

Annual Report 2022





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PFAN 2006-2022 3

Total investment leveraged (USD billions)

1803

Clean energy capacity added (MW)

1327

Total projects supported by PFAN

243

Total projects which mobilised finance

18%

of projects mobilised finance

4.93

Potential CO2 emission mitigation (Megatons/year)

37

Countries where financing was mobilised

504

Projects in the PFAN pipeline

01

The Private Financing Advisory Network

Supporting small and medium-sized enterprises (SMEs) that focus on climate change is crucial now more than ever. SMEs play a critical role in driving sustainability and reducing greenhouse gas emissions and increasing climate resilience.

By increasing investment investing in and supporting SMEs that prioritize climate action, we can help create a more resilient and sustainable future while also promoting economic growth and job creation.

Throughout 2022, we continued our work with our global network of locally-based clean energy and climate finance experts.

Our focus remained on bridging the gap between entrepreneurs and investors, which includes capacitating entrepreneurs to develop bankable projects, increasing investor confidence in and access to climate and clean energy projects and enhancing the capacity of local ecosystems to develop self-sustaining and gender-responsive climate mitigation and adaptation markets.



With a focus on clean energy and climate mitigation and adaptation, PFAN has been in operation since 2006, making it one of the longest-standing project preparation facilities working with SMEs in developing country markets. Our efforts have resulted in a milestone in 2022: Since inception, PFAN-supported projects have mobilized USD 3 billion in investment.

We are proud of the PFAN global network and the climate entrepreneurs PFAN has supported in 2022 and are thankful to our donors for continuing to make this successful journey possible.

We invite project developers, donors, investors, partners and anyone interested in our work to join us in reading this report. We hope you find it insightful and inspiring as we continue to work towards a more resilient and sustainable future.

The PFAN Team



02

PFAN in 2022



2022 was a year of global challenges: ongoing impacts of the pandemic and the war in Ukraine resulted in a significant increase in food and energy prices and tightening financial conditions. All factors which are hindering the efforts towards the Paris Agreement on Climate Change and the Sustainable Development Goals.

In 2022, 47 PFAN-supported projects mobilised financing and leveraged over USD 865 million. We are continuously working to improve our support for climate entrepreneurs, including looking at new ways of creating impact and introducing new service modules to get them better equipped to interact with investors. Last year, we capacitated PFAN Advisors to transform them into effective agents of gender-equitable change in their support to entrepreneurs. We also increased our focus on the circular economy with dedicated capacity building to our networks and launched a knowledge corner on the topic.

We further intensified our efforts to raise awareness of the need for adaptation solutions and organised several events to originate projects with a focus on climate adaptation. With the return of more in-person events, we took the opportunity to showcase PFAN's work in adaptation at COP27 and facilitate a space for discussion and exploring key challenges and opportunities in scaling up adaptation finance and closing existing gaps between relevant actors.

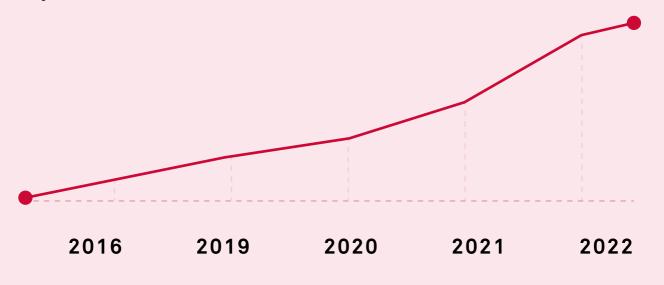
In line with the year's second focus on the circular economy, PFAN provided capacity building to our network through a series of webinars where participants learned about and discussed the circular economy, its relevance to PFAN and the type of circular business models PFAN supports and launched a dedicated <u>learning corner</u>.

In 2023, we look forward to continuing our support to impactful climate SMEs towards mobilizing private investment, intensifying our efforts on those regions, countries and markets with a higher transformational impact, in line with our donors' priorities.

IN INVESTMENT LEVERAGED

3.0 BILLION

After reaching the milestone of USD 2 billion in investment leveraged by PFAN-supported projects and businesses in 2021, in just over one year, we are celebrating another milestone of USD 3 billion in investment leveraged. We are not stopping here, as we continue to grow PFAN on our journey to create greater transformative impacts. Project origination and development are increasingly important to create compelling climate investment opportunities to mobilise climate finance, reduce GHG emissions, contribute to the Paris Agreement and Sustainable Development Goals and empower and accelerate a just transition.



2022 in Numbers

865

47

500

Total investment leveraged (USD millions)

Project which mobilised finance

Clean energy capacity added by projects which mobilised finance (MW)

185

22

579

New projects which received PFAN support

New partnerships established

CO2e emission reduced last year (megatonnes)

58

230

New PFAN Advisors added to the network

PFAN Advisors around the world

03

PFAN by Region

PFAN works in low and middle-income countries across the globe. To facilitate regional operations, we have six Regional Coordinators who oversee Country Coordinators and Advisors. To streamline our presence in Africa, in 2022 we combined our previously three regions of Eastern Africa, Southern Africa and Western Africa into sub-Saharan Africa under the leadership of Regional Coordinator Wilfred Mworia.

Sub-Saharan Africa →

South Asia →

South East Asia →

Pacific Islands →

E. Europe & Central Asia →

Lat. America & the Caribbean →

Sub-Saharan Africa Region Overview

Africa needs at least USD 2.5 trillion (74% of the continent's USD 3.4 trillion GDP in 2021) or USD 250 billion annually in conditional and unconditional financing between 2020 and 2030 to implement its NDCs under the Paris Climate Agreement [1]. However, current reported annual climate finance inflows to the continent amount to USD 30 billion (equivalent to only 12% of conservative annual required flows), leaving a significant financing gap.

The investment needed, in the clean energy sector alone, to meet the continent's energy and climate goals between 2026 and 2030 amounts to USD 133 billion annually [2]. However, annual investment in renewable energy - arguably the most attractive sector for commercial investors - stands at a mere USD 9.4 billion. Part of the challenge limiting the flow of climate finance to and in Africa is the real and perceived risks that reduce investor appetite to expand investment on the continent. These risks include currency instability, regulatory and governance problems, lack of bankable project pipelines, limited awareness and lack of technical capacity, transparency and accountability mechanisms.





It is within this context that PFAN aims to play a catalytic role in mobilizing more capital to meeting Africa's climate finance needs by (1) helping entrepreneurs and project developers prepare and present sound investment propositions, (2) connecting investors to high-quality projects and business and (3), in the process, mitigating some of the challenges and risks investors face in building a good pipeline of projects in Africa.

Finance mobilised and new projects supported

In 2022, we supported 13 projects in sub-Saharan Africa to mobilise finance and raise a total investment of USD 35.9 million, including <u>BioMassters</u>, which develops clean cooking stoves in Rwanda, <u>Bio-Innovations</u> which creates energy from waste products in Uganda and <u>All in Trade</u> which supplies PV solar, also in Uganda.

Despite the myriad of challenges facing sub-Saharan Africa, East Africa was the continent's most successful region for PFAN in 2022, with 9 PFAN-supported businesses raising investment. In Southern Africa, a project secured USD 32 million to build a hydroelectric dam in Madagascar, which will provide significant benefits to the community, and women in particular.

In Eastern Africa we added 19 new projects to the pipeline in Kenya (5), Tanzania (5), Uganda (5), Ethiopia (2) and Rwanda (2) in the areas of adaptation, biomass, clean transport, energy efficiency and demand reduction, rural electrification and energy access, solar and waste to energy.

In Southern Africa we added 23 new projects to the pipeline in Zambia (8), Madagascar (7), South Africa (2) and (1) each in Botswana, the Democratic Republic of the Congo, Lesotho, Malawi, Mozambique and Zimbabwe in the areas of adaptation, biofuels, biogas, biomass, hydro, rural electrification and energy access, solar and waste to energy.

In Western Africa we added 16 new projects to the pipeline in Ghana (4), Togo (3), Benin (2), Nigeria (2), Senegal (2) and one each in Burkina Faso, Cote d'Ivoire and Sierra Leone in the areas of adaptation, biofuels, biomass, clean transport, energy efficiency and demand reduction, rural electrification and energy access, solar and waste to energy.

'In the next year, PFAN will go on to invest in enhancing our investment facilitation services. This is informed by the greater needs and challenges faced by projects and businesses in raising capital in the African markets. Hopefully, this will result in greater financial mobilization, enabling more entrepreneurs to achieve their business goals while contributing to positive climate action.'



Wilfred Mworia, Regional Coordinator for Sub-Saharan Africa

Events and regional initiatives

At COP27 in Sharm-El-Sheikh, PFAN organized an adaptation-themed side event where we showcased three adaptation projects from Ghana, Kenya and Tanzania. We further collaborated with the African Development Bank on the 2022 AfDB Agripitch Competition, which invited young African agripreneurs to compete for USD 140,000 to advance their business ideas. In our role as Knowledge Partner, our Advisors acted as business coaches for the selected projects and specifically contributed significantly to capacitating entrepreneurs on aspects of gender inclusivity in their business models.

At the beginning of the year, PFAN ventured into digital engagement as a way to reach investors through the launch of our online Deal Book. The pilot project compiled 21 projects on our website and generated significant interest, paving the way to build further on this experience by expanding its geographical scope and number of projects in 2023. As mentioned above, securing private capital for climate projects in Africa is relatively more complicated and time-consuming than in other regions. Initiatives like the PFAN Deal book aim to help to increase the visibility of opportunities in sub-Saharan Africa and spark the interest of the investor community to invest in projects in a market with growing potential.

Furthermore, we initiated several activities in the region to attract an increasing number of women entrepreneurs and gender-responsive projects in the clean energy and climate adaptation space, including a webinar in collaboration with the World University Service of Canada (WUSC) on supporting women climate entrepreneurs in sub-Saharan Africa as well as social media campaign which highlighted our Gender Focal Points and female advisors in the region.

Umoja Incubator

Together with Serengeti Energy, PFAN launched the Umoja Incubator in September 2022 to equip renewable energy entrepreneurs in sub-Saharan Africa with the commercial and technical knowledge to help them mobilise investment and positively impact their communities.



The collaboration paired Serengeti Energy's early-stage development finance capabilities and experience with PFAN's expertise in project origination and preparation. We encouraged applications from clean energy entrepreneurs from across the continent, which were evaluated by our jury of experts from the renewable energy field.

We invited the 13 shortlisted projects from Namibia, Ghana, Kenya, Zambia, South Africa, Zimbabwe, Benin and Uganda to Cape Town, South Africa to participate in a week-long workshop of expert training, networking sessions and capacity building. After pitching to the jury and investors present, a 20 MW solar project from Benin was announced as the winner of the first Umoja Incubator.

- [1] Africa Centre for Energy Policy (ACEP) "Climate Finance in Africa"
- [2] Climate Policy Initiative "Landscape of Climate Finance in Africa"

Sub-Saharan Africa in 2022

35.9

13

58

Total investment leveraged (USD millions)

Projects that reached financial closure

New projects which received PFAN support

81

17

94%

Total Advisors in the region

Female Advisors in the region

Locally-based Advisors

6

13

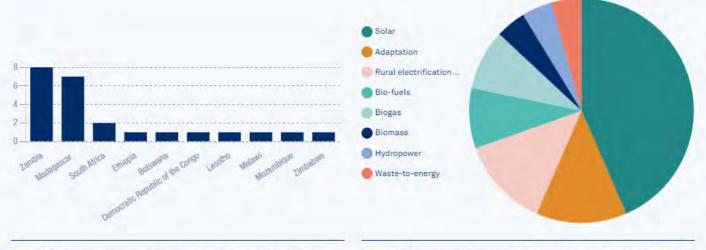
New partnerships established

Clean energy capacity added by projects which mobilised finance (MW)



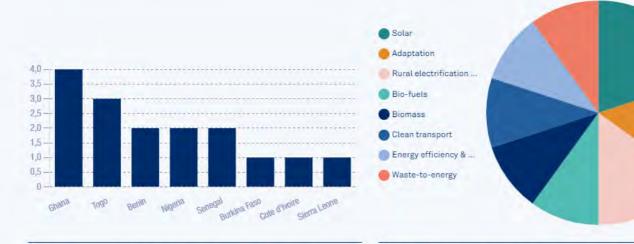
New PFAN-supported projects by country - Eastern Africa

New PFAN-supported projects by technology – Eastern Africa



New PFAN-supported projects by country - Southern Africa

New PFAN-supported projects by technology - Southern Africa



New PFAN-supported projects by country - Western Africa

New PFAN-supported projects by technology - Western Africa

All In Trade

Find out more

Location Investment Amount Technology

Uganda USD 500,000 Solar





'Energy access has been a barrier to so many communities, individuals and businesses in Uganda. This is why we have All in Trade - we are a company that has touched and benefited so many people, especially in the off-grid areas. Our unique business proposition is, we say, "let nature pay electricity bills.'



Mohammed Lubowa, Founder & Managing Director, All in Trade

Bio-Innovations

Find out more

Location Investment Amount Technology

Uganda USD 100,000 Biomass





'Through PFAN, I was lucky to actually find a coach and a mentor who has been very supportive'



Alex Tumukunde, Bio-Innovations founder

BioMassters

Find out more

Location Investment Amount Technology

Rwanda USD 165, 500 Clean cooking





'Pellet cooking significantly improves the cooking experience for people coming from dirty charcoal—it is cleaner, quicker, and cheaper. Our PAYGO consumer financing option also ensures that the majority of urban households will be able to afford the Tier 4 gasification stove we offer.'



Claudia Muench, Co-Founder, BioMassters

Advisor Spotlight: Daniela Rakotomamonjy, PFAN Advisor, Country Coordinator for Madagascar & Francophone SIDS

Watch video →





Daniela Rakotomamonjy
PFAN Advisor, Country Coordinator for Madagascar & Francophone SIDS

She is also the CEO of the ACE Group, specialising in the development of public and private partnership projects, renewable energy, agribusiness and farming, eco-lodge, and urban and rural land reform, among others.

Daniela Rakotomamonjy is a Country
Coordinator and an Advisor for Madagascar,
Mauritius, Seychelles, Maldives, and
Comoros. She has a strong commitment to
her country's economic development, with
an environmental engineering background
and 16 years of experience in project
development, business and
entrepreneurship and degrees from HEC
Paris in International Business Management
and the University of Nevada in Business
and Entrepreneurship.

New Partnerships



Rocha Ghana (ARG)

Rocha Ghana (ARG) is an environmental NGO providing practical conservation interventions aimed at contributing to the sustainable management of ecological habitats and initiating programmes aimed at facilitating the community's ability to adapt to current trends in climate change.

Visit website



ACOPA-NGOd

Action Communautaire Contre La Pauvrete (ACOPA-NGOd) is a nongovernmental organisation with a vision to spearhead the socioeconomic prosperity of Congolese citizens by espousing poverty reduction, social inclusion and recovery programmes while building the capacity of people and institutions to ensure self-sustenance.

Visit website



Ghana Alliance for Clean Cookstoves (GHACCO)

Ghana Alliance for Clean Cookstoves (GHACCO) is a national organization of the clean cooking industry with a mission to work with stakeholders to overcome the barriers that impede the production deployment and adoption and use of clean cookstoves, LPG and clean biofuels in Ghana.

Visit website



Groupe SOLIDIS

A credible financial inclusion initiative in Madagascar, SOLIDIS is the only financial institution (non-bank) approved by the Central Bank of Madagascar that offers tailor-made guarantee and financing solutions to promote entrepreneurship and contribute to the country's economic development.

Visit website



Serengeti Energy

Founded in 2013, in Nairobi, Kenya, Serengeti Energy is an independent power producer IPP, with a mandate to identify, develop, invest, build, and operate renewable energy projects from 5MW to50MW across sub-Saharan Africa. Previously known as rAREH, until October 2021, Serengeti Energy operated renewable energy assets in Uganda and Rwanda. The acquisition of South Africa based REHextended the company footprint into the South Africa market.

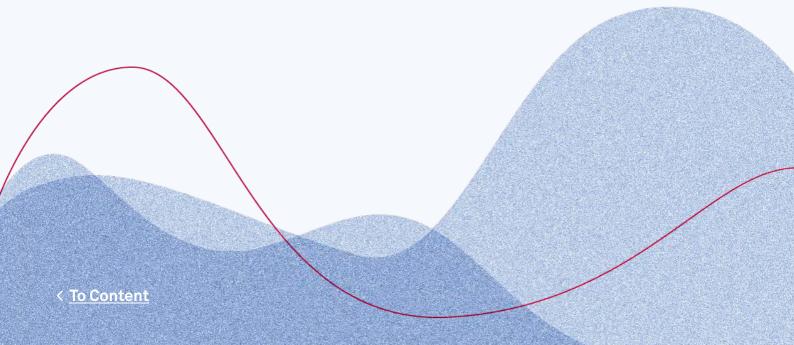
Visit website



SUNREF Madagascar

SUNREF Madagascar is a green finance program aimed at promoting green investments from the private sector, through the combined deployment of an appropriate technical and financial offer.

Visit website



South Asia Region Overview

In 2022, South Asian countries continued their commitment to achieving targets for renewable energy integration, and some are planning to increase them. For example, Bangladesh is considering raising its renewable energy share from 10% to 40% of the total electricity mix. In Nepal, the expectation is that the government will enter into new Power Purchase Agreements (PPAs) in 2023 once the decision to sign PPAs for 1,500 MW run-of-the-river hydropower projects in 2022 is approved.

Spearheaded by enterprises in India, the year also saw an increased interest in the emobility space. The fast adoption of electric vehicles (EVs) showed how government policies – faster adoption and manufacturing of hybrid and electric vehicles – and targets – 100% of new vehicles to be zero emission by 2030 – can drive penetration of a new technology. As of November 2022, EV companies had raised USD 673 million in the country.





Finance mobilised and new projects supported

South Asia was a strong region for PFAN in 2022, contributing to 50% of the total funding raised by PFAN-supported enterprises worldwide, led by two projects adding 230MW of solar capacity in Bangladesh. In 2022, we supported 16 projects to raise a total investment of close to USD 567 million in the areas of solar, hydro, clean transport, biomass and adaptation. A total of 34 new projects were provided PFAN support in India (21), Nepal (7), Bangladesh (5) and Sri Lanka (1).

Gender Mainstreaming in South Asia

To further our commitment to gender mainstreaming, PFAN provided our advisors with capacity building trainings. One third of the portfolio in South Asia was gender inclusive in 2022, consistently meeting the targets set for the region. In addition to women on the board, these companies have been employing women in leadership positions and creating employment opportunities. The clean energy access projects in clean cooking and for electricity generation and distribution directly impact women in rural areas by reducing drudgery and increasing productive time – PFAN South Asia inducted such projects from remote areas of India and Nepal.

Capacity building and events in the PFAN Network

We expanded our reach in the region by appointing a new Country Coordinator in Sri Lanka, who helped to reengage with the local ecosystem and originate our first project in the country. To support capacity building efforts across the continent, PFAN's South Asia and Southeast Asia teams collaborated to organise two round tables for investors incoming from 10 countries. Internally, we conducted virtual Advisor workshops to transfer knowledge and learnings from experiences of working with project developers and entrepreneurs within the network.

These activities continued despite the global economic turmoil and slowdown in funding across sectors. Where possible, the network engaged with early-stage seed investors, while larger funding rounds were delayed, and finding investors for green field projects continued to be a challenge in the midst of the economic crisis. Due to such challenges, project origination slowed down across the region, and the focus areas for origination had to be reassessed – leading to new and exciting scopes to be identified. For instance, we focused on impact projects for development and energy access in some countries, including Sri Lanka.



South Asia in 2022

567

Total investment leveraged (USD millions)

23

Total Advisors in the region

16

Projects that reached financial closure

Female Advisors in the region

New projects which received PFAN support

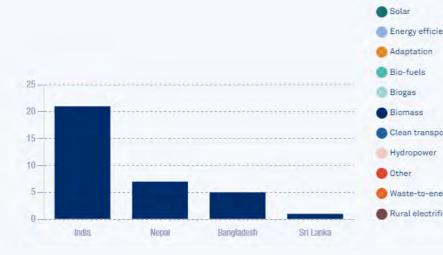
96%

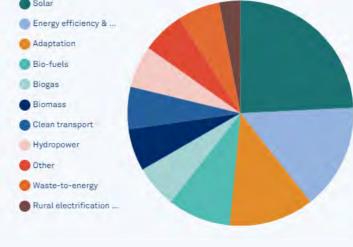
Locally-based Advisors

New partnerships established

301

Clean energy capacity added by projects which mobilised finance (MW)





Total number of projects supported by country

Total number of projects supported by country

New Leaf Dynamic Technologies

Find out more

Location Investment Amount

Technology

India

USD 970,000

Biomass





'PFAN helped us see that you have to focus on the activity that brings the greatest revenue. If you keep your focus, other things will automatically move in parallel'



Akash Argawal, co-founder of New Leaf Dynamic Technologies

Advisor Spotlight: Simmi Sareen, PFAN Advisor for India

Watch video →





Simmi Sareen
PFAN Advisor for India

As a PFAN advisor, Simmi mentors climatepositive businesses across renewable energy, energy efficiency, electric mobility and sustainable food systems. Through her large network of both domestic investors and international development finance institutions, Simmi is able to help these climate enterprises raise timely, relevant capital. Simmi is a chartered accountant and an MBA from London Business School with 25+ years of financial services experience. Since 2012, she has been focused on enabling access to capital for climate tech start-ups in India. Beyond PFAN, she is also building Climake as a growth platform for early stage climate tech start-ups to access markets and innovative financing options. The platform also publishes collaborative research on gaps and opportunities in climate finance.

New Partnerships



Clean Energy Access Network (CLEAN)

CLEAN (Clean Energy Access Network) is an all-India representative organisation for decentralized renewable energy (DRE) with the aim to support, unify and grow the decentralized clean energy sector in the country. CLEAN has brought together over 200 clean energy organisations from across India to create an inclusive and enabling environment for the growth of the DRE sector.

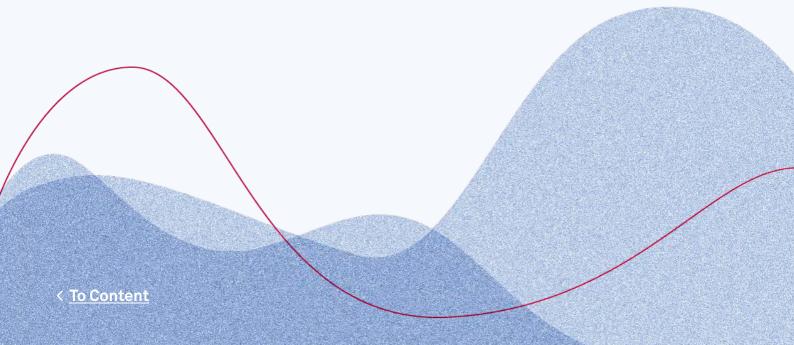
Visit website



Villgro Innovations Foundation

Villgro Innovations Foundation is one of India's pioneering incubators of social enterprises. They believe that innovation and market-based models are powerful solutions to alleviating poverty and creating social impact at scale.

Visit website



South East Asia Region Overview

Southeast Asia continues to see strong demand for decarbonization of the energy sector, with high penetration of solar and wind in the national energy mix, especially in Vietnam and Thailand. The levelized cost of energy from renewables continues to fall, and opportunities are expected to emerge not only for renewable energy power producers, but also for providers of lowemissions generation equipment, electricity storage hardware and related services.

This includes solar panel and wind turbine manufacturers, battery manufacturers, companies involved in extracting and refining minerals needed for batteries and solar panels (like lithium and nickel), and companies building and operating new generation networks [1].

In 2022, PFAN helped Thien Phu Energy to secure an investment of USD 130 million to build two wind farms with a total of 60 MW in Ben Tre, Vietnam, becoming one of the largest single financial mobilisations for PFAN in Asia in the past several years.



E-mobility is becoming more popular across Southeast Asia, with electric vehicle (EV) sales in the region growing 35% year on year in Q3 2022 [2]. Thailand registered the highest EV sales volume in the region, capturing an early 60% market share, followed by Indonesia and Singapore. PFAN is supporting this industry to grow also in Vietnam, with two of our supported emobility businesses – <u>Selex Motors</u> and <u>QIQ</u> <u>Vietnam</u> – mobilising finance last year.

Additionally, there is a growing demand for alternative proteins in the region. In 2022, PFAN received several alternative protein projects from Cambodia, Vietnam and Thailand, for both use of animal feed and also for human consumption. The common source of protein is the black soldier fly.

Climate-smart agriculture continues to present an attractive opportunity for investment and for PFAN support. Precision agriculture and farmer service platforms are the most attractive opportunities, due to strong regulatory support, especially in Malaysia, Thailand and Vietnam [3]. For example, HUSK Ventures Cambodia, which aims to support farmers' livelihoods and climate resilience by transforming rice husks into effective and affordable carbonbased fertilizers, were inducted into the PFAN pipeline in October 2022.

In 2022, we supported 8 projects to raise a total investment of close to USD 166 million in the areas of wind, rural electrification and energy access, clean transport and climate adaptation. A total of 26 new projects were provided PFAN support in Indonesia (9), Philippines (5), Cambodia (4), Thailand (4), Myanmar (2), Laos (1) and Malaysia (1).



PFAN events in Southeast Asia

We continued to strengthen our partnership with the Sustainable Energy Association of Singapore (SEAS) by co-hosting the 4th edition of the <u>Power ACE competition</u>. Through this partnership, we provide our expertise in business coaching and investment facilitation services for start-ups to scale up innovative technologies in clean energy and clean technology. PFAN advisors provided a total of one month of mentorship to 4 out of 12 shortlisted projects for the competition.

PFAN supported the Malaysian regional bank CIMB to host a pitch competition for SMEs in clean tech, clean energy and sustainability. The <u>ESG-SME Pitch Challenge</u> supported promising SMEs to pitch their projects to a panel of CIMB bankers and outside experts. PFAN helped CIMB to identify SMEs that have sustainability-focused business models or operations across the Association of Southeast Asian Nations (ASEAN) to compete in the event and helped prepare the 12 shortlisted SMEs with their investor pitch.

We conducted two investor roundtables, convening 20 investors from Southeast Asia and South Asia to share their experience, lessons learned, and views on market direction and opportunities. More than 30 PFAN advisors and network partners joined each of the roundtables and actively engaged in the discussion.

Capacity building in the PFAN Network

We hosted two gender working sessions with Country Coordinators and Advisors, with the outcome of defining criteria to identify gender-responsive projects, gender focused and women-led businesses. These findings will be incorporated into the guidelines to support gender mainstreaming in PFAN projects.

Although 2022 was a challenging year as businesses and investors slowly emerged from the shadow of the pandemic, we saw a lot of promising and innovative companies in the region.



Peter du Pont, PFAN Regional Coordinator for Southeast Asia

- [1] McKinsey Quarterly, 2022
- [2] Counterpoint's Global Passenger Electric Vehicle Model Sales Tracker
- [3] Southeast Asia's Green Economy 2022 Report 2022

South East Asia in 2022

165.8

8

26

Total investment leveraged (USD millions)

Projects that reached financial closure

New projects which received PFAN support

26

6

92%

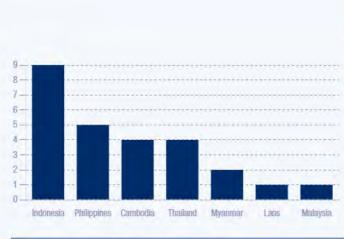
Total Advisors in the region

Female Advisors in the region

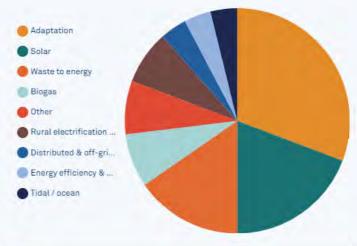
Locally-based Advisors

62

Clean energy capacity added by projects which mobilised finance (MW)



New PFAN-supported projects by country



New PFAN-supported projects by technology

Techno-Hill Engineering

Find out more

Location Investment Amount Technology

Myanmar USD 400,000 Solar





'When we look at the village women, their daily lives are quite hard. They have to wake up early, they have to usefirewood to cook, they have to do all the house chores'



Barani Aung, female founder who leads the team at Techno-Hill Engineering, Ltd

Advisor Spotlight: Itty Varugis, Private Financing Advisory Network (PFAN) Advisor, Country Coordinator for Thailand

Watch video →





Itty Varugis is a Private Financing Advisory
Network (PFAN) Advisor and our Country
Coordinator forThailand, from where he
helps climate and clean energy
entrepreneurs secure investments for
theirprojects.Itty has advised enterprises in
clean energy, energy efficiency and climate
adaptation.

Itty Varugis

Private Financing Advisory Network (PFAN) Advisor, Country Coordinator forThailand

Over 3 decadeshe has consulted to major multinational corporations, large national enterprises, and start-ups, and isculturally adept in ASEAN, India, China, Japan, Australia, and the USA.

Pacific Islands Region Overview

Overall, the Fijian economy has rebounded strongly post-Covid-19 on the back of tourism, with Asian tourism markets — Fiji's biggest competitors — slow to open up. Local outbreaks in late 2021 carrying over into the first half of 2022 in Tonga and the Solomon Islands, compounded by the effects of civil unrest in the Solomon Islands and the January 2022 volcanic eruption in Tonga, slowed the revival of economic activity for both countries. The impacts of the Ukraine crisis on highly import-dependent economies of the Pacific also saw high inflation and, in particular, its impact on the fuel costs required for electricity generation.

PFAN intensified our focus on e-mobility, a burgeoning topic in the region, by inducting new e-mobility projects in our pipeline and supporting an e-vehicle charging network to commercial launch, setting a template for other Pacific countries to follow suit.

Furthermore, our network attended and contributed to several events including the Pacific Islands Workshop on Electric

Mobility as well as the PFAN Asia Region E-Mobility Investment Forum to hear and learn from investors investing in e-mobility businesses in Asia and get a better understanding of the critical success factors.



The workshop outcomes demonstrated there is interest in e-mobility in countries outside Fiji including Tonga, Samoa and the Solomon Islands, and this interest could spill over into maritime transport as well.

Waste-to-energy is another concern in the region, and we entered into discussions with the Pacific Waste to Energy Project to identify potential projects in the field for PFAN assistance. Electrification programmes are still a priority for governments like Papua New Guinea and the Solomon Islands however private sector involvement may take some time, as donors are primarily assisting incumbent utility operators.

Partnerships and programme development

The work with the Fiji Rural Electrification Fund (FREF) gained a new dimension in 2022 by having UNDP enter into an agreement with the Fiji Government to lead the FREF Support Programme in partnership with PFAN. As a result of this, the FREF programme scope has been expanded beyond rural electrification. Other auxiliary services such as desalination plants, solar fridges, mobile networks, digital payment solutions, tele-health services and parametric disaster risk insurance will be built on top of the mini-grid solution to improve overall standards of living. PFAN is leading the private sector-related work and work has moved closer to implementation.

PFAN's <u>funding from Convergence</u> for the preparatory work around the private sector engagement model will start to flow in Q1 2023, which will help provide more visibility to PFAN in Fiji as well as to the rest of the Pacific around rural electrification work. PFAN sees a lot of potential to replicate this work in Vanuatu, PNG and the Solomon Islands and this may yield opportunities for PFAN along similar lines.

Fiji continues to be the Pacific's strongest performer, with all active projects in the Pacific pipeline, its three financial closures, and a new PFAN Advisor recruited in the country. However, we are positive that enhanced capacity building on PFAN's services for our advisors in other countries including Papua New Guinea and the Solomon Islands will result in the conversion of projects into the pipeline.

The Fiji experience in both e-mobility and rural electrification will help to market PFAN's capabilities in these countries, as well as drive private sector participation in accelerating adoption. We broadened our reach outside Fiji in Samoa by presenting at the Samoa Energy Forum in November and in the Solomon Islands we entered into a partnership agreement with the Development Bank of Solomon Islands.

Finance mobilised and new projects supported

Three businesses successfully raised investment with PFAN support in 2022 (figures will be included in the next annual report due to paperwork submission in early 2023). These were Leaf Capital, a public e-vehicle charging network which has installed electric vehicle charging services, paired with solar energy generation, to connect the four main cities of Fiji's main island of Viti Levu, and two projects from Sunergis Fiji Pte Limited – a large scale solar and battery energy storage system which will benefit an estimated 20,000 people on the island of Taveuni, and a second project, Tokoriki Resort Hyride Upgrade, which will upgrade the current 500 kWh battery storage system in the resort, as well as improve energy efficiency at the site.

We added 3 new projects to the PFAN pipeline, all in Fiji, in the areas of adaptation, energy storage and conservation and solar.



Pacific Islands in 2022

3

13

3

New projects which received PFAN support

Total Advisors in the region

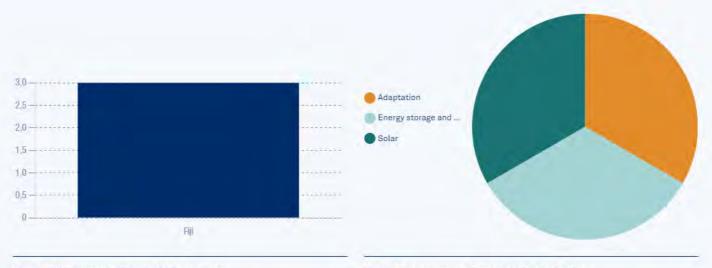
Female Advisors in the region

92%

1

Locally-based Advisors

New partnerships established



New PFAN-supported projects by country

New PFAN-supported projects by technology

SUCCESS STORY

Leaf Capital Ltd

Find out more

Location

Investment Amount

Technology

Fiji

USD 230,000

E-mobility





'PFAN helped me through the developing the models that we submitted to them, advising on the sort of approaches that would fly in this context, advising on the sort of partners who could help move to the next level. I feel that PFAN has just been sort of integrated into my team.'



Alex Reddaway, Director and Founder, Leaf Capital

Advisor Spotlight: Napolioni Batimala, PFAN Advisor for Fiji

Watch video →





Napolioni Batimala

PFAN Advisor for Fiji

Napolioni Batimala is is the founder and principal of two firms, Qavio Consulting, a business and investment advisory for SMEs with a particular focus on resource owners, and N Batimala Consulting, a Chartered Accountant firm in Fiji. He has built and developed an exemplary professional career, including being the CEO of Merchant Finance Pte Limited and Fijian Holding Group in the past.

He is a registered auditor tax agent, investment advisor, audio visual agent and insurance agent in Fiji and holds membership as a Chartered Accountant with Public Practice from the Fiji Institute of Chartered Accountant, Investment Adviser (RBF), CPA from CPA Australia, Senior Associate Member (FINSIA) and Graduate Member of the Australian Institute of Company Directors (GAICD). Napolioni holds a MAppFin from Kaplan Professional (Australia), Graduate Certificate in Applied Finance and Investment (FINSIA) and Bachelor of Arts in Accounting and Finance from the University of the South Pacific (Australia).

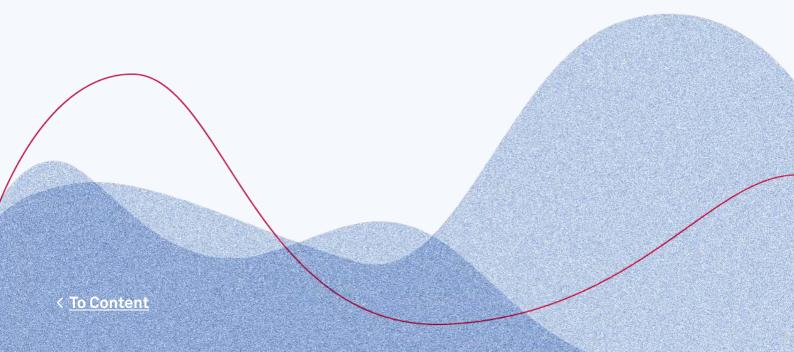
New Partnerships



Development Bank of Solomon Islands (DBSI)

The Development Bank of Solomon Islands (DBSI) is a development financing institution re-established by the DBSI Act 2018 to facilitate the economic and social development of the Solomon Islands within the overall development plans and strategies of the Solomon Islands Government (SIG).

Visit website



Eastern Europe & Central Asia Region Overview



Despite the war in Ukraine, the overview for 2022 for renewable energy and climate adaptation projects in Eastern Europe and Central Asia was rather positive, as the region looks increasingly towards renewable energy sources to meet the rising demand for energy while pursuing a sustainability agenda and reducing their carbon footprint.

In previous years, Ukraine was the most advanced Eastern European country where PFAN operates in regard to renewable energy project development and mobilising finance. Among the Asian countries, Kazakhstan was leading the pack. However, in 2022, Ukraine lost all potential for further project intake due to the Russian invasion, and Kazakhstan lost its leading position to the rising stars of Azerbaijan and Uzbekistan, due in part to legislative changes and stimulating government policy in those countries.





The natural capacity of the Central Asian countries concerning their renewable energy and climate adaptation potential is rather high, therefore properly done investments and a wide range of capital intake have great potential to stimulate recognizable growth.

However, the consequences of the war have slowed down investment in many of the countries attributed to investor uncertainty and capital flight from countries close to the conflict areas. Investment has shifted away from the countries neighbouring Ukraine, such as Moldova, and is being redirected towards countries including Georgia and Azerbaijan – but the long-term trend is yet to be known.

First projects and large finance mobilisations

As the war in Ukraine has put all projects in the country on hold, PFAN's Ukrainian advisors turned their expertise towards supporting other countries in the region. As a result, PFAN coached our first projects in Kyrgyzstan with ten hydropower projects inducted into the pipeline.

In 2022, we supported 8 projects to raise a total investment of nearly USD 93.2 million. Mongolia's Sunsteppe Ltd. raised investment for its 5MW battery storage project and 50 MW solar power plant for a total amount of USD 70 million. In Uzbekistan, Farmergy was infused with USD 1.3 million and Asia Express Holdings LLC with USD 1.65 million. In Azerbaijan, USD 7 million was raised by the Caspian Hydrogen Development Group, as well as a total of USD 51.8 million committed to the 37.8 MW Garadagh Wind Power Plant, to be reported on in the next year.

We added 35 new projects in the PFAN pipeline in the areas of adaptation, biogas, biomass, energy efficiency and demand reduction, geothermal, hydro, solar and waste to energy located in Uzbekistan (8) Azerbaijan (6), Kyrgyzstan (6), Kazakhstan (4), Moldova (4), Ukraine (4 – inducted before the war began), Georgia (2) and Mongolia (1). We supported our first geothermal power project in Azerbaijan, where there is great potential in this geothermally active region of Central Asia.



PFAN organized and successfully ran a regional investors conference, which gathered over 40 entrepreneurs, advisors and investors from across the region. Most of the International Financial Organisations operating in the region were present (IFC, EBRD, ADB and others), and PFAN-supported projects from every EECA country had the chance to present their projects to investors. Here we exercised our core competence of bridging the gap between entrepreneurs and investors by providing PFAN-supported projects with the opportunity to pitch to an audience of investors, which resulted in some raising investment. For example, Boldman Group International intend to finance up to USD 30 million of the project cost for the 40MW SunGa solar power plant project in Moldova, and they are in further negotiations with PFAN projects from Mongolia and Kazakhstan.

'The key success factor for EECA in 2022 was the tight team building and cross-cultural solidarity. Our highly experienced Ukrainian PFAN Advisors were redirected to initiate projects in Central Asian countries, which led to a sharp increase in the number of applications and a rise in the number of eligible projects inducted into PFAN's project pipeline. We were able to use our resources to make the best out of a difficult situation.'



Rostyslav Maraikin, Regional Coordinator for Eastern Europe & Central Asia

EECA in 2022

33.2

8

35

Total investment leveraged (USD millions)

Projects that reached financial closure

New projects which received PFAN support

30

8

97%

Total Advisors in the region

Female Advisors in the region

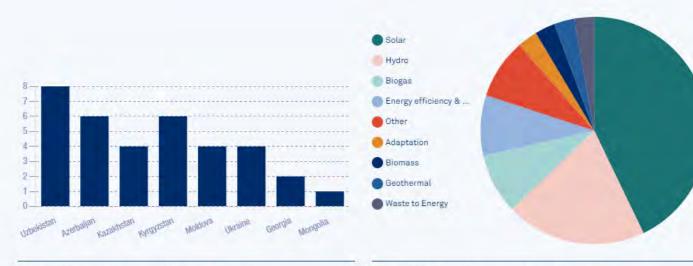
Locally-based Advisors

4

111

New partnerships established

Clean energy capacity added by projects which mobilised finance (MW)



New PFAN-supported projects by country

New PFAN-supported projects by technology

SUCCESS STORY

Farmergy

Find out more

Location Investment Amount Technology

Uzbekistan USD 1,300,000 Biofuels





'PFAN helped me to perfect the business plan and to build the tools for financial analysis.'

Gap-Cheol Kim, General Director, Farmergy

Advisor Spotlight: Diyaz Baiseitov, PFAN Advisor, Country Coordinator for Kazakhstan

Watch video →





Diyaz Baiseitov

PFAN Advisor, Country Coordinator for Kazakhstan

Diyaz Baiseitov is a PFAN Advisor and Country Coordinator for Kazakhstan, supporting entrepreneurs with advisory support around business development for investment readiness and investor matchmaking. He is a renowned local expert on renewable energy and sustainable construction. His impact is most notable in the form of pilot renewable systems installation for the SME and population equivalent to 2.5MWh of clean energy harvested every sunny hour. Such activity is complemented by broad consultancy and educational practice aimed at researching and disseminating the best sustainability practices among students, farmers, NGOs and corporate audiences. As a solar techpreneur, he won local and international contests, attracting USD250k into his startup, which was rated second among the top ten innovative companies.

His recent job as the Head of Development at KazGBC (local Green Buildings Council) is related to sustainable building promotion and certification to reach the Net Zero Building milestone in the near future.

New Partnerships

Boldman Group International, Inc

Boldman Group International (BGI) is a diversified corporation that trades goods and services in undervalued markets. They are international infrastructure developers who collaborate with quasi-institutions on a public-private partnership basis. They partner through strategic alliances and undertake high-capital investments to create value and drive financial performance.

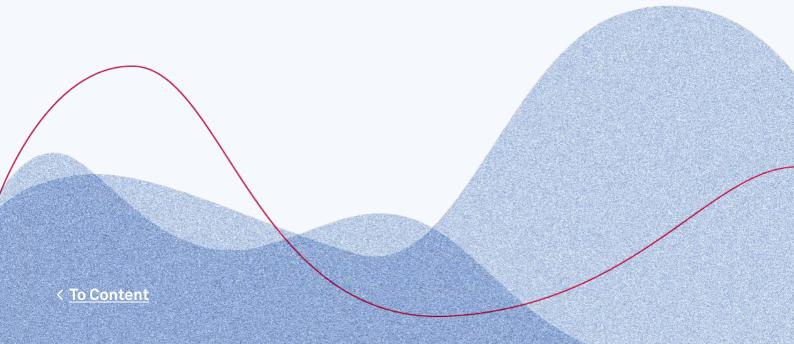
Visit website



Caspian Hydrogen Development Group

Caspian Hydrogen Development Group LLC (CHDG) is the first private national company operating in Azerbaijan in the hydrogen production and renewable energy sector including the development of onshore and offshore wind farms.

Visit website





Kazakhstan Stock Exchange JSC (KASE)

Founded in 1993, the Kazakhstan Stock Exchange is a stock exchange located in Almaty, Kazakhstan. KASE has been the only exchange in Kazakhstan operating the stock and currency markets and is anintegral part of the financial market's infrastructure.

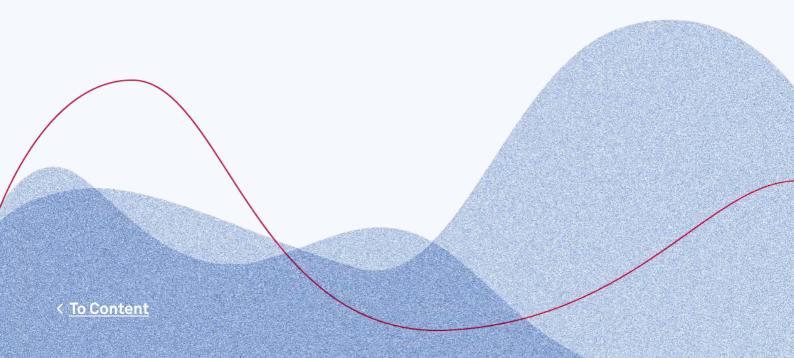
Visit website





Green City Lab Moldova, an NGO supported by the United Nations Development Programme (UNDPMoldova) and the Global Environment Facility (GEF), is the first laboratory of urban innovations in the country. The association aims to become a functional platform to ensure the interaction of municipalities, the private sector, experts, donors and financial institutions to promote the sustainable development of Moldovan localities.

Visit website



Latin America & the Caribbean Region Overview



Latin America and the Caribbean continued to experience market constraints for project development, rising renewable energy prices and election cycles in markets including Colombia and Costa Rica at the beginning of 2022.

Towards the end of the year, the region experienced an increase in demand for support and funding from SMEs and projects under USD 10 million. In the last quarter of 2022, despite a decrease in activity in Mexico, activity stepped up in Guatemala and Colombia. Similarly, in the Eastern and Southern Caribbean, donor interventions aim to have a positive impact on the private sector.

Regional activities at the start of 2022 followed a surge of activities during Q4 2021 and significantly increased in comparison to the first quarter of 2021. As the region is on its way to reaching similar energy consumption to pre-Covid-19 levels, PFAN has seen a significant increase in the number of developers accessing the portal, membership to PFAN LAC investors round table doubled, inquiries from developers and invitations for PFAN to participate in regional events increased, and PFAN roadshows were successfully restarted in Q3 2022.





The focus in Latin America and the Caribbean was to increase PFAN's visibility vis-à-vis investors and project developers, in particular engaging with the tourism sector in the Caribbean, the circular economy and climate change. Special attention was given to the impact of climate change on water availability in river basins that have reduced hydropower generation and revisiting associated ESG issues with local and indigenous communities.

In 2022, two PFAN-supported projects in the region raised a total investment of close to USD 3.4 million – La Pluma Solar Park in Mexico and Panasolar in Panama, both in the solar sector. Four projects were inducted into the PFAN pipeline in Guatemala (3) and Argentina (1) in the areas of hydro, solar and distributed and off-grid generation.

Events and new Advisors in the PFAN Network

The 5th PFAN Investors' Round Table took place on 8 March, where participants discussed the economic growth of the region as well as how the market perspectives will affect the PFAN regional network. From 16 – 18 March, our Regional Coordinator Federico Fische took part in the <u>Latin America Energy Forum</u> in Washington DC to represent and promote PFAN. The event brought together the renewable energy finance community to highlight the most exciting opportunities and project pipelines in Latin America.

The year's first in-person event in the region took place in St Lucia at the 2nd NDC Investment Forum from 5 – 7 July. The forum had been postponed since 2019, and PFAN was one of the partners that brought it to fruition in 2022. Here, PFAN hosted a panel on "Accelerating decarbonatization to achieve climate targets: The role of the private sector" and announced our initiative to support the tourism sector in the Caribbean.

PFAN participated in the Latin American panel at the Wall Street edition of the Renewable Energy Financial Forum and had its 6th PFAN Investor's Round Table as a side event, which included presentations from USTDA, USAID and the Corporacion Andina de Fomento (CAF).

From 6 – 12 November, we held a PFAN side event at the <u>Caribbean Investment Forum</u> in Trinidad and Tobago as well as several meetings with project developers throughout the week. Our side event featured three panels to address topics related to the circular economy, project finance and sectorial challenges and opportunities in the Caribbean.

We made several valuable additions to the PFAN LAC advisor network, with 8 new clean energy and financing experts joining the team. All of our Latin America advisors are fluent in Spanish and English, and to better service the French-speaking Caribbean nations including Haiti, we recruited a new advisor to provide our services to the region in French.



LAC in 2022

3.45

Total investment leveraged (USD millions)

29

Total Advisors in the region

2

Projects that reached financial closure

5

Female Advisors in the region

4

New projects which received PFAN support

76%

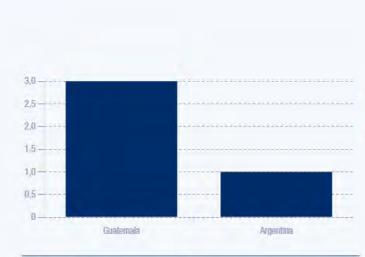
Locally-based Advisors

2

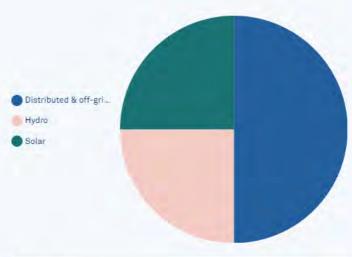
New partnerships established

12

Clean energy capacity added by projects which mobilised finance (MW)



New PFAN-supported projects by country



New PFAN-supported projects by technology

SUCCESS STORY

La Pluma Solar Park

Find out more

Location Investment Amount Technology

Mexico USD 945,000 Solar





'A solar farm that sells to private offtakers and distributes the electricity over the grid sounds simple, but they're both big hurdles. It will be the first project of its kind in Mexico, and can provide a template for this happening elsewhere.'

Patrick D'Addario, PFAN Advisor for Latin America and the Caribbean

Advisor Spotlight: Patrick Longmire, PFAN Advisor for Guatemala, Haiti and Jamaica

Watch video →





Patrick Longmire

PFAN Advisor for Guatemala, Haiti and Jamaica

Patrick Longmire is an independent consultant advising energy project developers on raising financing from international institutions. He has over 30 years of experience in finance in the United States, Latin America and Africa, during which time he has closed project financings with a total transaction value in excess of USD 1 billion.

Until mid-2021 he was a Managing Director with SEAF, a leading impact private equity investment company and previously spearheaded Castalia's Clean Energy Transaction Advisory practice focusing on Africa.

Before joining Castalia, his career spanned senior positions at leading institutions, including as a lending officer with Chase Manhattan Bank, Vice President in Project Finance at Lehman Brothers, Senior Investment Officer with the IFC's Power Department and Managing Director for power sector investments with Emerging Market Partnership's \$1 billion USD Latin America infrastructure private equity fund. During this time, he worked on debt and equity transactions for wind, geothermal, hydro and solar grid-scale and distributed generation projects in North and South America, the Caribbean and sub-Saharan Africa. In addition, he played a key role in building up Iberdrola USA from start-up to being one of the largest renewable energy IPPs in the US.

New Partnerships



Allcot Group

Allcot is a veteran project developer that offers knowledge, experience and management togreenhouse gas (GHG) emission reduction initiatives to actively combat the climate crisis under Article6 of the Paris Agreement.

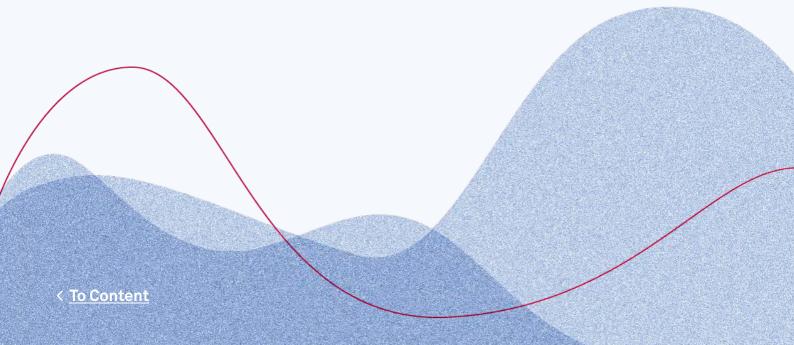
Visit website



Organization for Environmental Education and Protection (OpEPA)

OpEPA is a non-profit foundation founded in Bogotá, Colombia in 1998 which aims to promote a betterunderstanding and enjoyment of the cultural, ethnic and natural diversity of our world, and to createan awareness of the necessity of preserving this diversity.

Visit website



04

PFAN Journey

Climate mitigation and adaptation projects inducted into PFAN's development pipeline receive support in a three-stage process known as the PFAN Journey.

After each stage, a review is conducted by PFAN's Regional Coordinators to ensure the business is ready to proceed to the next stage, if not, we provide guidance on the next steps to pursue. This has enabled closer handholding and guidance for the entrepreneur, by not just their PFAN Advisor, but also by our most senior project development specialists and investment facilitators.

This structure has provided PFAN with the flexibility to fast-track advanced projects that would benefit from advancing from Stage 1 directly to Stage 3, or even repeat stages, for less mature projects, thereby better providing a more customer-oriented tailored service to entrepreneurs.

In 2022, the services provided in Stage 2 were enhanced to provide additional support. Including supporting the project developer to secure Power Purchase Agreements (PPA) and licenses/permits, guidance and coordination of feasibility studies, land identification and negotiation of land acquisition, and development of financial model from the ground up, among others.



Since the launch of the revamped PFAN Journey, over 530 entrepreneurs across the globe started the PFAN Journey, of whom 309 and 68 reached Stage 2 and Stage 3 respectively. Over 40 projects reached the end of the PAN Journey and successfully mobilised finance.



The PFAN Journey



- Action plan
- Project development
- Investment facilitation
- Up to 18 months

Video: Wilfred Mworia, Regional Coordinator for Sub-Saharan Africa

Choir Solar PV's PFAN Journey

2021

March

Acceptance into the development pipeline

PFAN's regional evaluation panel and technical committee reviewed the entrepreneur's application and, considering its potential impact and maturity, decided to induct the Choir Solar PV project into the PFAN Journey.

2021

July

Stage 1 – Action plan development

Once the project was selected for PFAN support, Zula Luvsandorj, PFAN Advisor in Mongolia and Regional Gender Focal Point, developed a plan with the Sunsteppe company to further refine the financial model of the PV power plant.

2021

September

Stage 2 - Project development

In September 2021, after receiving the initial project assessment during the first stage of the PFAN Journey, Zula continued to provide support to the project in the second stage through updating their financial model and business plan and developing a presentation pitch deck.

2022

June - July Stage 2 - Project development

In June 2022, Zula notified the PFAN regional team that this project would need further project development assistance, as the latest support was provided in September 2021. More specifically, after the previous round of comments and suggestions, it was decided to thoroughly reshape the financial projections and use another approach for calculations. For this purpose, a second PFAN Advisor, Viacheslav Antonenko, was brought in and successfully assisted the project in refining their financial model during this stage. The coaching provided by both advisors mainly focused on improving the financial model, which was key to attract the attention of several investors.

2022

August

Stage 3 - Investment facilitation

Zula supported Sunsteppe in this stage by organizing a tender to invite four investors and selecting the most economical one. She supported the entrepreneur through full legal and commercial due diligence, conducted by the investor's legal counsel. Furthermore, Zula provided her expertise for negotiating and closing the documentation of the project (share purchase agreement, share transfer agreement and shareholders agreement).

What PFAN has done?

Sunsteppe's Choir Solar PV is the first PFAN-supported project in Mongolia which has mobilised finance. Thanks to PFAN support on the refinement of its financial model, the entrepreneur closed a deal with one of the four investors that were facilitated by their PFAN Advisor: Enserv Asia Equity Pte, a Thailand-based renewable energy developer and investor.

Enserv Asia Equity Pte agreed to finance the project on an equity basis to start the construction. However, in parallel they will be arranging the debt finance from Thailand Exim Bank to finance 70% of the project cost by debt.

The solar power plant is expected to supply approximately 100,000 households with clean energy from solar PV generation. The project will supply the national grid of Mongolia with a tariff set by the government at USD 15.2c/kwh with a Power Purchase Agreement with the national grid.

The Choir Solar PV project will not only contribute to providing clean electricity to the grid, but will also positively impact women by providing employment opportunities for rural women in Choir Prefecture. Furthermore, it is one of the few projects in renewable energy with a female co-founder in Mongolia, and the ownership structure of the organization is 75% female.

Learn more →

05

PFAN Network 2022

The PFAN Network is made up of private-sector companies and individual experts who specialize in providing investment and financial advisory services to climate and clean energy entrepreneurs. In 2022, 58 new PFAN Advisors joined our network, bringing the total to 230 Advisors worldwide.

Sub-Saharan Africa

85

Advisors in this region

17

Female Advisors in this region



Daniela Rakotomamonjy

PFAN Advisor, Country Coordinator for Madagascar & Francophone SIDS

Dr. Chitra Rajan is a serial Entrepreneur with experience ranging from Software Services to Agriculture, Construction and Renewable Energy — Currently spearheading functions as Managing Director with Radix Group, headquartered in Bangalore. Radix is in the business of generating energy from Organic Waste and has established the world's first commercial food-grade Bio CO2 plant.

Daniela's tips for entrepreneurs →

South Asia

23

Advisors in this region

4

Female Advisors in this region





Simmi SareenPFAN Advisor for India

Simmi Sareen is a chartered accountant and an MBA from London Business School with 25+ years of financial services experience. Since 2012, she has been focused on enabling access to capital for climate tech start-ups in India. Beyond PFAN, Simmi is also building Climake as a growth platform for early stage climate tech start-ups to access markets and innovative financing options. The platform also publishes collaborative research on gaps and opportunities in climate finance.

Simmi's tips for entrepreneurs →

South East Asia

28

Advisors in this region



Female Advisors in this region





Itty VarugisPFAN Advisor, Country Coordinator for Thailand

Itty Varugis is a PFAN Advisor and our Country Coordinator for Thailand, from where he helps climate and clean energy entrepreneurs secure investments for their projects. Itty has advised enterprises in clean energy, energy efficiency and climate adaptation. For over three decades he has consulted to major multinational corporations, large national enterprises and start-ups, and is culturally adept in ASEAN, India, China, Japan, Australia and the USA

<u>Itty's tips for entrepreneurs</u> →

E. Europe & Central Asia

31

Advisors in this region



Female Advisors in this region



Diyaz Baiseitov

PFAN Advisor, Country Coordinator for Kazakhstan

Diyaz Baiseitov is a renowned local expert on renewable energy and sustainable construction. His impact is most notable in the form of pilot renewable systems installation for the SME and population equivalent to 2.5MWh of clean energy harvested every sunny hour. Such activity is complemented by broad consultancy and educational practice aimed at researching and disseminating the best sustainability practices among students, farmers, NGOs and corporate audiences. As a solar techpreneur, he won local and international contests, attracting USD 250k into his startup, which was rated second among the top ten innovative companies.

<u>Diyaz's tips for entrepreneurs</u> →

Lat. America & the Caribbean

29

Advisors in this region

5

Female Advisors in this region





Patrick Longmire

PFAN Advisor for Guatemala, Haiti and Jamaica

Patrick Longmire is an independent consultant advising energy project developers on raising financing from international institutions. He has over 30 years of experience in finance in the United States, Latin America and Africa, during which time he has closed project financings with a total transaction value in excess of USD 1 billion. He was previously a Managing Director with SEAF, a leading impact private equity investment company, and spearheaded Castalia's Clean Energy Transaction Advisory practice focusing on Africa.

Patrick's tips for entrepreneurs →

Pacific Islands

13

Advisors in this region

3

Female Advisors in this region



Napolioni Batimala

PFAN Advisor for Fiji

Napolioni is the founder and principal of two firms, Qavio Consulting, a business and investment advisory for SMEs with a particular focus on resource owners, and N Batimala Consulting, a Chartered Accountant firm in Fiji. He has built and developed an exemplary professional career, including being the CEO of Merchant Finance Pte Limited and Fijian Holding Group in the past. He is a Registered Auditor Tax Agent, investment advisor, audio visual agent and insurance agent in Fiji.

Napolioni's tips for entrepreneurs →

06

Gender Mainstreaming



In 2022, the work with Value for Women – a consultancy firm specialised in providing gender mainstreaming advisory services – continued in order to ensure that the network of PFAN advisors received training on integrating gender aspects in the evaluation and advisory process, while supporting entrepreneurs in raising finance for their projects and businesses.

The main focus of our gender mainstreaming activities centred on outreach to women entrepreneurs and exploring collaboration with women's organisations with the support of the newly introduced Gender Focal Points, as well as implementation of activities which contribute to ecosystems becoming more gender inclusive.

Gender mainstreaming in PFAN advisory services

The roll-out of the Masterclasses on Gender Lens Advising was provided to all regions, which resulted in over 100 PFAN advisors successfully completing the trainings.



Some of the comments included:

"A big thank you to the entire PFAN team for this opportunity. And to Value for Women for the exemplary facilitation. I am passionate about women empowerment, and this has gone a long way to help me identify practical approaches and application to gender equality." Lily Muturi, PFAN Advisor in Kenya

"Well received. It's a very important aspect for us in Mozambique, where we have been supporting gender and youth employability studies. This has been a very good capacity building exercise!" KemalVaz, PFAN Advisor in Mozambique

In order to ensure that the learnings from the trainings are fully integrated into the advisory process, PFAN has implemented the following actions and activities:



- Gender Focal Points, who were introduced at the end of 2021, were empowered to drive gender inclusion initiatives in their regions working closely with our Regional Coordinators and Country Coordinators and continuous support from the gender team in Vienna to ensure that gender mainstreaming efforts are disseminated to the network, integrated in all coaching aspects and further advanced at the regional level
- The PFAN evaluation tool was updated to reflect gender considerations. Our evaluators
 received additional training to acquire practical ways to apply a gender lens to project
 evaluation, give recommendations to the advisors on the opportunities to integrate gender
 aspects in the projects and businesses and how to reflect this in the action plan
 developed in the first stage of the PFAN journey.
- Further refinements with regards to the PFAN application form and the reporting templates were implemented. The Gender Responsiveness Assessment was included in the application form asking the project developers to conduct a self-assessment of their project. PFAN is additionally asking the project developers to indicate whether they have a gender action plan or policies in place when applying for support. The Gender Responsiveness Assessment and the updated assessment tool were also integrated to the Call off 1 (first stage of PFAN support) report template to ensure that the PFAN advisors also assess the project's gender impact and ensure that gender aspects are considered in the coaching process.



Outreach to women entrepreneurs

The outreach to women entrepreneurs and women's organisations included a gender target ed campaign on social media with particular focus on sub-Saharan Africa to demonstrate PFAN's work towards making projects and businesses more gender responsive for a positive impact on economic growth and society. The campaign included interviews with the Regional Gender Focal Points and the promotion of case studies in the region.

PFAN also continued our collaboration with the World University Service of Canada (WUSC) and participated together with a group of women climate entrepreneurs and other entrepreneurship support organizations for the launch event of Accelerating Women Climate Entrepreneurs (AWCE): A Roadmap for Donors and Investors.

This event was organised in light of the AWCE, a unique project at the intersection of climate finance and gender, bringing together a consortium of partners including Aspen Network of Development Entrepreneurs (ANDE), the Aga Khan Foundation and WUSC, funded by Global Affairs Canada.

Another collaboration with WUSC involved the organisation of a webinar on "Supporting women climate entrepreneurs in sub-Saharan Africa", where the study conducted by WUSC as part of the AWCE project on "Strategies for Incubators and Accelerators - Strengthening Ecosystems for Women Climate Entrepreneurs in Sub-Saharan Africa" was presented. In the run-up to the event, the Gender Focal Points engaged with women's organisations in order to spark interest from women entrepreneurs to participate in the event and make them apply for PFAN support. As the webinar was successful, PFAN will look into replicating similar initiatives in other regions.

'I believe that when you empower a woman, you change a generation.'

Lina Mushanguri, , PFAN Gender Focal Point for Southern Africa



Collaborations



Value For Women

Value for Women are a specialized advisory firm that helps organizations advance gender inclusion. Their solutions promote women's participation and leadership in business, finance, and investment, with a focus on emerging markets.

Visit website



World University Service of Canada (WUSC)

WUSC is a Canadian non-profit organization working to create a better world for all young people. They bring together a diverse network of students, volunteers, schools, governments and businesses to foster youth-centered solutions for improved education, economic, and empowerment opportunities to overcome inequality and exclusion in over 15 countries across Asia, Africa, and the Americas.

Visit website



Serengeti Energy

Serengeti Energy is an Independent Power Producer (IPP) that develops, builds, operates and owns small to medium-sized renewable energy power plants of up to 50MW across sub-Saharan Africa.

Visit website



Agri-Pitch Competition

The AgriPitch Competition targets African youth aged 18 to 35 years working in the agricultural value chain. The finalists receive training to build business skill capacity with the requisite tools and knowledge to bolster their investor readiness, financial management, and help them pitch bankable business proposals.

Visit website

Ecosystem-related activities

The USAID funded Pakistan Private Sector Energy Project (PPSE) organized a consultative dialogue on the gender and clean energy financing nexus. The workshop brought together representatives from the National Electric Regulatory Authority, State Bank of Pakistan, Private Power & Infrastructure Board, Engineering Development Board, K-Electric, private banks and financial institutions, as well as gender specialists.

PPSE will work with the State Bank of
Pakistan and other financial institutions for
better access to finance for women-led
businesses focusing on clean energy
investments. Furthermore, it will work with
its public sector partners to remove barriers
to entry and participation for women in the
clean energy sector. This consultation was
an initiation to connect with industry
leaders, finance experts, gender specialists
and government representatives to develop
a collective ecosystem towards gender
responsive commitment in various sectors
while also gathering insights in to sector al
gaps.

Moreover, PFAN initiated two new collaborations in 2022 involving outreach and selection of businesses, namely the African Development Bank Group's 2022 AgriPitch Competition targeting young and women agripreneurs and the partnership with Serengeti Energy via the Umoja Incubator. With the involvement of the Gender Focal Points, gender aspects were integrated in the evaluation and advisory process of both partnership initiatives which were led by our partners Private Equity Support and Serengeti Energy respectively.

These collaborations underlined that PFAN's commitment goes beyond making our own advisory process more inclusive, but we also influence other entrepreneur support organisations to include gender aspects in their evaluation and advisory processes.



Highlights

Since 2020, PFAN is tracking its progress with regards to women-participation on all levels in its logical framework. The following overview depicts the achievements for three selected indicators over the last years.

Outlook

Efforts to increase gender mainstreaming across the network will continue in 2023. The following overview provides a short outlook on what can be expected in the coming year:

- A PFAN anti-harassment policy will be developed and shared and implemented across the
 network to ensure that all women are provided with a safe working environment and equal
 opportunities for career progression without any form of harassment or discrimination.
- A **toolkit to develop a gender action plan** with project developers will be developed and made available for the PFAN network. This should equip our advisors with the practical tools to work with the entrepreneurs they are supporting to make a clear plan on how to effectively integrate gender considerations in their operations.
- A module / webinar for project developers and advisors on crucial aspects of a Gender Action Plan will be developed to capacitate the network as well as project developers supported by PFAN.

Indicator	Description	2020	2021	2022
% of women-led projects	This indicator tracks the share of women-led businesses that are inducted into the PFAN pipeline. PFAN's definition of a women-led project or business is either if the shares held by women are over 50% or the share of women in the management team are above50%. The aim is to ultimately have a gender-balanced pipeline.	16,59%	24,54%	24,86%
% of women in management roles	This indicator tracks the share of women in the PFAN leadership, i.e., in the Programme Management Unit (PMU) and on the level of the Regional Coordinators (RCs). The aim is to have a gender balanced leadership team	25% PMU 0% RC	20%PMU 12,5%RC	50%PMU
% of female advisors and Country Coordinators	This indicator tracks the share of women compared to the number of overall inducted network members. Increasing the share of new women in the network will ultimately lead to a more gender balanced network in the long run with the aim to ultimately have a gender balanced network.	23,39%	16,67%	27,12%

GENDER CASE STUDY

Simusolar

Find out more

Location Investment Amount

Tanzania USD 50,000 Solar Irrigation / Agriculture





Technology

'Anywhere we can, we really try to bring in the gender focus so that we're really addressing the needs of women in the country.'



Marianne Walpert, Co-CEO, Simusolar

07

Climate Adaptation

The focus of PFAN's work has traditionally been on mitigation projects for the deployment of relatively mature clean energy technologies and, more recently, other innovative climate mitigation solutions.

While this is paramount to reduce greenhouse emissions to help achieve the goals of the Paris Agreement, the implementation of solutions for adaptation plays a key role in reducing exposure and vulnerability to the impacts of climate change, also contributing to sustainable development.

Climate risks are rising, and impacts are already coming at only 1.1°C above pre-industrial temperatures. Some examples are the multiyear drought in the Horn of Africa, unprecedented flooding in South Asia, and severe summer heat across the northern hemisphere in 2022.



Mindful of the relevance and need for adaptation solutions, PFAN started looking into adaptation through pilot projects several years ago with positive outcomes. More recently, the private sector and investors, spearheaded by the Lightsmith Group and the support of various multilateral organizations, contributed to the definition of what consists of adaptation solutions by developing a taxonomy, which is used as the blueprint for PFAN's engagement in this space.

However, it has been observed that the deployment of climate adaptation solutions faces additional challenges such as a highrisk investor's perception or the lack of knowledge about these technologies and their business models. The Adaptation Gap Report 2022 stated that "global efforts in adaptation[...] financing and implementation continue to make incremental progress but fail to keep pace with increasing risks".

To address these challenges, in 2022 PFAN intensified its efforts to raise awareness of the need for adaptation solutions and organised several events to originate projects with a focus on climate adaptation.

Resilient Investment in Southern Africa

In 2022, the concept note for PFAN's Resilient Investment in Southern Africa-Technical Assistance Facility (RISA-TAF) project was submitted to the Green Climate Fund. The project was developed in partnership with Camco to mobilise private sector capital for climate adaptation projects and businesses in the agriculture sector in 8 countries in Southern Africa.

- The RISA Technical Assistance Facility (RISA-TAF): An application for technical assistance grant funding (UNIDO-PFAN).
- The RISA Investment Facility (RISA-IF): An application for first-loss equity capital, to be used to catalyse investment in SMEs active within agricultural value chains that support climate-smart agriculture in target countries across the region (CAMCO).

Closing the Financing Gap for Climate Adaptation SMEs at COP27

PFAN hosted an evening event on the sidelines of COP27 titled "Closing the Financing Gap for Climate Adaptation SMEs" on Finance Day in Sharm El Sheikh, Egypt. The event highlighted the actions needed to mobilise the necessary capital to finance climate adaptation projects and businesses and emphasised how the roles of both the public and private sectors are critical in catalysing investment.

Three of our supported entrepreneurs from Southern Africa were invited to pitch their ideas to an invited group of stakeholders of climate adaptation finance, including entrepreneurs, investors, development finance institutions, NGOs and the donor community, including USAID, Norad, DFAT Australia, Camco, AECF, BOAD, Development Bank of Southern Africa (DBSA), BASE and Convergence Blended Finance.

EMFED Farms & Trading Company

Location Technology

Ghana Climate Adaptation

Download •

Livestock Trade Services

Location Technology

Kenya Regenerative agriculture /

Solar irrigation

Download **•**

Simusolar

Location Technology

Tanzania Agriculture / Solar irrigation

Download **•**

80

Pakistan Private Sector Energy Project



2022 was a difficult year for Pakistan with unprecedented and historically devastating floods. However, the local and global realization for the mitigation of carbon emissions to curb the impact of climate change on vulnerable countries such as Pakistan was cemented, as well as PPSE project's commitment.

Despite all odds, 2022 was a year of momentum for the PPSE project after the slow uplifting of restrictions of the Covid-19 pandemic, the project made steady strides in its project origination and helped bridge the gap between clean energy companies and investors in the country.

The total number of projects in the pipeline reached 31 with a total aggregate investment ask of about USD 380 million, ranging from an eclectic array of technology sectors, such as solar PPA, wind power, circular economy and e-mobility.

Understanding the sectoral reality of renewables and circularity in Pakistan, PPSE sought to foster and support the startup/
SME sector through an accelerator program

that inducted 20 innovative early-stage companies. Three companies have already garnered USD 1,700,000 in seed investment, and a few are in the works to graduate to PPSE's main project pipeline.

With dedicated advisors from across
Pakistan with diverse expertise, PPSE
further built its social and intellectual
capital by inducting 18 new advisors in 2022,
to its network of technical, transaction and
financial advisory services, totalling 29
advisors.

As the energy and financial sector are particularly male-dominated in Pakistan, the project is dedicated to developing an intersectional and gender-responsive lens.

Thus, PPSE launched its Gender Action Plan following a consultative dialogue and sectoral analysis with key stakeholders.

Lastly, PPSE established itself as an industry leader by initiating the Clean Energy Financing Pakistan Task Force (CEFP-TF), a community of practice, bringing investment professionals who are working on clean energy financing solution sand instruments in Pakistan. In 2022, 40 members joined from banks, development financial institutions, microfinance institutions, venture capital and equity investment.

Achievements

\$1.7M 3

Total seed financing mobilised through the SME Accelerator

New projects which received PFAN support

7

People trained – PFAN Advisors and the Clean Energy Financing Pakistan Task Force **GENDER CASE STUDY**

ezBike

Visit website

Location Investment Amount

Technology

E-mobility

Myanmar USD 1,000,000





'By providing access to climate investors that startups would not otherwise have access to, PPSE increases the viability of cleantech projects and their ability to grow quickly.'



Mohammad Hadii, Co-Founder, ezBike

Pakistan Private Sector Energy Project

Find out more about PPSE's activities in 2022 in its first annual interactive report.

See PPSE Annual Report 👲

09

Success Stories



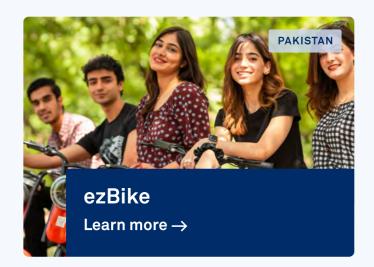
















COUNTRY:

UGANDA

All in Trade

"For so many years, energy access has been a barrier to so many communities, individuals and businesses in Uganda, and this continues to be a big problem," says founder Muhammed Lubowa. "And this is why we have All in Trade. We are a company that has touched and benefited so many people, especially in the off-grid areas. Our unique business proposition is, we say, "let nature pay electricity bills"."



Key Highlights

500K

22%

.11

Finance mobilised (USD)

Project IRR

Installed capacity (MW)

1

Technology Solar Country **Uganda**

Business type

Scale-up

Regional Coordinator



Wilfred Mworia Sub-Saharan Africa

About Wilfred →

Find out more



All in Trade's website

 $\underline{\text{Visit}} \rightarrow$



All in Trade has been harnessing the power of the sun since 2008, offering a product portfolio which covers photovoltaic projects in various sizing from domestic to largescale industrial solutions, thermal water heaters, and services and component sales.

However, their growth in the past has been limited, due to lack of working capital and access to funding, and they have even lost projects due to the non-availability of required equipment in the country.

They wanted to further diversify their product portfolio to include stock of fast-moving items that they could use to quickly implement projects without lengthy import processes. They also wanted to include new products that were in high demand, but were unable to pre-finance a full container shipment to get them into their warehouse.

In order to scale up their business and access the financing required, they looked to PFAN.

'We are grateful to PFAN support. Through their support, we were able to get a coach, Mr Lukas, who has supported us on this fundraising journey. And we believe that through the PFAN network, we can be able to find investors to work with us.'



Mohammed Lubowa, Founder, All In Trade

PFAN matched locally-based Advisor Lukas Grüner with All in Trade to provide support. "We work with the companies to get them investor-ready. We help them to get their business plan in order, to create a solid financial model, to create projections to help them assess the capital needs and to understand, if you get this financing that you're looking for, how are you going to use it?



How do you want to grow your company with it? We work with the company to get all these documents in place, and also to connect them to potential investors and to support them along the way until they actually receive the financing."

Through applying Lukas's advice, Mohammed and his team are able to view scaling up through a new lens. "We look at businesses that are still struggling with energy, and our focus now is looking at commercial and industrial scale energy deployment. Our deployments of energy solutions we have provided have a direct impact on improving the quality of lives of the people where they live in their communities, but also in their households."



They have helped their customers, many of which are local businesses, to reduce their electricity bills and increase profit. "We have cut on our costs because before we were using a lot of electricity, but right now we are using the [solar panel] heaters," says Jackie Nakabubi, Manager of the Kingston Motel.

Kabale Moses Rahid, General Manager of Kangimulia Horticulture and Vanilla Cooperative Society, says ''We have been using locally made dryers. We thought of electricity, but electricity also is very, very expensive. But now, as we partnered with All in Trade, Triggerson German and now we have got the hybrid dryer. We expect to have the best quality for the international market.''

Through this productive use of renewable energy to dry their vanilla beans, they can improve their business and reach more customers, helping to support the local economy and employ more people.

Having worked in the Ugandan market for many years, Lukas is intrinsically familiar with the local energy markets. "I like All in Trade. It is one of my favourite companies because they have a longstanding experience in the solar sector in Uganda," says Lukas.

"They are one the pioneers that basically helped develop the market. They have excellent technical expertise and they have been working profitably for many years, which is something that you don't find and see with all companies here. They have very talented management, Mohammed and the rest of the team, and they actually have the vision to grow the company to a whole new level. All they need is financing which I hope to them get more of it."

So far, PFAN has helped them to secure USD 500,00 from the SIMA Energy Access Relief Fund (EARF) facility, and they are still seeking USD 1 million together with continued PFAN support.

'Our long-term vision is that we can run a sustainable business that can be able to reach out to so many people out there in terms of benefit where we are able to connect more people to the grid, but also be able to provide solutions that are relevant to their energy demands.'



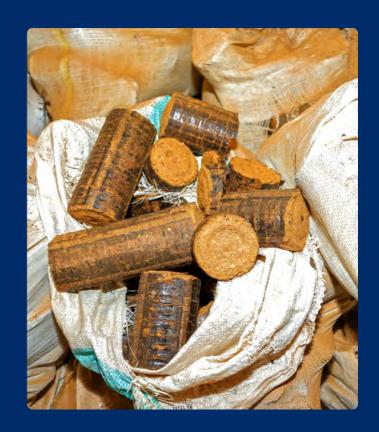
Mohammed Lubowa, Founder, All In Trade

COUNTRY:

UGANDA

Bio-Innovations

It is estimated that 1.7 billion tons of carbon dioxide are emitted annually from deforestation, representing 20% of the current global emissions. Tropical countries like Uganda, where over 91% of the population relies on firewood, are hot spots of deforestation driven by the population's need for cooking and heating fuel.



Key Highlights

100K

23%

232

Finance mobilised (USD)

Project IRR

GHG mitigation impact (tonnes of CO2e/year)

100

Technology Biomass Country

Uganda

Business type

Scale-up

Regional Coordinator



Wilfred Mworia
Sub-Saharan Africa

About Wilfred →

Find out more



Bio-Innovations' website

Visit →



Between 1990 and 2005, Uganda lost 26.3% of its forest cover. With the current growing rate of deforestation in Uganda, it is predicted that by 2050 all natural forests will be gone – unless we do something about it.

The idea for Bio-Innovations came up to combat this widespread deforestation caused by firewood and charcoal production. Bio-Innovations founder, Alex Tumukunde, wanted to bridge the gap between producer and consumer and provide a sustainable alternative, and began working with the idea to use a waste product and turning it into something useful.

This solution took the form of innovate briquettes. Instead of using whole trees, they collect agricultural and forestry waste, process it and convert it into renewable energy. Not only does using these waste products prevent new trees from being cut down, it also reduces carbon emissions. Some of the ingredients for biomass briquettes (i.e. sawdust, rice husk pellets etc) are usually just decomposed, which even generates dangerous methane, or burned off, generating carbon without any meaningful use.

Their main customers are schools, hotels, bakeries, factories and hospitals — over 95% of their target customers use firewood and charcoal for heating and cooking. The company began production with older machines which produced around three tonnes of briquettes on a daily basis. They were looking for ways to scale up, and found that PFAN would be a good fit for them.

'Through PFAN, I was lucky to actually find a coach and a mentor who has been very supportive"

Alex Tumukunde, Bio-Innovations founder

"The main benefit from PFAN for the entrepreneurs is that they get an experienced person who knows the international financing space, who helps them to link them up with international investors. This is something they usually have never done in their lives before," says Lukas Gruener, their PFAN Advisor.



They ordered new machinery in 2019, and by 2020, they were able to increase production from three tonnes to now 20 tonnes daily.

The products are life changing for their customers. "Before these briquettes, we are using the firewood. There were very many effects of firewood. First of all, smoke would spread to the whole place, including the dining area, and some children would run away from the dining. But with these products, the smoke is there, but very little. Secondly, firewood (gathering) used to consume time. But these (briquettes), they are time savers," says Alex.



"We are always very happy for sure when you see a client convert to our briquettes, because you find one of the clients, for example, using 5, 10 trucks of firewood every single day. If you compare that to the amount of forest that the person would have actually cleared, to me, actually I feel motivated to keep on moving because I know I've reduced on what the client was actually clearing," he says.

Bio-Innovations also has two-fold benefits for women and youth: the production chain is simple to involve local people, creating employment opportunities especially for vulnerable women and youth, thus leading to job generation. The project promises tangible benefits to women and girls who suffer the most from inefficient stoves and charcoal fumes in their homes – as cooking in Uganda is mostly considered a woman's household chore – with significantly less fumes emitted from biomass briquettes. Especially in the more peri-urban and rural regions, girls often walk for hours to collect fuel wood for cooking, which can be reduced if affordable alternatives to operate stoves are present.

"Every briquette they sell is one tree less cut down, and that's a very good aspect of this project. They are not only important for PFAN, but for the whole of Uganda and the rest of the world."

After preparing them for the investment-ready stage, Lukas advised Bio-Innovations on the availability of the SIMA Energy Access Relief Fund (EARF) facility and helped them create the full application for it, including all additional information requests during the due diligence process. Through PFAN support, Bio-Innovations received an EARF of USD 100,000. They are currently working with Lukas to secure an additional USD 500,000 in financing to reach their goals.

'Our call to investors is actually to invest more into Bio-Innovations because it's good for the environment. I'm so grateful to PFAN and the investors for supporting us because we couldn't do this without their support'



Mohammed Lubowa, Founder, All In Trade

COUNTRY:

RWANDA

BioMassters

The cooking stove market in Rwanda comes with a unique sense of urgency. The Rwandan government has a target to reduce biomass dependency by 50% by 2024 compared to 2017. The market for stoves and cooking fuel isn't as diversified as comparable African countries either, making it harder for households to respond to rising cooking fuel prices. BioMassters' pellet cooking solution however, uses cleaner, more sustainable, and cheaper fuel than the dominant charcoal fuel used for cooking by the majority of urban Rwanda households.



Key Highlights

165.5K 745.5

Finance mobilised (USD)

GHG mitigation impact (tonnes of CO2e/year)



Technology

Clean cooking



Technology Biomass

Country

Rwanda

Business type

Scale-up

Regional Coordinator



Wilfred Mworia Sub-Saharan Africa

About Wilfred →

Find out more



BioMasster's website

 $\underline{\text{Visit}} \rightarrow$

'One of the challenges faced in Rwanda is that the country is landlocked, meaning all imports have to be transported from the coast which makes a lot of people's modern energy options very expensive.'



Claudia Muench, Co-Founder, BioMassters

It's what makes BioMassters such a well-suited solution for the Rwandan marketplace: modern, affordable, low-carbon cooking reliant on local biomass pellets made from waste wood. Even more important than drastically reduced emissions compared to the dominant cooking fuel of charcoal is the affordability factor — "we want to make sure that everyone can afford to cook. Cooking is not optional."

BioMassters came to life when six former colleagues from a previous pellet programme (three Rwandans, two Dutch, and one German-Brit) assembled feedback from former customers and other stakeholders to find out how to build a better pellet solution for Rwanda, taking into account vital local know-how.



"You can't just give them a stove and not answer the question of where the fuel will be coming from," assures Muench. "Households spend more money on the cooking fuel than on the cooking stoves. Being able to produce low-cost modern fuel is the secret to a scalable and viable business."

"Pellets are very efficient, but you need the right stove that is tuned to the pellets." In that respect BioMassters has a heavy burden, having to create demand for their own supply. So far, however — it's working. Despite only moving to full-fledged operations at the start of this year, the project has built up an impressive pellet production capacity of over 5 tons per day, acquired 1,000 customers over the last quarter and started to export pellets to Kenya and DRC, and the waiting list for future products is assuringly long.



As the company is growing and making a mark in the Rwandan urban market, they are also concluding their carbon accreditation to be able to help fund the business in its growth phase and share carbon revenues with customers. Most importantly, BioMassters will be sharing more than 25% of its carbon revenues with its customers in the form of cashback.

This ensures that the carbon finance flows back to the source of the emissions reduction – the customer. In a dynamic and rapidly evolving carbon market, that hasn't always been able to deliver on its promises – this is a bold and important statement to make.

If 2021 was about proof of concept for BioMassters' 'tool-and-fuel model', 2022 was about proof of scalability. 2023 will be about proof of profitability, and the firm is working hard to increase sales while keeping a lean cost structure and ensuring a reliable supply of pellets. Rwanda is a particularly fast-growing, safe, and promising African market, enough for the team to have confidently bought and upgraded an old pellet factory to suit their needs. They are currently seeking funding to complete the process of setting up a modern 4t/hr pellet production plant. A nearly finished feasibility study suggests that this is a viable plan.

Why are BioMassters going to succeed? Given the energy poverty in the region and the expected climate damage caused by deforestation and high-emission cooking, it is clear that the time for this climate-tech company has come. "Pellet cooking significantly improves the cooking experience for people coming from dirty charcoal. It is cleaner, quicker and cheaper. Our PAYGO consumer financing option also ensures that the majority of urban households will be able to afford the Tier 4 gasification stove we offer," according to Muench. "We see very little dropouts among our customers, and we see customers who have switched entirely – because the solution is so good." The demand is there, now BioMassters needs the capital to take its production and distribution to the next level.

COUNTRY:

FIJI

Leaf Capital

Alex Reddaway, Director and Founder of Leaf Capital, saw an opportunity in Fiji and the wider Pacific to transition one of the biggest emitters in the region – transport – to clean energy, and in particular to combine emobility with renewable energy.

"A bright idea is good, but to be able to access finance, you need to present that idea in a certain way, especially if it's around a green intervention," says David Eyre, PFAN Regional Coordinator for the Pacific. "And that's what PFAN can bring to the entrepreneur."



Key Highlights

230K

9%

4310

Finance mobilised (USD)

Project IRR

GHG mitigation impact (tonnes of CO2e/year)



Technology e-mobility

mobility

Country

Fiji



Technology Solar

Solai

Business type

Greenfield

Regional Coordinator



David EyrePacific Islands

 $\underline{\text{About David}} \rightarrow$



Their mission was to link up Fiji's three main cities along the tourist hub — Suva, Nandi and Lotoka — and the space in between known as the Coral Coast, where about 60% of the tourism industry is located. They currently have several chargers operational along this stretch, with contracts signed for additional ones along the route.

Leaf Capital are among the first in the country to deploy smart DC charging. The energy goes directly to the battery bypassing the onboard inverter, allowing for a much faster charge than conventional AC. They are taking this technology one step further by matching smart DC charging with solar. During sunlight hours, the charger loads at much faster rates, with a mechanism in place to prevent any form of overload on the grid supply or the main switchboard of the host site.

'PFAN helped me through the developing the models that we submitted to them, advising on the sort of approaches that would fly in this context, advising on the sort of partners who could help move to the next level. I feel that PFAN has just been sort of integrated into my team.'



Alex Reddaway, Director and Founder, Leaf Capital

Getting to scale is one of the biggest issues, so understanding the financial model from a scaling perspective to understand where you can make money is a key part of this process, which PFAN helped them to achieve.

'If you want to scale this up, what you need is a solution that allows you to charge at places where you don't know anyone and give them the money that you owe them. And so what our technology does is allows that process and so this can be redeployed in any sphere," says Alex. Once the vehicle is plugged into the charger, the driver can pay for the power directly through a mobile app.



Leaf Capital realised that to make a real difference, they had to reach high-volume users. They are targeting two large segments: the taxi industry, which is spending about 30% per cent of their operating costs on fuel alone, and intercity minibuses, some of which drive about 450 kilometres a day.

For these sectors, a savings of 15 to 20 cents per kilometre adds up quite quickly. It has the added benefit of reducing the amount spent on imported fuel and further encourages investment in locally produced renewable energy, while reducing the cost of tourism and transport – the backbone of many Pacific economies.



"It's fair to say every business wants to contribute positively to the environment," says David. "The challenge is trying to understand how they can do that without compromising their profitability."

Leaf Capital operates with a partnership-based model, which means they do not own any sites. "We operate with partners, we revenue share, we invest in the infrastructure and they give us the space. So we're heavily reliant on the competence and integrity of the people we work with," says Alex.

With PFAN's support, Leaf Capital mobilised financing through two sources – a USD 100,000 grant through the UNDP Blue Accelerator Scheme and a USD 130,000 loan from the local Fiji Development Bank.

'I think that PFAN having presence on the ground through both David and my advisor, Savenaca, who are extremely experienced in the corporate sector in Fiji and the wider Pacific, was the real value added for me.'



Alex Reddaway, Director and Founder, Leaf Capital

COUNTRY:

INDIA

New Leaf Dynamic Technologies

India has a food waste problem – 35 to 45% of farm produce, of which 70% is fruits and vegetables, rots before reaching consumers, resulting in poor economics for farmers and high costs for consumers, who pay twice what they should for fruit and vegetables.



Key Highlights

970K

34%

6571

Finance mobilised (USD)

Project IRR

GHG mitigation impact (c)

Technology Biomass Country India

Business type
Scale-up

Regional Coordinator



Pamli Deka South Asia

About Pamli →

Find out more



New Leaf's website

 $\underline{\text{Visit}} \rightarrow$

Farms have almost no infrastructure to cool or pre-cool produce. Ripening chambers – used to ripen fruit and vegetables to maturity for consumption – are also very rare, with a 90% shortage nation-wide. Meanwhile, there is no capacity in the country for manufacturing refrigeration compressors, which acts as a pump that moves the refrigerant through the system.

Equipment is imported from the US or Europe and uses conventional refrigeration technology that consumes large amount of grid power or diesel fuel, making units expensive to both buy and run. Their use also emits greenhouse gas emissions, since the grid in India is 82% fossil fuel powered.

'India has no testing standards, labs or technical know-how in terms of refrigeration technology.'



Akash Argawal, Co-Founder of New Leaf Dynamic Technologies

In 2012, Argawal and his father – neither of whom came from a manufacturing background, nor experience in the cold-chain sector – co-founded New Leaf Dynamic Technologies to fill this gap in the market.

"Our vision was to develop a Made in India technology that can be adopted by farmers for the cold chain in this country," he says.



The resulting technology – dubbed GreenCHILL – is an adsorption-based refrigeration technology combined with a biomass gasification unit to provide hot water for the adsorption cycle. It has zero ozone depleting potential, nor global warming potential. Biomass units are fuelled by materials readily available on farms, such as husks of rice, wheat, coffee or mustard; cashew waste, coconut shells or waste wood.

The system is multi-purpose and can be used as cold storage, pre-cooler, ripening chamber and dehydrator at farms or aggregation centres to store fruit, vegetables or flowers, and to process horticulture produce. Power consumption is cut by 95% compared with conventional refrigeration systems.



In addition, the residual ash is spread back on the fields, returning some of the minerals from its original source back to the farm's soil.

So far, GreenCHILL technology is being used by farmers across eight states to store 30 different varieties of fruits, vegetables and flowers round the year. Farmers can now run cold rooms at their farm sites at zero operational cost, using just farm waste. This has helped farmers generate an additional income of up to USD 6,000 a year by reducing post-harvest loss from 30% to just 5%. Farmers using coolers can also wait to sell their produce at the optimum price, generating more revenue from their crops. The units reduce greenhouse gas emissions by 30-40 tonnes of CO2 equivalent per year.

Having access to off-grid refrigeration technology will become increasingly important as the climate warms, Argawal says. "There's a lot of power cuts in India. The temperature is rising, and the grid is not reliable enough to provide 24/7 power to the farm or anywhere in the cold chain," he says.



In spite of this, other refrigeration manufacturers are not even considering technology powered by renewable energy, he says.

In addition to saving farmers significant amounts of money, New Leaf's technology helps rural women earn additional income by collecting biomass for farmers.

"Around 20-25% of New Leaf's customers are female, and the company trains them on best practice in terms of post-harvest management", says Argawal. "We want to make them future ready so that in next 5-10 years, whenever the cold chain is being built in India, they are the frontrunners in managing those operations", he says.

"PFAN supported New Leaf to prepare all the documents it needed to provide to potential investors so they could carry out their due diligence", Argwal says. This included its business plan, cash flow, balance sheet, profit and loss statements and projections. The support was instrumental in the company obtaining USD 800,000 in funding from Facebook co-founder Dustin Moskovitz.

Mentoring from PFAN also helped Argawal and his team to realise that they should focus on their main product, rather than considering potential alternative applications or markets for their technology. New Leaf now has a goal to build sales to at least 500 units a year before looking at other markets.

'PFAN helped us see that you have to focus on the activity that brings the greatest revenue. If you keep your focus, other things will automatically move in parallel.'



Akash Argawal, Co-Founder of New Leaf Dynamic Technologies



COUNTRY:

MYANMAR

Techno-Hill Engineering

Back when Techno—Hill Engineering, Ltd. was founded in 2016, the power needs of some 70% of Myanmar's rural areas were still not being covered reliably by the country's national grid. Such massive blind spots leave hundreds of villages on islands and remote areas, not to mention thousands upon thousands of Myanma with intermittent and overpriced power — or even no power at all. Perhaps nobody is more affected by these rural energy deficits than Myanmar's female population.



Key Highlights

400K

22%

82

Finance mobilised (USD)

Project IRR

GHG mitigation impact (tonnes of CO2e/year)

.21

Technology
Rural electrification
and energy access

Technology Solar

Installed capacity(MW)

Country **Myanmar** Business type

Brownfield

< To Content

Regional Coordinator



Peter du Pont Southeast Asia

<u>About Peter</u> →

Find out more



Techno-Hill's website

 $\underline{\text{Visit}}$ →

'When we look at the village women, their daily lives are quite hard. They have to wake up early, they have to use firewood to cook, they have to do all the house chores.'



Barani Aung, female founder who leads the team at Techno-Hill Engineering, Ltd

Today, however, Techno-Hill's mini-grids are providing power to over 6,600 such households, all previously out of reach from the national grid in Myanmar. For many of these women, it's life-changing. Electricity not only provides women with an easier means of cooking and washing, but also creates opportunities for home industries and rural productive use enterprises, which in turn creates employment opportunities for women. With sufficient lighting at night, it creates a safer environment for movement and studying opportunities.

"Now that we provide 24-hour electricity, they can use electric cookers... they can save their time! Some households use a washing machine now, or an iron", says Aung. The mini-grids also have trickle down effects through contributing to the productive use of energy by their customers. "One lady even started a bakery at her house," says Aung. "Some women [have] opened up shops now."

With guidance from PFAN, Techno-Hill has been able to leverage what were initially unforeseen benefits and attracted support from a variety of sources. In addition to connecting previously off-grid sites, Techno-Hill is making greener energy more affordable and reliable for thousands of homes and SMEs. Their centralised and hybrid mini-grid systems sell more reliable power for less than previously paid for utterly unreliable and more carbon-costly services.

With a growth model built upon first targeting the villages with the highest potential revenue, Techno-Hill is shooting for the moon and is aiming to provide electricity to 50,000 households by 2025.



The project goes far beyond growing a customer base though. Well aware of the benefits her company's mini-grids provide to Myanma women, Aung sets aside several kilowatt hours of energy free for public services, providing light to thousands in the form of street lamps, or free lighting for schools and hospitals. These developments benefit the region's women in particular, improving access to health and education, providing the opportunity to walk home safely at night on lit streets and literally providing power to fuel those enterprising new ideas. Aung also works to share her learnings and insights with others, for example, her participation on the PFAN panel at the Asia Clean Energy Forum 2022.



Nexus for Development, a non-profit which provides access to finance for clean energy in Asia, has been working with Techno Hill since 2019 and saw the potential for expansion. They manage the Pioneer Facility fund which provides scale-up capital to enterprises that offer sustainable energy and clean water solutions to underserved populations in Southeast Asia.

The fund's USD 400,000 loan is the first international investment into the company, which will finance the CAPEX for a new 209 kW solar mini-grid project at Thae Chaung village in Southern Myanmar. It will provide reliable 24-hour electricity supply for 700 households or 3000 people, 90 streetlights, 5 public facilities and 23 productive use of energy (PUE) businesses.

This financial closure is a huge boon for Aung, but she's ready for the next step. She plans to continue to scale up and is seeking further equity or debt financing for Techno-Hill. Together with her PFAN Advisor, Min Chan Win, Aung is working on new financing targets of up to USD 1M in debt financing.

'The coaching gave her a better sense of the overall value proposition and an enhanced perspective on the critical work she does for vulnerable rural women and communities," says Chan Win. "Based on this, she's working towards sharpening her investment pitch, so that the newly attracted capital could not only benefit Techno-Hill, but also be meaningful for the rural beneficiaries across the country."

COUNTRY:

PAKISTAN

ezBike

ezBike, Pakistan's first electric bike-sharing service, has generated around USD 1 million in its first pre-seed round. This is cause for celebration for ezBike of course, but also the e-mobility sector as a whole as well, as the market share opportunity for electric two-wheelers is estimated at USD 20 billion. A flurry of investment in one company bodes well for e-mobility vehicles and infrastructure that is in its nascent stage in Pakistan, but is a crucial driver towards the country's clean energy transition.



Key Highlights

11

10M

111%

Finance mobilised, pre-seed round (USD)

Investment ask (USD)

Project IRR

Technology e-mobility

Location

Islamabad

Business type
Scale-up

Find out more



ezBike's website

<u>Visit</u> →

ezBike



The company was inducted in the Pakistan Private Sector Energy (PPSE)'s SME Accelerator in November 2021, which focused on expanding the portfolio of commercially-viable clean energy projects and providing support to enable them to strengthen their business model and access financing. Since graduating from the accelerator, the company has entered the PPSE main project pipeline as well.



ezBike is Pakistan's first electric moped sharing service, deploying e-mopeds in public parking areas and allowing registered users to locate, reserve and unlock them using the dedicated app. Users ride the mopeds themselves to their point of destination, leave them in any designated parking zone and pay for the service digitally. ezBike is the only tech-enabled, self-drive solution in Pakistan and they are on a mission to revolutionise mobility in the country by introducing their most affordable, convenient, green and inclusive shared mobility offering.

Since launching in the fall of 2020, the company's electric mopeds have made a noticeable impact on the mobility landscape of its pilot city, Islamabad, with over 100,000 customers using this refreshing and sustainable alternative mobility, particularly the city's youth.



The investment garnered by the initiative includes i2i Ventures, Walled City, Ground Up and leading angel investors in the United States. The company intends to use the funds for scale up and to bolster the mobility infrastructure in the country through the production of low-cost lithium-ion batteries and a network of battery swapping stations.

Mohammad Hadi, a former investment banker, and Ali Moeen, a software executive, are the founders of ezBike and started the sale of its electric scooters in 2022. The ambition of these founders is Pakistan-wide, with a vision to revolutionise urban mobility as accessible, sustainable and shared.

These lofty goals require high levels of investment in addition to the pre-seed round acquired, which is why PFAN PPSE has inducted ezBike in to its main project pipeline to facilitate financial investment. Mohammed said that the company is interested in PFAN support to diversify the investor base that will fund the company's mission of electrifying Pakistan's two-wheeler market.

"The PPSE project is one of the few facilitating debt financing in Pakistan, which is currently lacking for clean-tech startups, but has potential to create real momentum in the market," he says.

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'At present the only source of capital for cleantech startups is equity financing from the venturemarket. PFAN and PPSE provide a vital additional source of capital to these startups, especially be-cause they specialize in the clean tech and climate space. By providing access to climate investors that startups would not otherwise have access to, PPSE increases the viability of cleantech projects and their ability to grow quickly'



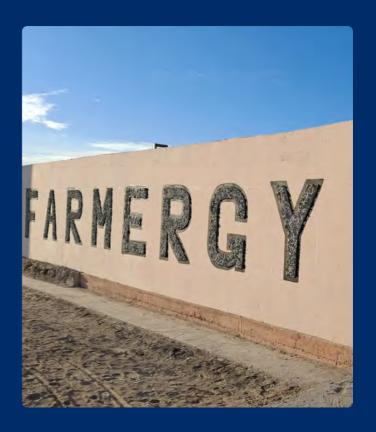
Mohammad Hadi, ezBike CEO

COUNTRY:

UZBEKISTAN

Farmergy

Korean-owned company Farmergy had been on the lookout for opportunities to develop Uzbekistan's sizable sustainable energy potential. Initially looking into photovoltaic in the country, they have since switched focus to agriculture, representing a whopping 30% of Uzbekistan's GDP. This massive – and essential – sector produces large amounts of waste never put to proper use. "We had the idea then of turning waste to energy," says Gap-Cheol Kim, general director at Farmergy and one of the key minds behind the project.



Key Highlights

1.3M

27%

24.5K

Finance mobilised (USD)

Project IRR

GHG mitigation impact (tonnes of CO2e/year)

Technology Bio-fuels Location

Uzbekistan

Business type

Greenfield

Regional Coordinator



Rostyslav Maraikin
Eastern Europe & Central Asia

About Rostyslav →

Licorice is the primary crop at the start of the process, a legume family plant with various uses from cosmetics to food, with Uzbekistan producing many thousands of tonnes annually. Besides residual waste along the way before export to China and other countries, licorice processing also generates vast quantities of foul odours. It's all addressed by channelling licorice waste into fuel pellet production. "We want to resolve this for the community", says Kim. "We can provide new jobs too, and there are also people who don't have access to energy, for whom we can provide either low price or even free energy". It would seem the benefits of closing sustainability gaps in Uzbek agriculture are unusually beneficial at the local and national level.

The roots of Farmergy go back to initial cooperations with the Uzbek government in 2014. "Initially my counterpart was the Ministry of Economy!" grins Kim. "They've since established a new [climate-focused] ministry." After Korean investment saw little real progress, initiating Farmergy was envisaged to launch a smaller project, a foreign enterprise that could see results more quickly. "It's simple, it's small in size, and it's very practical."



"One of the personnel from the Ministry for Economy in Uzbekistan now works for PFAN as a coordinator," says Kim, describing how Farmergy first met the network. "PFAN helped me to perfect the business plan and to build some tools for financial analysis." Kim then went on the hunt for funding, and a key investor was soon secured thanks to PFAN's help.



Pellet demand varies a lot from season to season, providing household heating in winter, and swivelling more to industrial heating in summer and autumn. "Recently, there is also some demand for exports too, even," says Kim.

"In some European countries pellets sell for triple the price Farmergy are offering — so their market reach is already growing. Located in Karakalpakstan in the northwestern part of the country, the Farmergy facility has a capacity to produce 50 tonnes of pellets per day. "But, as I've told you, the country produces far more waste than that every day," reminds Kim. Other sources besides licorice root could be utilised to produce pellets in future, such as sunflowers. Kim is clear though — "first however, I would like to expand our capacities."

COUNTRY:

MEXICO

La Pluma Solar Park

Plans for a solar farm in Mexico that is both owned by a local company and can sell electricity to the grid and industrial offtakers have been in the works for some years. Overcoming challenges posed by the Covid-19 pandemic, a new president removing financial incentives and a location change due to environmental constraints, the La Pluma Solar Park is now moving into the feasibility study stage.



Key Highlights

945K

18%

Finance mobilised (USD)

Project IRR



Country Mexico

Business type

Greenfield

Regional Coordinator



Federico Fische

About Federico →

"The project had several strengths that attracted the support of PFAN," explains PFAN Advisor Patrick D'Addario. "This included a good location for solar electricity generation, a very good engineering team, and a regulatory framework that makes it possible for a private generator of renewable energy to sell to private parties in industrial or commercial estates via the grid," he says.

The offtaker in this case is a nearby industrial park where many individual companies are located, including vehicle manufacturers who are opening plants in Mexico due to tax benefits. The project will indirectly create jobs at the industrial park by supplying energy needed by such businesses.

This innovative arrangement for distributing the energy produced by the park also stands to be one of the project's main benefits, he adds. "A solar farm that sells to private offtakers and distributes the electricity over the grid sounds simple, but they're both big hurdles. It will be the first project of its kind in Mexico, and can provide a template for this happening elsewhere," he says.



PFAN supported the project's bid for funding for a feasibility study. This involved helping them to clarify the commitment of the offtaker and the solar park's financial plan, which had been complicated by the fact that Mexico's president had scrapped the previous administration's renewable energy credit programme.



The solar farm had originally been planned as a 100MW project for a different site at Susupuato in the state of Michoacán. However, various environmental constraints, including the site's proximity to the Monarch Butterfly Biosphere Reserve, a UNESCO World Heritage site, as well as issues to do with terrain, vegetation and a nearby river, made the original plan unbankable and not environmentally friendly, so the owner of Enermun proposed the new site in Coahuila.

The project is being developed by Tracy Mathieu, Vice President of Business Development at Partnership International (PI), a US-based consultancy undertaking the legal, financial, regulatory, environmental and technical aspects of the project on behalf of Enermun.

As a result of PFAN's help, the project was granted funding to carry out both the feasibility study into the original project at Susupuato, and now the new site at Marte.

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