In fact, some smokestack emission tests show burning wood results in carbon emissions **2.5 times higher** than natural gas and 30 percent higher than coal. February 15, 2021. Put on the Human Health Physician or Statistician hat and rate natural gas burning versus wood burning. This comparison of natural gas burning (let alone coal burning) to wood burning, is not officially done worldwide because of the political, unscientific mantra of Carbon Neutrality of Wood burning, which blindfolds the world to the emissions from wood burning when erroneously calculating how far we are going toward a level of air pollution that makes human life unsustainable. Wood burning trumps natural gas burning by 450 times as an emitter of PM2.5, particulate matter of 2.5 micrometer size, the perfect size to infiltrate the human lung, setting off a cascade of human health problems and early deaths. So this article about natural gas as a bridge to the clean energy sources of wind and solar, seems to RAWSEP as an alternative that is cleaner than coal and cleaner than wood burning, and natural gas seems like it will progress us slower to climate change than coal burning or wood burning. Do we need to use natural gas until wind and solar reach a larger share of the energy market? Yes, that seem likely to RAWSEP. To prevent a circular firing squad of critiquing natural gas, the method of home heating that is cleaner than wood burning among people who are concerned about both climate change and human health, look at wood burning, see the reality of its use and the harm it causes, and work to eliminate wood burning first, then coal burning, then natural gas burning, in that order. If you don't start with wood burning elimination, you are crippling your ability to deal with climate change and deal with threats to human health in a timely way. Make the next New York Times headline about eliminating wood burning as Biden's next big climate test. The New York Times. https://www.nytimes.com/2023/12/26/climate/cp2-natural-gas-export-louisiana.html A Natural Gas Project Is Biden's Next Big Climate Test. Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. A proposed export terminal on the Louisiana coast highlights the tension between economic growth, geopolitics, and the environment. A Venture Global liquefied natural gas facility on the Calcasieu Ship Channel in Cameron, Lousiana. The company wants to build a new export terminal at the site. Reporters from New York City, Cameron, La., and from Washington. December 26, 2023. On a marshy stretch of the Louisiana coastline, a little-known company wants to build a $10 billion facility that would allow the United States to export vast stores of liquefied natural gas. Supporters of the project, known as CP2, say the export terminal would be a boon for the United States economy and help Europe decrease its reliance on gas imported from Russia. They also claim that because burning natural gas produces fewer planet-warming emissions than burning coal (RAWSEP would mention that natural gas emits less plant-warming emissions than burning wood), the project is a good thing for the climate. But a nationwide movement is working to stop the export terminal from ever being built. Opponents, including major environmental groups, scientists, and activists, say that CP2 would lock in decades of additional greenhouse gas emissions, the main driver of climate change. They add that the project would be harmful to the people who live in the area. fossil fuels that are dangerously heating the planet and has heralded a global agreement reached in Dubai earlier this month to transition away from fossil fuels (but wood burning was ignored at COP28). But at the same time, the United States is producing record amounts of crude oil, is the leading exporter of liquefied natural gas and may approve an additional 17 export facilities, including CP2. The Biden administration's crackdown on methane leaks from oil wells is based in part on a new powerful policy tool Thanks to President Biden's signature legislation, solar energy manufacturing is booming in Georgia. But some people worry that the fast pace could turn into a liability. From Coal to Clean Energy: A federal program designed to create jobs and manufacturing in communities reliant on fossil fuels is backing projects in West Virginia, Colorado and elsewhere. At the

center of the debate is a proposed export terminal And although methane dissipates more rapidly than other greenhouse gases, it can leak anywhere along the supply chain, (RAWSEP View: When considering the next sentence of this New York Times article, consider the ignored, uncounted, logistics challenges and emissions during transport (export) of current transport of wood pellets or logs themselves from Canada or the U S South to England to be burned in the Drax wood pellet burning plant). A new analysis by Robert Howarth, a professor of ecology and environmental biology at Cornell, concluded that the emissions associated with exporting natural gas could be 24 percent to 274 percent greater than those associated with burning coal.. Mr. Howarth's analysis is the latest in a growing body of research that has found that natural gas can be just as damaging as coal, the dirtiest fossil fuel, in terms of climate impacts. a staff scientist at Healthy Gulf, one of many local groups working to stop the construction of new natural gas infrastructure in the area. Bill McKibben, an environmental activist who is leading a campaign to block CP2. And Democratic members from the House and Senate last month called on the administration to rethink the way it approves natural gas projects, taking into account all of the emissions associated with the industry. Momentum continued to build this month, as a group of more than 170 scientists called on the administration to block CP2. New York Times. Earth Was Due for Another Year of Record Warmth. But This Warm? https://www.nytimes.com/2023/12/26/climate/global-warming-accelerating.html Scientists are already busy trying to understand whether 2023's off-the-charts heat is a sign that global warming is accelerating. Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates, a 501c3 nonprofit organization. Note: Monthly temperature anomalies for global land and ocean are relative to 1901-2000 averages. Data available through November 2023. ice cover in the dark seas around Antarctica was at unprecedented lows. The National Oceanic and Atmospheric Administration released its 18th annual assessment of the Arctic region. a new NASA program is helping researchers more accurately calculate how much carbon these reserves are keeping out of the atmosphere. Air-conditioning use. Sixty nations in Dubai for U.N. climate talks committed to improve the efficiency of new air-conditioners by 50% Scientists can now use climate models (which, as RAWSEP notes, ignore emissions from wood burning). The greenhouse gas emissions that are warming the planet are on the rise, despite years of commitments by countries to reduce them. Carbon dioxide released from burning fossil fuels (wood burning emissions are conveniently not counted) is expected to grow by 1.1% in 2023 compared with 2022, researchers from the Global Carbon Project found. new cases (of malaria) were concentrated in five countries, and climate change was a direct contributor in three of them. For much of the past 174 years, humans have been filling the skies with both greenhouse gases and aerosols, or tiny particles from smokestacks, tailpipes. and other sources (such as wood burning). These particles are harmful to the lungs when inhaled. But in the atmosphere, they reflect solar radiation, partly offsetting the heat-trapping effect of carbon dioxide. In recent decades governments have begun reducing aerosol pollution for public-health reasons (but PM2.5 from wood burning is not counted in statistics, and hyper-localized PM2.5 emissions are not caught in statistics unless PM2.5 monitors are close to, for instance, indoor residential wood burning emissions). This has already caused temperature increases to speed up since 2000, scientists estimate. And in a much-discussed report last month, the climate researcher James E. Hansen argued that scientists had vastly underestimated how much more the planet would warm in the coming decades if nations cleaned up aerosols without cutting carbon emissions. Fifty-six million years ago, for instance, geologic turmoil added carbon dioxide to the atmosphere in quantities comparable to what humans are adding today. Temperatures jumped. The oceans grew acidic. Species died en masse. "The difference is that it took about 3,000 to 5,000 years to get there" back then, compared with a few centuries today. It then took Earth even longer to neutralize that excess carbon dioxide:



about 150,000 years.



What This Year's 'Astonishing' Ocean Heat Means for the Planet

The world's oceans are the hottest they have been in modern history, by an unusually wide margin.