

*A collection of programmatic updates  
and impacts from 2021.*



# GLOBAL WARMING MITIGATION PROJECT'S **2021 ANNUAL REPORT**

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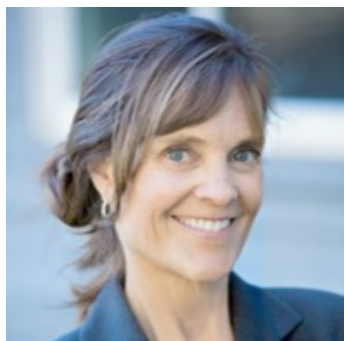
*Published February 28, 2022*

A background image featuring a vibrant green aurora borealis in a dark sky, with a range of rugged mountains and a body of water in the foreground. The mountains and water are reflected in the water below. A horizontal dotted line is visible near the top of the page.

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# A LETTER FROM THE EXECUTIVE DIRECTOR



**Jacquelyn Francis**  
*Executive Director*

Escalating local, national, and global challenges dominated the news in 2021 - with weather catastrophes becoming frequent and often tragic stories. We know specific weather events defy predictability, but the reality that our planetary climate is changing can no longer be ignored. It's apparent that many of the weather events intensified by global warming are becoming increasingly devastating. Let's remember the deadly heatwave in the Pacific Northwest that melted power lines, buckled roadways, leading to an entire town in Canada incinerating. How about the torrential rains and subsequent flooding in Europe that washed away Bavarian villages leaving behind a wake of destruction and hundreds of casualties? Historic drought is crippling places such as Madagascar, South America, Australia, much of Africa, and the western United States - just to name a few of the most devastated regions.

The stories of climate chaos are everywhere and still our human activities added more carbon dioxide, methane, and other greenhouse gases to the fragile atmospheric and oceanic natural balance. What was once thought of as a problem the future would address is now roaring in our ears everyday.

What can be done? The Global Warming Mitigation Project (GWMP) is getting better and better at answering that question. To date, we've awarded the Keeling Curve Prize (KCP) to 40 programs and projects working around the world - including a globally accessible micro-hydro technology, a solar company electrifying hubs in remote regions of Africa, a chemistry innovation company making low carbon products (including jet fuel), a proprietary chemical-free energy storage system using direct air captured carbon, and harnessing the cooperation of nature with seaweed farming and mangrove restoration. We've not only elevated these organizations to levels of success beyond our wildest expectations but also shown the world that climate action is thriving, everywhere. Our laureates are becoming the leaders of a climate movement that must succeed. Society as we know it depends on the shift away from our collective dependence on fossil fuel energy and GWMP, our laureates, and our supporting programs are demonstrating how this is possible, practical, and profitable.

The network we've built from organizations applying for the prize has expanded to include the Constellations, the Climate Impact Conduit, and Stratosphere partnerships. GWMP is now a trusted source of support and connectivity for climate organizations worldwide and we cherish this responsibility with sincerity and pride.

Years from now, I want us all to be able to share the story of how humanity successfully overcame this unprecedented threat and built a better world. But, we know the story will only have a happy ending if we all step up and meet the challenges with everything we've got. **Perhaps more so than ever before in history, we cannot afford to wait this one out.**

Thank you for being part of the GWMP family - I'm eager to be involved in what we'll accomplish together in 2022.

# OUR ACCOMPLISHMENTS

## COP 26

GWMP sent a delegation to the United Nations Climate Change Conference (COP26) in Glasgow, Scotland. Our delegates brought a message of optimism, uplifting the work of Keeling Curve Prize (KCP) laureates around the world, and emphasized the need for world leaders to turn promises into action.

We held a press conference in the Blue Zone on Africa's energy future with KCP laureates Solar Cookers International and Energise Africa and Ghanaian artist and GRAMMY nominee Rocky Dawuni.

As in previous years, the conference failed to produce binding commitments that are needed to limit warming to 1.5 degrees Celsius— but there were encouraging steps forward, such as the surprise announcement of cooperation between the U.S. and China to work together on climate pledges.

We came away from COP26 feeling reenergized to support those who are doing the critical work of reducing emissions and increasing carbon uptake since we cannot afford to wait for world leaders to act.



## 2021 KEELING CURVE PRIZE ANNOUNCEMENT IN MONTEREY

On July 31 in Monterey, California, our team announced the 2021 winners of the Keeling Curve Prize! 2021 KCP finalists joined virtually and in-person to watch the announcement. Our Executive Director Jacquelyn Francis was joined by GRAMMY-nominated musician Rocky Dawuni for the presentation of the winners. In her announcement of this year's laureates, Jacque shared, "By finding and funding these amazing climate solutions around the world, we are lighting up the landscape of climate implementation, guiding us toward our goal of a future free of fossil fuels."



## NEW PARTNERSHIP: PIQUE ACTION

GWMP secured a new Stratosphere partnership with the new media company, Pique Action. Through this partnership, Pique Action will choose one laureate per year to feature in one of their compelling micro-documentaries.

## CLIMATE IMPACT CONDUIT

A growing number of investors and money managers are searching for opportunities to invest in early-stage companies that are mitigating the climate crisis, through clean technologies, transportation innovations, green finance, AI, reforestation, and more. With a database of nearly 1,000 climate projects and programs around the world, GWMP is uniquely positioned to identify companies that are looking for investments to scale their impact. Our recently launched Climate Impact Conduit program connects investors with aligned companies in our network and directs critically needed funding into deserving climate opportunities.

## STRENGTHENING OUR CONSTELLATIONS PROGRAM

Our Constellations program received 157 applications in 2021 and over 857 since the program's inception! We are proud to share that our program has supported over 35 organizations with climate interns, and we've hired over 150 interns to date.

Thanks to many generous donors, we were able to raise \$66,677 to fund the Constellations Program. This funding will allow Constellations to improve, support global warming mitigation efforts, and train young people to pave the way to a livable future through virtual, part-time, paid internships.

"Working with Constellations has helped Our Climate grow and reach new heights. Through the program, we have had the privilege of working with talented, dedicated young people who have been central to bringing our vision of climate justice to reality. Our interns have supported our team in organizing events and designing campaigns that have pushed climate policy over the finish line. With the added capacity of having Constellations interns on our team, we have been able to grow as an organization and lean into our mission with added support. We are so grateful for the support from the Constellations program!"

"The most significant benefit of having interns is that the act of mentoring keeps the Takachar team on its feet -- we actually need to prepare materials and make sure that we are advancing on areas that otherwise would not get acted upon without these interns. Interns have worked on various projects ranging from techno economic and lifecycle assessment to component sizing. Notably, some interns have helped us look into the carbon footprint of our process as well as the carbon offset market. Armed with this knowledge, we are able to design our process to maximize its climate impact."



## LAUNCHING THE 2022 KEELING CURVE PRIZE

In 2021, we were proud to have successfully launched our fifth year of the Keeling Curve Prize.

After deliberation from our expert Advisory Council, we have renamed the previous "Carbon Capture & Utilization" category to "Carbon Sinks (Natural & Engineered)" to encourage an increased number of nature-based strategies to apply for the 2022 Keeling Curve Prize. We will announce the 2022 laureates at Curious 2022 conference in Germany! We are excited to bring our team to this science-focused, international conference, to showcase our laureates and our prize to new audiences.

## NEW TEAM MEMBERS

This year, we were so glad to have welcomed several new team members.

**Staff:** Page Atcheson, Saige Middleton, Emily Graves, Sarah Pooler, Lenna Catrett

**Advisory Council:** Jessica Tierney

**Navigation Council:** David Biello

**Analysts:** Damiana Serafini, Astrid Rahardjo

**Board:** Andrei Ruckenstein, Jonathan Silver, David Bookbinder

**Circuit Board:** Paul Miller (DJ Spooky), Eric Ringsby, Kris Coulon





# 2021 KEELING CURVE PRIZE LAUREATES & FINALISTS

## CARBON CAPTURE & UTILIZATION

### OCEANS 2050

taps the restorative benefits of seaweed farming to improve the health of our oceans. Their Seaweed Carbon Farming Project quantifies the sequestration of macroalgal carbon below seaweed farms to create a new blue carbon market.

*Finalists:* Cambium Carbon, Air Company

### AGORA

is developing a revolutionary metal-free, high energy density, cost-effective and carbon-negative battery for grid-scale applications that stores renewable energy by utilizing carbon dioxide.

## ENERGY

### IGNITE POWER

is providing solar home development in Sub-Saharan Africa. They are bridging infrastructure gaps and providing basic services such as internet access, electricity, and healthcare in order to lead Africa into a more sustainable, inclusive future.

*Finalists:* Build Up Nepal, Taoyuan City Government

### VILLAGE INFRASTRUCTURE ANGELS

invests in poverty-alleviating infrastructure for rural villages in developing countries. This includes helping 1 billion people gain access to clean electricity, access agricultural machinery, and develop solar water pumps.

## FINANCE

### BASE

is providing financial instruments for clean cooling to overcome key market barriers through the CaaS (Cooling as a Service) initiative.

*Finalists:* Energy Peace Partners, Sociedad Hipotecaria Federal

### ENERGISE AFRICA

is a sustainable and ethical investment platform that allows everyday investors to support small solar businesses that operate throughout Sub-Saharan Africa.

## SOCIAL & CULTURAL PATHWAYS

### SOLAR COOKERS INTERNATIONAL

is improving human and environmental health by supporting the expansion of effective carbon-free solar cooking in world regions of greatest need.

*Finalists:* The Climate Museum, The Forestry and Fire Recruitment Program

### EDUCATED CHOICES PROGRAM

educates students across America about the impacts of their food choices, inspiring them to make decisions that are consistent with their own values as related to human health, the environment, and animals.

## TRANSPORT & MOBILITY

### CLIP

has developed CLIP, a portable consumer device designed to instantly upgrade any bike to a pedal-assist e-bike at a fraction of the cost.

*Finalists:* Institute for Transportation Development Policy, MUV

### SOLAR E-CYCLES KENYA

provides affordable solar-powered mobility and power for homes or small businesses in Africa. With open-source, pay-as-you-go financing, their model allows for an effective transition to sustainable forms of mobility.

# LAUREATE SUCCESS STORIES

Our laureates' climate solutions have continued to find success in 2021 - with new funding, partnerships, program announcements, and awards. We are proud to have played a part in launching these projects into their future successes.

*Please note, this is not an all inclusive list of laureate successes and impacts from 2021, the GWMP team selected to highlight the list on the following pages..*





# FROM THE BLOG...

## LANZATECH: RETHINKING CARBON

LanzaTech is a carbon recycling company using the process of fermentation to turn pollution into ethanol to make everyday products. This year, they've announced partnerships with lululemon, L'Oreal, Unilever, Shell, and Zara. *Read the blog.*

## CLEAN ENERGY WORKS: CLEAN ENERGY FOR EVERYONE

Clean Energy Works focuses on bringing clean energy to everyone, exploring mechanisms that can make clean energy accessible and affordable to all. This year, they continued progressing on a project to electrify the national fleet of school buses in the United States. *Read the blog.*

## WATTTIME: EMPOWERMENT THROUGH CHOICE

WattTime developed a software that integrates with smart devices to shift energy use to times when more renewable energy is available through the grid - empowering individuals, organizations, and governments to make a choice about where their energy comes from. This year, they announced a partnership with Google Nest and have begun working with former Vice President Al Gore to track human-caused emissions worldwide. *Read the blog.*

## JANUARY

### (2020 Laureate) Citizens' Climate Lobby

Citizens' Climate International (CCI) formalized as its own independent 501 c3 in the Citizens' Climate umbrella. CCI is now active in 50 countries with 15,000+ supporters to advance climate solutions.

## FEBRUARY

### (2018 Laureate) Pollinate Group

Pollinate Group undertook the promotion of smoke-free cooking in the rural communities of Nepal in partnership with SNV Nepal under the results-based financing framework. So far, Pollinate Group has helped offset over 1.2M tons of carbon dioxide emissions from the planet.

### (2020 Laureate) Borneo Nature Foundation

Borneo Nature Foundation launched a program to plant 1M trees over the next five years in Sebangau National Park, Central Kalimantan.

## MARCH

### (2019 Laureate) twelve

Twelve partners with Procter & Gamble to produce carbon-negative products for Tide.

### (2019 Laureate) Clean Energy Works

Clean Energy Works was part of a team tapped as finalists for the 2030 Climate Challenge for the Proposal to Upgrade Everyone.

## APRIL

### (2018 Laureate) The Savory Institute

In partnership with the Savory Institute's Land to Market program, Timberland launches a new, eco-conscious collection. Made using "Regenerative Leather", the new Greenstride™ Solar Wave EK+ Collection helps the brand work toward its vision for Timberland products to have a net positive impact on nature by 2030.

### (2020 Laureate) Citizens' Climate Lobby

Citizens' Climate hosted its first Business Advocates for Carbon Pricing Conference. One hundred and eighty leaders from 119 small and medium sized businesses participated with the aim of taking their political will to Congress.

## MAY

### (2019 Laureate) WILDCOAST

WILDCOAST trained 60 government officials from the National Commission for Natural Protected Areas (CONANP) on blue carbon to promote the public agenda in Mexico.

## JUNE

### (2020 Laureate) Borneo Nature Foundation

Borneo Nature Foundation was chosen as one of the UN Decade Hub's Founding 50 initiatives as part of the Generation Restoration Movement.

## JULY

### (2019 Laureate) twelve

Twelve is working with Mercedes-Benz to replace petrochemicals in their products.

### (2018 Laureate) LanzaTech

LanzaTech partnered with lululemon to create the first fabric using recycled carbon emissions.

### (2018 Laureate) Natel Energy

Natel Energy announced \$20M in Series B funding to further deploy modern, renewable hydropower, included in Breakthrough Energy Ventures Fund.

## AUGUST

### (2020 Laureate) World Council of Churches

World Council of Churches hosted a Climate Solutions Hackathon on International Youth Day.

### (2020 Laureate) CarbFix

Carbfix and ON Power, subsidiaries of Reykjavik Energy, received a grant of 3.9M euros from the EU Innovation Fund for the Silverstone project. The project aims to scale up current carbon capture and mineral storage operations at the Hellisheidi geothermal plant, reaching near-zero carbon footprint.

## SEPTEMBER

### (2018 Laureate) Natel Energy

Natel energy expanded its development portfolio by adding 80 MW of renewable power to Louisiana's Red River.

### (2018 Laureate) Pollinate Group

Pollinate Group partnered with NASSCOM Foundation and VISA to empower women entrepreneurs with digital skills and financial literacy.

### (2019 Laureate) twelve

Twelve partnered with PANGAIA releasing the first limited edition sunglasses made from CO2.

### (2020 Laureate) CarbFix

CarbFix and Climeworks advanced their direct air capture and storage of CO2 to commercial scale at their Orca Plant. The Orca plant has the capacity of capturing 4,000 tons of CO2 per year, which is injected by Carbfix into nearby basaltic rock-formations to be permanently turned into stone. Read more.

### (2021 Laureate) BASE

BASE launched the ESI Europe 2.0 project to implement the Energy Savings Insurance (ESI) model in Croatia, Greece, and Slovakia with funding from the European Union's Horizon 200 research and innovation program.

### (2021 Laureate) Energise Africa\*

Energise Africa is awarded a grant from the Good Energies Foundation to develop innovative USD-hedged notes to add to the suite of blended finance products developed by the company.

## OCTOBER

### (2018 Laureate) Bolder Industries

Bolder Industries secured an \$80M investment to grow globally.

### (2018 Laureate) Takachar

Takachar won the first EarthShot prize.

### (2018 Laureate) Pollinate Group

Pollinate Group's CEO Sujatha Ramani was recognized at the TSS Sustainability Global Awards as Woman Social Entrepreneur of the Year.

### (2019 Laureate) WattTime

WattTime technology is harnessed by Nest Renew from Google to help Nest thermostat users to prioritize clean energy automatically.

### (2019 Laureate) twelve

Twelve produced the first batch of E-Jet Fuel from CO<sub>2</sub> through electrolysis in collaboration with the U.S. Air Force.

### (2019 Laureate) Science Based Targets Initiative

SBTi's science-based Net-Zero Standard launched to provide a credible and independent assessment of corporate net-zero target setting and enable companies to align their near- and long-term climate action with limiting global warming to 1.5°C.

### (2020 Laureate) Oorja Energy Solutions

Oorja completed its \$1M seed funding round with equity investment from Schneider Electric Energy Access Asia (SEEAA) and grant funding from Water & Energy for Food Grand Challenge (WE4F) and the DOEN Foundation.

## NOVEMBER

### (2018 Laureate) LanzaTech

LanzaTech announced a partnership with Vattenfall, Shell, and SAS on the production of the world's first synthetic sustainable aviation fuel.

LanzaTech is awarded the Overall Winner and Best Process Innovation Winner from the ICIS Innovation Awards.

### (2019 Laureate) Science Based Targets Initiative

SBTi is awarded three grants totaling \$37M from Bezos Earth Fund, IKEA Foundation, and Laudes Foundation.

### (2019 Laureate) New Energy Nexus

New Energy Nexus Uganda won the Ashden Award for energy access innovation.

### (2020 Laureate) CarbFix

CarbFix is nominated for the Energy Globe Award in the Air Category.

### (2020 Laureate) Odyssey Energy Solutions

Odyssey Energy Solutions, Nigerian impact investment company "All On", and the Global Alliance for People and Planet announced the launch of a global aggregated procurement program for renewable energy companies, supported by a \$10M financing facility in Nigeria.

### (2021 Laureate) Ignite Power

Ignite Power won Africa Solar Industry Association's Solar Awards as Company of the Year.

### (2021 Laureate) Oceans 2050

Oceans 2050 is selected as a semi-finalist for the 2021 Ocean Innovation Prize.

### (2021 Laureate) Village Infrastructure Angels

Village Infrastructure Angels secured funding support for a feasibility study of a \$30M Micro Infrastructure Fund for the Asia-Pacific region, thanks to support from Convergence Finance and the Australian Government.

### (2021 Laureate) Educated Choices Program

The Educated Choices Program launched its digital education programs in Germany! Further international expansion is planned for 2022.

### (2021 Laureate) BASE

BASE expanded its Your Virtual Cold Chain Assistant (YVCCA) to Nigeria.

### (2021 Laureate) Energise Africa\*

Energise Africa received the UN Global Climate Action Award for Climate Friendly Investments at COP26.

### (2021 Laureate) Solar Cookers International

Solar Cookers International was recognized with a California State Legislature Resolution, congratulating them on winning the Keeling Curve Prize.

## DECEMBER

### (2018 Laureate) LanzaTech

LanzaTech partnered with Zara to create a dress collection from recycled carbon.

LanzaTech secured a \$30M investment from ArcelorMittal.

### (2020 Laureate) World Council of Churches

World Council of Churches shared a call to action with UNICEF's High Level Global Forum on Children and Youth. The team secured support from Bill MicKibben for their commitments to Children's Climate Responsible Finance Initiatives at the same forum.

### (2020 Laureate) Borneo Nature Foundation

Borneo Nature Foundation staff recorded the first sighting of the Grey Streaked Flycatcher in Central Borneo, highlighting the success of their forest conservation efforts for biodiversity preservation.

### (2020 Laureate) Odyssey Energy Solutions

Odyssey Energy Solutions crossed \$1B in financing facilitated through its platform, and have scaled their projects to 10 new countries in 2021.

### (2021 Laureate) Educated Choices Program

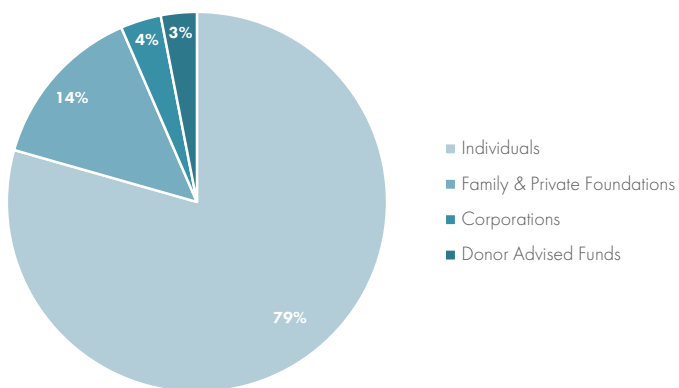
The Educated Choices Program reached over 2M students and community members with their food choice education programs since its inception in 2016.

*\*Please note that investing with Energise Africa puts your capital at risk and returns are not guaranteed. Previous successes are not indicative of future results.*

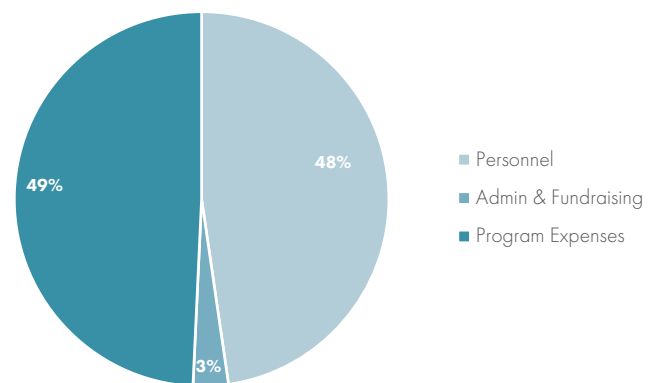
# FINANCIAL PERFORMANCE

In 2021, GWMP continued to grow and diversify our funding while enabling climate solutions around the world to succeed. We significantly built our programs that support our network of Keeling Curve Prize applicants, finalists, and laureates - through internship placements, media engagement, networking opportunities, and more. Going into 2022, we are well positioned to galvanize additional support for urgently-needed climate solutions from our growing community of individuals, corporations, and foundations.

## 2021 REVENUE: \$816,732



## 2021 EXPENSES: \$663,771



# THANK YOU

We are so grateful for our generous supporters and donors who have helped make our work possible. We especially want to acknowledge the following individuals for their leadership gifts this year:

## BRONZE DONORS

Eric Ringsby	Rafe Pomerance
Richard Thacker	John & Laurie McBride
Jennifer Moses	Jonathan Silver
Katie Hoffman	
Stephen Kahn & Suzanne Bober	

## SILVER DONORS

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## GOLD DONORS

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Michael Klein & Joan Fabry



# OUR TEAM

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Matthew Myers  
Sunita Narain  
George Polk

Rafe Pomerance  
Minh Cuong Le Quan  
Hans Joachim Schellhuber  
Gail Schwartz  
Cathy Zoi

\* Note: This individual worked with our organization for part of 2021.



# A LETTER FROM OUR CO-FOUNDER, MICHAEL KLEIN

## Dear friends and colleagues:

If you are reading this, you likely are not among those who need to be persuaded that the impact and implications of global warming are frighteningly extreme. The *raison d'être* of the Global Warming Mitigation Project (GWMP) is not about educating the oblivious.

Instead, GWMP is about inspiring those who understand how imminent and terrifying global warming is, and wonder what, if anything, can be done to effectively control emissions and perhaps reverse global warming. GWMP is reducing global emissions by identifying and facilitating the most impactful and innovative efforts in a variety of categories.

Panels of recognized, world class climate experts lend their valuable time and knowledge to review and assess hundreds of submissions we receive annually detailing actual global warming mitigation projects, evaluating them for their achievements and potential to affect substantial changes. The winners in these categories – Energy, Finance, Social and Cultural Pathways, Transport and Mobility, and Carbon Sinks - don't just receive the financial support of the Keeling Curve Prize.

The recognition by our team of experts launches the annual winners – we call them laureates – by increasing their chances of securing the additional financial support essential to scale their expansion and enhance their impact.

GWMP also connects young climate activists (most of them students) with hopes of establishing careers mitigating global warming with our laureates and other applicants, providing career encouragement to the students and interns to support promising projects.

GWMP was thus created to fight the despair that affects too many who fear nothing significant can be done to mitigate climate change by highlighting, supporting, and facilitating the efforts of those who provide real hope for a future of our planet, and our descendants.

Much can be done. And you can do much. Supporting GWMP's prizes, internships and other activities – financially and by spreading our messages - are two things you can do. Join me. Become part of the solution.



Sincerely yours,

**Michael Klein**  
*Co-Founder and Board Member*  
Global Warming Mitigation Project