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**Title:How 2024 will accelerate New York City's EV future**

**Description:**

New statewide EV infrastructure incentives will give New York City's charging capacity a significant boost.

**Content:**

Driving Change
How 2024 will accelerate New York City's EV future
New statewide EV infrastructure incentives will give New York City's charging capacity a significant boost.
By Vartan Badalian
January 2, 2024
Charging station in the Bronx borough of New York City. Source: NYC.gov
In November, New York state’s Public Service Commission (PSC) approved a historic electric vehicle (EV) infrastructure buildout program, dramatically increasing its investments in EV charging throughout the state. The 2020 EV budget increased from $701 million to $1.24 billion now, with $372 million funding for disadvantaged communities. The program also increased the target number of direct current fast-charging stations from 1,500 to 6,302.
The PSC orders — Order 18-E-0138, focused on utility make-ready programs, and Order 22-E-0236, focused on demand charges — promise to forever change New York City’s EV charging landscape. As part of the PSC make-ready order, Con Edison must file an updated implementation plan its  program no later than Jan. 12. Here’s a look at both PSC orders and the changes they will bring to the city's EV future. 
NYC’s needed fast-charging boost
The commission’s  order updates EV charging funding programs established from a 2020 PSC order; A make-ready program funds a portion of the development for EV charging projects, typically the most expensive part, which usually is everything but the physical hardware itself (conduit, upgrading power at the site and electrical/construction).
The 2023 PSC order brought major updates to existing EV programs and created new ones across both Level 2 and fast-charging projects, such as forming a stakeholder group to develop an EV interconnection framework that addresses utility queuing backlog issues. 
The order particularly focuses on New York City: For example, out of the roughly $542 million funding increase going into the make-ready program for the state’s fast-charging projects, $347 million goes to Con Edison for the city. The previous 2020 PSC order had only $42 million earmarked to Con Edison for fast-charging, out of a state total of $94 million.
The order incentivizes the development of larger charging projects, much like the ones Revel has built throughout New York City. Based on public docket comments from Revel, Tesla and others, the PSC approved modifying the capacity limits of project sites up to 6 megawatts (MW) for Con Edison territory, up from 3 MW for other utility territories. This decision allows make-ready eligibility for projects with up to 60 fast-charging plugs, hugely supporting improved economies of scale. 
"As New York City goes electric, large EV charging stations such as the ones Revel has planned that can charge hundreds of EVs a day will be necessary to avoid long waits to charge," Jake Potent, director of policy and government affairs at Revel, said in an email. 
Shedding demand charges
The build-out of fast-charging stations is notoriously complex, and high utility demand charges are a major headache for operators. High-demand charges can cripple an EV charging operation if costs per kilowatt-hour run high.  
For New York state, PSC’s demand charge order brings with it some substantial updates, easing the burden of operating massive fast-charging sites, especially in New York City. 
Among the changes is a Con Edison commercial managed charging program. For the peak avoidance incentive, fast-charging operators earn an incentive based on whether their maximum load ratio — the maximum power output of the charging station relative to its designed capacity — is greater than or equal to 15 percent, or below 15 percent.
For example, a max load ratio of 50 percent means that the charging station can provide up to 50 percent of its total capacity as power to a vehicle.
Public DC fast-charging with a max-load-ratio range of less than 15 percent in the summer would get $20/kW and $8/kW in the winter. For a max-load-ratio range of more than or equal to 15 percent, the incentive would be $26/kW in the summer and $8/kW in the winter.
"ConEd's new Smart Charge Commercial program is a meaningful incentive that will effectively lower the cost of electricity for public fast charging stations which is key to making fast charging more economical, while also helping to avoid strain on the grid during peak-times," Potent said. 
Is an influx of EVs coming?
New York City has ambitious plans for electrification, and widespread charging facilities are critical to  those plans. While Level 2 charging from providers such as FLO and itselectric can be beneficial for many New Yorkers, it won’t fully work for the city’s grand plan to electrify the entire taxi and for-hire vehicle industry, like Uber and Lyft, by 2030 because typically rideshare drivers need faster charging speeds during the day. 
The city needs many more fast-charging sites, especially ones like Revel’s mega-hubs, which offer publicly accessible fast-charging.  
It seems increased EV demand is coming. In October 2023, the city lifted its cap on new for-hire vehicle licenses, but only for EVs. While the change was quickly met with a lawsuit filed by the New York Taxi Workers Alliance, in which a judge issued a restraining order to stop the city’s policy move, the Nov. 8, 2023, judgment didn't go into effect until Nov. 13, 2023, at 9 a.m. 
This resulted in a mad dash for  for-hire licenses. Some reports indicate that nearly 6,000 applications were filed in three days. 
Even if only a small percentage of those applications materialize into actual EV drivers on New York City’s streets, it’s clear that the city needs more fast charging, and that change is coming quickly.
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Solving the EV charging problem for multi-unit dwellings
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Petro-aggression and the energy transition
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**Title:Q&A: Shopify’s sustainability chief on what companies should know about carbon removal contracts**

**Description:**

Stacy Kauk argues it’s worth paying more for credits based on emissions removal than emissions avoidance.

**Content:**

Q&A: Shopify’s sustainability chief on what companies should know about carbon removal contracts
Stacy Kauk argues it’s worth paying more for credits based on emissions removal than emissions avoidance.
By Heather Clancy
January 2, 2024
Stacy Kauk, head of sustainability, Shopify
E-commerce company Shopify is betting carbon removal technologies — such as direct air capture or mineralization or ocean alkalinity enhancements — will help the company achieve carbon-neutral status over the long term.
So far, it has committed close to $55 million through its Sustainability Fund, set up four years ago, to support renewable energy procurement, green building investment and carbon sequestration. Those initial bets will remove 84,400 metric tons of CO2, said Shopify head of sustainability Stacy Kauk in a mid-December update. 
I interviewed Kauk to dive deeper into what the company has learned so far. You can read the key takeaways here. What follows are excerpts from our chat on what makes carbon removal offtake deals different from clean power agreements, and why it’s worth paying more now to lock in supply for the future. The interview was edited for clarity and length.
Heather Clancy: In 2024, how will the Shopify team support faster carbon removal project development?
Stacy Kauk: That's what gets me excited because faster carbon removal project development is really one of the problems, or one of the friction points, we've observed in 2023. Things are getting difficult because they're getting real, right? We have projects that have to get permits, we have wells that have to be drilled, we have facilities being built in Iceland … The climate gives you a certain number of construction days, and the rest [of the time] it's snow and rain and sleet, and things are going to be slower than you've planned. So there's all of these factors, because we're doing things for real now, things are slowing down.
Things are getting difficult because they're getting real, right?
As a buyer, you might think, "Oh, there's not much we can do. We're just waiting for our credits, and then we'll make some payments." But one thing that [Shopify brings] to the table is we like to work with our fund companies and have a real partnership where we help them … communicate the value and give them advice on how to sell more credits to other buyers, so that they can get some more revenue. We have a unique offering, called Planet, which enables our customers to offer carbon-neutral shipping. They do that by buying from the same suppliers we've already vetted in our fund, which means that there's a little bit more demand happening.
Clancy: Why are contracts for carbon removal "offtakes" different from offtake contracts for renewable energy?
Kauk: When it comes to a renewable energy contract, you're usually agreeing on a strike price, right? … When they sell the electricity into the grid, if the price that they're able to get is higher, the [corporate] offtaker makes the money. If the price is lower, the offtaker pays … so the project is still economically viable [because the energy vendor is shielded from the price decline]. In the renewables market, the key structure is price certainty, so there's no risk from a financial perspective for that project.
When we get to a carbon removal offtake, we're not trying to prove we are providing a price guarantee [to the developer]. [Today, the price] is not based on a market, so we'll always be paying [to provide future revenue certain for the developer, which is required for investors]. That's a critical difference, but you can see how this will fit as the structure in the longer term. … If the voluntary [carbon] market gets absorbed into a fully regulated global carbon market, we would then be providing price parity. That's the big difference today.
Clancy: I have been hearing more about insurance for carbon credits aimed at covering credits for carbon avoidance, rather than removal. What impact would insurance have for carbon removal credits? Is it important? Is it too early?
Kauk: I find it to be a bit early. Insurance, as you mentioned, is really about protecting against things that happen for avoidance [projects] where the baseline is off, [or] there's a reversal event. Reversal events [do happen] in carbon removal, however it's way less likely than a forest fire. So the need for insurance is not transferable between the two scenarios. 
There is a huge brand and soft capital benefit to buying a carbon removal credit, rather than an avoidance or a REDD+ credit.
However, there is something that needs to be done around uncertainty in carbon removal. There is a lot of uncertainty in terms of how much is actually being removed and permanently stored. We just don't know enough yet. I prefer to see it handled through … sensitivity analysis on a project to make sure we understand the extremes if the worst case happens … [We need to know] how many credits we should be giving out. If it's actually better than expected, how many credits could we be giving out? … Insurance is supposed to make you whole and, in the voluntary carbon market, replacement credits would be the way to do it. But is that something we need to pay a premium for versus just going out and sourcing some additional credits? I think that remains to be seen.
Clancy: What advice would you give to another sustainability professional about how to invest in carbon removal?
Kauk: Obviously, continue to focus on your emissions reductions. If you have a net-zero commitment through [the Science Based Targets initiative], you will at some point need to buy carbon removal. There's going to be a lot of other companies doing the same thing in similar timeframes. So it's really important to learn now and get in early so you already have a stake in the game and you've locked up your supply. So it's futureproofing your climate plan to get involved now.
There’s always pushback that [carbon removal is] crazy expensive. Like, why would we buy a credit that's $2,000 per ton, when we can spend $15 and make the same claim? While that is true, there is a huge brand and soft capital benefit to buying a carbon removal credit, rather than an avoidance or a REDD+ [reducing emissions from deforestation and degradation in developing countries] credit. There’s a risk around that. Every day, we're reading about another project that was over-credited or the baseline was wrong or something's happened. 
One thing about carbon removal is … it's always going to be additional, nobody was going to remove carbon for any other reason than you paying them. So it really directs that reputational and brand component [of carbon credit claims]. There's not a price that you can pay for that.
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**Title:Shopify: 3 lessons from investing $55 million in 40 carbon removal startups**

**Description:**

Shopify’s head of sustainability, Stacy Kauk, shares secrets from four years of investing in early-stage carbon removal.

**Content:**

Shopify: 3 lessons from investing $55 million in 40 carbon removal startups
Shopify’s head of sustainability, Stacy Kauk, shares secrets from four years of investing in early-stage carbon removal.
By Heather Clancy
January 2, 2024
Planetary Tech, one of Shopify's ocean-related investments, adds an alkaline solution to ocean water to catalyze faster absorption of CO2. Source: Shopify
Since 2019, Shopify has invested close to $55 million in 40 startups that have developed methods for removing carbon dioxide from the air — from direct air capture devices to spreading crushed rock on farmland for faster soil absorption.
Those relationships are part of the $6.7 billion e-commerce company’s strategy to offset its emissions without buying traditional carbon offsets. Shopify’s initial bets will removed 84,400 metric tons of CO2, said Shopify head of sustainability Stacy Kauk in a mid-December update.
That’s a small amount, considering the gigatons in reductions needed to slow temperature increases and the spikes in emissions caused by a company the size of Shopify. But it’s almost double what Shopify reported in early 2023, and the company was part of at least four high-profile deals since May that will remove 338,000 metric tons. Those new credits will start being delivered this year.
Shopify’s investments go through its Sustainability Fund, set up to support renewable energy procurement, green building leases near public transportation hubs and carbon sequestration that stands the test of time. The fund, with board-level approval, supports "intentionally overpaying" for projects that sequester carbon to boost corporate interest in the market, as Shopify CEO Tobias Lütke said at the launch. Shopify is also part of Frontier, a group of corporations committing $1 billion to getting more projects off the ground.
"Carbon removal is a big, gnarly problem that can’t be solved by Shopify and other corporate buyers alone," Kauk said in December. "We’re doing our best to kickstart the market, but it will take way more than just us."
GreenBiz spoke with Kauk to dig deeper into the strategy and discuss what other companies can learn from Shopify’s experiments over the past four years. Here are the big takeaways.
3 proof points before committing to a carbon removal project
How does Shopify know whether a successful pilot is worth scaling into a commercial project? Kauk’s team uses these tests:
Understand the financial model
Is there clarity on potential maintenance costs and factors that could affect operational uptime, such as adverse weather conditions?
Know the unit economics
Will the facility deliver enough capacity to make an investment worthwhile? The company needs to know how the price curve for removing a ton of carbon will change between now and 2050. "Make sure that it's something that's going to be bankable, that's going to get capital coming in from other places, so that the facility can be built and operated," Kauk said.
Will it have staying power?
Will it make a meaningful impact two decades from now? That includes factors such as the potential evolution of the technology and how much physical space it requires.
A big risk today: Disparate verification methodologies
Questions about the reliability and durability of claims for carbon credits centered on emissions avoidance, such as protecting tropical rainforests, have underscored the need for better verification methods and standards of carbon removal solutions. For many sustainability professionals, the high-profile controversy over claims related to a massive forest conservation project in Zimbabwe are top of mind. 
Kauk said there is a lot of "uncertainty in terms of how much is actually being removed and permanently stored. We just don't know enough yet." Some companies Shopify is working with, such as CarbonCure, which stores captured CO2 in concrete, are working with established registries, such as Verra, to develop verification methodologies. "Right now, we have to do a lot of the review ourselves … we get all of the data and we check the work and compare it against the methodology, so that's not a very scalable approach at all," said Kauk.
Shopify is pushing for standards, such as the one published by Isometric on Dec. 21, which focus on monitoring, reporting and verifying emissions removed by direct air capture systems. Isometric is also working on verification methods for things such as enhanced rock weathering technologies.
A controversial solution with huge potential: ocean capture
Shopify’s team has considered many carbon removal techniques. One that has "massive potential" is ocean alkalinity enhancement, Kauk said. This method increases the sea’s alkalinity by adding minerals such as olivine and basalt to beaches or the water’s surface. The chemicals convert dissolved carbon dioxide in seawater into carbonates and bicarbonates, which trap more atmospheric CO2 over long periods of time. The theory makes some scientists nervous because it is not clear whether speeding up ocean alkalinization might have harmful unintended consequences on the marine environment.
Shopify is working with six startups in this space including Running Tide, which grows kelp and sinks it to the seafloor to store captured carbon; Planetary Tech, which adds an alkaline solution to ocean water; and Captura, which uses electrochemistry to filter CO2 out of seawater. 
"We need to find a framework that makes all of the stakeholders around these kinds of projects comfortable, because we have to leverage the ocean, because it just takes away a lot of the issues that we have with other kinds of carbon removal, such as land use change [and] electricity usage," Kauk said. "Those cost factors come way down when we use the ocean."
Read more about Shopify’s carbon removal strategy in this edited transcript of the interview.
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**Title:Only 7% of US climate tech venture capital funding went to female founders in 2023**

**Description:**

VC investment for female founders dropped in 2023.

**Content:**

Only 7% of US climate tech venture capital funding went to female founders in 2023
VC investment for female founders dropped in 2023.
By Leah Garden
January 3, 2024
Graphic via Shutterstock/ Frogella
In 2023, 21 out of 319 climate tech funding rounds in the U.S. went to female-founded companies, according to data from Pitchbook. That’s 6.6 percent of deals.
Globally, the odds weren’t any better, with female founders closing just 58 funding deals, compared to the 826 rounds awarded to male founders in climate tech. 
"Female founder" refers to a female-presenting person acting as the sole founder of a company. This title is newer than I realized; until the passage of HR 5050, the Women’s Business Ownership Act in 1988, a woman was required to have a male relative cosign for business loans in many states.
Crunchbase’s data about gender-related funding trends skews slightly better than the Pitchbook figures: its tracking showed that 65 U.S.-based, female-founded climate tech companies received VC funding in 2023, or 10 percent of all funding rounds. Those deals included seawall construction company Kind Design’s $5 million seed round and environmental data venture Amini’s $4 million seed round.
The same database shows 565 male-founded climate tech startups received funding in the same period. 
The disparity between Pitchbook’s and Crunchbase’s data likely results from the way each researcher defines climate tech. Either way, 2023’s number is a step backward. Pitchbook’s data states that female founders raised $106 million in 2022, compared to 2023’s $80 million. The entire sector experienced a dip in VC funding in 2023, likely contributing to the fall of female-founded investing.
The cause for the great funding divide
Why does the gender divide exist, when the need for climate tech is greater than ever? Put simply, the world of venture capital is dominated by men, and historically men have invested in other men rather than women.
Women make up only 11 percent of partners at venture capital firms, according to "Advancing Gender Equality in Venture Capital," a report from the Women and Public Policy Program at Harvard’s Kennedy School.
Historically, VCs have tended to fund startups with all-male management teams. "Fewer than 5 percent of all VC-funded firms have women on their executive teams, and only 2.7 percent had a female CEO," according to an analysis by the Center for Strategic and International Studies, a bipartisan think tank.
"There’s no shortage of awesome women who can and should start companies," said Veery Maxwell, co-head of venture and growth at Galvanize Climate Solutions, a climate-focused venture capital firm, to GreenBiz last year, "but often they don’t want to make the leap because they don’t think they’ll be able to raise the money." 
One good reason to bridge the gap
Female-founded companies generate twice as much revenue per dollar invested than male-founded companies, according to a Boston Consulting Group study of five years of data. Every dollar of funding invested in female-founded companies generated 78 cents, compared to the 31 cents generated by male-founded companies, the study found.
Similarly, in 2022, a Pitchbook study found that female-founded startups have a 12-year streak of exiting faster than male-founded ones — an average of 7.2 years to 8.1, respectively.
Know of a female-founded climate startup that has bucked the trend? Share your feedback to [email protected]. 
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**Title:The year ahead in ESG: Assurance, transition finance and natural capital**

**Description:**

3 hot topics for 2024: regulations for ESG assurance; international agreements for transition finance; and new ways to measure investment in nature and biodiversity.

**Content:**

On the Money
The year ahead in ESG: Assurance, transition finance and natural capital
3 hot topics for 2024: regulations for ESG assurance; international agreements for transition finance; and new ways to measure investment in nature and biodiversity.
By Nico McCrossan
January 3, 2024
Image via Shutterstock/Deemerwha studio
This is one of a series of articles looking ahead to the trends, innovations, opportunities and challenges that will define the business of sustainability in 2024.   
Sophia Davirro/GreenBiz
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Is it officially too late to wish you a Happy New Year? As we return to work, here are three sustainable finance trends that are top of mind for me, along with three themes that sustainable finance and ESG community members say they would like prioritized in 2024. 
My hot topics for 2024 build on progress made in 2023: regulations for ESG assurance; international agreements for transition finance; and the development of standards and instruments to monitor investment in nature and biodiversity. Here’s where I see things headed.
Corporations are prepping for ESG assurance mandates 
What was once a voluntary exercise for disclosing climate and social goals has evolved into a full-fledged industry of ESG reporting. Up next: the introduction of third-party assurance requirements for certain ESG disclosures. 
California and the European Union are leading the way with the Golden State’s Climate Corporate Data Accountability Act, which requires large companies doing business in the state to get third-party assurance for Scope 1 and 2 emissions starting in 2026. (Companies will need to collect 2025 metrics, and file them in 2026). 
That means 2024 will be a big prep year: Companies will need systems to collect and manage data to meet those assurance requirements, and that means businesses must establish and test their ESG controllership strategy this year. 
How? Some companies are building internal teams to oversee ESG data collection and management for regulatory reporting. That includes hiring for the newly created position of ESG controller. Many large banks have added this role. Expect to see more companies hiring an ESG controller this year to manage regulatory demands. 
Transition finance will take the wheel 
An estimated $4 trillion in clean energy investment will be needed each year between now and 2030 to reach net-zero emissions by 2050, according to the International Energy Agency. 
That’s why climate finance was a key agenda item at COP28. More than $85 billion in new commitments were made, with the host country, the United Arab Emirates, launching a $30 billion global finance solutions fund that will allocate $5 billion to spur additional investment in the Global South. 
This year, we can expect the Inflation Reduction Act and Bipartisan Infrastructure Law to continue providing funding opportunities. An example is the $97 billion available through the Department of Energy for clean energy projects. The IRA has also contributed to an increase in cleantech investments, which totaled $176 billion in the first three quarters of 2023, or $50 billion more than the same period in 2022. 
Another key IRA provision to watch this year is for transferable clean energy tax credits. Through this facility, developers can monetize credits they receive for clean energy projects by selling them at a slight discount to companies that face large tax bills. This provides a much-needed source of capital for financing clean energy project development. 
Finally, better data for navigating natural capital 
The EU's Corporate Sustainability Reporting Directive took effect Jan. 1. It requires large and publicly traded companies to disclose environmental and social risks. The Taskforce on Nature-related Financial Disclosures released its recommendations for doing so in September, guiding how companies should discuss nature-related dependencies, impacts, risks and opportunities. 
As companies embrace digital technologies to collect these nature-related metrics, we’ll see the development of the "planet economy," predicts Lucas Joppa, the former Microsoft chief environmental officer turned private equity investor. Those insights and data pools will give investors more of the tools and infrastructure needed to invest in nature at scale, he said. 
What 3 sustainable finance leaders see on the horizon 
What ESG accounting or sustainable finance challenge would sustainable finance and ESG experts like to see prioritized in 2024? Why? I put that question to subject matter experts late last year. Here are three of their responses. 
Marina Severinovsky — Head of Sustainability, North America, Schroders 
"The future of fossil fuels, which was a focus of COP 28, should remain a priority in 2024, as reaching net zero will require a wholesale transformation of energy systems. Energy is an important part of many portfolios, and investors need to assess whether companies can adapt and transition their business models at a pace that can be profitable on their path to lower emissions. Given the demands on the energy system over the next 10-30 years, without significant investment, we will be short energy. Conventional energy companies are an important part of the investment in the energy transition sector and are needed to provide the transition fuels for the global clean energy transition. We expect that they will adapt their business model to capitalize on the growth in new energy transition technologies. Many of the major oil companies are already starting to change where they allocate capital and are already invested in hydrogen, carbon capture, biofuels, and wind and solar. Sustainable finance investment and engagement should focus on encouraging and accelerating this transition." 
Andrew Behar — CEO, As You Sow 
"There are 100 million people with $10 trillion in retirement accounts invested in an unlivable planet they can’t retire on. This is the year for every individual to realize that the person who earns the money has the right to invest it aligned with their values and to vote their proxies to shape a company’s trajectory toward justice, sustainability and financial outperformance. Click your heels together, Dorothy, it’s your money — use your power wisely." 
Jeff Mindlin — Chief Investment Officer, ASU Foundation 
"At the ASU Foundation, our viewpoint has always been that we are fiduciaries first and want to avoid politicizing the endowment. To that end, in 2024, my hope is that we will have passed the greenwashing and greenhushing phases to make actual progress on the matter at hand. I also would want to see standardization of reporting at the company and fund level become a priority." 
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**Title:Cotton has a waste problem: This startup says it can solve it**

**Description:**

Most cotton garments end up as landfill. Seattle’s Evrnu says it can recycle those items.

**Content:**

Cotton has a waste problem: This startup says it can solve it
Most cotton garments end up as landfill. Seattle’s Evrnu says it can recycle those items.
By Jesse Klein
December 28, 2023
Evrnu is partnering with U.K. fashion and textile innovator Pangaia to create recycled clothing made of denim — among the hardest-to-recycle versions of cotton. Source: Evrnu
The emerging textile recycling industry will take another step forward in January when Seattle-based startup Evrnu breaks ground on a cotton recycling facility in South Carolina. The facility, which will run primarily on renewable energy and have the capacity to create the equivalent of 80,000 T-shirts every year from recycled cotton clothing, is scheduled to come online in its first phase in 2024 and be fully operational by 2025..
Evrnu’s technology addresses a key hurdle in the apparel industry’s journey towards sustainability: Textile recycling today is basically nonexistent. Ninety-two million tons of textiles are thrown away each year. About 87 percent of all that material ends up in landfill. Less than 1 percent of the collected material becomes new garments in fiber-to-fiber recycling; most of the rest is downcycled — cut up to be used in rugs, insulation and other lesser-quality products.
Evrnu is partnering with U.K. fashion and textile innovator Pangaia to create recycled clothing made of denim — among the hardest-to-recycle versions of cotton.
Taking responsibility
Creating a viable, commercial-scale circular economy for cotton would drastically reduce the impact the cotton industry has on the planet. Over 25 million tons of cotton are produced globally each year. Cotton processing and production requires large amounts of water: about 10,000 liters of water for 1 kilogram of cotton. The crop also degrades soil quality, and increases pollution and carbon emissions from the production of and use of fertilizers and pesticides.
The top cotton producers are India (6.2 million tons), China (6.2 million tons) and the U.S. (3.6 million tons). The European Commission has proposed rules for extended producer responsibility (EPR), where the producer has to take responsibility (pay for) the entire life cycle of their products, including the waste they generate. EPR fees will go toward funding collection and recycling. Five states in the U.S. have passed EPR laws, primarily focused on packaging.
Creating a viable, commercial-scale circular economy for cotton would drastically reduce the impact the cotton industry has on the planet.
"In the United States, we landfill and incinerate somewhere around 14 million tons of textiles a year," said Karla Magruder, founder of the nonprofit Accelerating Circularity. "We're making a lot of new materials — putting energy, chemicals and water into them and … just throwing them away."
"If we want to move to circular, textile-to-textile recycling systems, we need the whole system in place," Magruder said.
Solid to liquid, and back
Stacy Flynn, founder and CEO of Evrnu, started researching the cotton recycling process in 2011 after a trip to China opened her eyes to the environmental damage produced by the textile industry. While studying for an MBA in sustainable systems at Pinchot University, in Washington state, Flynn shredded an old college T-shirt, dissolved it in a chemical solution and then, using a syringe, squirted the solution into a bath of sulfuric acid, which resolidified the liquified cotton into new "threads." That was the first prototype of the process now called NuCycle. The patented system mechanically and chemically reduces a solid cotton to a pulp and then reconstitutes it into fibers for new clothes. The garments are first separated by a grading machine to select the clothes that are the closest to 100 percent cotton — the rest are discarded for traditional downcycling.  
The end result, says Evrnu, is a premium fabric made from completely recycled cotton that performs like virgin cotton — and itself is 100 percent recyclable.
"By linking the existing waste supply chain to the existing apparel supply chain, we can start essentially creating a closed circuit supply chain as we create new products," said Flynn.
Denim dilemma
Evrnu, which raised a $15 million Series B investment from its funders two years ago, works with garment collectors such as charities and distribution centers to get the initial clothing. Most of these garments would end up in rugs or insulation otherwise.
Evrnu is partnering with Pangaia on a denim jacket made entirely from recycled cotton. Pangaia sells hoodies, jackets, shoes and T-shirts made with its own sustainable alternatives including seaweed, eucalyptus and grapes, as well as collaborating and investing in other textile startups similar to Evrnu.
Pangaia wanted a product that was created from 100 percent recycled material and could be 100 percent recyclable. Designers chose denim, one of the most complicated and hardest to recycle textiles, largely because of the dying process.
"One of the beauties of denim is those dye molecules that chip off so you can see the white core," Flynn said. "That's what makes denim so cool."
Evrnu’s fiber dyes more easily than traditional cotton, so it had to develop a method that would allow some of the color to fleck off while maintaining the integrity of the fabric. The collaboration created 20 Renu denim jackets that were sold for $400 each on Panagia’s website — a price Flynn that acknowledges is high. The clothing industry, she said, has been underpricing fashion for decades.
"Cheap product is way too expensive on the earth," she said. "We as citizens have to pay for the fact that we're not calculating in the cost of the damage to natural resources or people."
The company also has a capsule collection with fashion retailer Zara using its NuCycle technology. Flynn said Evrnu has half a billion dollars in volume commitments from brands and retailers (none of which are public yet). With scale, she said, the price of the recycled fabric will start to come down.
"We're starting to really train everyday consumers around the value of the things they put against their skin and to make better choices. Because if we're doing damage to the environment or humans, it's not worth it."
CORRECTION: This article has been updated to clarify when the Evrnu facility will be fully operational and to correct the quoted amount of textiles incinerated each year.
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**Title:Aligning Corporate Targets for Forests, Climate, and Nature**

**Description:**

To meet 1.5 degree and ‘30 by 30’ ambitions, companies must accelerate action across their supply chains. But navigating the different target-setting, accounting, and disclosure initiatives for forests, climate, and nature can be confusing.

**Content:**

Aligning Corporate Targets for Forests, Climate, and Nature
Date/Time: January 25, 2024 (11AM-12PM ET / 8-9AM PT)
To meet 1.5 degree and ‘30 by 30’ ambitions, companies must accelerate action across their supply chains. But navigating the different target-setting, accounting, and disclosure initiatives for forests, climate, and nature can be confusing.
To bring clarity, these initiatives looked to the Accountability Framework to align their expectations related to deforestation and ecosystem conversion in agricultural and forestry commodity supply chains. Together, they have developed an integrated suite of practical, aligned, and complementary tools and guidance to support companies in setting and achieving sustainability goals.
This webcast will explore how companies that produce, trade, or source agricultural or forestry commodities anywhere in the world can effectively address supply chain risks. You’ll learn:
Ways the Accountability Framework supports companies to achieve ethical supply chains.
A common language for defining and measuring land use change across Greenhouse Gas Protocol, SBTi FLAG, and SBTN land targets.
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Speakers:
Leah Samberg, Lead Scientist, Accountability Framework initiative
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**Title:H&M is funding offshore wind in Bangladesh to get garment factories off fossil fuels**

**Description:**

H&M will co-invest in a project it hopes will supply 40% of the country’s power.

**Content:**

H&M is funding offshore wind in Bangladesh to get garment factories off fossil fuels
H&M will co-invest in a project it hopes will supply 40% of the country’s power.
By Heather Clancy
January 5, 2024
 Women work at a ready-made garment factory in Dhaka, Bangladesh on Feb. 22, 2022. Image via Shutterstock/Rehman Asad
Sweden’s H&M Group is investing in Bangladesh’s first offshore wind project, a utility-scale installation being developed by Copenhagen Infrastructure Partners. Bangladesh is home to many factories that stitch the retailer’s clothing.
H&M, along with Danish retailer Bestseller, will co-invest unspecified amounts as part of a $100 million corporate pool being organized by Copenhagen Infrastructure Partners and the Global Fashion Agenda, a nonprofit that encourages fashion brands to adopt climate-friendly business practices. Other companies are being encouraged to join the project, which could begin operations by 2028.
Fashion companies who have pledged an emissions reduction of at least 50 percent by 2030 and net zero by 2050, and that can put at least $10 million into the project, are eligible to participate, Ulrika Leverenz, head of green investment for H&M Group, told GreenBiz.
"For us, this is a great example of how a collaborative approach on sustainable financing solutions and policy work can go hand in hand to overcome industry-wide challenges," said H&M Group CEO Helena Helmersson, when the deal was announced during COP28.
'A pioneering effort' in the fashion industry
An estimated 70 percent of fashion industry emissions come from upstream activities, including manufacturing, and many of those operations currently rely on coal, petroleum and gas for their electricity, according to Global Fashion Agenda.
Bangladesh accounts for close to 8 percent of global clothing exports, making it the third-largest exporter of these goods after China and the European Union. The project, with a planned capacity of about 500 megawatts, would be the first utility-scale offshore installation for Bangladesh. It aims to supply 40 percent of the country’s power by 2041. Once completed, the installation would cut the country’s annual emissions by a projected 725,000 metric tons, according to the developer.
"This is really a pioneering effort. While it’s become more common for other industries to take an approach that is more vertically integrated, the fashion industry doesn’t have that same history," said Nicole Rycroft, founder and executive director of Canopy Planet, which collaborates with apparel companies on supply chain sustainability strategy.
Most fashion companies have some operational footprint in Bangladesh, said Rycroft. "What’s important is that this helps coal power be decommissioned," she said. "It helps the grid at a larger level. This is a supply chain that is transforming in real-time."
H&M is one of the world's largest "fast fashion" brands, a term used to describe apparel that moves quickly from retail to production to meet fast-moving style trends. The company reported Scope 3 emissions of 5.65 million metric tons in its latest sustainability report, for 2022. (Scope 3 includes emissions from the company’s supply chain.) That was a 3 percent reduction from 2021. Its goal is to achieve a 56 percent reduction in Scope 3 emissions by 2030, based on a 2019 baseline; as of 2022, it had managed a 7 percent cut.
Copenhagen Infrastructure Partners, based in Denmark, is the largest dedicated fund focused on renewable energy projects — especially wind — in undeveloped "greenfield" areas; so far it has raised about $28.4 billion for these activities.
Ulrika Leverenz, H&M Group's head of green investment, says the company is looking for “big projects with big suppliers aiming for maximum impact.”
H&M steps up financing of supply chain sustainability
H&M’s planned wind farm investment builds on the company’s Green Fashion Initiative, which offers technical support and financing to suppliers who want to reduce their emissions. In late November, the company extended those efforts with the creation of a financing program in collaboration with Southeast Asia’s largest bank, DBS. The resource offers loans on favorable terms to suppliers who want to displace fossil fuels.
H&M has funded 17 projects as of January 2023, with a potential annual reduction of 190,000 metric tons annually, said Leverenz. About 50,000 metric tons are attributable directly to H&M’s production, she said.
One of H&M’s manufacturers in India, Raj Woollen, worked with H&M in early 2023 to finance the installation of solar panels, energy-efficient motors and water conservation technologies. The project was "a successful combination of expert energy assessment, close support in selecting the most suitable technology solutions, and an attractive financing model," said Sumeet Nath, managing partner for Raj Woollen.
Another metric to watch: In 2022, 70 of the company’s suppliers used on-site coal boilers, down from 91 in 2021. 
Any supplier in good standing can apply for H&M financing, Leverenz said. "We take into consideration the supplier’s financial situation, the innovation level of the technology, our business share in the unit, and the supplier’s own wish," she said. 
Its two priorities are "big projects with big suppliers aiming for maximum impact," and those seeking to deploy innovative technology that might initially be risky but could provide longer-term benefits, Leverenz said.
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**Title:How Wells Fargo is slashing HVAC energy use more than 70% with a simple building retrofit**

**Description:**

Wells Fargo was an early test site for Turntide Technologies, which makes switched reluctance motors that drive down energy consumption for HVAC systems by an average of 64%.

**Content:**

Practical Magic
How Wells Fargo is slashing HVAC energy use more than 70% with a simple building retrofit
Wells Fargo was an early test site for Turntide Technologies, which makes switched reluctance motors that drive down energy consumption for HVAC systems by an average of 64%.
By Heather Clancy
January 4, 2024
An installer works on a rooftop installation of a Turntide motor. Source: Turntide
A technology incubator program financially supported by the Wells Fargo Foundation initially invested in early-stage startup Turntide Technologies seven years ago, won over by the company’s business plan to produce energy-saving motors that slash power consumption for heating, ventilation and air-conditioning systems. 
Now the bank is a marquee user of Turntide’s technology, which can be used as a drop-in motor replacement in HVAC equipment that isn’t old enough to replace but needs an efficiency upgrade. Turntide’s motors can operate at variable speeds, which enables building managers to automate changes to electricity consumption based on real-time conditions. 
"It’s a simple replacement that can drastically reduce energy," said Robyn Luhning, chief sustainability officer at Wells Fargo. The system is compatible with most existing HVAC equipment, a crucial metric for the bank’s corporate facilities and property group, she said.
Wells Fargo’s field tests of Turntide’s technology — facilitated through the Innovation Incubator program its foundation manages in collaboration with the National Renewable Energy Laboratory — resulted in significant reductions. In a bank branch near Englewood, Colorado, the decrease was 70 percent, which will reduce overall power consumption by an estimated 7,000 kilowatt-hours annually. Power consumption at its Charlotte, North Carolina, office, went down 80 percent, which could save 29,000 kilowatt-hours per year.
The case for a smarter motor
Turntide makes switched reluctance motors, historically used in clocks or phonographs. The motors run at variable speeds, allowing them to be adjusted in response to operating conditions such as changing weather. That in turn enables building managers to automate changes to electricity consumption based on real-time conditions. Turntide’s motors also don’t require the rare earth metals used by magnet-powered systems, making them more sustainable from a materials perspective.
The technology is "simple, reliable and can handle a range of tough operating conditions," said Rushad Nanavatty, director of Third Derivative, the climate tech startup accelerator founded by RMI and New Energy Nexus.
The challenge is controlling the motors, a problem Turntide has raised more than $485 million to solve through digital means. "As software and digital controls become more sophisticated, these challenges become more tractable," Nanavatty said. "If Turntide has solved them, the potential market and applications could be really big and really promising; increasing efficiency in everything from EVs and HVAC systems to industry pumps, fans and conveyors." 
Along with Wells Fargo, the Sunnyvale, California-based startup is backed by Amazon Climate Pledge Fund, Breakthrough Energy Partners and Robert Downey Jr.’s Footprint Coalition. Turntide had a valuation of more than $1 billion in June 2022, but that number will be reduced when it announces another fundraise in 2024, a spokeswoman said.
Energy efficiency crucial for climate goals
Energy efficiency doesn’t generate as many headlines as renewable energy, but improvements in these measures need to double between 2022 and 2030 for the world to meet the climate goals set by the Paris Agreement, according to the International Energy Agency. While investments in efficiency have grown since 2020, they aren’t growing fast enough, the agency said.
"Maximizing efficiency gets us there years earlier and for trillions less and vice versa," said Third Derivative’s Nanavatty. "Not acting ambitiously on efficiency makes global decarbonization way harder."    
Addressing air-conditioning is an "incredibly important" part of the equation, he said, because it accounts for an estimated 20 percent of global electricity consumption. As the planet warms, that usage could triple by 2050. Based on current projections, the world would need 1 more terawatt of new electricity generation by 2050 just to run air-conditioners — almost twice of the total used today in the U.S. 
"Air conditioning load is especially problematic because it often drives peak demand — demand that is the most difficult and expensive to serve and is often served by the most polluting power plants," said Nanavatty.
A straightforward upgrade
Turntide is targeting companies with large real estate portfolios, such as retailers, or companies managing large warehouse networks where climate control is critical, said Marti Ogram, head of strategic accounts. Other customers include department store chain Canadian Tire (at 600 locations) and two big U.S. mall operations, Macerich and Ivanhoe Cambridge. 
The number of motors needed for an installation varies widely, depending on the number of systems involved: two to four units for a bank branch or up to 60 for a big warehouse operation. "The key is finding a company that has a commitment and energy efficiency goals," said Ogram. 
While Ogram declined to discuss pricing, Turntide created a calculator to help potential accounts model the payback period for deployment, usually two to three years.
For example, Wells Fargo said it will pick additional locations for the Turntide technology based on the age and condition of existing systems, local utility rates and the availability of utility energy efficiency incentives that could help cover the costs.
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**Title:The Body Shop achieves 'world first' Vegan Society-certified product range**

**Description:**

The company is the first global beauty brand to feature fully Vegan Society-certified skin care, body care, hair care, makeup and fragrance product

**Content:**

The Body Shop achieves 'world first' Vegan Society-certified product range
The company is the first global beauty brand to feature fully Vegan Society-certified skin care, body care, hair care, makeup and fragrance product
By Stuart Stone
January 8, 2024
Source: Shutterstock/William Barton
The Body Shop has revealed that it has achieved 100 percent vegan product formulations across all ranges including skin care, body care, hair care, makeup and fragrance, in what is claims is a world first.
The retailer's entire portfolio, spanning more than 4,000 ingredients, has been validated by The Vegan Society, meaning that more than 1,000 Body Shop products will carry the organization's Vegan Trademark.
The beauty retailer, which operates around 2,500 locations worldwide, has achieved a target set itself in 2021 when 60 percent of its products were Vegan Society-approved.
Ian Bickley, chief executive officer at The Body Shop, said the retailer had worked "tirelessly" to achieve what he describes as a "huge milestone."
"We were the first beauty company to fight against animal testing in cosmetics," he said. "We were the first major global beauty brand to use cruelty-free musk in our fragrances. We have now achieved another global first."
The Vegan Society's Vegan Trademark is widely recognized as the global standard for vegan products, helping users identify that more than 65,000 certified products free from animal ingredients and animal testing. 
Chantelle Adkins, director of business development at The Vegan Society, said that assessing The Body Shop's entire portfolio had been a "massive project" which showcased the retailer's commitment and dedication to vegan beauty. "We hope that this significant step sets a global standard for other beauty brands to follow and inspires further change to reduce animal use and exploitation across the industry," she said.
Although as of December all of The Body Shop's current product formulas have been certified vegan, it is possible that old, discontinued formulations which have not been certified will still be present in the market as they are being sold through.
The announcement comes both at the start of the annual Veganuary campaign and as the vegan cosmetics industry is predicted to reach $24 billion value by 2028 and with over 1-in-10 young people saying that "vegan" is an important factor in their health and beauty purchase decisions.
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By Heather Clancy
January 8, 2024
The Robert Noyce building in Santa Clara, California, is the site of Intel's headquarters. Source: Intel
The number of companies with corporate net-zero plans validated by the Science Based Targets initiative swelled to more than 500 as of mid-November. You won’t find chipmaker Intel on that list.
Intel, the world’s second-biggest chipmaker, with revenue of about $70 billion in FY 2022, said its emissions-reduction strategy is "aligned" with the net-zero guidance advocated by SBTi, but it doesn’t follow the guidelines for "numerous reasons" tied to how the company accounts for past and future progress, it said in its Climate Transition Action Plan, published late last year.
"We’re much more focused on how we reduce over time," said Todd Brady, vice president of global public affairs and chief sustainability officer at Intel, in an interview. "It’s a good framework for companies that haven’t really thought about this until much more recently."
The science of ‘science-based’ targets
SBTi is a nonprofit created in 2015 to help companies set voluntary "science-based targets" that align their greenhouse gas emissions reductions with the Paris Agreement’s goal of limiting global temperature increases to 1.5 degrees Celsius. 
The organization validates whether individual company pledges stand up to that commitment, lending more credibility to their claims. As of November, more than 2,000 companies were chasing SBTi’s blessing for their corporate net-zero plans over the next two years.
To address that demand, SBTi became an independent entity in September, after years of operating as a partnership of CDP, United Nations Global Compact, We Mean Business, World Resources Institute and the World Wide Fund for Nature. It has created an independent technical council to review its criteria and increased the number of individuals dedicated to validating corporate targets.
Intel’s dilemma: a long history of reductions
Intel began investing in measures to reduce its emissions two decades ago. In its November progress report, the chipmaker said process improvements, chemical substitutions, energy conservation, renewable power investments and other measures have helped it avoid more than 64 million metric tons of carbon dioxide equivalent (CO2e) over the decade through 2022. That compares with 16 million metric tons of CO2e actually emitted.
During the same timeframe, Intel’s manufacturing output tripled.
Source: Intel 2023 Climate Transition Action Plan
The problem is that Intel’s absolute emissions aren’t decreasing. During 2021 and 2022, Intel reported 1.54 million metric tons in emissions, up from 1.36 million in 2020. That’s at odds with SBTi’s requirements for near-term reductions, which don’t allow companies to account for avoided emissions.  
"While Intel’s long-term net-zero GHG goals are in line with a 1.5 degree emissions reduction scenario required by SBTi, we are challenged by the near-term reduction requirement without the ability to account for significant historical reductions," the company said in its report.
Intel’s climate transition action plan calls for a 10 percent reduction in absolute Scope 1 and Scope 2 emissions by 2030, based on a 2019 baseline. It is striving to reach net zero by 2040 for Scope 1 and 2, and by 2050 for its upstream Scope 3 emissions.
Another sticking point for Intel is that SBTi’s framework doesn’t consider the reduction in emissions or other potential benefits from using new technology in climate solutions, such as artificial intelligence that can reduce energy consumption. Intel is part of the Semiconductor Climate Consortium, formed in 2022, which is working on potential options for setting an SBTi-approved target.
"Intel’s priority is to actively reduce its emissions, in line with international standards and climate science," the company said.
An urgent need to address industry emissions
Notable Intel rivals and peers including Advanced Micro Devices, Applied Materials and Qualcomm have targets validated by SBTi, according to the nonprofit’s target dashboard, but fast-growing AI chipmaker Nvidia does not.
SBTi doesn’t offer sector-specific guidance for the semiconductor industry, but as production ramps up to sate the appetite for artificial intelligence and other digital services, emissions from these companies are growing. A conservative scenario modeled by McKinsey predicts that Scope 1 and 2 emissions will double from 2020 to 2030, reaching 183 million metric tons of CO2e. "To get on a net-zero trajectory by 2030, the semiconductor industry would benefit from a coordinated effort to apply current strategies in full while simultaneously developing and adopting new technologies," McKinsey said.
Big changes are needed to replace existing process gases, such as nitrogen trifluoride; heat transfer fluids; and existing fuel supplies, the firm said.
In a November research report, Boston Consulting Group underscored the need for more manufacturers to act, calling current efforts "insufficient" to reach net zero by 2050. "If the current growth path were to continue unchecked, carbon emissions from semiconductor production would rise by about 8 percent annually in coming years and not peak until about 2045," the firm predicts.
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**Publication Date:2024-01-10 02:54:55**

**Title:Shifting political winds threaten Europe’s progress on green goals**

**Description:**

Shaken by global instability and a populist backlash, European nations are retreating from plans to reduce greenhouse gases, promote sustainable farming practices and boost biodiversity.

**Content:**

Shifting political winds threaten Europe’s progress on green goals
Shaken by global instability and a populist backlash, European nations are retreating from plans to reduce greenhouse gases, promote sustainable farming practices and boost biodiversity.
By Christian Schwägerl
January 8, 2024
The Uniper Coal Plant Maasvlakte in the Port of Rotterdam in the Netherlands. Source: Pexels/Anton H
In December 2019, Ursula von der Leyen, head of the European Commission, presented with great fanfare the so-called "Green Deal." The package consisted of new laws and directives, goals and multi-billion-euro funding opportunities designed to transform the continent into a sustainability powerhouse and a model for the rest of the world. The initiative aimed to reduce greenhouse gas emissions by 55 percent by 2030, compared to 1990 levels, and to net zero by 2050. Additional goals were added, such as making farming more sustainable, rewilding large swaths of Europe’s natural areas and halving pesticide use in agriculture, among others.
But four years later, progress on green policies in Europe is stalling or, worse, going backward. Instead of moving ahead with bold actions to fight climate change and biodiversity loss, many efforts are under attack, have been watered down, or are even being reversed in individual member states and at the EU level. Rattled by Russia’s war against Ukraine and global instability, EU countries are scrambling to secure alternative sources for fossil fuels instead of accelerating renewable energy use, and they are wary of imposing new emissions-reduction rules on the auto industry. Faced with a string of electoral victories of right-wing populist parties in Italy, Finland, Sweden and Hungary — often with strong support from farming communities — issues such as protecting biodiversity have moved from a hard-won central position to the fringe. Europe’s role as a green frontrunner has been fundamentally called into question as it faces strong political forces in many capitals.
In Germany, conservative state governors, who once hugged trees in election campaigns, are ridiculing environmental policies.
Germany, the EU’s most populous state and its largest economy, exemplifies the recent shift. When Steffi Lemke, the German cabinet minister in charge of the environment, spoke at the country’s most prestigious environmental awards ceremony in late October, she laid out the issue bluntly. "As ecologists and environmentalists, we underestimated how great the resistance would be when we started to bring the goals of the Paris climate agreement and the Montreal biodiversity agreement to life," the Green Party member said. "But now we face the wall of those who want to prevent this and who don’t want to move forward."
Only a few days later, Christian Lindner, leader of the neoliberal Free Democratic Party, which shares power with the left-leaning Greens and the center-left Social Democratic Party in Germany’s coalition government, proved Lemke’s point. Citing energy insecurity due to the Ukraine war, Lindner, who is also Germany’s finance minister, withdrew his party’s support for a crucial agreement between the governing parties to phase out the nation’s coal-burning power plants by 2030. "Until it is clear that energy is available and affordable, we should end dreams of phasing out coal-fired power" by that year, he said. The goal of the phaseout was to create additional pressure for utilities to expand wind and solar farms as fast a possible. Without the 2030 deadline, that pressure is much reduced.
Earlier in the year, the Free Democrats weakened the Greens’ most important piece of legislation, which aimed to replace heating systems that run on oil and gas with heat pumps and renewable energy sources. In addition, the Free Democrats, responsible for the government’s transport policy, have blocked all attempts to reduce car traffic or impose a national speed limit on autobahns. The country’s chancellor, Olaf Scholz, from the Social Democratic Party, has largely given the Free Democrats a free hand in their anti-environment course.
Scholz fears that ever-stricter rules on heating and car use will further increase support for hard-right parties, who promise to abandon environment targets altogether. Populist sentiments have run high in Germany since the summer, when the influential Bild tabloid — co-owned by KKR, one of the largest investment firms serving the U.S. fossil fuel industry — launched a months-long campaign against an alleged "Heiz-Hammer," or heating hammer, that was seen as forcing sudden changes upon ordinary people. Neoliberals and conservatives "have made the Greens public enemy No. 1," Sudha David-Wilp, director of the Berlin office of the German Marshall Fund, a research institute, told The New York Times. Conservative state governors, who only a few years ago hugged trees in election campaigns and promised to save dwindling insect populations, are ridiculing or fiercely attacking environment policies, warning of a looming "Verbotstaat," a term for government overreach.
We urgently need a signal to Europe that Germany will take further steps.
Brigitte Knopf, deputy chair of the scientific body in charge of monitoring Germany’s progress toward its climate goals, is deeply concerned. The nation has committed to shrinking its CO2 emissions to 65 percent below 1990 levels by 2030. Yet the decrease is not fully supported by concrete measures. In order to comply with its year-to-year goals, Germany would need to prevent cumulative emissions of about 1 billion tons of CO2 until 2030. But "even after the government passed its most important CO2 reduction package this summer, there is [an emissions] gap of 200 million tons" — a 20 percent shortfall — mainly in the areas of heating and transport, she warned.
Knopf, a physicist who also serves as secretary general of the Berlin-based think tank Mercator Research Institute on Global Commons and Climate Change, is worried that the German government will set a bad example in the EU and neglect its obligations under the Paris climate accord. "We urgently need a signal to Europe that Germany will take further steps," she said. "But right now, the climate gap is simply accepted."
Since the EU’s Green Deal was launched in 2019, some progress has been made across the 27 nations. Greenhouse gas emissions have fallen by 31 percent compared to 1990, according to new data from the European Environment Agency. The EU has created a powerful emissions trading system that puts a price on CO2 and reduces available allowances year by year. By 2028, this system is planned to include 75 percent of all energy-related emissions.
But there’s still a long way to go. CO2 emissions have to decrease sharply, mainly in areas such as heavy manufacturing and steelmaking, which are difficult to decarbonize, and emissions from vehicles with combustion engines, which means cutting into people’s routines. At 23 percent, the share of renewable energy is far below the 2030 target of 42.5 percent.
Meanwhile, biodiversity in Europe continues to dwindle. Populations of formerly common birds inhabiting farmland have shrunk by more than one-third since 1990. Protected areas of land and sea cover far less than the 30 percent target, and a new study has just revealed that nearly one-fifth of all European plant and animal species are threatened by regional extinction, a much higher share than recent Intergovernmental Platform on Biodiversity and Ecosystem Services assumptions. Last week, a tentative agreement was reached in Brussels on what’s been called the "world’s first nature restoration law," which aims to put in place measures to restore 20 percent of the EU’s terrestrial and marine ecosystems to good condition by 2030, and to restore all degraded ecosystems by 2050. But it came with so many caveats and concessions that environmental organizations were not in a mood to celebrate.
Funds originally destined for the transition to a greener economy have been redirected to make Italy a natural gas hub.
In many smaller EU countries, environmental progress has spawned a full-blown backlash. In Slovakia, the newly elected populist prime minister, Robert Fico, wanted to appoint an infamous climate-change denialist and anti-environment provocateur as environment minister, mimicking Hungary. Slovakia’s president, who is not part of the government, took the unusual step of rejecting the candidate for failing to support the scientific consensus on climate change. Fico, whose government includes left- and right-wing populist parties, then brought in a substitute who presents as more moderate but has a history of weakening laws to protect Slovakia’s nature, according to environmentalists who cite his opposition to stricter protection for the country’s national parks.
After right-wing populists led by Giorgia Meloni came to power in Italy in fall 2022, they swiftly retracted environmental commitments made by the previous government. "No one in this government really cares about climate change," says Giuliana Biagioli, an economic and environmental historian who is president of Leonardo-IRTA, a sustainability research institute associated with the University of Pisa. Funds originally destined for the transition to a greener economy have been redirected "to make Italy a gas hub" in response to supply problems from Russia, Biagioli says. In her assessment, "the urgent need to find other ways to energy provisioning has pushed commitments to decarbonization into the background." She thinks it will be almost impossible for Italy to help the EU reach its emissions goals.
Similar developments are underway in the continent’s far North. Scandinavia’s reputation as a champion of green progress took a big hit after coalitions that include right-wing populist parties were recently elected. The new government in Stockholm cut funding for climate measures and reduced taxes on petrol in one of its first acts. Mattias Goldmann of Sweden’s 2030-secretariat, a watchdog NGO, called the cuts a "gasoline-soaked budget fuse."
In Finland, the newly elected right-wing government cut taxes meant to further reduce CO2 emissions, stopped projects that would have improved the capacity of Finland’s extensive bogs to sequester carbon, and has failed to take steps to protect old-growth forests from logging for energy production, says Liisa Rohweder, CEO of WWF Finland.
The backlash in many EU countries mirrors developments in the U.K., where the conservative government of Prime Minister Rishi Sunak is reversing climate-friendly policies and planning to "max out" oil production.
Frans Timmermans, who acted as vice president of the EU commission until August and is considered the architect of the bloc’s Green Deal, sounds the alarm that Europe could fall behind on its goals. Timmermans left his Brussels post to run for prime minister of the Netherlands in elections scheduled for Nov. 22. He is pursuing a "Dutch Green Deal" to save his legacy, at least in his home country. "The rest of the world doesn’t stand still" in the green economic transition, he warned at a recent campaign event, citing the U.S.’s Inflation Reduction Act, which focuses on green technologies and infrastructure, and China’s "renewable energy revolution."
Many parties are afraid to talk about the environment, because the argument is that we have completely different crises now.
Environmentalists also worry about Poland, even though the right-wing populist, anti-environment coalition recently lost its majority. Green campaigners fear that the new coalition, which has yet to form, will not live up to its pledges to increase renewable energy and protect old-growth forests in the Carpathian Mountains. Says Marek Józefiak, of Greenpeace Poland, "What worries us is that for now, environmental issues are not listed among their priorities."
Nor do they seem to be priorities in Brussels anymore. EU commission president von der Leyen finds herself in a balancing act between implementing the Green Deal and rallying support from her conservative European People’s Party (EPP) for a second term starting in 2024. While von der Leyen has stayed personally committed to climate and biodiversity action, the EPP has recently become increasingly fierce in its resistance to new environmental measures. It has even employed disinformation strategies, claiming in social media posts that rewilding wetlands will lead to the abandonment of whole villages.
Emboldened by electoral victories in member states, the EPP successfully weakened the "Nature Restoration Law" in negotiations, softened goals on wetlands restoration and limited the law’s scope. When key players carved out a final agreement earlier this month, upon which the European Parliament will vote in February, they gave up on obliging member states to reach ambitious nature restoration goals by certain dates, settling instead on prescribing lofty "efforts."
"It is clearly noticeable that countries are vacating positions that they helped to decide on just two years ago," says Jutta Paulus, a member of parliament from the Green Party who has been involved in several high-level negotiations. "In some areas we still see progress, but in many others, we are regressing."
Back in 2019, Greens performed very well in European elections, which raised the profile of environmental topics. Paulus shares the fears of many NGOs and scientists across Europe that climate and biodiversity policies are increasingly being pushed to the sidelines: "Many parties are currently afraid to talk about the environment at all, because the argument immediately comes up that we have completely different crises now, as in Ukraine and the Middle East, and we have to stop with the [so-called] ‘flowery stuff.’"
But Greenpeace Poland’s Józefiak pushes back on this view of environmentalists’ concerns: "We want what our lives depend on" — a healthy planet — "to be taken seriously and urgently."
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**Title:Business action on energy efficiency could save $2 trillion a year, new research claims**

**Description:**

A World Economic Forum and PwC report sets out a host of energy efficiency actions it claims are 'doable today, at attractive returns with no need for new technology.'

**Content:**

Business action on energy efficiency could save $2 trillion a year, new research claims
A World Economic Forum and PwC report sets out a host of energy efficiency actions it claims are 'doable today, at attractive returns with no need for new technology.'
By Michael Holder
January 9, 2024
Source: Shutterstock/metamorworks
A suite of "doable today" business actions that would slash demand for energy could unlock annual savings of at least $2 trillion a year across the global economy, while helping to boost growth, save companies cash, unlock competitive advantages and reduce greenhouse gas emissions.
That is the conclusion of major new research backed by over 120 CEOs of global corporates, which sets out a host of near-term actions businesses can take to reduce energy demand across their buildings, infrastructure and transport use.
Drawn up by consulting giant PwC in collaboration with the World Economic Forum (WEF), the research contends that if cost effective energy efficiency measures were taken by companies by the end of the current decade, and better supported by effective policy frameworks, it could unlock a major acceleration in the net zero transition.
The research, which comes ahead of next week's annual global WEF meeting in Davos, Switzerland, argues "the potential of demand-side action is extraordinary,"and details a host of measures it claims are "doable today, at attractive returns with no need for new technology."
Recommended measures include retrofitting buildings with insulation and other efficiency and green energy measures, electrifying transport systems and harnessing artificial intelligence to optimize factory-line design to unlock efficiencies. The report also recommends deeper collaboration between businesses across value chains in order to unlock further efficiencies, as well as "industrial clustering" to share clean energy sources and maximize the benefits of efficiency initiatives.
The research argues energy efficiency measures remain an "under-addressed" component of the net zero transition, which can deliver substantial energy and emissions savings.
It claims proven measures could deliver a short-term, cost-efficient reduction in energy demand of almost a third — 31 percent — shared across the buildings, industry and transport sectors, and avoid the need to construct almost 3,000 extra power stations.
Moreover, these efforts would support the UAE Consensus agreed at COP28 in Dubai last month, which saw hundreds of nations commit to tripling renewable energy capacity and doubling the rate of energy efficiency improvements worldwide by 2030.
However, in order to deliver on these global ambitions countries need to cut their energy intensity at least twice as fast between 2023 and the end of the decade compared to previous.
"It is crucial we address energy demand alongside supply, reducing the energy intensity of current activity and increasing the energy efficiency of future growth," said PwC's global chair, Bob Moritz. "This will help the world to get back on track on targets set out in the Paris Agreement, support the COP28 pledge to double the rate of energy efficiency improvements by 2030, and support business growth. Getting this right will take deep collaboration across the public and private sectors. We need to raise awareness of the business case for change, align policy and private incentives, and develop new financial solutions to unlock action."
The 120 CEOs supporting the findings are responsible for an estimated 3 percent of global energy use. They are members of the WEF's International Business Council which met in Davos a year ago to discuss the potential for demand-side measures to accelerate the clean energy transition, it explained.
But the report warns that awareness among companies of the potential for energy efficiency to benefit their business, achieve cost savings and support emissions reduction efforts remains low, as it called for more supportive government policy to help drive progress.
As many as 47 percent of CEOs on the WEF's International Business Council surveyed for the report cited a lack of supportive regulation as a barrier to effort to reduce energy demand.
Chair of the Council Ana Botín, group executive chair at Spanish banking giant Santander, said businesses had a "vital role to play" in slashing energy demand worldwide, and stressed that firms could do so without decreasing economic output.
"Reducing the amount of energy needed to manufacture products and deliver services is something we can act on now," she said. "Although progress is being made, there is a lot more to be done, and the fact is that our energy demand continues to rise at unsustainable rates.
"It is crucial, therefore, that we work together with governments and regulators across both developed and developing markets to help accelerate progress on this issue."
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**Title:3 technologies helping the aluminum industry decarbonize**

**Description:**

Aluminum production emits about 3 percent of the world’s direct industrial CO2 emissions.

**Content:**

3 technologies helping the aluminum industry decarbonize
Aluminum production emits about 3 percent of the world’s direct industrial CO2 emissions.
By Ewan Thomson
January 9, 2024
Cans of beer in a production line. Credit: Pexels/cottonbro
Aluminum is a vital metal for modern life. Its properties allow planes to fly, cars to move faster and the functioning of countless industries and products that define life today — from drinks cans to your smartphone.
However, it can be highly energy-intensive to produce, and with demand for the metal expected to increase by almost 40 percent by 2030, greener methods of production are increasingly needed.
Here’s how sustainable aluminum production is growing, and some breakthrough technologies and initiatives being developed to drive down the industry’s emissions.
Aluminum's emissions challenge
Aluminum is used in multiple industries because it’s lightweight, has a high strength-to-weight ratio and is good at conducting electricity and heat.
It’s also 100 percent recyclable, making it a valuable metal for sustainable practices and a critical component of the energy transition, used for renewable energy infrastructure, transmission lines, energy storage and in the manufacturing of electric vehicle (EV) components.
Tackling aluminum emissions will require the swift development of decarbonization tech. Credit: World Economic Forum
But aluminum production emits about 3 percent of the world’s direct industrial CO2 emissions, according to the International Energy Agency. And although the intensity of emissions from aluminum production is decreasing, it needs to fall much faster if we are to reach net-zero emissions by 2050.
Reducing emissions from aluminum production
As with so many decarbonization initiatives, collaboration plays an important role in facilitating change.
The Mission Impossible Partnership in collaboration with the International Aluminium Institute has released an aluminum decarbonization roadmap that details what the industry could look like in a zero-carbon world, and what needs to be done to get there.
In addition, members of the World Economic Forum’s First Movers Coalition — a global initiative to harness the purchasing power of companies to decarbonize the planet’s heaviest-emitting industries — have committed to procuring at least 10 percent of the aluminum they use from near-zero emissions processes by 2030.
Steps to decarbonize aluminum Credit: World Economic Forum
As collaborations and pledges help the industry decarbonize, so too will technological innovation, and the industry is poised for a number of breakthroughs that could dramatically reduce emissions.
1. Technology to decarbonize aluminum smelting
Norway’s aluminum and renewable energy firm Hydro recently received an award at the 2023 UN Climate Change Conference in the United Arab Emirates for its pioneering work on green aluminum. The proprietary technology could fully decarbonize aluminum smelting.
"We are changing the game for aluminum. This is an important recognition of our efforts to develop new technology that could be the biggest thing to happen in aluminum production since the invention of the Hall-Héroult process in 1886," Hydro President and CEO Hilde Merete Aasheim said on receiving the recognition at COP28.
The company is working on offering a different type of technology to replace the Hall-Héroult process. Instead of emitting CO2 during the electrolysis stage, Hydro’s HalZero technology keeps the carbon and chlorine in a closed loop, eliminating CO2 emissions and emitting only oxygen.
The current goal is to reach industrial-scale production by 2030, with the first aluminum produced by 2025.
2. Purer recycled aluminum
Recycling aluminum uses 95 percent less energy than producing aluminum from raw materials, and is often cheaper, making it a viable route to speed up decarbonization of the industry.
Until recently, however, recycled aluminum often contained impurities or alloying elements that affected its quality and restricted its use in things such as high-precision electronic components in medical devices or EVs, for example.
But researchers in the U.S. are working on an innovation that removes metal impurities from recycled aluminum, allowing it to be used for more applications and increasing its sustainability.
While specific details on the solution remain confidential, it is being created with the support of a 170-member public-private partnership funded in part by the United States Department of Energy
3. Replacing fossil fuels with hydrogen
Australian mining group Rio Tinto is working with the Australian Renewable Energy Agency (ARENA) to evaluate whether hydrogen can be used as an alternative to natural gas in refineries for alumina (a starting material for the smelting of aluminum).
"If we can replace fossil fuels with clean hydrogen in the refining process for alumina, this will reduce emissions in the energy and emissions-intensive refining stage of the [aluminum] supply chain," ARENA CEO Darren Miller said. "Exploring these new clean energy technologies and methods is a crucial step towards producing green aluminum."
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**Title:Diageo signs partnership that could replace up to 95% of bar and pub bottles**

**Description:**

The company is testing a circular, closed-loop system for delivering liquor with ecoSPIRITS.

**Content:**

Diageo signs partnership that could replace up to 95% of bar and pub bottles
The company is testing a circular, closed-loop system for delivering liquor with ecoSPIRITS.
By Elsa Wenzel
December 29, 2023
Smirnoff in an EcoSpirits EcoTote next to a 750-milliliter bottle. Credit: EcoSpirits
Top-shelf liquor bottles vary in shape, design and color to draw the eye behind most bars, but Diageo is doing away with them to explore the viability of reusable packaging and distribution.
In partnership with circular economy startup ecoSPIRITS, the beverage giant will offer Gordon’s gin, Captain Morgan rum and Smirnoff vodka in refillable 4.5-liter vessels across 18 markets over the next three years.
Each ecoSPIRITS "ecoTOTE" is a 4.5 liter glass bottle encased in plastic with an inner aluminum frame. The container, built to last for 150 refills, has a lower carbon intensity than the equivalent number of bottles they replace at a bar after six refills, according to ecoSPIRITS. The system is supposed to replace 900 of the typical 750-milliliter glass bottles normally used by restaurants and bars over the lifetime of one ecoSPIRITS tote. The company estimates its totes have a 60 to 90 percent lower CO2 footprint than traditional bar bottles.
"We will be able to reduce both carbon and cost and the pubs and bars will benefit from the ease of having reusable spirits packaging," Ewan Andrew, Diageo's CSO and president of global supply chain and procurement, said in a statement.
Glass bottles are 20% of spirits’ business CO2
Packaging makes up a significant portion of the carbon intensity of spirits production and distribution. Commonly used 750-milliliter glass bottles account for 20 percent of the carbon footprint of corn-based spirits, second only to the distillation process at 36 percent, according to an analysis by the Beverage Industry Environmental Roundtable in 2012. Warehousing, as well as corn production and transport, followed at roughly 10 percent each.
Glass bottles can be recycled repeatedly. Thirty-two percent of glass containers are recycled in the U.S., according to the EPA. By contrast, in the EU, 80 percent of glass bottles were collected for recycling in 2021, according to the Close the Glass Loop partnership.
New glass production is highly carbon intensive, from mining silica to melting glass within furnaces powered by fuel oil or natural gas to reach temperatures as high as 3,000 degrees Fahrenheit, often continuously. Glass manufacturing emitted 95 million metric tons of carbon dioxide in 2022, according to Statista.
$10 million in Series A funding
In 2020 Diageo set a 10-year "Society 2030 goal" to reach net zero carbon and 100 percent renewable direct energy, halving its Scope 3 carbon emissions.
Diageo's partnership with EcoSpirits began two years ago during its effort to identify startups tackling the industry’s sustainability challenges, according to Diageo Global Marketing Sustainability Director Deb Caldow.
EcoSPIRITS, based in Singapore, launched in 2018 and in May attracted $10 million in Series A funding led by Closed Loop Partners.
"We saw the company’s potential to change the way we provide spirits to bars and restaurants, helping to reduce glass bottle usage and ultimately the carbon emissions in our supply chain," Caldow said via email.
"For the circular economy to achieve global scale, innovators like ecoSPIRITS need the support of industry leaders like Diageo in catalyzing the linear to circular packaging transition," Gabie said in a late November press release.
Cutting 95% of bottles from the bar business
Diageo and ecoSPIRITS have offered Smirnoff in ecoTOTES to 38 bars, restaurants and hotels in Bali and Jakarta since 2022. From the ongoing trial in Indonesia, Diageo estimated the circular delivery method could slash the usage of glass bottles by 95 percent and help to reduce carbon emissions from transportation and distribution.
An ilustration of an ecoTOTE spirits-on-tap system. Credit: ecoSPIRITS
EcoSPIRITS claims the initial success of the pilot to prove the commercial viability of circular packaging in Indonesia.
"We have already seen positive impact from a smaller trial and look forward to rolling it out in further markets as we continue to build towards our Society 2030 targets," Caldow said. "As we roll this out to more markets, we can build a broader evidence base, develop our systems and bring benefits across our supply chain."
Among the projects supporting Diageo's Scope 3 goals for 2030 is an effort, announced in August, to begin producing Smirnoff, Captain Morgan and Tanqueray bottles in 2027 at a net-zero furnace in Elton, England. The hydrogen and green-energy-fueled furnace, built by glass maker Encirc, is meant to slash by 90 percent the CO2 emissions typical of glass bottle production. Diageo aims to offset the remaining 10 percent of emissions through carbon capture.
How it works
Once an ecoTOTE is empty, ecoSPIRITS takes the box to the nearest of its 30 regional "ecoPLANT" hubs, usually within a 500-mile distance. The tote is then washed, refilled and redistributed.
"The ecoPLANT is at the heart of the whole ecoSPIRITS system because it allows us to service small markets — like the Cayman Islands or the Dominican Republic — on a closed-loop basis, or big markets like the U.K., France and Italy," said EcoSpirits CEO and co-founder Paul Gabie.
Early in November the company launched in the U.S. in Las Vegas, in partnership with South Point Hotel Casino & Spa.
In August, ecoSPIRITS packaging for Bacardi Rum appeared on Carnival Cruise Line ships.
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**Title:3 lessons from sustainability leaders on accelerating impacts on food systems**

**Description:**

Tackling tough issues, enlisting unlikely partners, and harnessing local communities will be crucial to making progress on sustainable food systems in 2024.

**Content:**

Foodstuff
3 lessons from sustainability leaders on accelerating impacts on food systems
Tackling tough issues, enlisting unlikely partners, and harnessing local communities will be crucial to making progress on sustainable food systems in 2024.
By Theresa Lieb
January 4, 2024
There are no easy solutions for tackling the social and environmental challenges in food supply chains. Source: Miha Creative via Shutterstock.
Last year we highlighted 12 women with big ambitions for transforming food systems in 2023. From corporate sustainability leaders to civil society advocates, journalists and startup founders, they represented many vital levers for change. 
At the end of 2023, we checked in with them to learn about their most impactful accomplishments and gather lessons learned. 
They’ve done impressive work: Arohi Sharma at the Natural Resources Defense Council worked with actor and comedian Nick Offerman on a "soil is sexy" campaign. Julia Person at Bob’s Red Mill saved nearly 200,000 pounds of food waste. And Corey Scott of Athian started developing new ways to gauge the environmental consequences of livestock production. 
Three themes for accelerating impacts stand out from these initiatives. 
Transforming food systems requires addressing the gnarly issues, even when that work is frustrating or uncomfortable; leveraging unconventional partnerships can pay off; and unlocking the power of communities creates change on the ground. 
Tackle the tough issues 
There aren’t easy solutions for many social and environmental challenges in food supply chains. Grit, patience and an appetite for tough decisions are prerequisites for accomplishing real change. 
Ahrum Pak, CEO and co-founder of WNWN Food Labs, advances technologies for cocoa-free chocolate to address the industry’s labor and climate challenges. Cocoa supply is increasingly unstable, leading to a 46-year price-high in 2023. For Pak, it created a new window of opportunity. For the past few years, she’s been raising awareness around issues such as deforestation and unlivable wages for farm workers, and bringing cocoa-free products to the market. Pak is proud of "being seen as potential collaborators instead of adversaries by companies like Mondelēz, Häagen-Dazs and Martin Braun-Gruppe."
Corey Scott tackled another difficult space in 2023 — livestock production. Previously at Truterra, she took on a new role as vice president of sales and marketing with Athian, a cloud-based platform that benchmarks, verifies and monetizes on-farm carbon reductions for livestock producers. The large demand from the industry for this new tool surprised Scott, who found motivation in contributing to the economic and environmental well-being of farmers and the communities surrounding them. 
Find unlikely partners
Slowly but surely, people outside the food community are starting to learn about the industry’s critical role in not only feeding the world but responsibly stewarding ecosystems and creating valuable economic opportunities. This rising awareness stems from creative advocacy campaigns and unconventional partnerships. 
Arohi Sharma, deputy director of regenerative agriculture at the Natural Resources Defense Council, led a breakthrough advocacy campaign in 2023. Her team partnered with Offerman, of "Parks & Recreation" and "The Last of Us," to produce a 1-minute long video in which Offerman "face plants" to show how cover crops can help fight climate change. The spot landed Sharma airtime on MSNBC and CNN, where she made a case for why soil is sexy and why cover cropping should receive more support in the U.S. Farm Bill, which Congress was supposed to renegotiate last year. 
At the level of global food systems, Food Tank president Danielle Nierenberg pulled many strings to gain the attention of policymakers. "At COP27 [in 2022], we celebrated the presence of four pavilions dedicated to food and agriculture — a major step forward," she told GreenBiz. "And over the last 12 months, we worked tirelessly to highlight food and agriculture systems as a solution to the climate crisis. I’m excited to say that we succeeded." 
COP28 saw a plethora of conversations on food systems and tangible outcomes — including a food systems declaration signed by 134 countries and mention of food in the official Global Stocktake document. 
Nierenberg credits the success of this work to broad partnerships with journalists, farmers, philanthropists, investors, the private sector, NGOs and government officials: "We must continue to dismantle silos and ensure that food systems are considered in everything we do."
Unlocking the power of community
Finally, we move from global policymakers to local communities — after all, actual change happens on the ground. 
At Bob’s Red Mill, sustainability manager Julia Person learned that "nothing solves problems better than the expertise of our own people." She collaborated with employees and tapped into lean manufacturing tools to reduce waste. After manually auditing food and packaging scrap sources by hand, they developed an automated real-time scrap dashboard to target and prevent waste. This process has allowed the company to save nearly 200,000 pounds of food waste. 
Laura Lee Cascada, senior campaigns director at the Better Food Foundation, tried to convince more cities to adopt plant-based meal strategies critical to reducing carbon emissions. New York City hospitals successfully piloted an approach to serve patients plant-based meals by default in 2022, thereby reducing a third of food-related emissions. Institutions in Denver and Ann Arbor have followed suit in 2023. The Good Food Purchasing Program has also embraced plants by default among its recommendations for institutions greening their food procurement. 
"This year has been filled with some dead ends and stalled conversations, reminding me that transformational change takes a lot of time and grit," she said. "But it’s also cemented the power and importance of communities in fomenting change at a time when national and international leaders stall."
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**Title:The future of ‘cap-and-trade’ carbon markets could hinge on Washington state**

**Description:**

More states are pursuing cap-and-trade, but closely watching a likely ballot measure on repeal in Washington.

**Content:**

The future of ‘cap-and-trade’ carbon markets could hinge on Washington state
More states are pursuing cap-and-trade, but closely watching a likely ballot measure on repeal in Washington.
By Alex Brown
December 29, 2023
Copyright:  Joe Mabel
ISSAQUAH, Wash. — Some lawmakers across the country think the future of climate policy looks like this: A growing network of states forming a carbon market, forcing polluters to pay by the ton for the greenhouse gases they emit and reinvesting the revenues into clean energy and electrification projects.
Such programs, known as cap-and-trade, limit carbon emissions to a set amount that shrinks each year, and require businesses to bid at auctions for permits known as "allowances" for each ton they emit. Organizations may trade or sell those allowances with one another.
With an established program in California, a newly created system in Washington state and a plan in New York that’s still in development, cap-and-trade is poised to cover a quarter of the American economy.
But less than a year into cap-and-trade, Washington state is facing backlash over the program’s perceived contribution to high gas prices. A voter initiative that’s likely to be on the ballot next year, stoked by anger over prices at the pump, threatens to repeal it altogether.
The fight over the ballot initiative, regardless of whether it passes, could delay Washington’s plan to link its market with California’s. And leaders in New York, where state officials are still drawing up their own rules for cap-and-trade, say they’re watching Washington with concern. In other Northeastern states, which may follow New York, lawmakers are waiting for the dominoes to fall.
The future of cap-and-trade, some advocates say, may hinge on next year’s battle in Washington state.
"Why do you think I spent 80 hours a week on this?" said Washington state Sen. Joe Nguyễn, a Democrat who chairs the Senate Environment, Energy & Technology Committee. "This is the future of decarbonization. This has implications not just in Washington state, it has implications globally."
Climate Commitment Act
Climate advocates credit Washington’s enactment of cap-and-trade in 2021 with reviving momentum for such programs. The state’s measure came 15 years after California passed its law, and just over a decade after President Barack Obama’s effort to create a federal program failed in Congress.
Washington lawmakers designed the Climate Commitment Act, championed by then-state Sen. Reuven Carlyle, a Democrat, to address criticisms that had plagued California’s program. It requires air quality monitoring in low-income and minority neighborhoods that have disproportionately suffered from pollution. It creates stricter limits on the use of carbon "offsets" such as tree planting to skirt direct emissions reductions. And it requires a significant portion of the money raised by carbon auctions to be invested in marginalized communities.
Less than a year into cap-and-trade, Washington state is facing backlash over the program’s perceived contribution to high gas prices.
Supporters hailed the law as Democratic Gov. Jay Inslee’s crowning climate achievement and a template for tackling climate change without leaving behind the communities it threatens most. Earlier this year, New York lawmakers approved their own cap-and-trade law.
"We’re hopeful that we can help this scale to a national and worldwide level," said Carlyle, who now leads a startup that provides consulting and financing for climate-conscious organizations. "It’s fair to say that the New York regulations are built upon the Climate Commitment Act, both politically and in terms of policy."
While New York officials draw up their own program, the Washington leaders they followed are playing defense. In the first quarterly carbon auctions held under the Washington program this year, prices per ton nearly doubled those in California, triggering a pair of special auctions designed to bring reserve allowances onto the market when prices are high.
State officials blame the high prices on unexpectedly strong demand early on, and say prices are likely to settle over time as companies stockpile allowances to prepare for the first compliance deadline next November.
But some industry groups, such as the Western States Petroleum Association, say the high price for carbon has increased costs for consumers. They argue that the law needs major adjustments. Kevin Slagle, the group’s vice president of strategic communications, said lawmakers need to consider putting more allowances on the market and temporarily exempting fuel suppliers from the program. He acknowledged that may set back the state’s deadlines for reducing emissions.
"[Cap-and-trade] doesn’t need to be eliminated, it just needs to get fixed," he said. "Some of the targets the state set were going to be challenging under the best circumstances. You may have to adjust some of these goals or stretch them out."
Gas price debate
Gas prices have fluctuated the past year, both in Washington and nationwide. But prices in Washington, while declining in recent months, are 41 cents higher than they were when cap-and-trade took effect at the start of the year, according to the U.S. Energy Information Administration. Slagle blames the carbon program. State officials say the program is not the largest variable driving fuel costs, citing global supply and demand issues, as well as regional pipeline and refinery capacity.
"There’s been no indication that the allowance price is driving what’s happening at retail gas stations after [carbon auctions]," said Andy Wineke, assistant communications director with the Washington State Department of Ecology.
This should be a big red flag to politicians that we need programs that work not only for the climate but also for everyday people.
Last month, opponents of the program turned in more than 400,000 signatures they’d gathered — enough to qualify for the ballot — supporting an initiative to repeal cap-and-trade. If certified by the secretary of state, the repeal measure would go before voters next year.
Backers of cap-and-trade say the repeal effort is a real threat, and they blame the Western States Petroleum Association for overstating the law’s effect on gas prices and stoking consumer fears. Nguyễn, the state senator, is planning to back a bill next session that would force oil companies to disclose to state regulators the supply chain costs of the fuel they sell at the pump.
"These guys are gonna screw people over and blame it on climate policies," he said. "They know that climate denial doesn’t work, so they’ve moved on to climate delay."
Any accounting of the costs borne by consumers, Nguyễn added, should include the health care burden from breathing polluted air and the economic impact of flooding, heat waves and weather disasters. Supporters argue that cap-and-trade is reducing those costs far more than it is increasing prices at the pump.
The $1.5 billion raised so far in the state’s carbon auctions is funding projects including electric school buses, public transit, tribal solar projects, air quality improvements and electric vehicle chargers. Backers say the state is using the revenue to provide matching funds for grant programs enacted under the climate and infrastructure bills passed by Congress, bringing back $5 in federal money for every dollar invested by the state.
"Washington is better positioned than any other state in the nation to leverage billions of dollars of federal funding," Carlyle said, pointing to a $1 billion hydrogen hub recently awarded by the U.S. Department of Energy to the region, which used cap-and-trade revenue to cover the required state match.
Carlyle noted that the $17 billion transportation package state lawmakers passed last year relies heavily on projected revenues from cap-and-trade. The ballot measure to repeal the program could unravel the state’s plan to fund its roads, bridges and ferries.
Still, the state’s gas prices — long among the highest in the nation — are a more immediate concern for some voters.
"This should be a big red flag to politicians that we need programs that work not only for the climate but also for everyday people," said Slagle, the petroleum industry spokesperson.
Amid the pushback, Washington regulators announced last month that they were taking the first steps to link the state’s program with the joint carbon market already covering California and Quebec, Canada. The goal is to hold joint auctions to stabilize prices and to create an easier way for more states to join.
"It’s likely that the linked market will pull Washington’s prices down," said Joel Creswell, who oversees Washington’s cap-and-trade program within the state Department of Ecology. "It’s a larger pool with more entities competing."
But the repeal initiative is complicating that effort. State regulators have asked legislators to tweak the law to align market rules with future partners in California and Quebec. But legislating an issue that’s subject to a ballot measure may require that the "linkage" question also go on the ballot alongside the repeal provision — a scenario that might prompt lawmakers to wait until the first question is settled by voters.
Proponents say Washington won’t be able to link markets until 2025, which could be further delayed by the ballot conundrum.
Eyes on Washington
Other states are paying close attention to the turmoil in Washington.
"That [consumer backlash] has been a concern from the beginning," said New York state Sen. Kevin Parker, a Democrat who has championed cap-and-trade. "I’ve been following other places. Gas prices are one of the big concerns."
Unlike Washington, New York lawmakers did not create a detailed cap-and-trade program, instead directing regulators at the state Department of Environmental Conservation and the New York State Energy Research and Development Authority to draw up a new system. That framework is expected to be released in the coming weeks. Parker said the agencies will need to design a program that doesn’t overburden consumers.
Neither agency granted an interview request.
Washington’s struggle shows the degree to which gas prices can be used as a scare tactic to kill climate policy, said Ava Gallo, climate and energy program manager with the National Caucus of Environmental Legislators, a collaborative forum for state lawmakers.
"Whether or not that argument has true validity, it has incredible sway over the public," she said. "[Washington’s] program had been in development in the legislature for more than a decade. To have all that effort be repealed would be pretty destructive [to cap-and-trade proposals nationwide]."
In Vermont, lawmakers have made strides at reducing emissions from electricity generation and buildings, but transportation has proven much more difficult. They’re waiting to see how other states act.
"I don’t know how we really tackle our transportation challenges as a small, rural state if we don’t work to leverage the benefits and capital of our neighbors," said Vermont Democratic state Rep. Gabrielle Stebbins, who co-chairs the legislature’s Climate Solutions Caucus. "When we start to see some regulations and program design on paper [from New York], that’s when we’ll start to say, ‘OK, how might Vermont fit into this?’"
Stebbins said counterparts in Maine, Massachusetts, New Hampshire and Rhode Island also are likely asking similar questions.
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**Title:Starbucks’ customers in the US and Canada can use their own cups for all orders**

**Description:**

In 2022, just 1.2 percent of Starbucks’ drinks were sold in reusable containers.

**Content:**

Starbucks’ customers in the US and Canada can use their own cups for all orders
In 2022, just 1.2 percent of Starbucks’ drinks were sold in reusable containers.
By Heather Clancy
January 3, 2024
Customers ordering a drink with the Starbucks app will be asked to hit a button indicating they’re using a “personal cup.” Source: Starbucks
Starbucks will let U.S. and Canadian customers order hot, iced and blended beverages in their own mugs or travel tumblers, starting Jan. 3. That policy includes cafe counters, drive-through windows and via the mobile app, and it applies to all standard sizes.
The move is part of its drive toward a future in which 100 percent of Starbucks beverages are offered in reusable cups. 
The company said it is the first national coffeehouse in the U.S. to let customers use personal cups for mobile orders and the first in Canada to support all mobile order sizes. Two other widely recognized chains in the two countries, Dunkin’ Donuts and Tim Horton’s, support the use of personal cups under more limited circumstances.
Starbucks’ goal is to reduce its landfill waste by 50 percent by 2030, and to make all its packaging reusable, compostable or recyclable by the end of the decade. The new program builds on numerous reusable-cup experiments over the past 18 months at its Seattle innovation lab and in 25 markets, including Arizona, California and Colorado; Japan, Singapore, South Korea and the U.K.
"The vision is that in the future every beverage should be served in a reusable cup," said Starbucks CSO Michael Kobori.
The effort launched this week doesn’t eliminate disposable cups, which account for 40 percent of Starbucks’ packaging output annually and comprise 20 percent of its waste footprint. As of its latest sustainability progress report, just 1.2 percent of drinks were sold in reusable containers. The company doesn’t disclose how many single-use containers it goes through annually, but one estimate suggests Americans toss out around 50 billion coffee cups annually. 
Source: Starbucks
Clean cups only, please, without the lid
Starbucks customers have had the option of using a clean personal drink container or what the company calls "for here" ceramic or glass cups since 1985 if they’re staying on site to drink the beverage. Baristas have the right to refuse cups that are dirty as they cannot wash customer cups in Starbucks prep sinks for health and safety reasons. That process remains the same, although the company has tested personal cup washing stations at Arizona State University and in cafes in Oahu, Hawaii.
Here’s how the new process will work for other orders:
Mobile: Customers ordering a drink with the Starbucks app will be asked to hit a button indicating they’re using a "personal cup." When they arrive at the pickup point, they’ll pass over their clean cup without a lid by placing it in a container supplied by the barista. (This ensures that the barista doesn’t touch a person’s cup directly.) The drink will be prepared and measured as usual, poured into the cup, and given back to the customer, who will replace the lid.
Drive-through: The customer must declare that they have a personal cup, remove the lid, and then pass it to the barista in the same way described above. Once the beverage is added, it is returned to the customer in the same way. This contactless transfer method was refined at Colorado drive-throughs last spring, and it was adopted permanently at close to 200 stores in the state last fall.
Orders made via the mobile app, at drive-throughs or placed for delivery account for a large majority of the company’s U.S. revenue — 72 percent as of Q3 2022.
The contactless transfer method was refined at Colorado drive-throughs last spring, and it was adopted permanently at close to 200 stores in the state last fall. Source: Starbucks
New prep utensils, processes required
The new policy applies to all company-operated Starbucks locations. It might not be offered in licensed locations, such as those in grocery stores. As of last quarter, Starbucks had 17,810 stores in North America, of which 10,628 are company-operated.
The switch required a redesign of the food-grade, shatter-free plastic "smallware" that Starbucks baristas use to prepare drinks. Lines were added so that it’s easier to measure sizes more accurately, Kobori said. That’s a reflection of the fact that customers won’t necessarily bring containers that conform to the coffee chain’s unique sizing conventions.
The rollout was shaped largely by the input of in-store employees. "I would say that the biggest lesson we learned is that it really requires a major cross-functional effort," Kobori said. That included understanding potential issues with health and safety regulations, learning how to communicate the new policy to customers through signage and other methods; and training employees on how to navigate the new processes without lengthening order delivery times. "In the end, it is so dependent on our store partners. It gives them pride and agency and the sense that they are doing something that matters," Kobori said.
The switch required a redesign of the food-grade, shatter-free plastic “smallware” that Starbucks baristas use to prepare drinks. Source: Starbucks
An incentive to BYOC
Certain Starbucks locations will offer incentives for customers to bring a personal cup in the form of a 10-cent discount. In the U.S., members of the Starbucks rewards program will receive extra points if they don’t use a single-use cup. (There’s a limit of three purchases per day.)
Starbucks isn’t sharing its expectations for adoption, although the company will be monitoring the rollout closely via its ordering systems, Kobori said. "Awareness is much higher in geographies where there is more regulation around disposables," he said.
The company hasn’t publicly offered a timeline for when the program might be available outside the U.S. and Canada.
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**Title:On Minnesota's Iron Range, producers explore hydrogen fuel to reduce emissions**

**Description:**

The high-temperature processes needed to make steel can be powered by electricity, and hydrogen produced using renewable energy would cut emissions significantly.

**Content:**

On Minnesota's Iron Range, producers explore hydrogen fuel to reduce emissions
The high-temperature processes needed to make steel can be powered by electricity, and hydrogen produced using renewable energy would cut emissions significantly.
By Larissa Donovan
December 28, 2023
The Iron Range supplies three-fourths of the U.S. iron ore, from which steel is made. Image courtesy of Wikimedia Commons
The following story was produced by Energy News Network in collaboration with KAXE/KBXE, an independent, nonprofit community radio station in northern Minnesota. 
The leader of a regional hydrogen partnership is exploring using the emerging fuel source to help make Minnesota’s Iron Range a leader in the production of green steel. 
“Yes, certainly it has great potential,” said Tom Erickson, president and chief operating officer of the Heartland Hydrogen Hub, one of seven regional projects recently funded by the U.S. Department of Energy to kickstart hydrogen fuel production. “The first obvious use of hydrogen within the taconite (mining) industry is just to produce electricity.”   
The U.S. government is investing billions to develop regional hydrogen production hubs, intended to spur the infrastructure needed to increase the supply and lower the cost enough to make it commercially viable.  
Hydrogen emits only water vapor and warm air when burned, but it’s typically produced from natural gas in a process that creates high greenhouse gas emissions. The Heartland Hydrogen Hub will use renewable energy and nuclear power to try to reduce the climate impact, as well as the price tag.  
The initial focus will be on supplying hydrogen for ammonia fertilizer, but Erickson said the same output could also replace more carbon-intensive fuels used to heat and power taconite mining operations on the Iron Range.  
“That industry uses a lot of natural gas for heat and thermal systems, for producing the pellets,” Erickson said. “You’d have to design (the systems) quite a bit differently, but you could certainly add some hydrogen power to that and decrease the emissions from that standpoint.” 
Manipulating molecules 
The most abundant element in the universe, hydrogen has historically been difficult to harness into energy. The Hindenburg Disaster of 1937 is an infamous example that demonstrates hydrogen’s explosive qualities. 
“You can’t mine it. You can’t stick a pipe in the ground, then bring hydrogen up. You have to produce it from something else. It’s the smallest molecule, the hardest one to trap,” Erickson explained. “It’s the hardest one to move around once you’ve produced it, so we have some things that we need to get over and get behind coming up with new innovative ideas to really bring the costs down.” 
Most commercial hydrogen is produced today by separating the hydrogen atoms from methane under high heat and pressure, with many industrial facilities using natural gas as the methane source. This method produces hydrogen, carbon monoxide and a relatively small amount of carbon dioxide.
It turns out that Minnesota is highly competitive for making green iron and steel, beyond other states in the country.
 
Electrolysis splits hydrogen from water using an electric current. This method does not create any byproducts or emissions other than oxygen and hydrogen. It is the primary focus of the Department of Energy’s investment into hydrogen energy. 
The Heartland Hydrogen Hub’s projects are expected to reduce carbon emissions by roughly 1 million metric tons per year, the equivalent of 220,000 gasoline-powered cars. 
Erickson — who is also the director of exploratory research at University of North Dakota — said infrastructure for hydrogen’s use on a wider scale is in the future. 
“Shipping — whether it’s trains or whether it’s ships moving large quantities of oil around — they are even bigger targets,” he said. “Maybe even a little bit easier targets for application of the hydrogen fuel.” 
Erickson, whose grandfather and numerous other relatives worked in the taconite mines on the Iron Range, said technology to produce higher quality taconite pellets has been studied in Keewatin, where U.S. Steel plans to invest $150 million in a new higher-grade taconite plant. 
“Folks on the Range have looked at (higher grade taconite pellets) produced from natural gas, from coal derived gases and of course from hydrogen,” Erickson said. 
The Heartland Hydrogen Hub is currently in the concept development phase, and Erickson said he is excited for the advancing technology in energy for the future. 
“What I’m most excited about is to start to see larger scale production of hydrogen,” he said. “Once we start producing it, we can start to find other ways to utilize the things that advantage society, different ways that we can manipulate the molecule …. to provide clean, reliable and sustainable energy.”  
Feeling the heat 
Steel is made using a lot of heat, and coal-powered blast furnaces are still used for 57 percent of global steelmaking capacity. That’s a decrease from the year before, when 67 percent of the world’s steel capacity was made using blast furnaces — marking a shift toward electric arc furnace technology worldwide. 
The Iron Range supplies three-fourths of the country’s iron ore, from which steel is made. Steelmakers such as U.S. Steel and Cleveland-Cliffs, which own the mining operations on the Iron Range, are seeing growing pressure from governments, investors, and customers to reduce their climate emissions. It’s not just the potential for future environmental regulations. More companies are willing to pay a premium for steel that comes with a smaller carbon footprint.  
Cutting emissions from mining and other heavy industry is expected to be a bigger challenge than cleaning up cars or power plants. That’s because of the need to power massive furnaces and other equipment for which electric alternatives aren’t widely available.  
These factors are leading many manufacturers to explore the potential of hydrogen fuel. Cleveland-Cliffs, which owns and operates Hibbing Taconite, has already committed to funding a hydrogen power project at its Toledo plant. Without any modification to the plant, the company says it could replace up to 30 percent of natural gas consumption with hydrogen. And with equipment upgrades and other investments, this number could rise to 70 percent, accounting for 1 million metric tons of greenhouse gases each year. 
Cleveland-Cliffs is also part of a federally funded hydrogen hub based in northern Indiana. In October, the company was recognized by the U.S. Department of Energy for cutting its greenhouse gas emissions by more than one-third. 
The company didn’t respond to requests for comment on what its emission-cutting efforts might mean for northern Minnesota, but researcher Rolf Weberg said the state’s mining industry is well-positioned to make use of hydrogen fuel. 
“It turns out that Minnesota is by far highly competitive for making green iron and steel, beyond other states in the country,” said Weberg, the executive director of University of Minnesota-Duluth’s Natural Resource Research Institute. “We have essentially all of the resources, including infrastructure for future energy and access to water. All the things you need to have for a hydrogen-based approach to preparing green iron and steel.” 
Conversations around  the future of hydrogen energy are only just beginning. 
“Minnesota industry has been investing to prepare for this,” Weberg said. “It’s an exciting opportunity for Minnesota to embrace, and the conversation is just started. This is an opportunity to really lead the charge in this area, and also do it in tandem with green hydrogen and green steel.”  
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**Title:Prepare for Emissions Reporting and Regulation Compliance in 2024**

**Description:**

The regulatory landscape is quickly shifting, from the recent passage of California’s SB 253 and 261 to updates to SBTi FLAG emissions reporting. These new regulations will soon have implications for large companies doing business in the state.

**Content:**

Prepare for Emissions Reporting and Regulation Compliance in 2024
Date/Time: January 30, 2024 (1-2PM ET / 10-11AM PT)
The regulatory landscape is quickly shifting, from the recent passage of California’s SB 253 and 261 to updates to SBTi FLAG emissions reporting. These new regulations will soon have implications for large companies doing business in the state. With all these changes, do you know what your business will need to report on? 
Join Planet FWD, a leading decarbonization platform, and policy experts as they delve into what’s new and how recent changes may impact your business. Our speakers will pull back the curtain on the regulatory landscape, when you need to be reporting and how you can best prepare. 
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How businesses can get ready for the new California disclosures 
What you need to know for FLAG reporting
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Margaret Morales, Director, Carbon, GreenBiz Group
Speakers:
Charlie Quann, Head of Corporate Reporting and Decarbonization, Planet FWD
Steven Rothstein, Managing Director for Capital Markets, Ceres
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