02/24/2024
OP-ED ON FIRES AND OFFSETS

03/08/2024
LAUNCHED OFFSETSDB

03/18/2024
ASSESSED WEATHERING EFFICACY

04/15/2024
CHRIS ALLEN JOINS

05/20/2024
TRACY AQUINO ANDERSON JOINS

07/03/2024
CRITIQUED CREDIT QUALITY LABELS

08/09/2024
COMPARED CLIMATE RISK COMPANIES

09/03/2024
CLAIRE ZARAKAS JOINS

10/15/2024
LAUNCHED OAE MAPPING TOOL

10/30/2024
ANALYZED AB1305 DISCLOSURES

2024 Report

(carbon)plan

To our supporters

It's a strange moment to write this letter.

I'm so proud of the work our team has accomplished, and I want to celebrate it. I also can't help but acknowledge how the outcome of the presidential election in the United States has created a moment of enormous uncertainty around our efforts to address climate change.

I want to start by highlighting areas where I think our work this year has been valuable and impactful. We released a new, regularly updating database of carbon offset projects to help us and others track the growing carbon market. Along the way, we spotted problematic practices that led to journalistic coverage and, we hope, increased accountability. We also released new tools and research on emerging open system carbon removal methods, helping the community understand what might work, how well, and where there's more to learn. And we produced a much-needed assessment of the growing climate risk industry, showing inconsistencies in existing private offerings, and demonstrating the need for a public option.

Looking to next year, I can't predict the future. But I am confident that much of our work will remain important. I'm grateful that we have the capacity to fulfill the commitments we have made, and also aware that some of our work may need to change in its strategy and tactics, or that entirely new opportunities may emerge.

I do suspect two themes are likely to become increasingly important. First is the need to ensure the public has access to climate information that materially affects their lives, including everyone from homeowners, to workers, to municipal leaders. Second is the need to understand and track the role of private actors in pursuing climate solutions, and to hold both governments and corporations accountable to outcomes that work for the people that climate change affects.

In moments of uncertainty, a strong team is more important than ever, so I want to celebrate new additions to ours this year. Chris Allen joined to work on carbon removal policy. Claire Zarakas joined to work on carbon cycle modeling. And Tracy Aquino Anderson joined as Deputy Director to expand our organizational capacity.

I'm filled with gratitude for everyone who has supported us and worked with us thus far, and I'm confident in what we can all accomplish together in the future.

Sincerely,

JEREMY FREEMAN
Executive Director

What we do

The world of climate solutions is experiencing uncertainty during this moment of political transition. There are reasons to remain ambitious, but we also know that confusion and misdirection flourish in an environment with less regulation and less scientific grounding. CarbonPlan is a nonprofit on a mission to bring more transparency, accountability, and clarity to this complex present, so we can look forward to a better future.

We've been focusing on three areas: carbon offsets, carbon removal, and climate impacts. All three represent complicated, growing industries that need improved oversight, established scientific standards, and transparency to ensure that solutions are accountable to the people they affect. CarbonPlan's team collects data, runs analyses, and creates tools that can help decision makers, scientists, and the public double down on the climate solutions that really work — and avoid the ones that don't.

We advocate for transparent and accessible climate information, and build software tools and datasets to support that goal.

We hold governments and corporations accountable to outcomes that reflect the best-available science.

We help stakeholders make more-informed decisions about climate change mitigation and adaptation.

Who we are

Team


ANDERSON BANIHIRWE
Software Engineer


BECKY HURST
Operations Lead


FREYA CHAY
Program Lead


GRAYSON BADGLEY
Research Scientist


JEREMY FREEMAN
Executive Director


KATA MARTIN
Product Lead


SHANE LOEFFLER
Software Engineer


CHRIS ALLEN
Policy Analyst


MAGGIE KOERTH
Editorial Lead


MAX JONES
Open Source Lead


ORIANA CHEGWIDDEN
Research Scientist


RAPHAEL HAGEN
Data Engineer


SAGE ORTIZ
Operations Associate


TYLER KUKLA
Research Scientist


CLAIRE ZARAKAS
Research Scientist


TRACY AQUINO ANDERSON
Deputy Director

Board


ARJUNA DIBLEY
U. of Melbourne / U. of Oxford


GERNOT WAGNER
Columbia Business School


JEREMY FREEMAN
CarbonPlan


TRACY TEAL
Nixtla


KELLY GANNON
National Domestic Workers Alliance

Press coverage

In 2024, our work was covered in 36 stories across 24 unique venues, featuring 6 members of our team. As notable examples, our accountability work on climate risk companies became a basis for a series of articles in Bloomberg, which helped bring scrutiny to the growing climate analytics industry. And our data on extreme heat projections was used in a series of stories by Axios on the local implications of extreme heat around the country.

We continue to believe that working with journalists can elevate accountability by raising awareness around efforts in the public and private sector, and whether intentions match reality. We also hope that coverage of our work can increase transparency and make important climate data more broadly available.

The New York Times

SLATE

Bloomberg

POLITICO

AXIOS

CNN

Visit carbonplan.org/press for a complete up-to-date list of our media coverage.

What we did

Articles + posts

Climate risk companies don't always agree ↗
We solicited and compared fire and flood risk scores from private firms, revealing resistance to transparency and troubling inconsistencies. PAGE 09

Mapping the efficiency of ocean alkalinity enhancement ↗
We explained the chemistry behind how oceans remove carbon from the atmosphere, and introduced a new tool for understanding where and how this process could be enhanced. PAGE 10

Does enhanced weathering work? We're still learning. ↗
We synthesized scientific literature on enhanced rock weathering and offered takeaways on the current state of the science. PAGE 10

Crediting challenges when carbon removal comes with avoided emissions ↗
We explored challenges associated with using carbon removal credits to support projects that achieve both carbon removal and avoided emissions. PAGE 10

Analyzing existing offset disclosures under California's AB1305 ↗
We evaluated the first corporate offset disclosures under a new California law and found both improved transparency and room for improvement. PAGE 11

Monitoring the global carbon market with OffsetsDB ↗
We explained how to use our new database of offsets information and why it's important to make the data public and easily accessible. PAGE 11

Another forest offset project is burning — if you know where to look ↗
We wrote about how project boundary data is needed to know when projects are affected by fire. PAGE 12

Wildfires in the US are burning offset projects — again ↗
We covered multiple cases of wildfire impacts on the California forest offset buffer pool. PAGE 12

California's shrinking buffer pool ↗
We documented the first time California's buffer pool lost credits for two quarters in a row. PAGE 12

Think twice before resurrecting burned offset projects ↗
We wrote about a plan to reenroll a project that had previously been terminated due to fire. PAGE 12

What happens if one of the world's largest offset projects collapses? We might find out. ↗
We looked at an Indonesian offset project caught in a political conflict.

What we did (cont.)

Posts (cont.)

Now is the time to provide evidence to inform IPCC reporting standards ↗
We participated in the IPCC Task Force on National Greenhouse Gas Inventories, and wrote about its role in standards.

Commentary

Proposed Text of Regulation: Catastrophe Modeling and Ratemaking ↗
We submitted comments to the California Department of Insurance supporting transparency in the ratemaking process. PAGE 09

Fire threatens the integrity of California's forest offset program ↗
We wrote about fire-related losses and how they threaten the buffer pool backing California's offsets. PAGE 12

Potential amendments to California's cap-and-trade regulation ↗
We responded to questions brought up in a California Air Resources Board workshop, suggesting potential buffer pool improvements. PAGE 12

Comments to the Alaska Department of Natural Resources ↗
We weighed in on a proposal to allow carbon offset projects to be developed on state lands in Alaska.

The first offset credits approved by a major integrity program don't make the grade ↗
We demonstrated additionality problems with landfill gas credits labeled high quality by the Integrity Council for the Voluntary Carbon Market. PAGE 11

Comments on the Washington State Forest Offset Technical Working Group ↗
We wrote commentary on conflicts of interest, project eligibility, and standards of negligence.

Comments to the Commodity Futures Trading Commission ↗
We submitted public comments on the data voluntary carbon credit derivatives should be required to disclose.

Comments on the Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program ↗
We submitted responses to a USDA request for information on a program aimed at helping farmers and ranchers participate in carbon markets.

What we did (cont.)

Data + tools

Mapping the efficiency of ocean alkalinity enhancement ↗
We built a tool with [C]Worthy that illustrates how added alkalinity moves through the ocean and leads to carbon removal, depending on when and where it's added. PAGE 10

OffsetsDB ↗
We created a searchable database of offset information from five of the largest registries, updated daily, and available to everyone. PAGE 11

Expanding the ways the CDR Verification Framework looks at biomass ↗
We continued to expand our tool that documents the key scientific uncertainties associated with different carbon removal pathways.

New data added to the Compliance Users tool ↗
We added a fresh batch of data to a tool that connects regulated entities in California to the offsets they're using.

Extensions to extreme heat projections ↗
We expanded our extreme heat dataset to include a deeper look at Eastern Europe in work commissioned and used by the World Bank.

Climate risk analysis

Samples of maps showing flood risk in New York (left) and fire risk in California (right).

Our climate impacts team embarked on interrogating the increasingly privatized climate risk industry and the role it plays in adaptation efforts. While climate risk analysis at a global and regional level has historically been a public effort led by academia and governments, a private industry has emerged in recent years. These companies sell address-level risk data to insurance companies, local governments, and other industries for use in adaptation planning and, increasingly, climate risk disclosures. But the models are proprietary black boxes, and there have not been any rigorous public comparisons of results. We reached out to nine companies with a request to provide sample risk data on fire and flooding at several hundred addresses in two states. Only two of the companies we contacted chose to participate, revealing the industry's wariness toward transparency. Despite coarse-scale agreement, the results demonstrated that different companies often produce different results when it comes to predicting risk for individual addresses. Our work was covered in a series in Bloomberg on the need for more transparency and scrutiny of the private climate risk industry. We also used the research to frame our comments to the California Department of Insurance regarding its plans to expand the use of private models in rate-setting. Our commentary advocated for greater transparency in model evaluation, as well as the development of public climate risk models, which could act as open benchmarks for the industry.

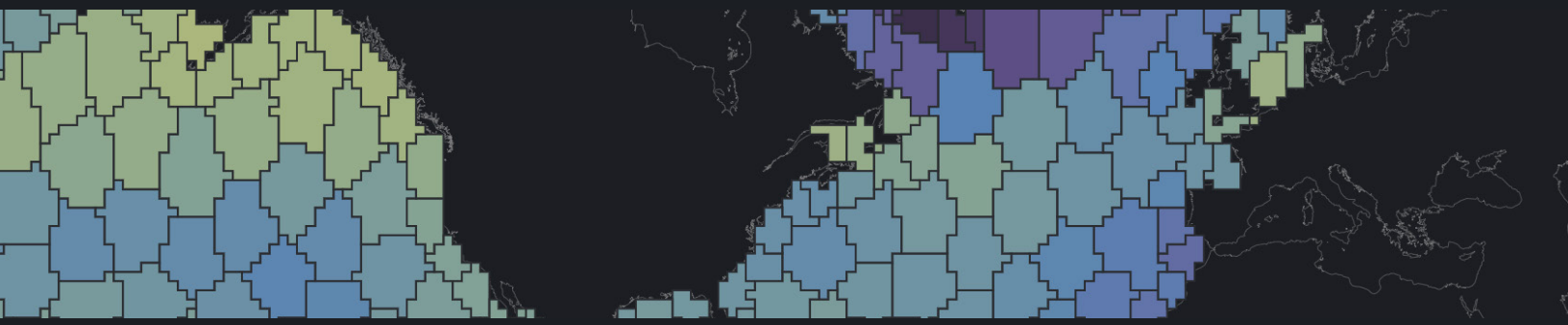
CLIMATE RISK COMPARISON ↗

BLOOMBERG STORY #1 ↗

BLOOMBERG STORY #2 ↗

COMMENT TO CA DEPARTMENT OF INSURANCE ↗

Open system CDR



Subset of map showing carbon removal efficiency following regional ocean alkalinity enhancement.

Carbon removal approaches that leverage natural processes have a lot of potential. But quantifying the impact of these interventions can be difficult, and we are early in the process of understanding how well they work in the real world. This year, our carbon removal team supported the development of open system approaches by synthesizing the best-available science and making it accessible to decision makers. One big project was a collaboration with the nonprofit research group [C]Worthy to create a first-of-its-kind interactive map showing how the results of ocean alkalinity enhancement (OAE) change depending on where and when you deposit alkaline material. Another project focused on systematically reviewing the scientific literature on enhanced rock weathering (ERW), revealing how different studies use diverse experimental set-ups and accounting frameworks. This variability underscores the need for caution when interpreting or extrapolating results from individual studies. To help make these learnings actionable, we served on the advisory board for a process to establish guidance on ERW quantification, led by Cascade Climate. Finally, our team has been monitoring the development of crediting protocols for open system approaches. We analyzed how small accounting changes can substantially affect crediting outcomes for projects that achieve both carbon removal and avoided emissions, including some types of ERW and OAE. Our work on this issue is beginning to pay off, with some companies, registries, and buyers adopting the approach of excluding avoided emissions when crediting carbon removal. This framing also made its way into academic publications from collaborators at the US National Labs.

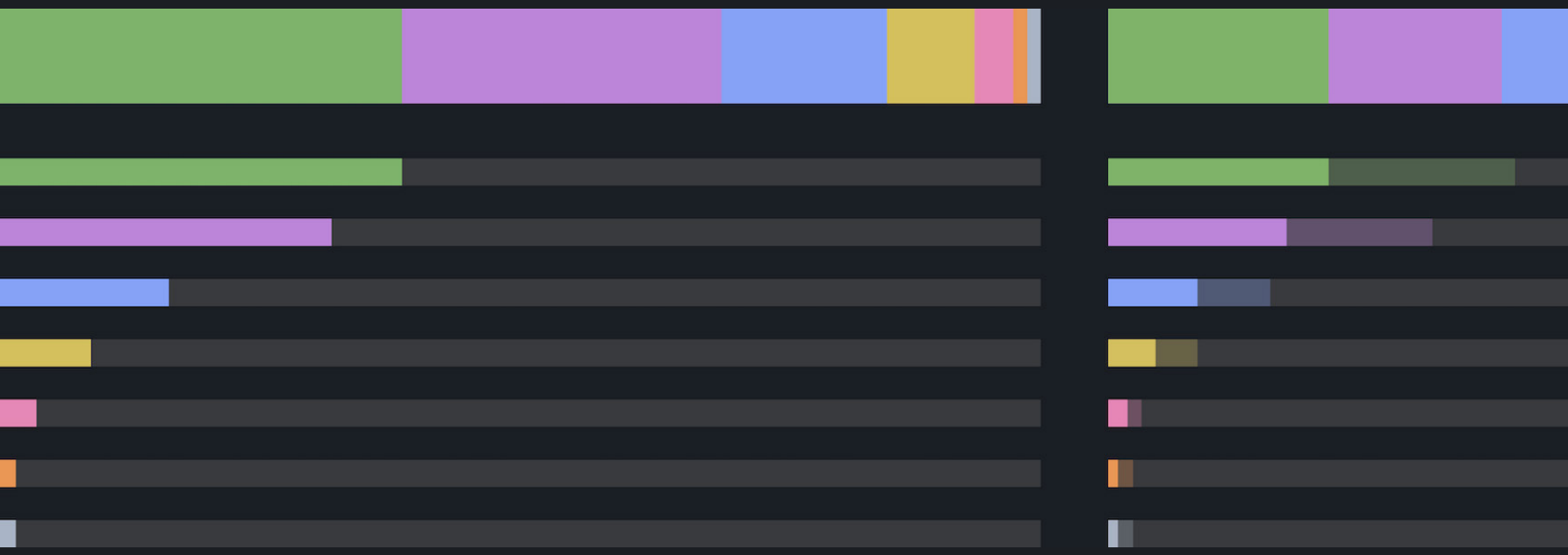
OAE EFFICIENCY MAPPING TOOL ↗

OAE EFFICIENCY EXPLAINER ↗

ENHANCED WEATHERING REVIEW ↗

CARBON REMOVAL AND AVOIDED EMISSIONS ACCOUNTING ↗

Open offsets data



Charts showing the distribution of offset projects by category.

Technically, data about offset projects is public. But this data is scattered across dozens of registries, and comparing data between registries is difficult. This year, our team created a new offsets database aimed at making these records more accessible to the public. OffsetsDB compiles and standardizes offsets data from five of the largest registries, representing more than 9,000 individual offset projects. The database is searchable, updated daily, and users can explore the data in the web browser or download it for further analysis. We hope it will become an increasingly valuable tool for researchers, industry, and journalists. For the journalistic audience in particular, we shared about it as part of a webinar hosted by Harvard's Journalist's Resource. We also began using OffsetsDB in our own oversight work, to identify curious or concerning patterns in the offsets market. As one example, these analyses led us to discover problems with landfill projects greenlit by the Integrity Council for the Voluntary Carbon Market. This organization is meant to help identify high quality credits, but the first batch of credit quality labels it released included multiple projects that were clearly non-additional. OffsetsDB helped us spot these problems and bring them to public attention, including through a story in Bloomberg on the implications for carbon market standards.

OFFSETSDB ↗

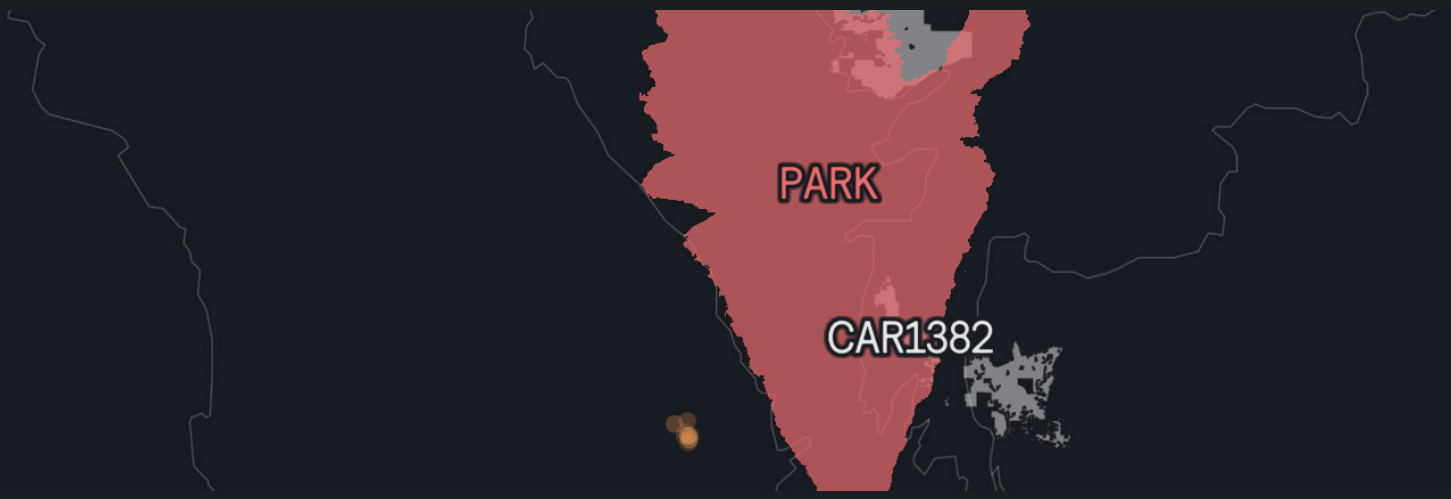
OFFSETSDB EXPLAINER ↗

JOURNALIST'S RESOURCE ON OFFSETS ↗

ICVCM QUALITY LABEL PROBLEMS ↗

BLOOMBERG STORY ON ICVCM ↗

Forest fires and offsets



A large fire overlapping with a forest offset project rendered in our mapping tool.

We continued to track the impact of wildfires on forest offsets and how those losses affect the California buffer pool. Originally launched in 2022, our mapping tool provides real-time satellite data about forest fires in the United States, overlaid with location data of offset projects enrolled in California's cap-and-trade program. This year, we used this tool to produce a series of articles and LinkedIn posts updating the public on specific fires impacting projects, including the South Fork and Salt fires in June, and the Park fire in September. In addition, we wrote about related issues, such as missing location data that made it difficult to identify which offsets were affected by the Shelly fire in July — which led to the California Air Resources Board releasing the data. All of this work connects to our ongoing efforts to track losses due to fire in the California buffer pool, a system that the state uses to insure against damaged offset projects. Our research has shown that these losses are larger than the official count, suggesting the program has not adequately accounted for risk to its offset projects. This year, we published an op-ed about this problem in Slate, submitted a letter recommending changes to the California Air Resources Board, and wrote a piece for Global Change Biology documenting how fires have impacted the buffer pool. We hope these efforts can both improve the program in California, and ensure that broader offset efforts don't rely on problematic assumptions about risk.

SOUTH FORK AND SALT FIRES ↗

SHELLY FIRE ↗

SLATE OP-ED ON FIRES AND THE BUFFER POOL ↗

BUFFER POOL IS SHRINKING ↗

COMMENT LETTER TO CARB ↗

BUFFER POOL PIECE IN GCB ↗

Open source tools

Using our mapping libraries to render modeled snowpack data.

In addition to developing infrastructure and tooling to support our research work, our Open Source team continued to build software for the broader climate science community, with a focus on tools that make it simpler, and less expensive, to visualize and share large datasets. For example, we released a new set of features for our ndpyramid Python library, in partnership with the nonprofit Development Seed. This library helps prepare large earth science datasets for visualization on the web, making it possible to zoom in and out across multiple scales of resolution. Our new updates make it easier to process datasets using distributed computing, saving money on storage and avoiding situations where users might run out of memory. We wrote about these enhancements in a post for the Pangeo Medium blog. Also as part of our work on Pangeo tools, our team helped develop VirtualiZarr, a library that allows cloud-friendly access to large datasets in legacy formats, making large-scale climate data production safer and more efficient. Our team moved quickly to disseminate this new software, presenting on VirtualiZarr at SatCamp and the Cloud-Native Geospatial Forum conference. We also presented on our web-based mapping library at the North American Cartographic Information Society, and started the third year of our partnership with Columbia University's LEAP program (Learning the Earth with Artificial Intelligence and Physics), working on catalogs for datasets generated by their researchers, and providing technical assistance and training.

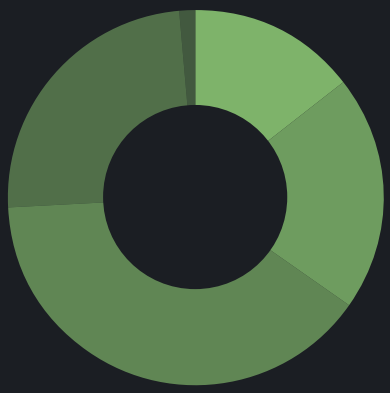
NDPYRAMID GITHUB ↗

NDPYRAMID UPDATES ↗

VIRTUALIZARR ↗

Finances

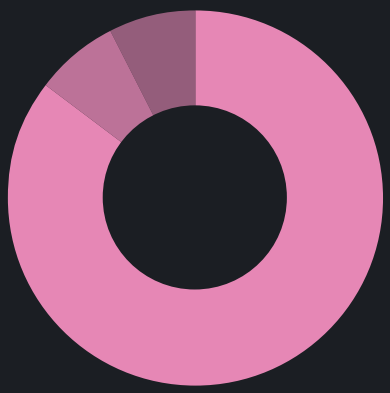
We are committed to financial transparency, and to maximizing the impact of our generous donors. Here we provide data on our 2024 revenue and expenses by category. The same data will also be released in 2025 as part of our public 2024 tax filings.



Revenue

$3,173,238

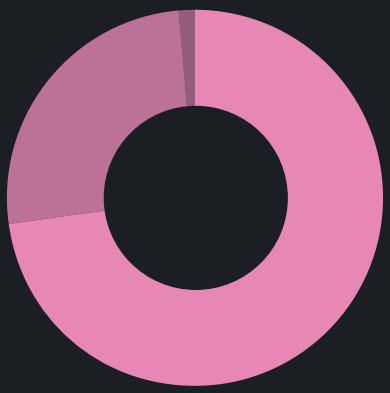
- Project-specific (contracts) (14.6%)
- Project-specific (grants + in-kind) (20.3%)
- Unrestricted (individuals) (39.5%)
- Unrestricted (foundations) (24.4%)
- Consulting (1.2%)



Expenses (by type)

$3,197,614

- Staff (salary + benefits) (85.5%)
- Services (legal + design + consulting) (7.0%)
- Operations (computing + SaaS) (7.5%)



Expenses (by area)

$3,197,614

- Program work (73.0%)
- Administration and fundraising (25.7%)
- Decision support (1.3%)

Thank you

Our work would not be possible without the generous support of our donors and partners. Here we provide a list of funding sources in 2024 greater than $1,000, all of which are included in the totals listed previously. Some funding in 2024 supported projects that were not completed or announced in 2024. Those sources are included in our 2024 revenue totals, but not listed below, and will be in next year's report.

See carbonplan.org/funding for an up-to-date list reflecting all funding sources.

Unrestricted

ADAM WINKEL + ABIGAIL WINKEL
BENIFICUS FOUNDATION
COLIN RUST + JEANNIE TSENG
PAMELA MENSCH
CALVIN FRENCH-OWEN
JACOB TREFETHEN
ROSS GARON + HONG SUH
ROBERT PARKE + MARTHA PARKE
VENKATESH SRINIVAS
VANGUARD CHARITABLE
SBFF
HAMPUS JAKOBSSON

Project-specific

WORLD BANK	Extreme heat dataset extension
DEVELOPMENT SEED	Next-gen Zarr visualization
NASA + UNIVERSITY OF WASHINGTON	Xarray Lite
NASA	Pangeo ML
PATRICK J. MCGOVERN FOUNDATION	OffsetsDB + CDRXIV
COLUMBIA UNIVERSITY	LEAP
SBFF	CDRXIV
[C]WORTHY	OAE efficiency atlas
CARBON TO SEA (VIA WINDWARD FUND)	OAE efficiency atlas