

NEW ENERGY NEXUS

GLOBAL IMPACT REPORT 2025

Backing clean energy
entrepreneurs around the world

SOLAR-POWERED CHARGING STATION
UNIVERSITAS TEKNOLOGI SUMBAWA 



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ON THE COVER: Nova Aryanto, CEO of startup Olat Maras Power, inspects one of their solar-powered charging stations. Olat Maras Power is supported by New Energy Nexus Indonesia.

LETTER FROM THE CEO

Andrew Chang
Chief Executive Officer



This year has been marked by profound uncertainty.

As I write this, conflict in the Middle East is tragically impacting millions of lives and sending shockwaves through global oil and gas markets, bringing energy security to the center of the global conversation. Capital is tightening, supply chains are shifting, and geopolitical pressure is reshaping how and where energy systems are built.

At the same time, something deeper is underway. We are moving into an electrotech economy. Power, transport, and industry are being rewired around electrons. In many markets, clean energy is already the cheapest option. Manufacturing has scaled, costs have fallen, and what once felt like a future transition is now a question of deployment at speed and scale.

This year, we saw what that looks like in practice.

Across the New Energy Nexus network, we've supported 1,793 startups and businesses building and scaling clean energy solutions. Together, they have mobilized more than US\$5.4 billion in follow-on funding and revenue and created over 8,600 jobs. We engaged nearly 1 million participants through our events, from networking and matchmaking to hackathons and learning sessions.

These numbers represent entrepreneurs deploying solar, storage, mobility, and energy access solutions in markets that need them most.

Entrepreneurs are at the center of this shift. Not just those developing new technologies, but those making adoption possible. They reduce costs, navigate local constraints, unlock demand, and turn proven solutions into real infrastructure.

But entrepreneurs do not succeed alone.

For ecosystems to work, people need to believe in the conditions that allow entrepreneurs to take risks, access capital, and create value. That belief is built through systems, networks, trust, and the creation of an enabling environment.

This is where our role is clear. We are building a shared global network that connects local ecosystems into something stronger together. Each part is grounded locally but connected globally. That is how ideas move faster, capital flows, and solutions scale.

We are also seeing new forces reshape the landscape. AI is lowering barriers for founders and accelerating how businesses are built, while raising new questions around data, access, and control. Climate funding is also shifting, shaped by geopolitical pressure and competing priorities.

Even with this complexity, the direction of travel is clear. The task now is to scale what works and ensure it reaches the people and places that need it the most.

Power on!



ABOUT
NEW ENERGY NEXUS

ABOUT NEX

New Energy Nexus (NEX) is the world's leading clean energy ecosystem builder.

With over two decades of experience and teams embedded in 13 countries, we provide the capital, tools, and connections that clean energy entrepreneurs need to turn bold ideas into real-world solutions.

From solar startups in Southeast Asia and battery tech in California, to women-led solar distributors in rural Uganda—we're building a more just, resilient, and 100% clean energy future, powered by entrepreneurs everywhere.

Our Vision

An abundant world with **100% clean energy for 100%** of the population, in the shortest time possible.

Our Mission

We support **diverse clean energy entrepreneurs** to drive innovation and build equity into the global clean energy economy.

Our Goal

We build locally-led, globally-connected ecosystems that accelerate thousands of climate entrepreneurs **to reduce emissions and expand access to clean energy.**

Our Impact



Reducing emissions



Sustainable economic growth



Increasing energy access



Inclusive clean energy economies



Connecting innovation ecosystems

WHERE WE OPERATE

We work where the clean energy transition will be decided. We focus on markets where entrepreneurs can deploy existing or new technologies that expand access, strength resilience, and reduce long-term dependence on fossil fuels.

New Energy Nexus
California

• The Clean Fight
New York

New Energy Nexus
in Pakistan
in partnership with
Renewables First

New Energy Nexus
Thailand

New Energy Nexus
in Japan

New Energy Nexus China

• New Energy Nexus
Philippines

New Energy Nexus
in Nigeria
in partnership with
Clean Tech Hub

New Energy Nexus
Vietnam

New Energy Nexus
Uganda

New Energy Nexus Ventures
based in Singapore

New Energy Nexus Indonesia

New Energy Nexus in Australia
in partnership with EnergyLab

OUR HISTORY

2004

California Clean Energy Fund (CalCEF) established

CalCEF was launched to spur investment in California's clean energy economy, starting as a US\$30 million public benefit investment fund created via PG&E's bankruptcy settlement.

2008

Launch of CalCEF Innovations

An independent 501(c)3 non-profit organization.

2012

CalCharge established

A trade association for Californian battery startups.

2016

Launch of New Energy Nexus in Thailand & Indonesia

New Energy Nexus China established

Co-founded Free Electrons

A global energy startup accelerator that connects clean energy startups with utility companies.

2017

Launch of New Energy Nexus Southeast Asia

2016

Launch of CalSEED

A program to support early-stage California clean energy startups bring their concepts and prototypes to market.

New Energy Nexus launched as new operating name

Partnership in India

New Energy Nexus and Climate Collective partner to run India's first Solar Hackathon.

2019

Launch of New Energy Nexus in Vietnam & the Philippines

Expansion in Uganda with ENventure

2020

New Energy Nexus launches The Clean Fight in New York

A flagship accelerator helping growth-stage clean energy startups scale up in New York.

Launch of Third Derivative in partnership with RMI

Accelerating deep tech climate solutions.

2022

Expansion in Nigeria

In partnership with the Clean Technology Hub, based in Abuja, Nigeria.

Launch of Supercharge Australia

A partnership with EnergyLab to accelerate energy storage solutions in Australia.

2023

Launch of AusTestBed

With EnergyLab, provides non-matched grants for Australian clean energy startups to test their tech in top universities and facilities.

Partnership with JETRO in Japan

This collaboration backs Japanese clean energy and climate tech startups, expanding their impact globally.

2024

Partnership with Renewables First in Pakistan

Boosts Pakistan's climate tech ecosystem, with programming set to launch in 2025.

2025

NEX COP28 Climate Tech Startup Accelerator

The first program at a COP to accelerate early-stage climate tech startups from around the world.

Partnership with Hub71 in the UAE



WHAT
WE DO

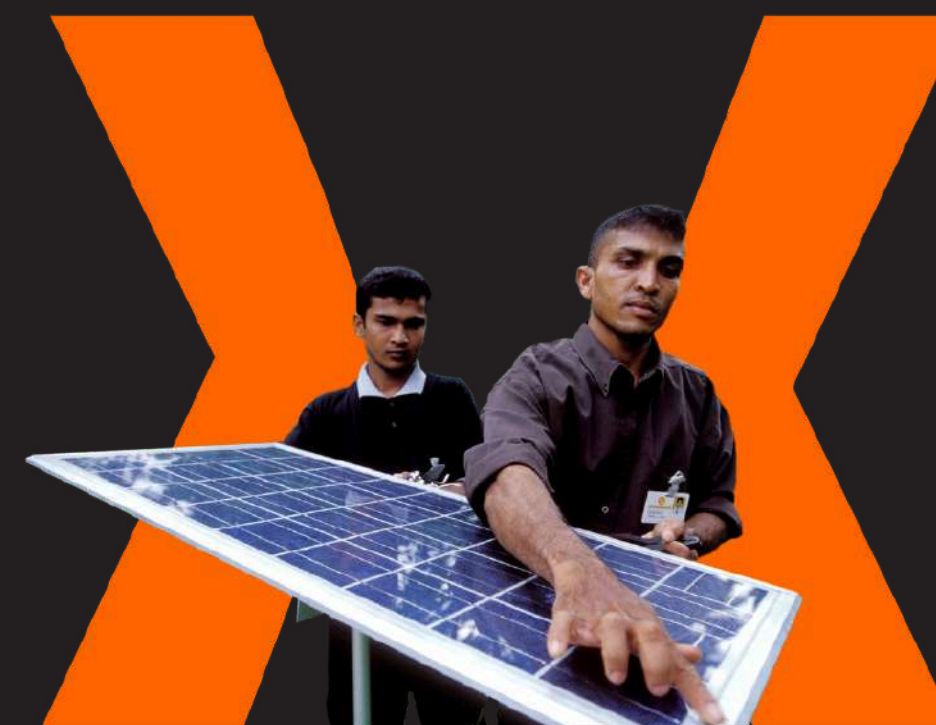
THE CHALLENGE WE ADDRESS

Clean energy technologies exist.
The systems to deliver them at scale do not.

The economic argument has been won. Solar and clean energy costs have fallen by more than half over the past decade. In fact, clean energy is now simply the cheaper option in many markets

And yet the world remains dangerously off track. Current policies point toward at least 2.5°C of warming. 730 million people still lack electricity. Many more face costs and outages that constrain their productivity, their income, and their opportunity.

Economies built on imported fossil fuels remain exposed to exactly the price shocks now destabilizing global energy markets—and that instability falls hardest on those least able to absorb it.



The constraint is no longer technology or economics. It is how quickly solutions can be financed, distributed, and adopted where they're needed most, by the people who need them most.

That's where we come in.

WHY ENTREPRENEURS?

The technology is ready. The question is who delivers it, and how fast.

That's what entrepreneurs are good at. Across emerging markets, they are already installing solar, building distribution networks where none existed, and making clean energy work for customers. They are faster, leaner, and have an instinctive grasp of local barriers that no incumbent can replicate.

Whether they've just tested their first prototype or are running a fleet of solar technicians across three provinces, these are the people the transition actually runs on.

>80%

of emissions reductions needed by 2030 in the IEA's net-zero pathway are achieved through existing technologies.



Adapt fast, where incumbents can't



Close to end users



Reduce costs



Navigate local barriers



Build new markets

WHAT WE DO

New Energy Nexus exists to remove the barriers that stand between clean energy solutions and the people who need them.

Across emerging markets, entrepreneurs face the same constraints wherever they operate: capital that dries up too early, partners that are hard to find, and support that arrives in fragments rather than as a system. Together, these barriers stall businesses that should be growing, and slow a transition that can't afford to wait.

NEX connects the pieces. From ideation to investment readiness, we span the full innovation pipeline: providing the training, funding, partnerships, and technical support entrepreneurs need to launch, accelerate, and scale.



Launch

Programs designed to inspire new clean energy solutions & businesses.

- Bootcamps
- Hackathon
- Certificate/Educational programs



Accelerate

Training, mentorship, and networks to help entrepreneurs grow locally and globally.

- Accelerators
- Incubators
- Challenges and competitions



Fund

Catalytic capital at every stage, from grants to blended finance vehicles.

- Impact funds
- Grant & voucher programs
- Loan programs



Connect

Bringing together entrepreneurs, investors, corporates, and institutions to unlock what no single actor can do alone.

PROGRAMS TAILORED TO LOCAL REALITIES

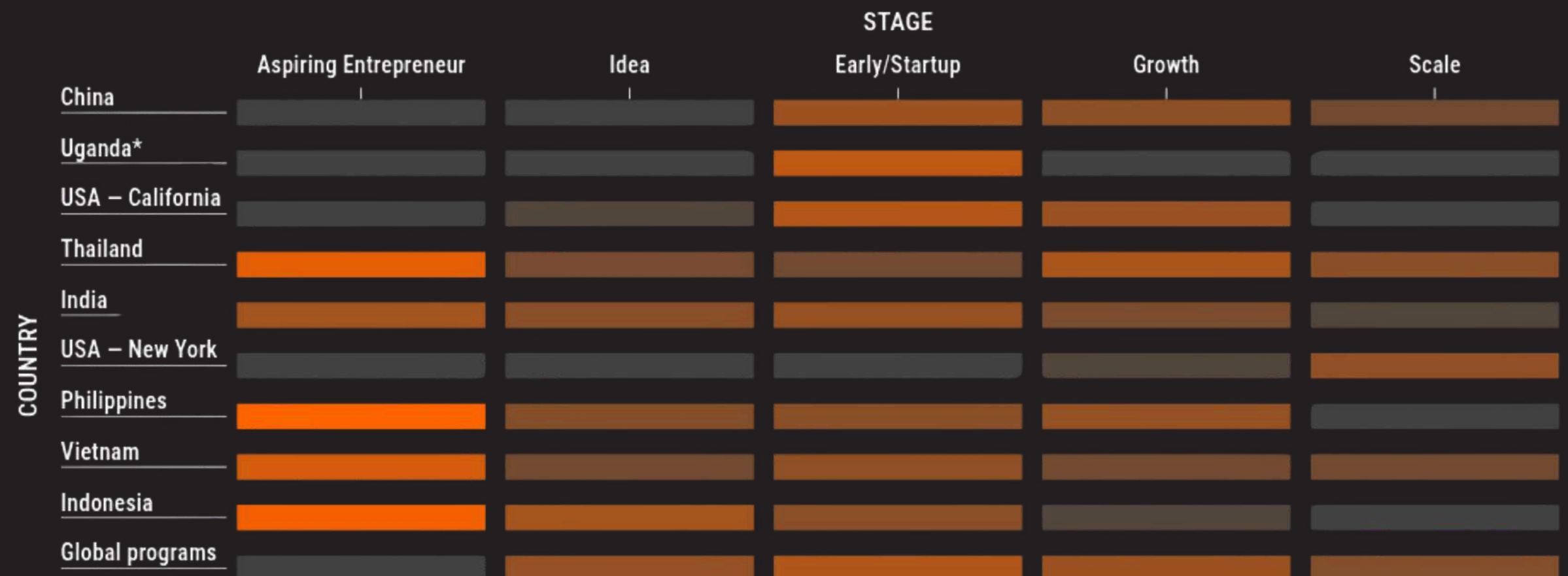
We tailor our programs to the needs of each local ecosystem.

In emerging markets, the focus is mostly on building ecosystems, supporting new ventures, and validating early ideas. In more established ones, we help entrepreneurs grow, access capital, and reach larger customer bases.

By meeting entrepreneurs where they are, we help solutions move from early experimentation to widespread adoption.

NUMBER OF ENTREPRENEURS

SCALE / AMOUNT 0 / 0  12 / 2652



*In Uganda, our program focuses on turning Community-Based Organizations into clean energy businesses, which is why the focus here is on early-stage clean energy entrepreneurs.

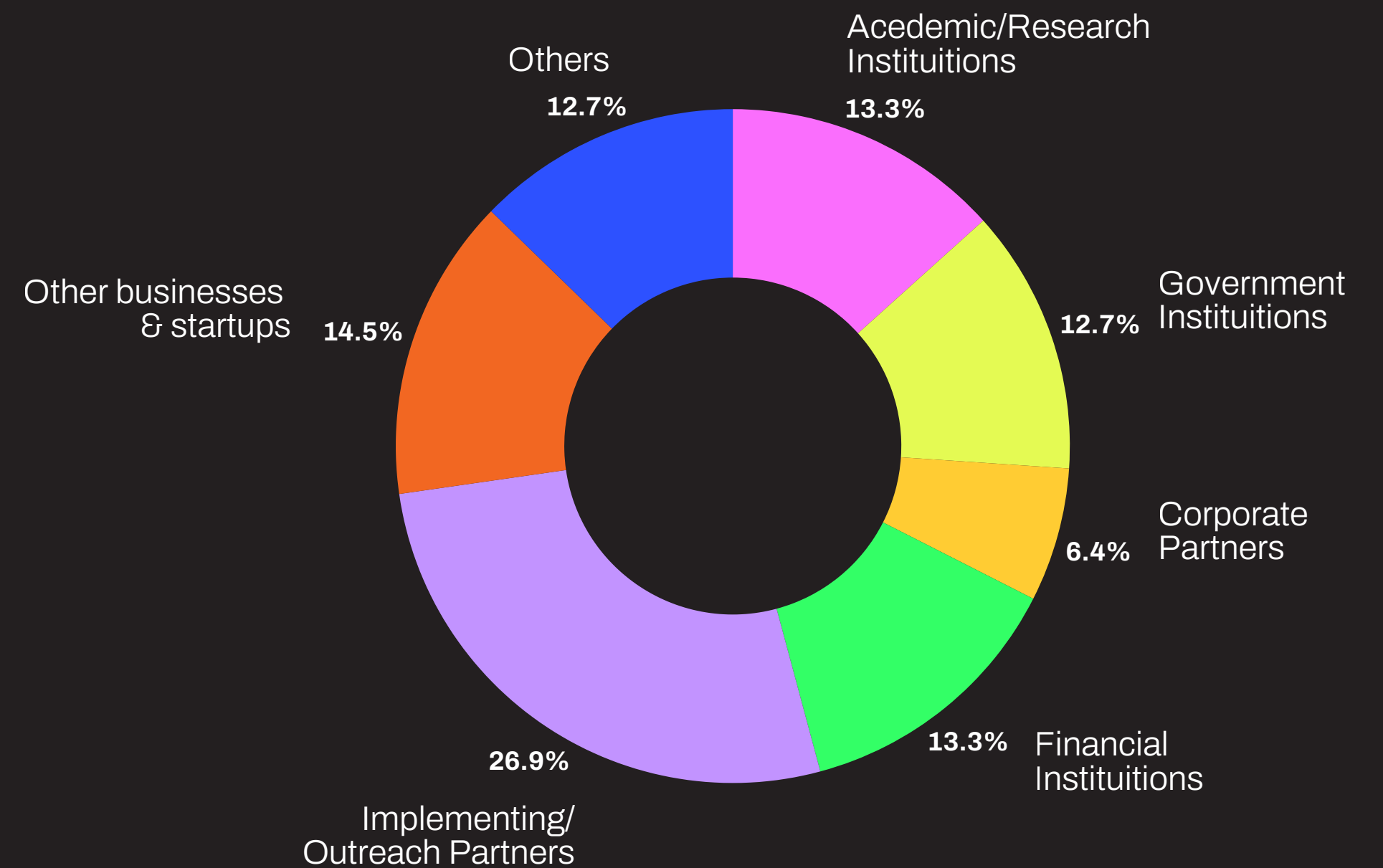
BUILDING ECOSYSTEMS

Entrepreneurship success takes a village. Scaling climate tech startups requires coordinated effort across the public and private sectors: to pilot, test, de-risk, finance, and build.

In 2025 alone, we engaged more than 526 stakeholders, helping to build the coalitions needed to drive systemic change.

Our ability to convene such a diverse set of partners is grounded in the expertise of our local teams across 13 countries, combined with deep sector knowledge and long-standing relationships.

526 strategic stakeholders in 2025



BUILDING ECOSYSTEMS

We bring people together across countries to build relationships that make progress possible.

By connecting entrepreneurs, investors, policymakers, and partners, we help ideas move faster, capital flow more effectively, and solutions reach the people and the communities they are designed to serve.



Bangkok Climate Action Week



Shanghai Climate Week



Global Climate Finance Forum



Decarbonize Thailand Symposium



TERA-Award 4th Edition



Climate Innovation Pakistan



[RE]Spark Clean Energy & Climate Startup Festival



Vietnam Climate Tech Showcase



Japan Climate Tech Showcase

OUR PARTNERS

Combining global experience with local insight to deliver high-impact programs

Together with partners such as EnergyLab (Australia), JETRO (Japan), Clean Technology Hub (Nigeria), and Renewables First (Pakistan), we design and deliver initiatives tailored to each market.

These partnerships enable us to reach entrepreneurs where they are, strengthen local ecosystems, and unlock opportunities in places where access to capital, support, and networks remains limited.

Australia

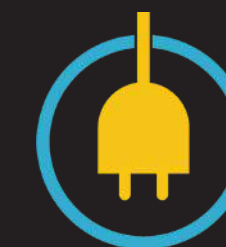
(Energy)^{Lab}

Japan

JETRO

Japan External Trade Organization

Nigeria



Clean Technology Hub
energy innovation centre

Pakistan

RE

RENEWABLES FIRST



OUR
IMPACT

HOW WE MEASURE IMPACT

Cumulative data up to & including 2025

We made significant progress in 2025 towards building a robust Impact Measurement and Management (IMM) system, which strengthens our ability to track and understand our impact.

This system has enabled a shift from outputs to outcomes, capturing how entrepreneurs grow, scale solutions, reduce emissions, and advance equity within the clean energy economy.

While longitudinal data is still emerging, this foundation positions us to generate outcome-level evidence and report more comprehensively on our impact in the years ahead.

Photo: Esther Mbabazi

982,000+
Event & program participants

11,580
Entrepreneurs

1,793
Startups & businesses



Reducing emissions



Sustainable economic growth



Increasing energy access



Inclusive clean energy economies



Connecting innovation ecosystems

STARTUPS & BUSINESSES* SUPPORTED

Scaling more clean energy solutions than ever before

1,793

Startups & businesses
(total supported through incubator, accelerator, scale, or funding programs)

US\$107 million

Distributed
(includes grants, loans, investments, and vouchers)

68%

Startups & businesses from the Global South

US\$5.44 billion

Mobilized

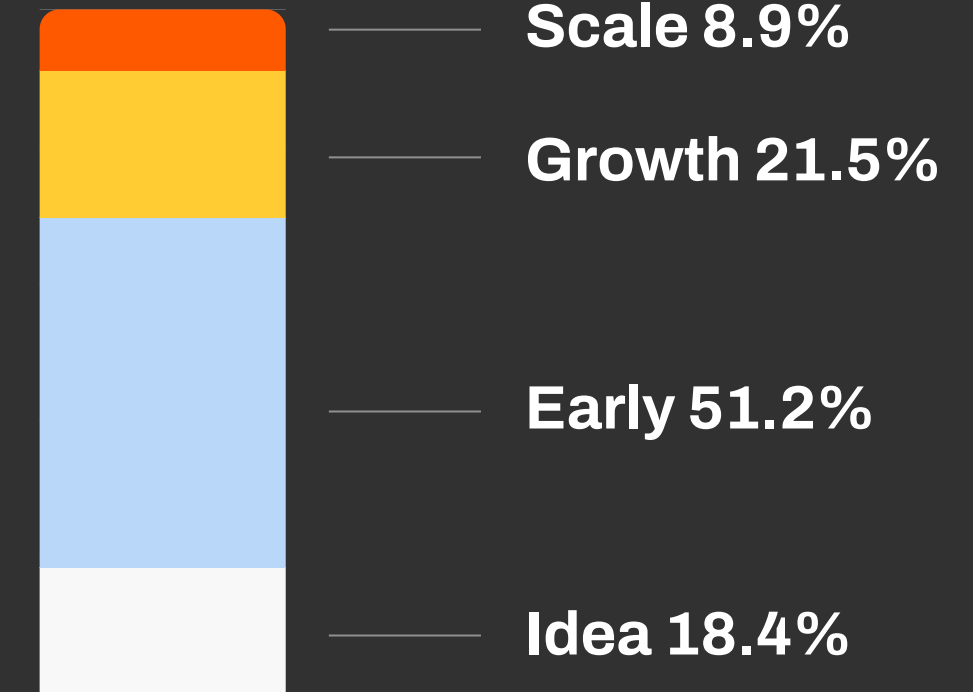
8,600+

Green jobs
created by startups

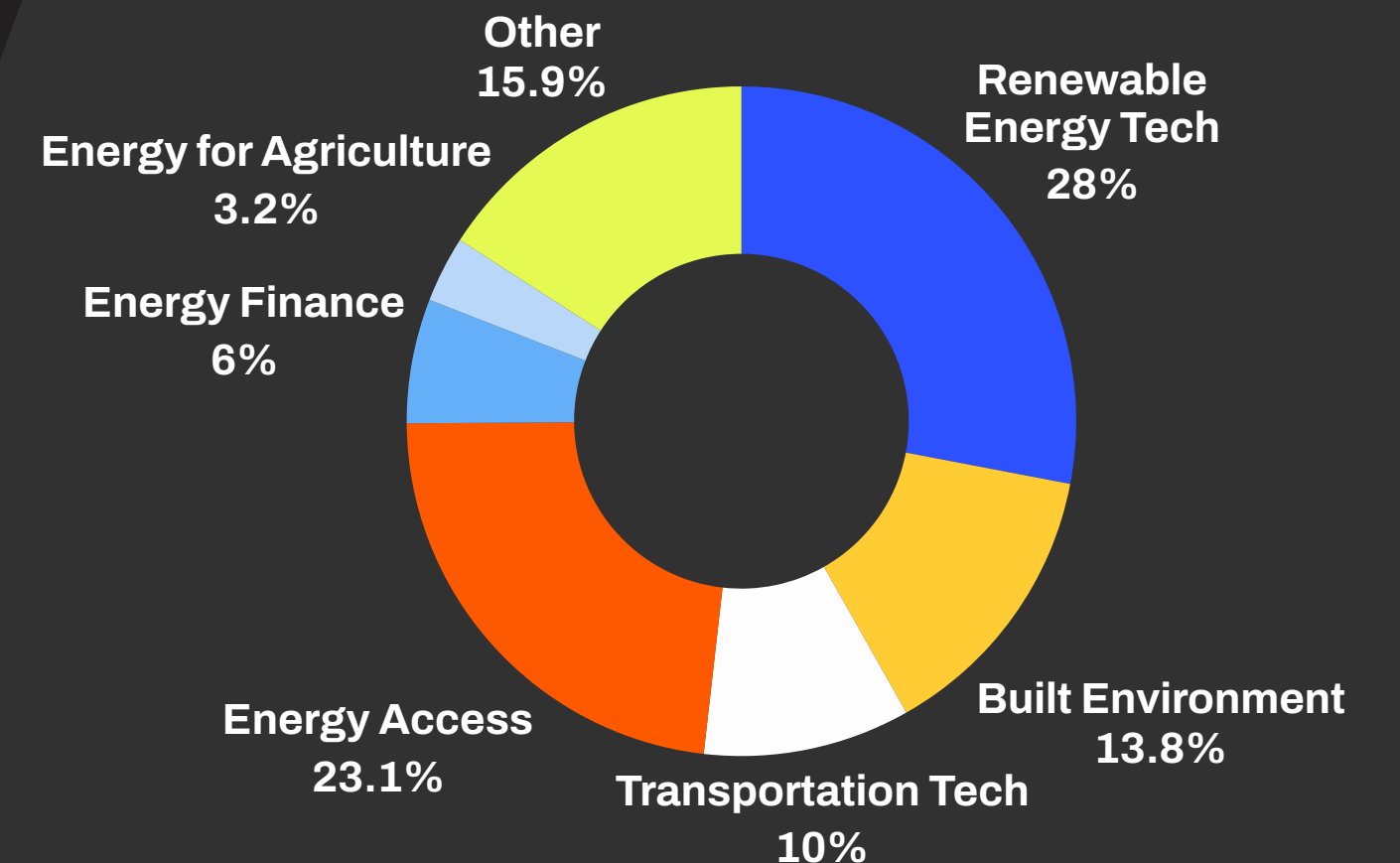
69

Average NPS*
**Net Promoter Score (above 50 is considered excellent according to Bain & Company)*

STARTUPS BY STAGES



STARTUPS & BUSINESSES BY SECTOR



Approximately 72% of the total portfolio consists of startups, while 28% comprises small and medium businesses, primarily from Uganda, the Philippines, Vietnam, and Thailand.

WHO WE REACHED & SUPPORTED IN 2025

01

People reached through online channels

345,800

02

Event participants

21,943

03

Program applicants

1,799

04

Entrepreneurs supported

1,661

05

Startups & businesses supported

335

In 2025, we reached hundreds of thousands of people across our channels, building a global community around clean energy entrepreneurship. This reach is part of how we work. It helps entrepreneurs find us, connect with each other, and access opportunities. It also allows us to share what's working across markets, so more solutions can take root and grow.



OUR FOCUS AREAS

We focus our work through four programmatic themes, where entrepreneurial solutions can shift entire systems.

NEW ENERGY SKILLS

Equipping the workforce to power the transition

Renewable energy jobs could triple to 42 million by 2050, according to IRENA and the ILO; yet current training and education pathways are not keeping pace.

The gap is especially stark in emerging markets across Africa and Asia, where the need to create green jobs is matched by a shortage of skilled labor.

And globally, only 32% of renewable energy jobs are held by women—underscoring the equity gap. Without targeted, inclusive skills training, we risk slowing the clean energy transition when we need it most.

Our Approach

Our New Energy Skills strategy builds inclusive talent pipelines for the clean energy economy through technical training, entrepreneurship support, and career readiness. We focus on equipping youth, women, and underserved communities with the skills to lead and thrive in the transition.



2,131

Graduates from all **New Energy Skills** programs to date

Our Programs

- › **New Energy Academy** (Philippines, Pakistan): Online and hands-on certification for solar professionals, with 636 learners supported in the Philippines to date. Over 60% of surveyed graduates reported working in the solar industry or launching their own business.
- › **SolarSTEP** (Thailand, Philippines): Practical training for solar MSMEs & rural entrepreneurs.
- › **Uganda Green Skills**: Bootcamps & mentoring for community-based organizations delivering clean energy solutions in off-grid communities.
- › **NexGen Vietnam**: Internships and leadership development for youth entering the clean energy workforce.

NEW ENERGY SKILLS

Solution Spotlight

Henry Cequina, a NEA training partner, awards a certificate to Jose Hermis Magallanes Jr. for his participation in a NEA training session.



Jose Hermis Magallanes Jr. | Philippines

NEW ENERGY ACADEMY ALUMNUS

Jose, a former Overseas Filipino Worker (OFW) now working in Australia, experienced frequent blackouts while vacationing in Davao City. Jose installed his solar power station and eventually saw a 7,000-peso reduction in his power bill. Fueled by this win, he trained under **New Energy Academy (NEA)** and Sunstruck Solar Solutions, founded by another NEA alum.

Within a month after training, he had launched **Budget Solar Solutions**, securing huge contracts in Davao and installing up to 12 kW in off-grid capacity. Despite managing it remotely alongside a full-time job in Melbourne, Jose has now more than doubled his income. He credits NEA for his progress and their continued post-training support.



“[Managing Budget Solar Solutions] is something I love doing. And it’s just the beginning.”

Jose Hermis Magallanes Jr., Founder, Budget Solar Solutions

WOMEN IN CLIMATE

Unlocking leadership where it matters most

Women are on the frontlines of the climate crisis—but remain underrepresented in the solutions. Women hold only 32% of renewable energy jobs and receive less than 3% of global climate venture funding. In many of the regions where NEX operates, women face persistent structural barriers—from unequal access to capital and networks, to gender bias in policy and education systems.

This isn't only a justice issue. It's a climate and innovation imperative. Women entrepreneurs design inclusive solutions, build resilient businesses, and reinvest in their communities. When they lead, the impact multiplies.

We're proving that when women lead climate innovation, everyone wins.

Our Programs

- › **She Wins Climate Accelerator** (Southeast Asia): Cohort-based accelerator for women-led climate tech startups.
- › **Matangi Bali Project** (Indonesia) Structured pathways to entrepreneurship for women in Indonesia.
- › **Bali Women Leaders Network** (Indonesia): Peer mentorship, policy advocacy, and investor connections.
- › **Deltaccelerate** (Vietnam): A gender-responsive accelerator for climate-smart agribusinesses, which saw 102% average revenue growth across its portfolio in a year.
- › **Women in Climate Entrepreneurship** (India): Programs supporting early-stage, women-led startups to commercialize faster.
- › **Last Mile Energy Access Program** (Uganda): Capital for women-led ventures delivering last-mile clean energy solutions.



24%

Entrepreneurs supported in 2025



75%

Women-led startups & businesses supported in the **Global South**



US\$1.2B

Follow-on funding to women-led startups

WOMEN IN CLIMATE

Solution Spotlight

Maryam, Founder,
CV Cahaya Inklusi
Photo by Jefri Tarigan



CV Cahaya Inklusi | Indonesia

KINETIK NEX

Maryam started as an advocate for women with disabilities, being a wheelchair user herself and experiencing gaps in the accessibility of public services. She then founded **CV Cahaya Inklusi** and assessed 42 government facilities in Central Java, Indonesia. Seeing that 80% of these buildings did not meet accessibility standards, they developed portable ramps from wood waste.

This not only improved the lives of people with disabilities but also reduced environmental impact.

New Energy Nexus backed CV Cahaya Inklusi through the **KINETIK NEX** program. Partnered with KINETIK, the initiative promotes inclusive growth by empowering local clean energy and climate tech startups in Indonesia.



Photo by Jefri Tarigan

“Mainstreaming the perspectives of women and persons with disabilities is essential in development planning and implementation, so that social justice, as mandated by the Constitution, can be fully realized down to the local level.”

Maryam, Founder, CV Cahaya Inklusi

FINANCIAL INNOVATION

Because climate capital should work for everyone

Every climate solution needs capital to scale. But money mostly flows to the few, not the many. Entrepreneurs in emerging markets—especially women founders and community-driven startups—are routinely shut out by traditional investors, and that’s slowing down the transition.

At New Energy Nexus, we believe innovation in finance is just as important as innovation in technology. That’s why we’ve made financial innovation one of our four strategic pillars, where we design and manage financial products that move capital into the hands of those who need it most.

Our Approach

We’re not just funding startups—we’re shaping markets. From results-based financing to blended funds and credit guarantees, we support climate entrepreneurs to access the right kind of capital at the right stage of their growth.

Our Programs

- › **NEX Ventures:** Catalytic funds accelerating early-stage climate tech in Southeast Asia, with ambition to grow into a US\$100M+ fund.
- › **Indonesia Fund I:** Pioneering climate venture fund for Indonesian startups. It has supported one acquisition and helped companies achieve over 426,000 tCO₂e in actual emissions reductions, while unlocking over US\$125M in capital.
- › **EV Guarantee Facility:** A global coalition building consumer credit tools to increase electric mobility adoption in India and the Global South.
- › **Debt Financing:** New Energy Nexus manages a debt facility that supports clean energy lending in India through cKers Finance, and is a referral partner for the Los Angeles Cleantech Incubator (LACI) Debt Fund.
- › **Climate Fintech Accelerator (Global):** Supporting digital solutions that democratize climate finance.



US\$31.9 million

Distributed through our Financial Innovation programs



US\$1.52 billion

Follow-on funding to startups & businesses



FINANCIAL INNOVATION

Solution Spotlight

Technical System
Capacity of battery
Electric Motor
Electric Motor
Runway Speed
Maximum Torque
Controller
Under-voltage/over-voltage
Controller
Maximum Load
Battery System

Dimensions
Length x Depth x Height
Pedals
Seat
Wheel Base
Tire Size
Seat Height
Ground Clearance
Vehicle Weight

Performance
Maximum Speed
Acceleration

64V/22.5Ah
1000W
1000W
1000W / 750W
1500W
51.5±0.5V
1000W
1000W
1000W

Frame
Type
Material
Hydraulic System
Hydraulic System

Safety
ABS
ABS
ABS
ABS

Smart Tech Features
GPS Tracker

Unlocking EV adoption where affordability is the barrier

Electric vehicles are already cheaper to run in many emerging markets, but high upfront costs and financing risks continue to slow adoption. New Energy Nexus is working to close that gap by designing financial tools that make EVs affordable at scale.

Since 2024, we led the development of an **Electric Vehicle Guarantee Facility (EVGF)** in partnership with cKinetics, engaging governments, financiers, and industry leaders across the Global South. In 2025, NEX partnered with the U.S. International Development Finance Corporation (DFC) on a proposed US\$400 million pilot facility in India and Kenya, to be funded by USAID.

As global financing conditions shift, we have focused efforts on India and Indonesia, where the combination of market scale and cost pressures creates the greatest opportunity for impact.

What's in the works:

- **India – Electric 2- and 3-wheeler financing:** With cKinetics, we are designing a Residual Value Guarantee Facility to reduce risk linked to battery and vehicle depreciation, unlocking lending for EV purchases and adoption.
- **Indonesia – 2-wheeler electrification and financing:** In partnership with the UC Davis Global South Center for Clean Transportation (GSC), we are developing integrated policy and financing pathways to scale electric two-wheelers, combining regulatory design with analysis of financial instruments that can unlock adoption at scale.

Across these efforts, the goal is consistent: reduce risk, lower costs, and make clean transport accessible to the people and businesses who need it most.

JUST BATTERIES

The battery boom is coming.
Let's make it just.

Advanced batteries are the linchpin of the energy transition. From stabilizing grids to electrifying transport, they enable the shift to a 100% clean energy economy. But how we build this industry matters as much as how fast we scale it.

At New Energy Nexus, we believe battery innovation must be just, inclusive, and community-led. Today, the battery supply chain is dominated by a few countries and companies, with little accountability to communities, workers, or the environment. Battery recycling and reuse are underinvested solutions. And left unchecked, the race for minerals and manufacturing could replicate the injustices of the fossil fuel era.

Our Approach

Our Just Batteries initiative supports startups across the battery value chain—from extraction to recycling—while shaping an innovation ecosystem rooted in equity, access, and sustainability.

Our Programs

- › **Supercharge Australia:** Accelerating battery tech and circularity in one of the world's largest lithium-producing countries. Participants in the inaugural Challenge raised over US\$21.29 million in funding. Delivered with EnergyLab.
- › **Powering Prosperity (California):** Building a just supply chain and innovation ecosystem around the Salton Sea's geothermal lithium resource.
- › **The Clean Fight (New York):** high-impact support for growth-stage companies, helping to close the adoption and access gap in New York.
- › **LGES Battery Challenge:** Global competition sourcing next-gen battery startups, with battery industry leader LG Energy Solution.
- › **EV Open Innovation Challenge:** Matching EV charging solutions with major automakers like Hyundai and Kia.



178

Battery startups supported



US\$10M +

Distributed to battery startups



US\$728M

follow-on funding to battery startups

JUST BATTERIES

Solution Spotlight



The Veepilot.

Veepower | Australia

SUPERCHARGE AUSTRALIA INNOVATION CHALLENGER #2: RETROFIT NATION

Kyle van Berendonck founded Veepower in Melbourne, focused on a key innovation: Veepilot, a plug-and-play control system that simplifies the process of retrofitting vehicles and turning them into EVs. It integrates supervisory controls for all critical components and enables “anyone with a garage to repower any vehicle class into an EV with about the same effort as doing an engine swap”.

On the back of its flagship tech, Veepower won the Supercharge Australia Innovation Challenge #2: Retrofit Nation. The Challenge sought solutions for the mass EV retrofitting of half of Australia’s vehicle fleet.

This would require producing 1.3TWh batteries, but would raise demand for a potential AU\$181 billion worth of Australian-made lithium batteries.



“We’re incredibly excited to scale from what we’ve learned in the Supercharge Australia Innovation Challenge and unlock rapid growth in mass EV retrofits.”

Kyle van Berendonck, CEO of Veepower



SOLUTION SPOTLIGHTS

Case studies from our chapters

KUANTEK



“It’s not just about being energy-efficient. It’s about making sure people can actually use [the technology].”
—Abraham Talluta,
CEO & Co-founder

Kuantek develops a wide range of environmental technologies designed to address the needs of rural and remote populations. Starting with East Nusa Tenggara (NTT). These include a low-power dehydrator helping preserve crops within the farmers’ electricity capacity, and a solar-powered station converting humidity into potable water.

The startup prides itself on co-creating solutions with the people who will primarily benefit, advocating on behalf of NTT communities to government institutions, and setting up feedback systems for users of their technology.



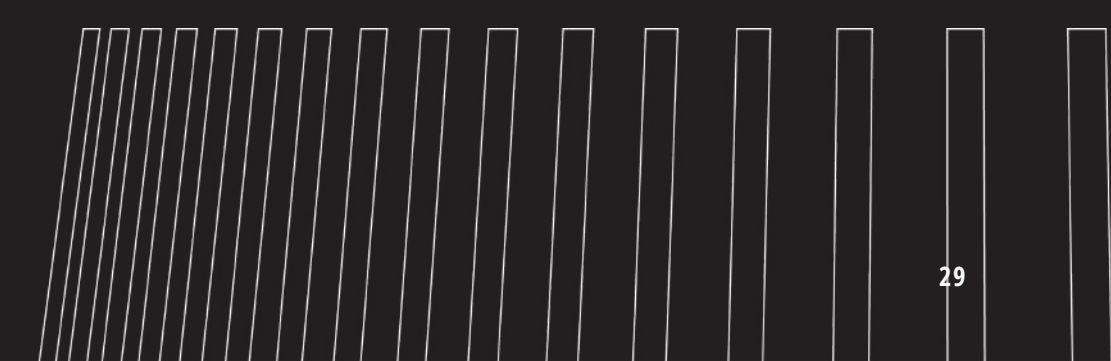
Kuantek Co-Founders: Abraham Talluta (CEO), Abdi Nenotek (CTO), and Ben Vasco Tarigan.

Support from New Energy Nexus

Kuantek connected with **NEX Indonesia** through the IKEA Foundation-funded **Smart Energy Incubation Program** in 2021, the **[RE]Spark Hackathon** in 2022, and **KINETIK NEX** in 2025.

The Smart Energy Incubation Program supported early-stage clean and smart energy startups in ensuring product-market fit and creating prototypes.

Meanwhile, the [RE]Spark Hackathon competition saw hundreds of participants in the sector, including Kuantek, pitch ideas to accelerate the country’s energy transition.



PAKPLUG

Emerging Markets Using Learning Based Optimization
 Roha Rehan, Hammad Javaid, Kiran Siraj, Nauman Zaffar, Naveed Arshad
 Lahore University of Management Sciences

Introduction

- Pakistan has <100 public EV chargers (highly urban-biased).
- Building centralized stations is slow, expensive, and difficult to scale.
- Uncoordinated EV charging can raise peak load by >150%, stressing local transformers.

Research Question

How can a decentralized, peer-to-peer charging platform using private chargers and technical optimization help meet EV charging demand in emerging markets with limited public infrastructure and data?

Results

- 30 chargers can serve 100-150 users per day with optimized spatial distribution.
- Evening demand is 2-3x higher than midday.
- The smart pricing mechanism reduces peak-time congestion by 15-20%.

Methodology

Matching Score

$$score_{ij} = w_d(1 - \frac{d_{ij}}{d_{max}}) + w_r R_i + w_p P_i(t)$$

Where: d_{ij} : driver(i)-host(j) distance | max distance = 100 km w_d : 0.4 per km
 R_i : host reliability (ratings + cancellations) w_r : 0.3
 $P_i(t)$: price fairness (within tariff band) w_p : 0.3

Smart Pricing Engine

$$P_i(t) = 1 - z$$

$$z = \frac{P_{max}(t) - P_{min}(t)}{P_{max}(t) - P_{min}(t)} \in [0, 1]$$

$$P_{min}(t) \leq P_{ret}(t) \leq P_{max}(t)$$

Reliability Score

$$R_i = 0.5F_i + 0.5U_i$$

$$F_i = 1 - \frac{cancellations_i}{bookings_i}$$

$$U_i = \frac{stars_i - 1}{4}$$

An evening session (19:00-21:00) with a tariff band [70, 100] Rs/kWh

Host	D_i (km)	Stars	U_i	Cancelled Bookings	F_i	R_i	Rate
A	1.0	4.2	0.80	3/60	0.95	0.88	90
B	5.0	4.7	0.93	5/70	0.93	0.93	72

$score_A = 0.76$ $score_B = 0.94$
 Host B is ranked higher despite Host A's superior proximity, due to its fair pricing and reliability.

System Architecture

Charger Host ↔ PakPlug Platform ↔ EV Driver

Cost Analysis

Average Session Energy

$$E = P_{charger} \times T_{avg}$$

Where: $P_{charger}$: is the rated charging power (for pilot study - 7 kW)
 T_{avg} : is the observed average charging duration (for pilot study - 48 min)

Margin

$$Net_{margin} = (1 - \tau)P_{ret} - (C_e + C_m)$$

Where: τ : variable margin set by the host depending on competition
 C_e : grid electricity tariff fixed by NEPA and varies by region
 C_m : maintenance allowance per unit energy dispensed

Host Profit per Session

$$Host_{ppp} = Net_{margin} \times E$$

For a price mix of 60% peak and 40% mid-band:
 $Host_{ppp} = (0.6, (192) + (0.4, (48)) = 134.4$
 At K sessions per day
 $\Pi = 24 \times Host_{ppp} \times K$

Parameters

- Externally set: C_e, P_{max}, P_{min}
- Host determined: P_{ret}, τ
- Back end calculated: $E, C_m, Host_{ppp}$

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“I entered CLIP because they were focusing on climate-related startups... [My mentor] is also great because he’s been working in the startup ecosystem for a while now and he’s really willing to help us out wherever possible.”
 —Roha Rehan, CEO & Co-founder

Roha Rehan, a recent electrical engineering graduate from a family that has long relied exclusively on hybrid and electric vehicles, struggled to find EV chargers in Lahore. That experience led her to co-found PakPlug, an app she envisions as the Airbnb for EVs in Pakistan.

The app allows people who own EV chargers to add their home or establishment to PakPlug’s system, which users can then find and visit. Owners can charge a fee for renting out their chargers. Having just launched the app, Roha is targeting 200 customers in the first quarter and hopes to partner with the government on the energy transition.

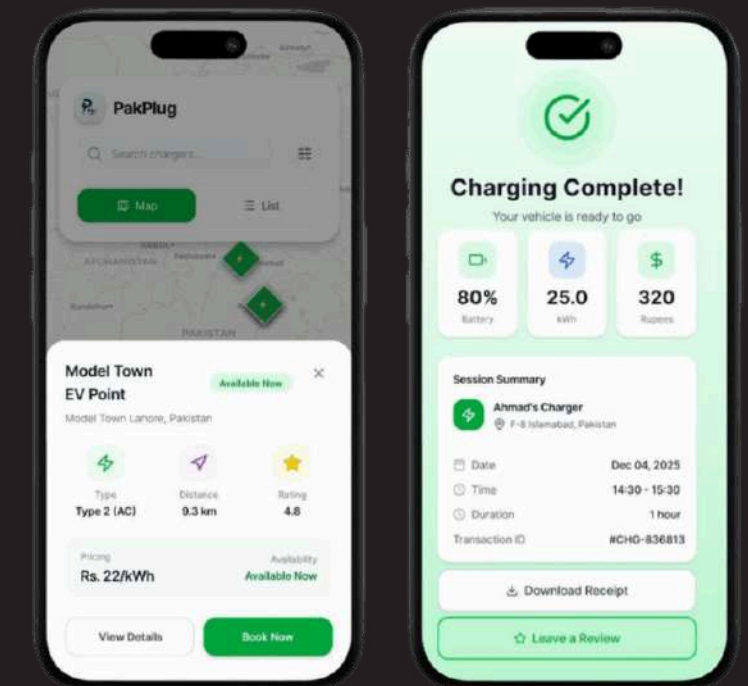


Roha Rehan, pictured here with her college professor Kiran Siraj, PhD, presents her thesis on PakPlug at an e-mobility event.

Support from New Energy Nexus

Roha Rehan took part in the **Climate Innovation Pakistan (CLIP) Incubator**: a 3-month, equity-free program helping entrepreneurs validate products, run pilots, refine business models, and connect with investors and partners across the country.

A collaboration between New Energy Nexus and Renewables First in Pakistan, the CLIP platform is designed to support climate tech founders, build a skilled clean energy workforce, and strengthen the policies that unlock long-term impact.



PRODUCTIVE USE OF RENEWABLE ENERGY

“Unlike those days when the sun used to disturb us, now when the sun comes, we have our solar water pump... and we irrigate sufficiently for our crops. If the rain comes back, it gets us when we are using our water pump.”

—*Apio Josephine Chair, Atek Ki Lwak*

The Atek Ki Lwak Farmers Group in Northern Uganda struggled for years with crop failure due to long dry spells, rendering them unable to pay for basic necessities.

Through NEX Uganda’s Productive Use of Renewable Energy (PURE) program, the group acquired solar-powered irrigation pumps, ensuring they can irrigate their farms even during the dry season. They also learned how to run their farms like a business.

The group now grows three acres of vegetables and expects to make over UGX 3 million (US\$807). They plan to farm four more acres next season.



Cyprian Odyek, NEX Uganda Project Officer, and members of the Atek Ki Lwak Farmers Group inspect a solar irrigation kit.

The PURE Program

NEX Uganda’s PURE (Productive Use of Renewable Energy) Program equips smallholder farmer groups with tools such as solar-powered irrigation pumps and milling equipment.

It also provides training and finance support, boosting productivity and strengthening incomes in Uganda’s off-grid farming communities.



HKG ENERGY



“We’re truly grateful for [New Energy Nexus Vietnam]’s commitment to building a sustainable startup and talent ecosystem. Your support goes beyond programs; it’s a belief in the potential of founders and future leaders.”
—Giang Hoang, CEO & Co-founder

HKG Energy’s core innovation, Terra Silicon, is a patent-pending nanomaterial that increases battery energy density by up to 80%, helping electric vehicles drive farther, charge faster, and cost less. It can also improve energy storage systems, consumer electronics, and even robotics, expanding access to cleaner, more efficient power.

Since its founding less than two years ago, HKG Energy has secured millions in LOIs and clean energy grants from both Vietnam and the US. They’ve also earned membership at Greentown Labs, a leading climate incubator based in Boston.



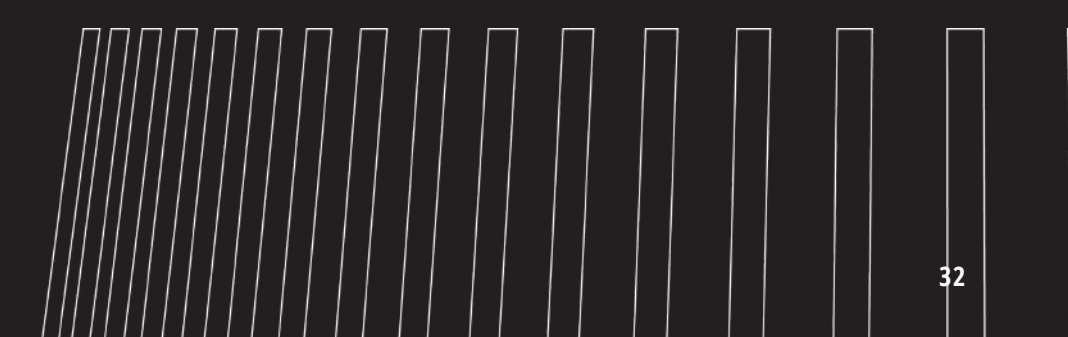
Giang Hoang presents HKG Energy to Julien Guerrier, European Union Ambassador to Vietnam.

Partnership with New Energy Nexus Vietnam

Founder **Giang Hoang** started her career in Vietnam, peaking with an executive role at EV giant VinFast. When she moved on to deep tech, she was told she’d quit in a year, but since proven doubters wrong.

Knowing the challenges young and women entrepreneurs face in the sector, Giang now gives back as a partner for NEX Vietnam’s youth-oriented programs.

HKG Energy has hosted interns from **The NEXGen 2024** and **Youth Internship Pilot 2025** programs, mentoring the next crop of clean energy leaders.



BAROCAL

“Winning the TERA-Award is a tremendous milestone for us. It gives us valuable exposure across Asia — a critical market for our cooling and heating technology — and opens doors to a high-quality network of suppliers, partners, and investors.”
—Prof. Xavier Moya, Founder & CEO

Prof. Xavier Moya built Barocal on the back of its solid-state refrigerant material: an “efficient and environmentally friendly” alternative to traditional vapour-compression systems in heating and cooling systems.

Backed by 15 years of research at the University of Cambridge, this solution lowers energy consumption (heating and cooling account for nearly 50% of global energy use), while avoiding harmful gases emitted by conventional systems that contribute to global warming.



Barocal's solid-state refrigerant material.

Support from New Energy Nexus

Barocal won first prize—and a staggering US\$1 million—at the **2025 TERA-Award**, a global competition spotlighting the best of climate tech .

As a strategic partner, NEX China drove applicants worldwide into the program. Nine out of the 28 finalists were recommended by NEX China, including Barocal and the two other podium winners: Feon Energy and Syzygy Plasminics.



EMULSION FLOW TECHNOLOGIES

“Thank you, [NEX], for your great support, especially your help with events and your continued engagement in our regular meetings. We truly appreciate your introductions to globally connected opportunities, and we look forward to working together again.”

—Yuriko Iida, Chief Global Officer

The clean energy shift is highly dependent on the batteries, which, in turn, need rare earth metals. But mining them risks ecological and human rights harms. Enter Emulsion Flow Technologies (EFT), which developed a unique solvent extraction technology for recycling rare metals from retired lithium-ion batteries.

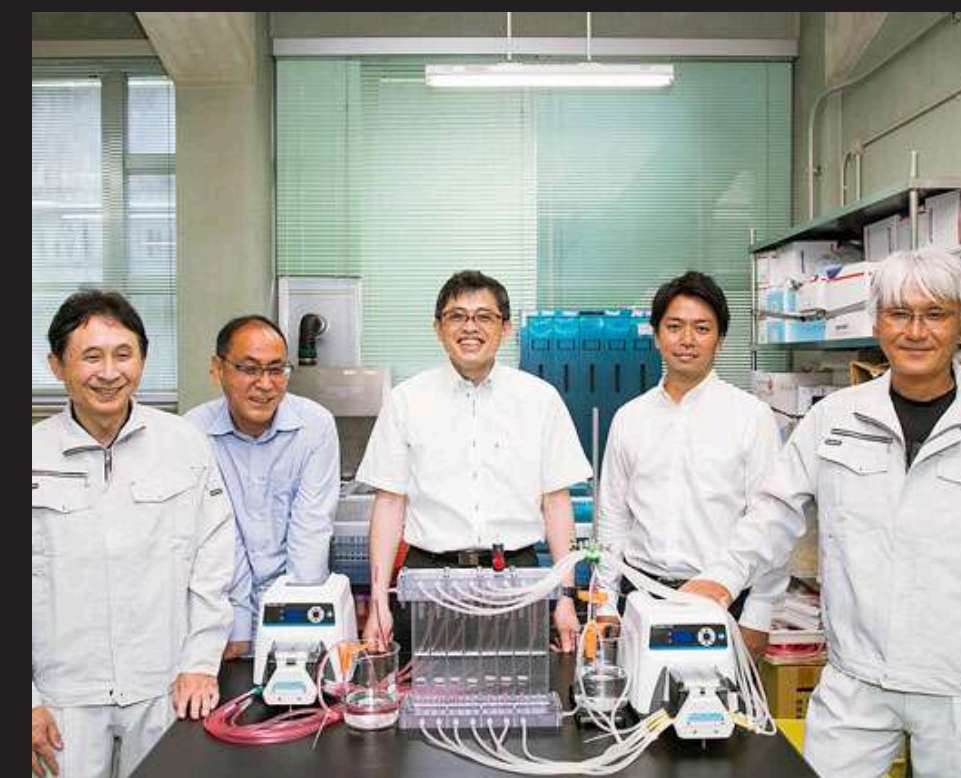
This innovation improves the efficiency of battery recycling. It also comes with a compact and modular plant that is easily scalable. Through this tech, EFT hopes to contribute to a circular economy in fast-growing clean energy industries, such as the crucial electric vehicle sector.



A model of EFT's modular plant.

Support from New Energy Nexus

EFT and 9 other Japanese climate tech startups joined the **Global Startup Acceleration Program**, a collaboration between NEX and the Japan External Trade Organization (JETRO). They received mentorship, networking opportunities, and hands-on support designed for international growth. The program also brought them to VERGE 2025 in California, one of the world's largest climate tech events, to make cross-border clean energy connections.



THERMOSHADE



“I can’t overstate how impactful CalSEED has been in our company development. We used the initial grant... to validate our technology... to get to a pilot-ready design and secure pilot contracts. And we have used this CalSEED Prototype Award to build our first real full-scale deployments with the structure here at Fresno State and working on our bus shelter pilot as well.”
—Emily Dinino, Founder & CEO

Photo by SURGE
Consultant Group

Extreme heat is a worsening problem around the world, leading to a growing demand for cooling systems and rising electricity costs. ThermoShade addresses that with a zero-electricity, water, and upkeep solution: a passive outdoor cooling panel, providing shade that feels up to 20°F cooler than the outside air.

Thermoshade integrates ultra-reflective coatings, which reflect >90% of the Sun’s energy, and phase change materials, which release stored cool thermal energy during the daytime heat, and recharge at night when temperatures drop, into a modular, highly scalable design.



Founder & CEO Emily Dinino. Photo by SURGE Consultant Group

Support from New Energy Nexus

ThermoShade has received a combined US\$650,000 from **NEX California’s CalSEED** and its **2025 Prototype Award**. Funded by the California Energy Commission, CalSEED backs early-stage clean energy entrepreneurs in the state.

Under CalSEED, ThermoShade will pilot a full-scale, 120 square foot shade structure, measuring the cooling impact, determining optimal design, and developing a manufacturing process.



ThermoShade panel. Photo by SURGE Consultant Group

OUR PEOPLE

Staff



OUR PEOPLE

Staff



Board members



PETER DU PONT



IAN ROGOFF



JANET DALZIELL



JON FOSTER



RICHENDA VAN LEEUWEN



MICHEL GELOBTER

HOW DO I GET INVOLVED?



Empower climate entrepreneurs and accelerate the global energy transition with us.

New Energy Nexus is dedicated to supporting diverse clean energy entrepreneurs who are building real solutions for a cleaner, more equitable future. With a global network spanning over 10 countries, we help startups scale breakthrough technologies that bring clean energy to the communities where and when they need it most.

Your support will:

- Fund clean energy solutions in underserved regions
- Build inclusive ecosystems that connect innovators, investors, and local leaders
- Unlock the potential of clean energy to drive jobs, resilience, and climate action.

Together, we can scale the technologies that move us closer to net zero, and ensure no community is left behind.



For more information, contact :
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