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THE COSTS OF CLIMATE CHAOS TO U.S. DEBT

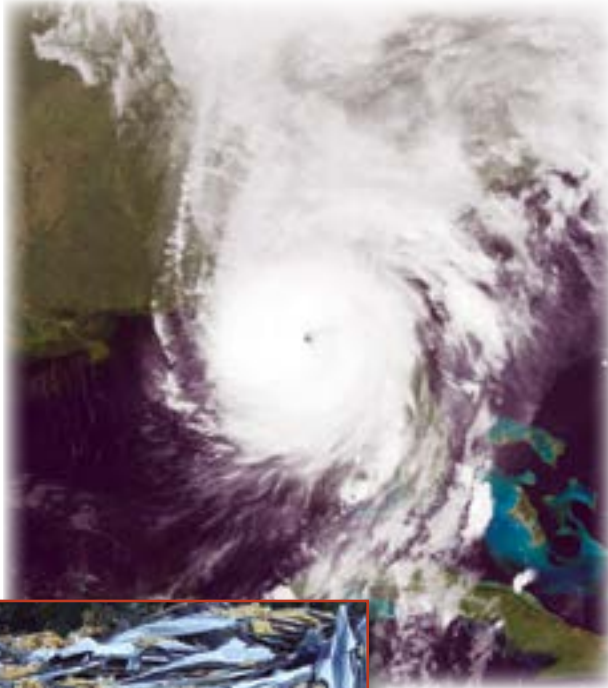
Can we save our country's budget?

George Harvey

Bloomberg NEF has estimated that it would cost \$196 trillion to bring us to net-zero emissions, globally, by 2050. Countries have promised to do just that, but they are failing (tinyurl.com/CostToNetZero). And climate change is just getting worse.

Weather-related losses in 2020 through 2023

The last four years have been particularly bad. In the four years of 2020 through 2023, the count of storm events that cost more than \$1 billion was stunning. According to NOAA, the six worst years for events since 1980 include all these four



Hurricane Helene hitting the Big Bend region of Florida. (EOSDIS Worldview, NOAA). Inset: Homes damaged or destroyed by Hurricane Milton. (National Weather Service, public domain)

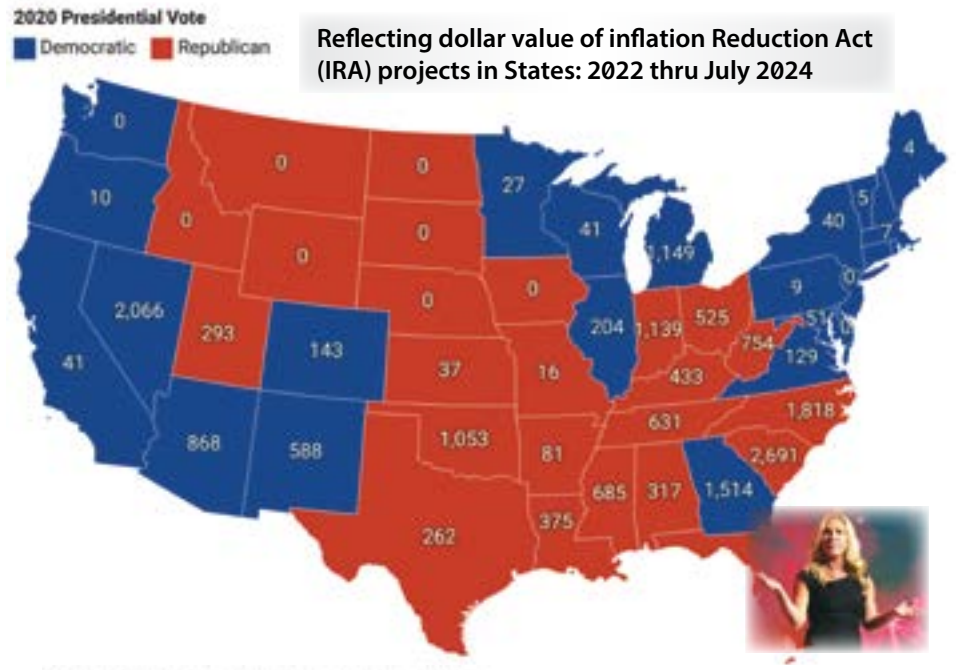
years. In terms of costs per year, calculated by consumer price index, we have seen increases by decade from \$21.4 billion per year in the 1980s, upwards in each decade to the 2010s, when they averaged \$96.8

billion per year. In 2020, the cost was \$95.8 billion (tinyurl.com/CDDisasters2020). But in the years 2021 through 2023, they averaged \$143.8 billion (tinyurl.com/CDDisasters21to23).

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Red States Benefiting the Most from the IRA

IRA State Project Values Per Capita



Every state is benefitting from the IRA initiatives, with more than 100,000 jobs and \$125+ billion investment created to date. (Map: Martin Wahl) Inset: U.S. Congresswoman Marjorie Taylor Greene. (Skidmore/Wikimedia Commons)

Martin Wahl

Climate-change denier Marjorie Taylor Greene (pictured above) has welcomed the 2,500 jobs being brought to her Georgia district thanks to a government loan guarantee, telling Politico last year "We're excited to have jobs." Solar cell manufacturer QCells, received a \$1.45B Department

of Energy loan guarantee, made possible by the Inflation Reduction Act (IRA), to support its \$2.5B investment in solar cell manufacturing in the U.S. This builds on their investment in its 300,000 sq. ft. Dalton, Georgia plant, the largest solar panel factory in the western hemisphere.

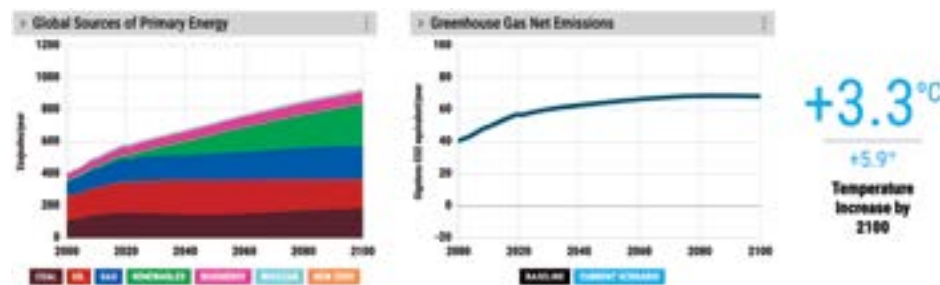
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TALK CLIMATE WITH CANDIDATES

John Gage

This year's presidential election is the last one that matters for the goal of holding global warming to +1.5°C above pre-industrial levels. Limits determined by physics will be breached if the U.S. and the world fail to make significant policy changes before the next U.S. presidential election. We cannot undo this breach later, and every 0.1°C more warming brings significantly more damages and losses, some of which are irreversible at any price.

The two leading presidential candidates promise very different climate futures: Donald Trump plans to ignore climate pollution, and Kamala Harris plans to reduce it. For a climate scientist's perspective on their positions, see bit.ly/2024-presidential-candidates-on-climate. However, ambitious executive



Business as usual scenario - the results of the current global policy mix.

action alone cannot achieve important science-based goals, so congressional and down-ballot outcomes also matter. You can use your vote and your voice to help. Start by talking with all the candidates to make reducing climate pollution a top-level, nonpartisan issue.

There are many ways to have climate conversations with candidates. Call or email your state legislative, gubernatorial, and congressional candidates. Meet them at events and talk with them at the polling station on your way in to vote. If you get a phone call from

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Concentration of CO2 in the Atmosphere

422.12 parts per million (ppm)
October 16, 2024

Learn more at www.CO2.earth

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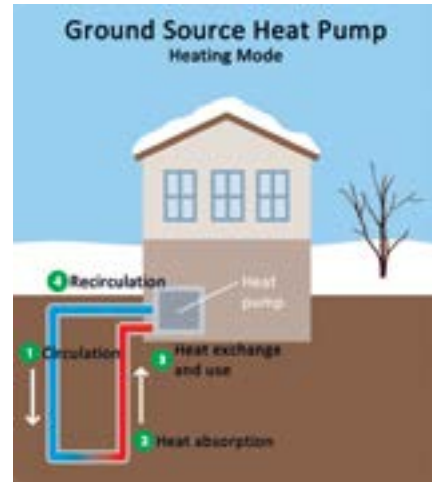
CLEAN, GREEN, AND UNSEEN WORLD GEOTHERMAL ENERGY DAY SPOTLIGHTS RENEWABLE POWER

A Stevens Krug

World Geothermal Energy Day was on October 17. This annual event is a global celebration, honoring the remarkable contributions of geothermal energy systems and highlighting their profound impact on communities worldwide. World Geothermal Energy Day is a distributed celebration around the world, much like Earth Day. People celebrate their colleagues, customers, and achievements at parties, conferences, groundbreakings, ribbon cuttings, award ceremonies, and especially on social media.

This year, MicroSeismic and its geothermal solution, MicroThermal Energy, proudly served as the executive flagship sponsor. They hosted a special event in Houston, TX at Karbach Brewery to raise awareness and celebrate the achievements in geothermal energy. Analiese Andersen, MicroThermal Energy Executive, said, "We are excited to create an opportunity for the public to interact in person with leaders in the geothermal industry. We hope the public will join us for this special celebration and purchase tickets to attend."

We invite everyone to recognize the dedicated individuals involved in the thousands of geothermal systems providing reliable electricity, heating, and cooling to essential facilities and homes worldwide. Geothermal energy offers significant advantages as we face climate challenges and work towards net-zero carbon systems. This year, we celebrate



US DOE image

the leaders, operators, and teams who drive innovation in geothermal technology.

Energy-efficient geothermal systems promote a cleaner, sustainable, and resilient environment in our ever-changing world. With the earth's dependable and efficient geothermal energy, we continue to explore new ways to connect and innovate. Geothermal systems play a vital role in reducing carbon emissions and supporting electrification. These systems produce low or no-carbon energy by harnessing the earth's heat, contributing to a sustainable future.

The date, October 17, commemorates a significant geothermal event in Pompeii in 79 AD, symbolized by the power of

Vesuvius. Today, residential, healthcare, food, agriculture, and power sectors rely on geothermal energy for its efficiency and reliability. We honor the frontline workers who ensure our communities can access essential emergency services.

World Geothermal Energy Day showcases how geothermal systems worldwide provide dependable, cost-effective, net-zero energy resilience to vital facilities and homes. These systems are pivotal in the transition to sustainable energy and electrification for the future.

For example, celebrate geothermal projects in NY, NH, VT, MA, and ME on social media, such as:

- NY State's Largest Residential Geothermal Building
 - Student Housing in Durham, NH
 - Roxbury Community College, MA
 - Digging Deep: UVM Explores Geothermal for Campus Buildings
 - Smith College, MA embarks on \$220-million geothermal project
- Learn more at <https://linktr.ee/world-geothermalenergyday>. ♻️



LOCAL WOOD PELLETS

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chips (PDCs) produced by Froling Energy at its plant in Keene, NH. Twenty percent of PDCs are derived from urban tree trimmings, 40% from sawmill scraps and the remainder is from the waste stream of managed forests within a 50-mile radius of where logging is directed by foresters who prioritize forest health and sustainability. They are then delivered to customers in Vermont and New Hampshire to fire large commercial boilers in schools, hospitals, businesses, and apartment complexes. According to Jim Van Valkenburgh, Vice President of Marketing at Froling Energy, "The use of PDCs reduces heating costs and keeps many more fuel dollars in Northern New England. Last winter Froling truckers delivered 8,300 tons of PDCs to customers which offset the burning of 850,000 gallons of #2 fuel oil and saved their customers at least \$1.3 million a year, in total."

This business model is repeated across our region with pellet producers such as Wood and Sons and Vermont Wood Pellet Company. Be sure to buy your pellets from one of these trusted local companies. You can be assured that your use of wood pellets for fuel fits in with the natural forest cycle and is carbon-neutral.

Article includes contributions from past reporting by Jessie Haas "Heat Locally to Cool Globally" in the Aug 2022 issue of G.E.T. and Jim Van Valkenburgh "Froling Energy's New Dry Wood Chip Processing Plant" in the October 2021 issue of G.E.T. ♻️

Many thanks to our sponsor:



Bourne's Energy added pellets manufactured by Woods & Sons of Maine for bulk deliveries. (Courtesy photo)

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- ✓ Nearly twice as efficient as other heat pumps.
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