

Message

From: Streett, Mary [/O=MSXBP/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS, [REDACTED]]
Sent: 23/06/2018 13:35:30
To: Michaels, Marika A [/o=MSXBP/ou=External (FYDIBOHF25SPDLT)/cn=Recipients/cn=af86284bcb84d6382ff091a8d677cd8]
CC: Sidoti, Elizabeth [/o=MSXBP/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients, [REDACTED]] Welch, Dave [/o=MSXBP/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients, [REDACTED]]
Subject: Re: Axios AM: Mike's Top 10 — 🌐 Deep Dive ... 30-year alarm: Climate change reality

Thanks Marika

Sent from my iPhone

On Jun 23, 2018, at 9:20 AM, Michaels, Marika A <[REDACTED]@bp.com> wrote:

FYI that our ads in Axios today ran amidst Mike's deep dive into climate change, which was a total surprise. We should have been notified in advance that this was his planned topic. The good news is that our two ads address emissions and low carbon activities, which is appropriate messaging in this context. But I certainly would have selected different ads that more overtly highlighted our actions had I known what we were up against.

It's not a huge issue, but I wanted you to be aware. I've already expressed our concern/displeasure to Axios.

From: Mike Allen [REDACTED]@axios.com]
Sent: Saturday, June 23, 2018 8:21 AM
To: Michaels, Marika A
Subject: Axios AM: Mike's Top 10 — 🌐 Deep Dive ... 30-year alarm: Climate change reality



[View in browser](#)

PRESENTED BY BP .

Axios AM

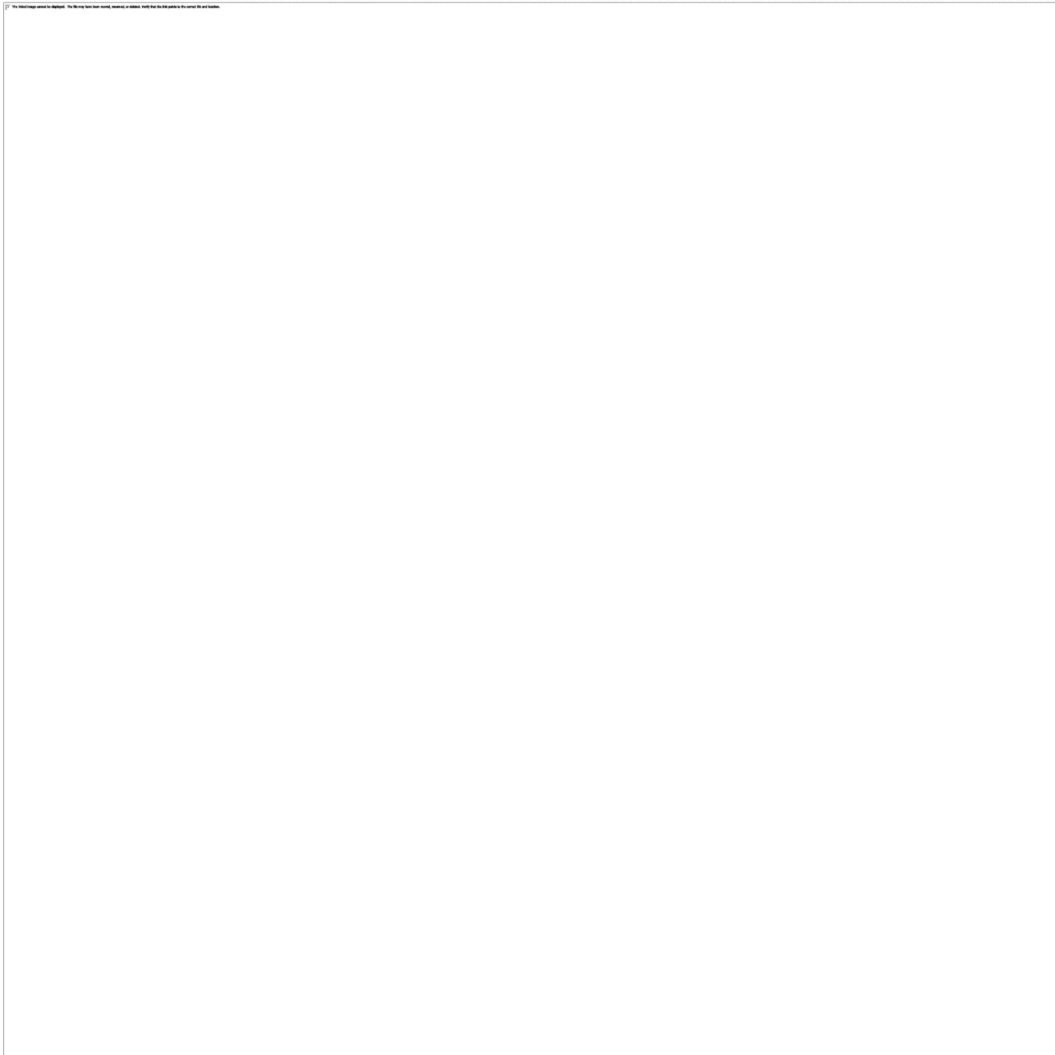
By Mike Allen · Jun 23, 2018

Breaking news: Check out the new [Axios Instagram account](#).

🌍 **Happy Saturday** and welcome to a fresh Deep Dive. We're tackling climate change on the 30th anniversary (to the day) of the topic entering American politics, with landmark Senate testimony.

- **We're guided** by Axios science editor Andrew Freedman, with help from energy reporters Amy Harder and Ben Geman.
 - **We understand** the politics here are intense. So we're trying to give a clinical look at the known knowns, and puncture hyperbole.
- Sign up for [here](#)** for Andrew's [science newsletter](#); the [energy newsletter](#) by Ben and Amy; and [more](#).

1 big thing ... 30-year alarm: Climate change reality



On June 23, 1988, in the midst of a heat wave, NASA climate scientist James Hansen issued a stark warning to the Senate energy committee: Human-caused global warming was already detectable, and would grow far worse with time.

Why it matters: He was right.

- **Since 1988**, the Lower 48 states have warmed at a rate of 5.2 degrees Fahrenheit per century, and the globe has warmed at a rate of 3.2 degrees Fahrenheit per century, NOAA found.
- **The five warmest years** on record have all occurred in the 2010s.

Now, we're living in the era of global warming consequences. Here are just *a few*:

- **In the Arctic**, sea ice is disappearing, permafrost is melting and Greenland is losing ice into the sea.
- **Around the world**, precipitation is now falling in more intense bursts. Heat waves are more frequent and severe.
- **In the Western U.S.**, wildfires are getting larger and more destructive amid hotter, drier summers, and earlier snowmelt in the spring.

Record high temperatures are now outpacing record lows by a ratio of more than 2-to-1 in the U.S. And the air carries more moisture than it used to, which gets wrung out in storms like 2017's Hurricane Harvey, which was the **most extreme rainstorm in U.S. history**.

- **The world is on track** for more than 5 degrees Fahrenheit of warming by the end of this century, depending on emissions trends.
- **The latest climate projections** also call for global average sea levels to rise by at least 1 to 4 feet by 2100.

We own this ... The planet's climate system is like a giant ocean liner: It can't be turned around instantly. We're stuck with decades of sea level rise and extreme weather events, even if we take aggressive action to prevent the worst-case scenarios.

"The clock has run out in terms of avoiding damaging changes — they have already begun. At this point, we are into damage control."

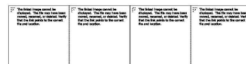
— Michael Oppenheimer, Princeton climate scientist who testified with Hansen in 1988

Most climate scientists say there's still a small window to avoid the doomsday scenarios:

- **It will take both** cutting greenhouse gas emissions, and making our communities more resilient.
- **Technological advances** and energy markets have already resulted in emissions cuts, as natural gas, solar and wind power grow in popularity.
- **Companies, including tech giants** like Google and Facebook, are investing in clean energy even as Washington rolls back climate change regulations enacted by the Obama administration.
- **Cities and states** are acting, too.
- **Transformative technologies** may be around the corner.

The bottom line: This is happening. It's largely because of us, and it's getting worse.

Explore, share *Harry Stevens' graphic of the spinning globe.*



2. Where climate change will hit the U.S. hardest



Data: Hsiang, Kopp, Jina, Rising, et al. (2017). Map: Lazaro Gamio/Axios

The U.S. has a lot to lose from climate change, with trillions of dollars in real estate at risk along the coasts alone.

- **Heat waves**, wildfires and heavy precipitation are among the main climate impacts already affecting millions.

Left unmitigated, rising temperatures from climate change will also increase inequality and mortality rates in the U.S. by the end of the 21st century, a team of economists and climate scientists warned in a study published last June.

- **It was the first** to project the impacts of climate change on individual counties in the U.S. Many of those predicted to be hit hardest are in fast-growing Arizona, Texas, and Florida.
- **Counties in the South and lower Midwest** — which on average tend to already be poorer and warmer — may lose as much as 20% of their income and may experience higher mortality rates.

- **However**, areas of the Pacific Northwest, the Great Lakes region and New England — which on average tend to be wealthier and cooler — could benefit economically from the change and see lower mortality rates.

Go deeper: A climate impact map by county is available [here](#), along with our [full story](#) on the data.

Climate Change Impacts Climate change is expected to increase the frequency and intensity of extreme weather events, including droughts, heatwaves, and wildfires. These events can lead to significant economic damage and loss of life.	Health Impacts Climate change is expected to increase the prevalence of certain diseases, including respiratory and cardiovascular diseases. It is also expected to increase the risk of vector-borne diseases, such as Lyme disease and West Nile virus.	Economic Impacts Climate change is expected to have significant economic impacts, including increased costs for infrastructure, agriculture, and insurance. It is also expected to lead to job losses in certain sectors, such as agriculture and fishing.	Social Impacts Climate change is expected to have significant social impacts, including increased displacement and migration, increased inequality, and increased risk of conflict.
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3. Cheat sheet: What we know and don't know

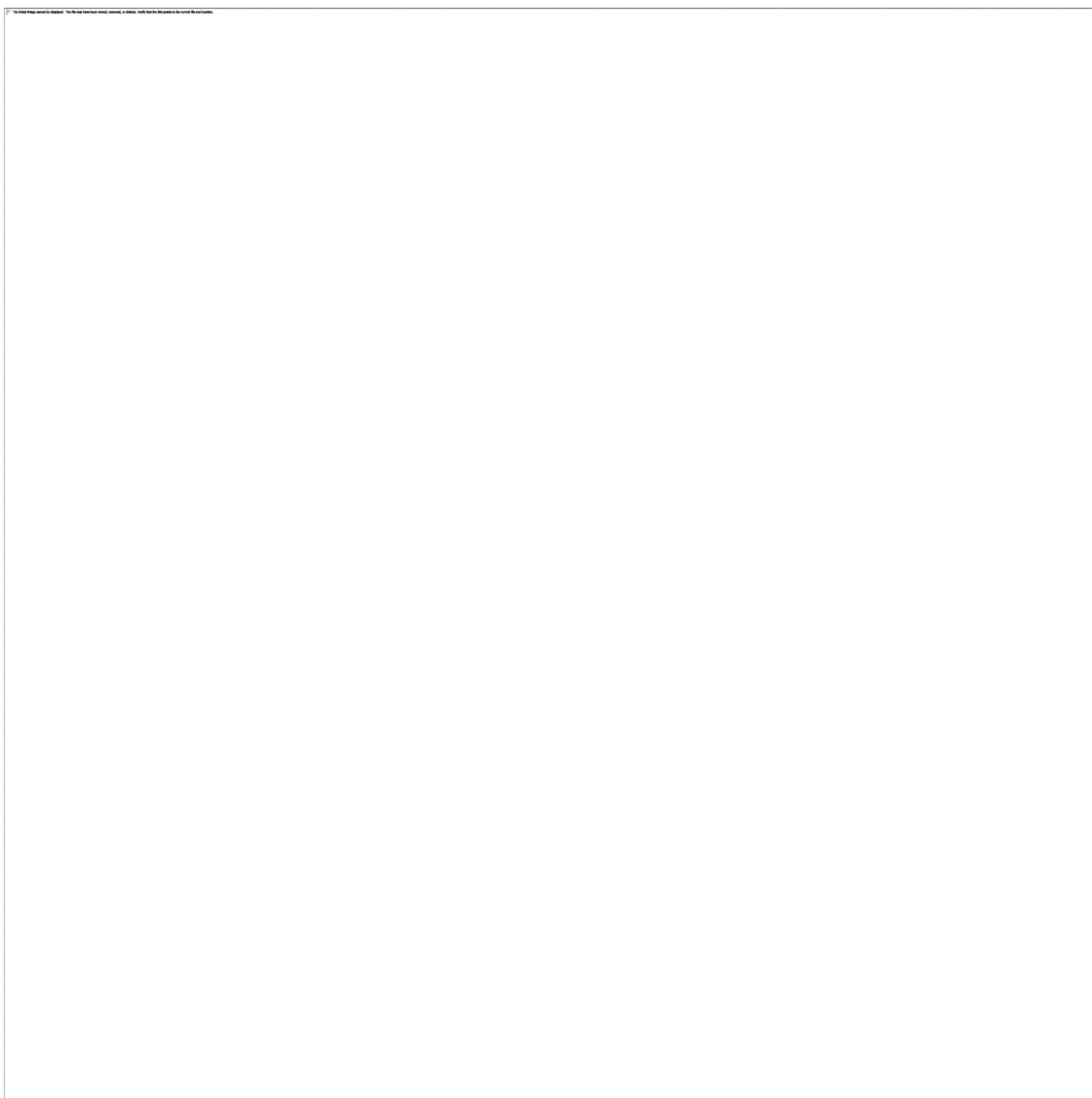


Illustration: Sarah Grillo/Axios

One way we're each experiencing climate change today is in the form of extreme weather.

Why it matters, according to Andrew Freedman: According to numerous studies, climate change is making some events, like heatwaves and heavy downpours, more intense and more likely to occur. These can be deadly, damaging and expensive.

Between the lines: Think of climate change as an aggravating factor in our weather, rather than something that *causes* a specific event to occur. Amy Harder wrote that climate change "is like diabetes for the planet," because it aggravates preexisting conditions.

- **Heat waves:** Scientists have the most confidence when it comes to making a connection between heat waves and global warming.
- **Heavy precipitation events:** Similarly, scientists are confident in linking heavy downpours and climate change, since a warmer atmosphere carries more water vapor.
- **Hurricanes:** We know that climate change is melting land ice, which is causing sea levels to rise.
- **Wildfires:** Most scientific studies show that large wildfires across the western U.S. have increased in recent decades.

What's next: Scientists are racing to get a better understanding of the stability of the planet's ice sheets, which determine sea level rise and coastal flooding.

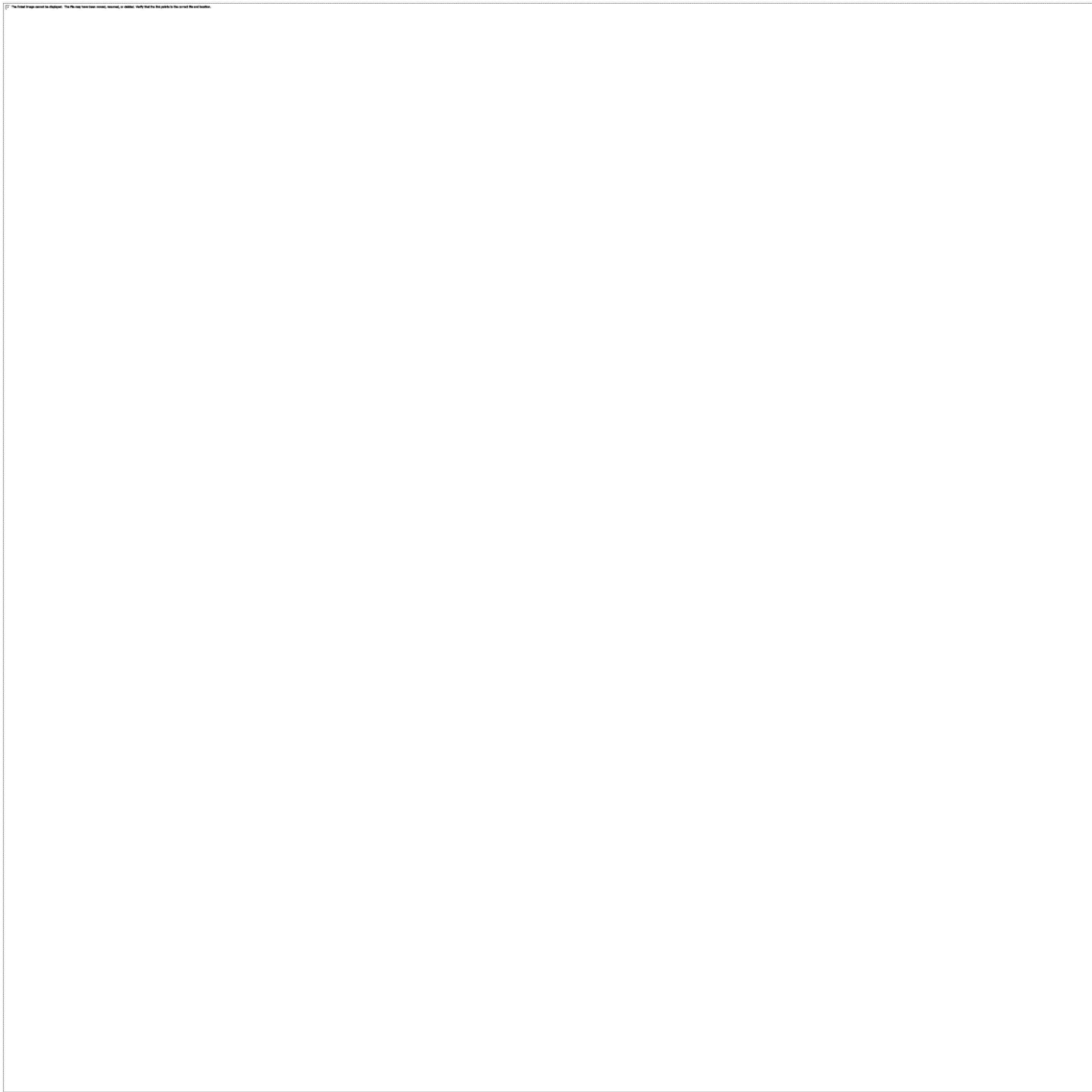
- **Recent studies** have revised sea level projections upward from just a few years ago.

*See Andrew's full cheat sheet. **Go deeper:** Wildfires are burning longer and hotter each year.*

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A MESSAGE FROM BP

BP's making natural gas production a priority



BP is producing more natural gas, which emits around half the CO₂ of coal in power generation and is an important back-up for wind and solar intermittency. See how we're improving our product mix to advance the energy transition.

4. Climate change is here to stay

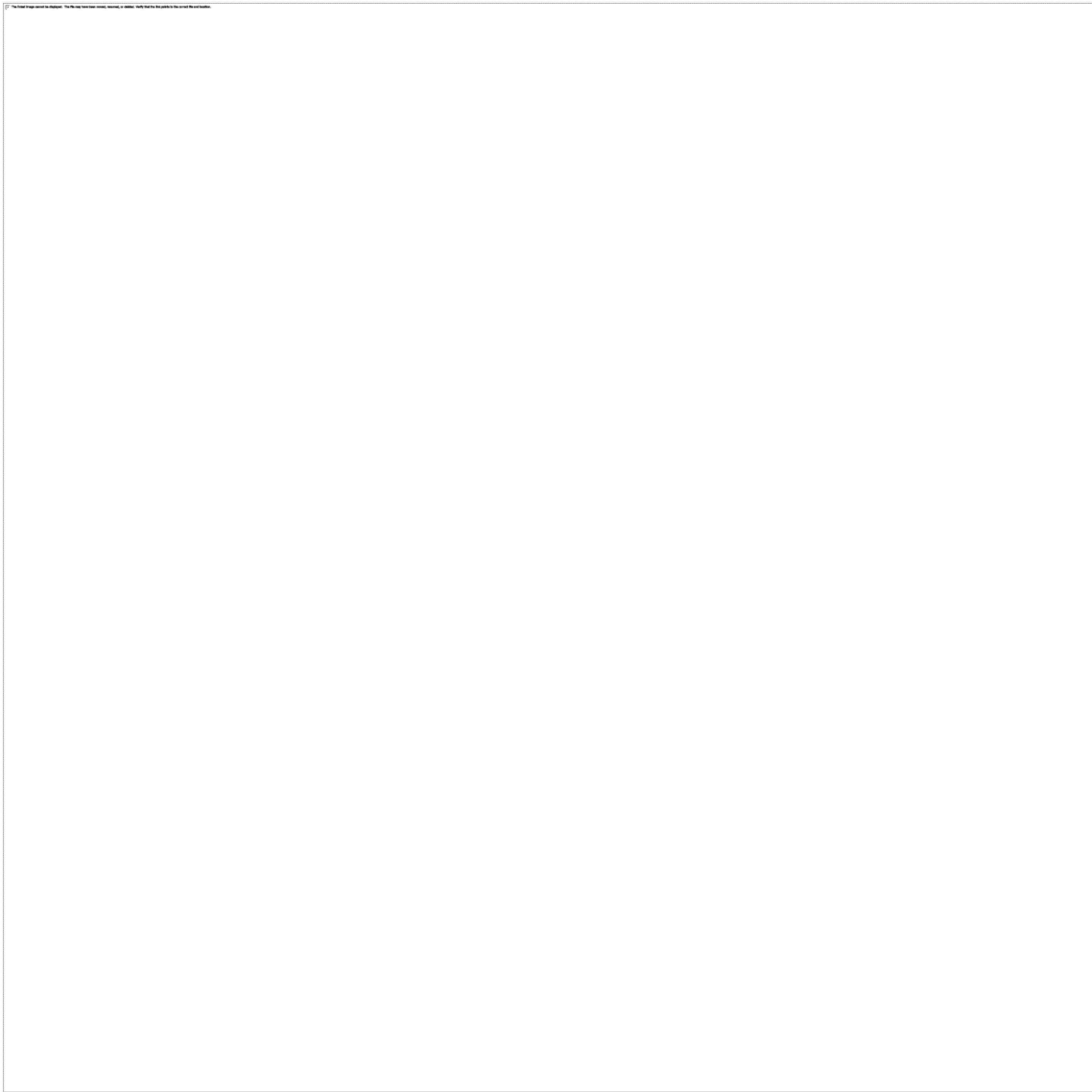


Illustration: Sarah Grillo/Axios

Everyone who wants to keep pushing climate policies in the vacuum of Washington leadership should also start thinking more about how to adapt to a warmer world instead of focusing most political will on ways to stop it, Amy Harder writes:

- **Why it matters:** The chances of reversing climate change in the near term are slim, regardless of U.S. involvement in the Paris Climate Agreement, because of the way the climate works.
- **What's next:** In many areas of the U.S. and around the world, government and business leaders are considering or already pursuing policies to prepare for a warmer planet, particularly higher sea levels and more extreme storms. But these efforts are taking a backseat to

Washington's obsession with the binary fight over whether or not to curb greenhouse gas emissions of fossil fuels.

Be smart: Even if the world stopped burning fossil fuels tomorrow, "many aspects of climate change and associated impacts will continue for centuries," according to the U.N. Intergovernmental Panel on Climate Change.

Go deeper: *Our full story on the need for more climate resilience planning is here.*

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5. How corporations are — and aren't — fighting global warming

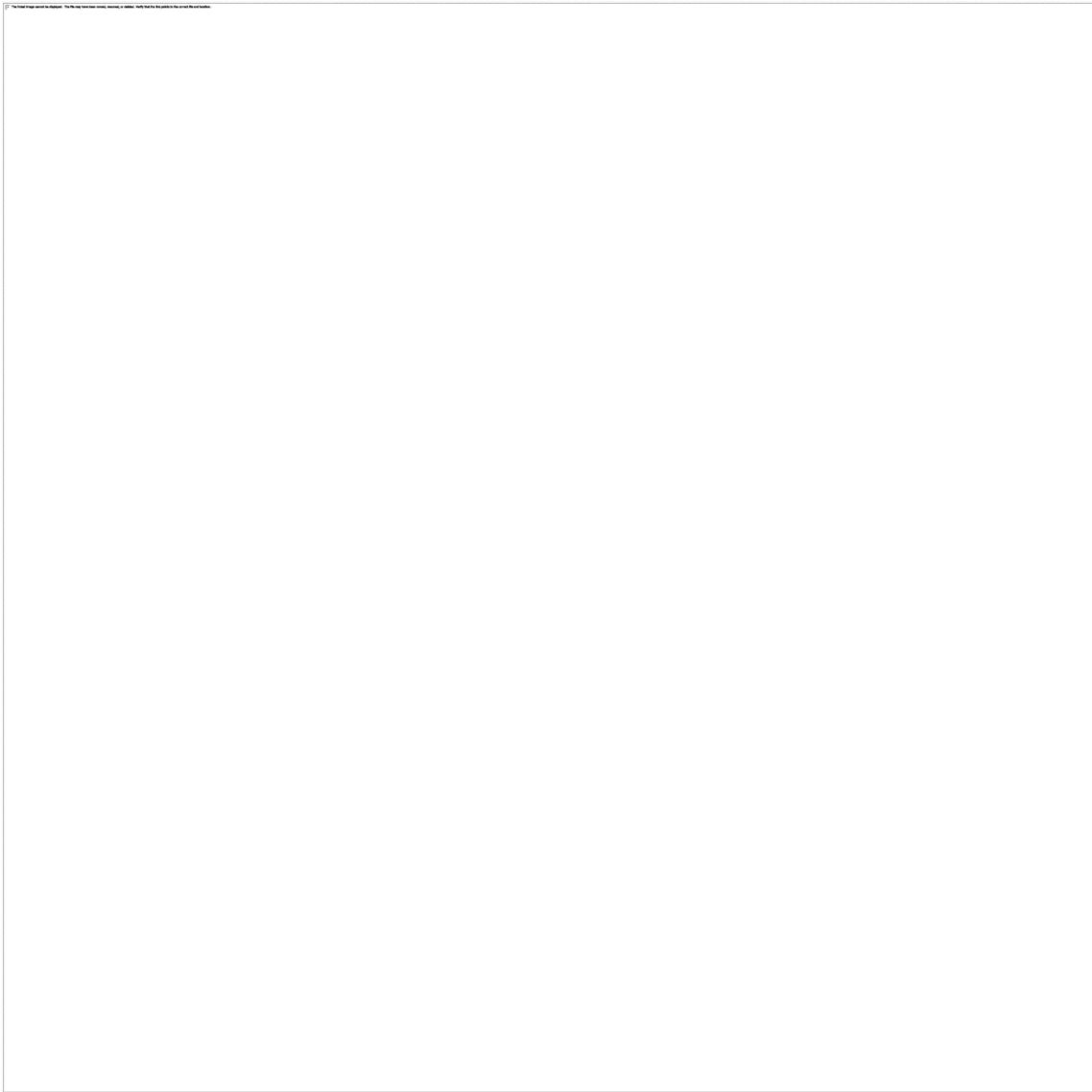


Illustration: Sarah Grillo/Axios

Major companies in the U.S. and worldwide are increasingly taking steps to lower the carbon footprint of what they produce, how they ship goods, and the energy they buy, Ben Geman writes:

The motivation: They're being driven by market signals, government mandates, reputation, investor pressure and other factors.

- **A number of** the world's biggest oil-and-gas companies are ramping up their investments in low-carbon technologies like renewables and electric vehicle infrastructure.
- **But critics** say the industry has, at best, a split personality: Companies are members of trade associations that have lobbied against U.S. carbon emissions regulations.

Go deeper.

1. The first step is to identify the key areas of focus for the project. This involves a thorough review of the project charter and the relevant stakeholder input. The goal is to ensure that the project is aligned with the organization's strategic goals and that the key areas of focus are clearly defined.	2. The second step is to develop a detailed project plan. This involves identifying the tasks that need to be completed, the resources required, and the timeline for completion. The plan should be flexible enough to allow for changes as the project progresses.	3. The third step is to communicate the project plan to the relevant stakeholders. This involves holding a meeting with the project team and the relevant stakeholders to discuss the plan and ensure that everyone is on the same page.	4. The fourth step is to monitor the project progress. This involves tracking the progress of the project against the plan and identifying any areas where the project is falling behind. The goal is to ensure that the project is completed on time and within budget.
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6. Energy technologies to watch

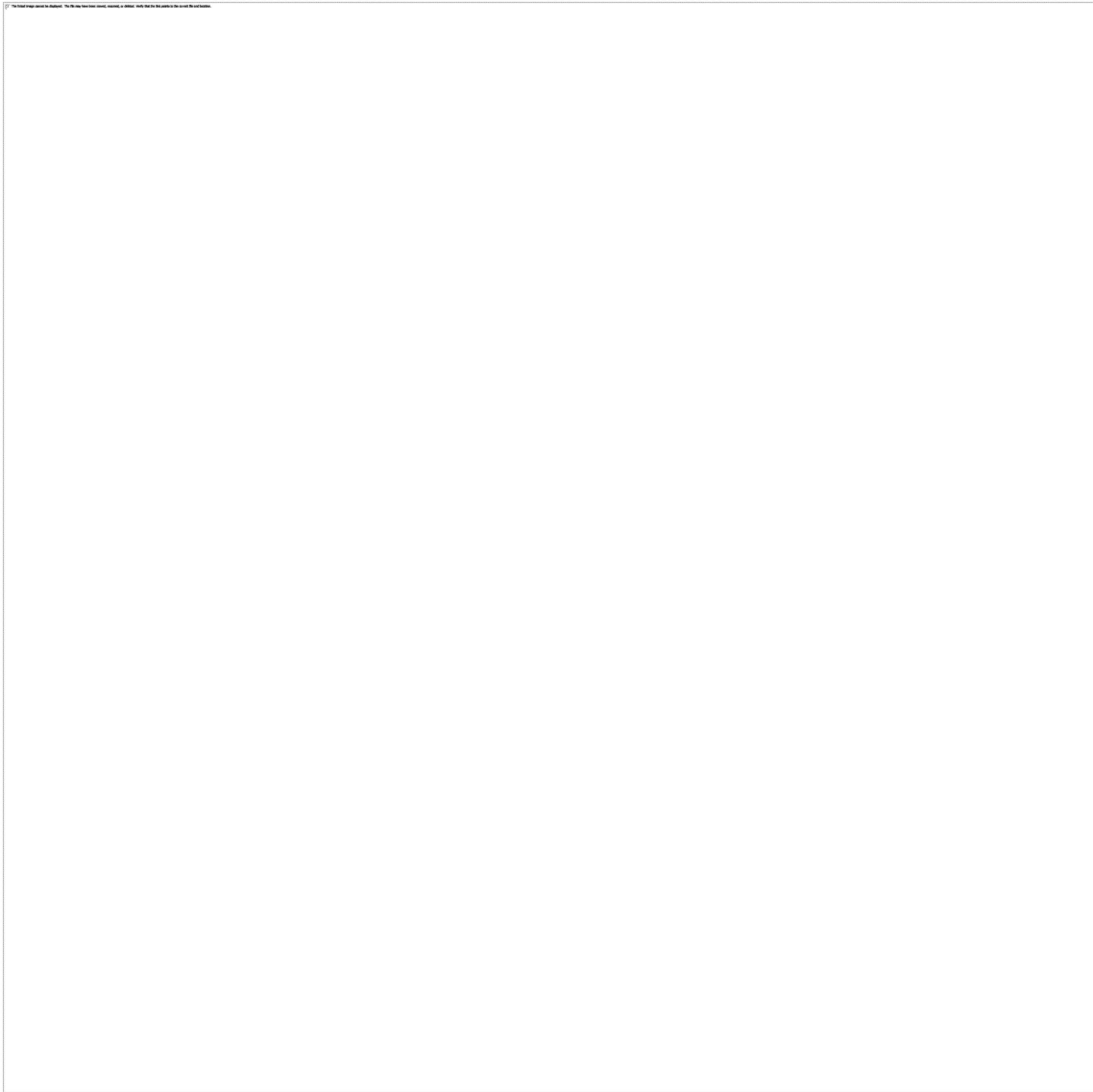


Illustration: Sarah Grillo/Axios

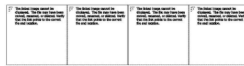
Global greenhouse emissions rose last year — an unwelcome development after they'd leveled off the three previous years, and a clear call to action for the world's long-term energy goals, Fatih Birol, executive

director of the International Energy Agency, writes for Axios Expert Voices.

What's next: Unprecedented advances in a broad range of clean and renewable energy technologies will be critical. These technologies are among the most important:

1. <!--[if !supportLists]--><![endif]-->**Cooling:** The efficiency of most air conditioners is far below the best available technology.
2. <!--[if !supportLists]--><![endif]-->**Solar power:** One of the biggest clean energy success stories, solar power has grown over 30% in the last year alone.
3. <!--[if !supportLists]--><![endif]-->**Electric vehicles:** An additional 1.1 million of these hit roads last year, bringing the worldwide market to 3 million vehicles — still less than 1% of the global car fleet.
4. <!--[if !supportLists]--><![endif]-->**Nuclear power:** Declining investment, aging fleets and phase-outs signal challenges ahead, while the number of new plants continues to drop sharply.

Go deeper: Read Fatih Birol's post.



7. A climate glossary for Trump (and everyone)

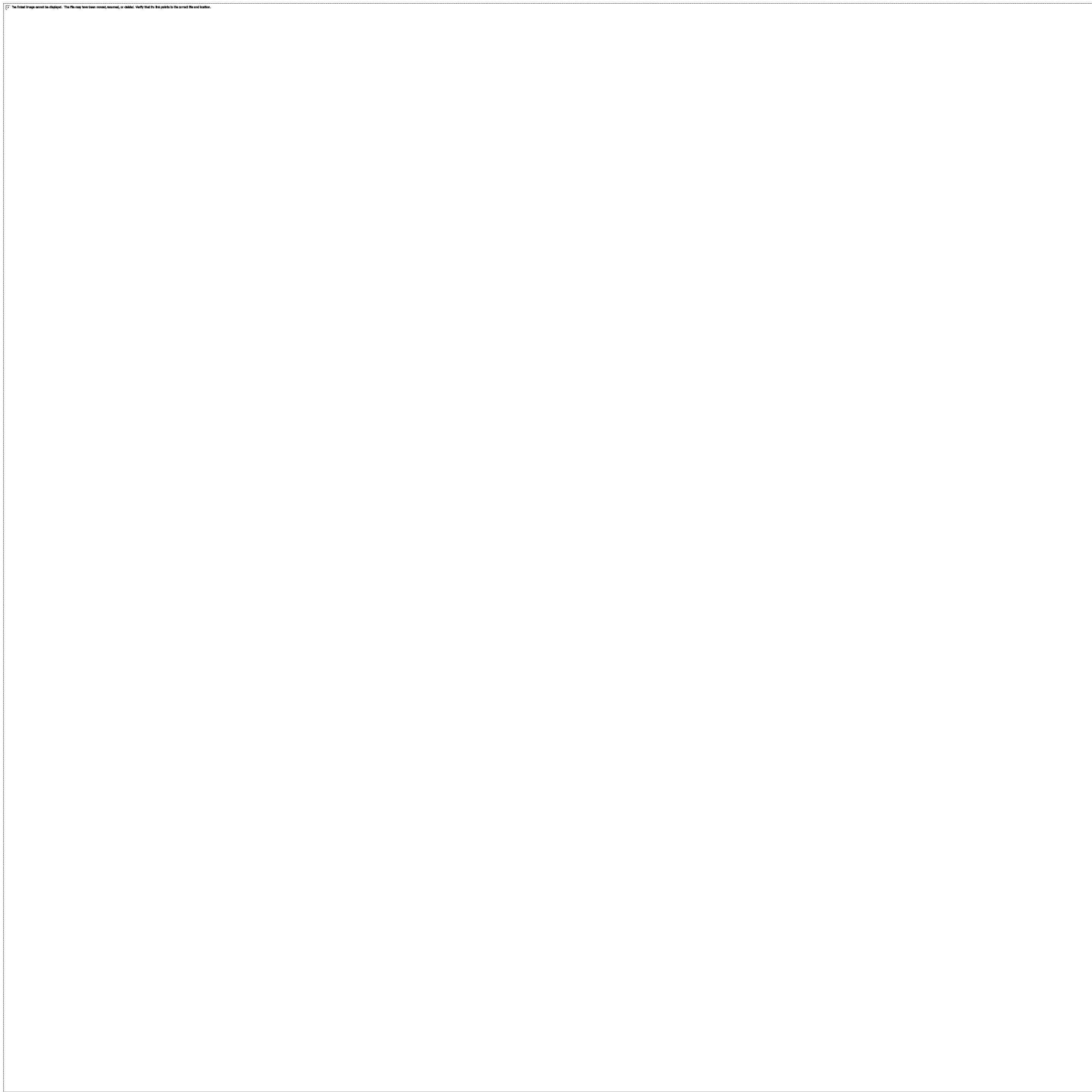


Illustration: Sarah Grillo/Axios

President Trump's words on climate change have usually been, well, imprecise. Amy Harder wrote a handy glossary to make sure everyone's got their semantics straight.

Global warming and climate change: Climate change has become the more commonly used term over the last decade, driven by two main factors:

1. <!--[if !supportLists]--><![endif]-->**GOP polling** in 2002 said climate change was preferred over global warming to illustrate a less scary phenomenon.
2. <!--[if !supportLists]--><![endif]-->**In 2005**, the National Academies of Science issued a memo suggesting climate change was growing in

preference because “it helps convey that there are changes in addition to rising temperatures.”

Believing in climate change: Climate change isn’t a religion, or anything else people choose to believe or not believe. It’s a science backed up by data and evidence. A better word: acknowledge.

Climate denier and climate skeptic: These two terms are used, largely by climate activists but some news outlets too, to describe people who question or reject mainstream climate science.

- **A better way:** avoid personifying labels. It takes a few more words, but it’s more accurate and less polarizing.

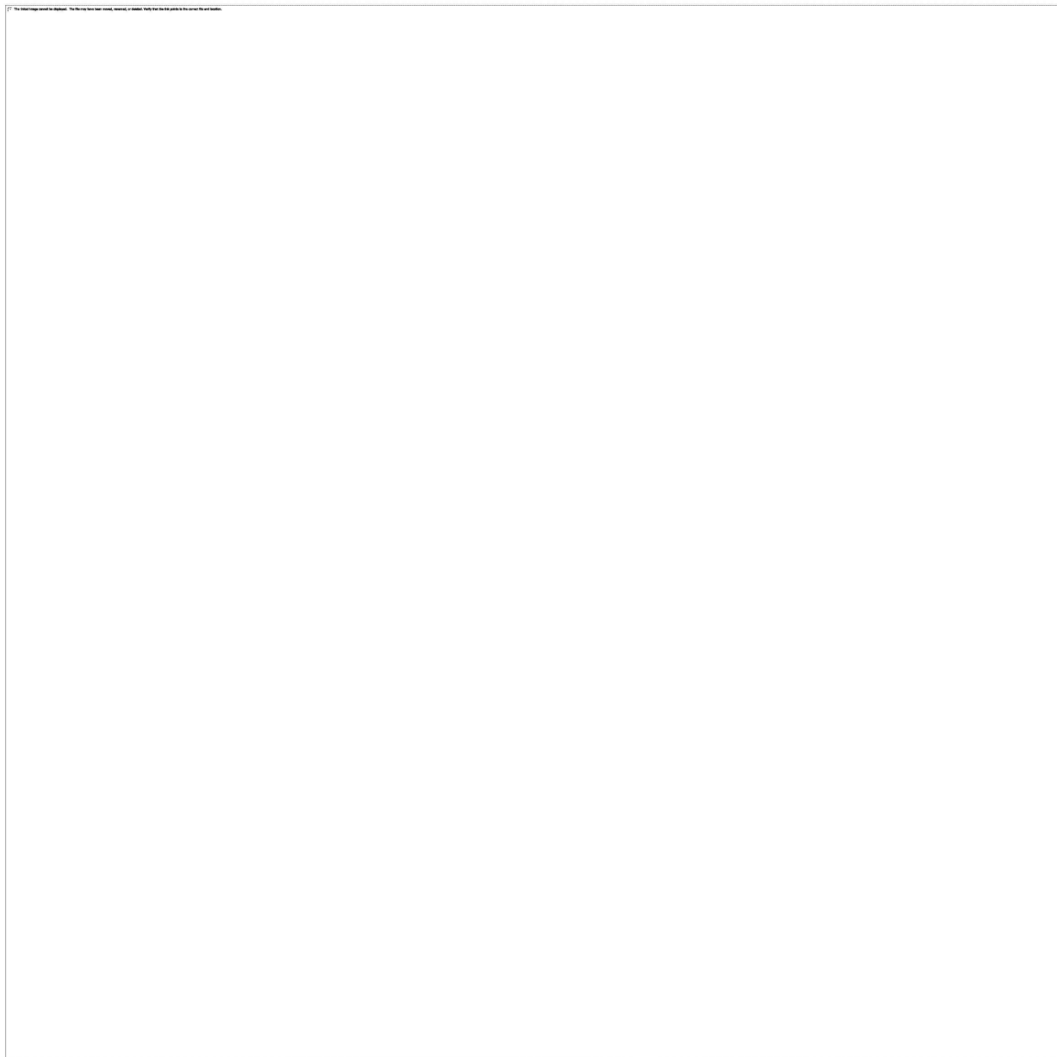
Alternative energy vs. conventional energy:

- **Alternative energy** is often used for energy that’s not fossil fuels: oil, natural gas or coal. **Conventional energy** is considered fossil fuels.
- **Those two words** — alternative and conventional — reinforce stereotypes by implying one is always the alternative to the conventional.
- **A better way:** Use "renewable" instead of "alternative" (or specify precisely what type of energy), and "fossil fuels" instead of "conventional."

Go deeper.

1. The following table lists the top 10 sources of energy in the United States in 2010. The table is divided into two sections: Fossil Fuels and Renewable Energy. The first section lists the top 5 sources of fossil fuels, and the second section lists the top 5 sources of renewable energy. The table is sorted by the percentage of total energy generated by each source.	2. The following table lists the top 10 sources of energy in the United States in 2010. The table is divided into two sections: Fossil Fuels and Renewable Energy. The first section lists the top 5 sources of fossil fuels, and the second section lists the top 5 sources of renewable energy. The table is sorted by the percentage of total energy generated by each source.	3. The following table lists the top 10 sources of energy in the United States in 2010. The table is divided into two sections: Fossil Fuels and Renewable Energy. The first section lists the top 5 sources of fossil fuels, and the second section lists the top 5 sources of renewable energy. The table is sorted by the percentage of total energy generated by each source.	4. The following table lists the top 10 sources of energy in the United States in 2010. The table is divided into two sections: Fossil Fuels and Renewable Energy. The first section lists the top 5 sources of fossil fuels, and the second section lists the top 5 sources of renewable energy. The table is sorted by the percentage of total energy generated by each source.

8. The political divide over climate science



Reproduced from Climate Change in the American Mind, a survey conducted by Yale and George Mason Universities. Chart: Axios Visuals

Despite the increasingly solid scientific consensus that human activity is driving climate change, acknowledgement of that across the political spectrum has remained largely unchanged for two decades, Axios' Henrietta Reily reports:

- **The back story:** Anthony Leiserowitz, director of the Yale Program on Climate Change Communication, noted that the percentage of Republicans who believe that climate change is happening peaked during John McCain's presidential campaign in 2008, then dropped.
- **Between the lines:** A majority of the American public agrees with the evidence, when you combine Democrats with moderate Republicans.

Go deeper.

1. The House will pass a bill to create a new federal agency to oversee the environment.	2. The House will pass a bill to create a new federal agency to oversee the environment.	3. The House will pass a bill to create a new federal agency to oversee the environment.	4. The House will pass a bill to create a new federal agency to oversee the environment.
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9. Cracks emerge in D.C.'s climate stasis



Illustration: Sarah Grillo/Axios

Bipartisan focus on climate change is beginning to show ever so slightly on Capitol Hill after eight years of dormancy, Amy Harder reports.

Why it matters: Any significant policy tackling climate change will almost certainly need support from both Democrats and Republicans.

Congress hasn't seriously considered comprehensive legislation on this topic since 2010, the last time any sizable group of congressional Republicans were willing to talk openly about addressing it.

Driving the news:

1. <!--[if !supportLists]--><![endif]-->**A new political group** with a seven-figure budget launched this week, backed by former Republican congressional leaders and funded by energy-industry money, to push a plan taxing carbon emissions and sending the revenue back to Americans in the form of dividend checks.

2. <!--[if !supportLists]--><![endif]-->**Of the 42 Republicans** who are members of a bipartisan House caucus on climate change, 36 have joined since President Trump's election.

3. <!--[if !supportLists]--><![endif]-->**A bipartisan group** of lawmakers is pushing policies aimed at cutting carbon emissions, albeit indirectly.

Be smart ... Policies without opposition are virtually unheard of in Washington: In this town, politics change slowly and often not in a linear fashion.

• **It's like** walking uphill in mud: It's messy, arduous and you might fall down and have to start over — or find another path.

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10. Axios Video: How renewables won over this Texas mayor

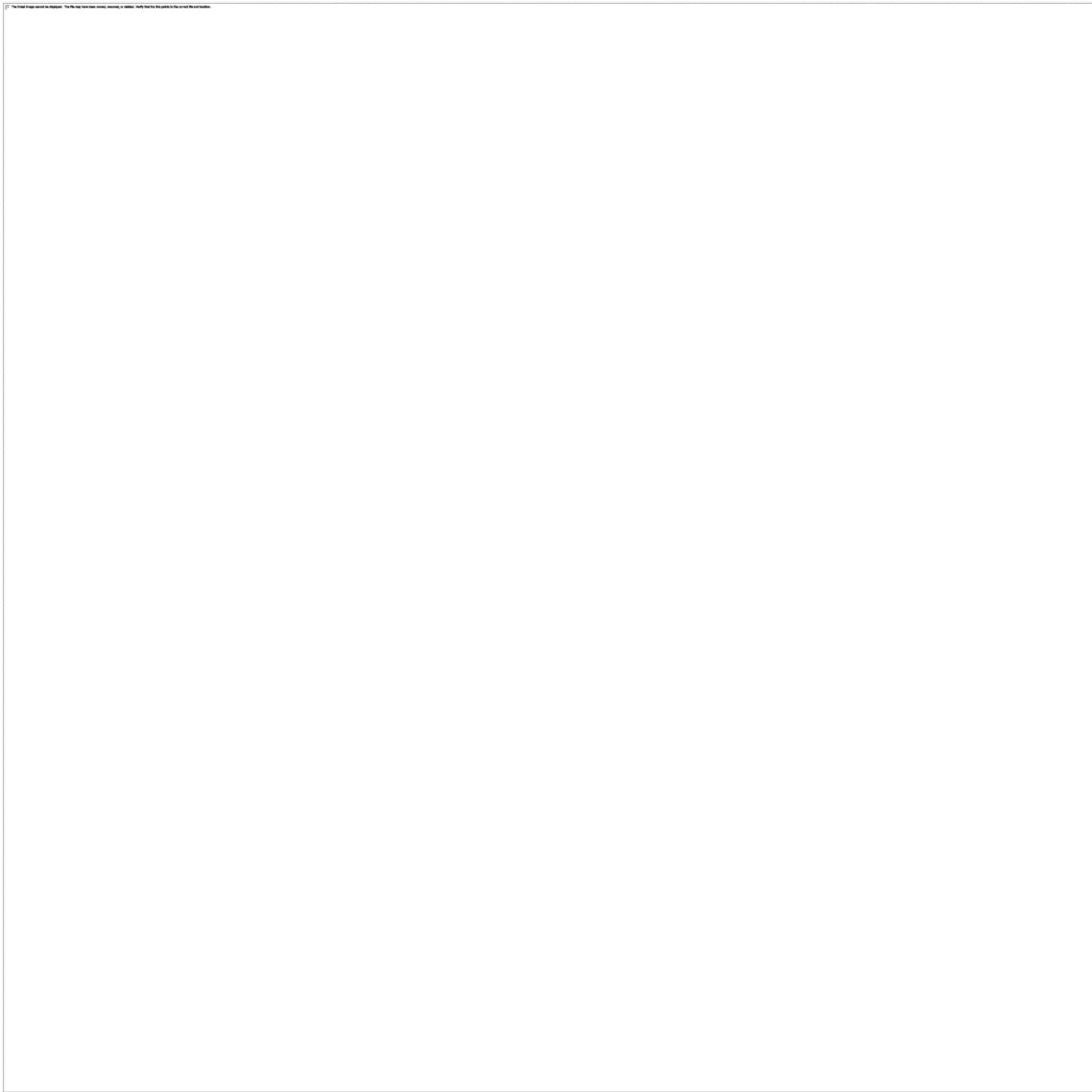


Illustration: Sarah Grillo/Axios

In Texas, the city of Georgetown runs on 100% renewable energy. Republican Mayor Dale Ross told Axios that the decision was “a no-brainer, economically.”

- **Why it matters:** Despite the divisive national debate, cities like Georgetown are finding that renewable energy sources like hydropower, wind and solar may provide more financial stability than fossil fuels.

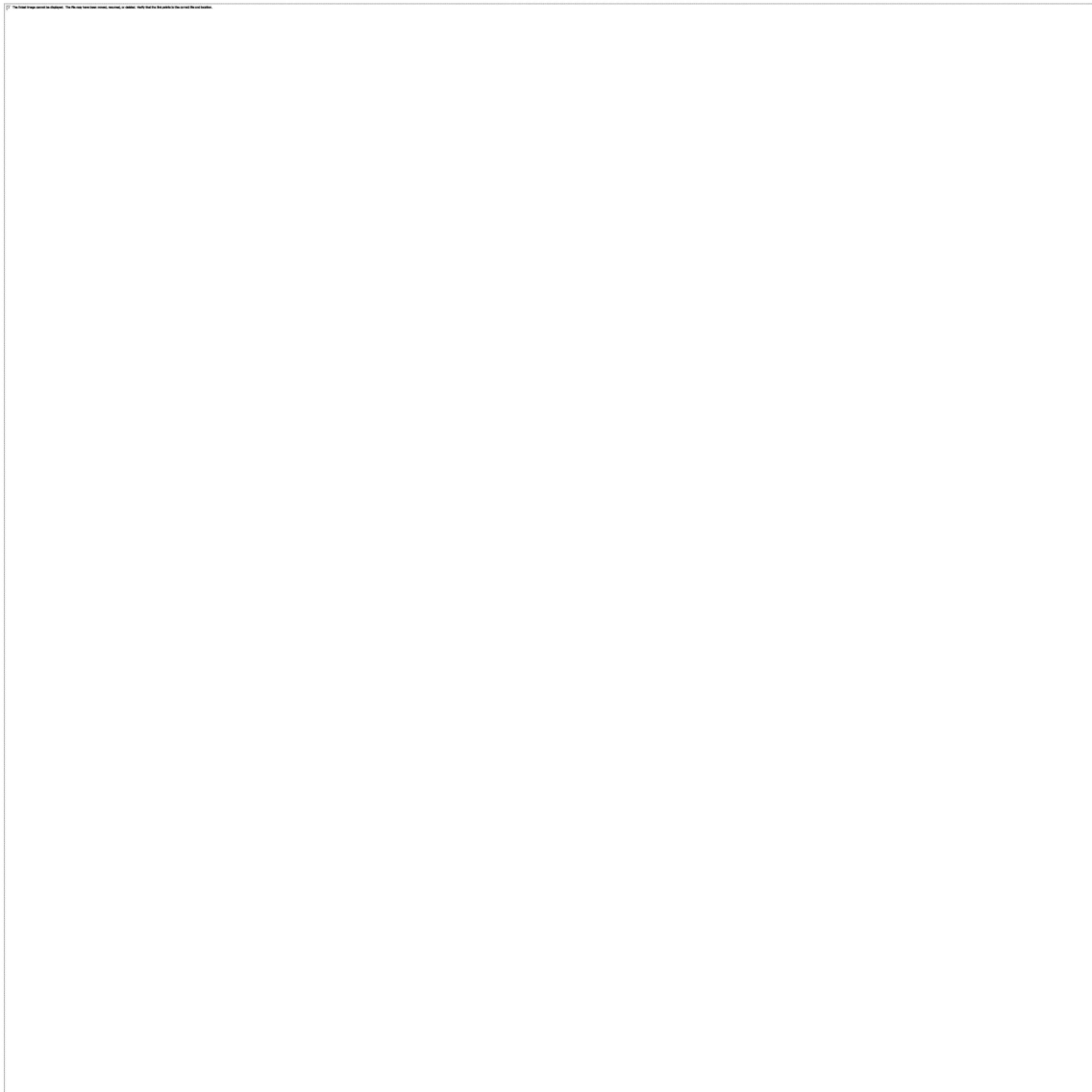
Watch the video.

1. The Texas Energy and Climate Center, a non-partisan research organization, found that Georgetown's renewable energy sources are cost-effective and provide a stable, long-term energy supply.	2. The Texas Energy and Climate Center, a non-partisan research organization, found that Georgetown's renewable energy sources are cost-effective and provide a stable, long-term energy supply.	3. The Texas Energy and Climate Center, a non-partisan research organization, found that Georgetown's renewable energy sources are cost-effective and provide a stable, long-term energy supply.	4. The Texas Energy and Climate Center, a non-partisan research organization, found that Georgetown's renewable energy sources are cost-effective and provide a stable, long-term energy supply.
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Thanks for reading. Let us know what you think: [\[REDACTED\]@axios.com](mailto:[REDACTED]@axios.com) or [\[REDACTED\]@axios.com](mailto:[REDACTED]@axios.com).

A MESSAGE FROM BP.

BP just launched a low carbon accreditation program



BP encourages every part of our business to pursue lower carbon opportunities, from emissions reductions to carbon neutral products to low carbon technologies. [Check them out.](#)



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