
solshare
2024
ANNUAL
REPORT
A DECADE OF EMPOWERING UNDERSERVED COMMUNITIES

MESSAGE FROM THE CEO

FOREWORD – LOOKING CLOSER, BUILDING BETTER

Each year, as we reflect on our journey at SOLshare, we are reminded of a fundamental truth: *Where you choose to look determines what you see.*

Too often, global conversations on climate solutions orbit around a narrow set of actors—those with deep capital, large infrastructure, and global visibility. But real transformation? It's emerging at the edges. In places where urgency fuels creativity. In communities that don't have the luxury to wait. From people who must—and do—make it work.

Earlier this year, Pakistan quietly imported 10 GW of solar in just four months, joining the (hopefully not for long) elusive **25% Club**—countries sourcing at least a quarter of their electricity from solar. This shift wasn't driven by high-level policy alone but by tens of thousands of electricians—self-taught via TikTok—bringing solar directly to rooftops and businesses.

If that's not a wake-up call, what is?

At SOLshare, we believe **Bangladesh is next**. We see the signs every day:

Solar panels rising above garment factories.
Smart batteries rolling beneath rickshaws.
Communities learning to store power like they once learned to pump water.
This isn't theory. It's momentum.

Turning Momentum into Milestones

Through **SOLroof**, we responded to the growing energy insecurity in Bangladesh's industrial sector by commissioning over **5 MWp** of rooftop solar on commercial and industrial facilities. Factories are saving up to **20%** on energy bills, earning LEED points, and reducing their dependence on fossil fuels—all while staying competitive in an increasingly climate-conscious global market. With the **Greener Garments Initiative (GGI)**, founded by Heartland, the holding and investment company of BESTSELLER, and SOLshare made real headway toward decarbonizing Bangladesh's RMG sector, proving sustainability can be a driver—not a drag—on growth. This was further underlined by a recent investment into GGI by Dutch social impact investment fund ORE (established by One to Watch and Truvalu).

In the refugee camps of **Cox's Bazar**, we installed two new **SOLgrids**, now powering over 100 families displaced by violence and disaster. Here—where the future often feels uncertain—SOLshare is helping restore control, safety, and opportunity. Lights come on at night, mobile phones charge, and children study under solar-powered lamps. Small victories, yes—but they echo loudly in places where basic needs are often unmet.

Perhaps the most profound transformation this year came through **SOLgrid**, our peer-to-peer energy trading platform. Once an off-grid innovation, it has matured into a **grid-integrated**, community-led model for energy democracy. While the Point of Common Coupling (PCC) hasn't grown in size, its scope has expanded. Farmers are now connecting solar-powered irrigation pumps—turning excess energy into productive, income-generating assets.

This is energy innovation with purpose. And now, it's evolving into something bigger:
The Rickshaw Virtual Power Plant (R-VPP)—a bold new frontier where smart batteries and solar-powered charging hubs under SOLmobility will buffer up to 30% of national peak demand. What began in our garages has become a functioning proof of concept—and soon, a scalable solution.

A New Fiscal Year, A New Chapter

Bangladesh's energy transformation will require a massive scale-up in both solar PV and battery storage. Without a credible demonstration that this transition is already underway, we risk missing the single biggest future source of **Foreign Direct Investment (FDI)**. Our export-driven sectors like RMG will struggle to stay competitive. And millions of Bangladeshis will remain underserved.

That's why **FY25/26** is a pivotal year for us.
Our new OKRs are not just corporate targets—they are **shared commitments**:

- Become **cashflow positive**, laying the foundation for long-term growth.
- Install **15 MWp** of new rooftop solar and secure another **15 MWp** in PPAs.
- Deploy **1,000 SOLdongles**, turning e-rickshaws into micro power plants.
- Raise **$2M in catalytic equity**, unlocking the next wave of climate finance.
- Maintain **zero battery safety incidents**, **high repayment integrity**, and real, **long-term customer impact**.

These are not abstract goals. They're tied to real lives:
The factory owner fighting blackouts.
The driver eager to earn more.
The development partner looking for scalable, just impact.
We don't just deploy tech—we **build ecosystems** where energy isn't a privilege, but a platform for opportunity.

Our long-term vision?

- Reach 250 MWp rooftop solar by 2030, backed by $50M international equity and $50M local debt.
- Put 1 million EVs on the road, remotely controlled by our technology, generating over $100M in gross profit.
- Ensure that any bank providing a loan for lithium batteries uses SOLshare as the platform to secure it.

The Future Is Already Here
Yes, the work is hard. But our purpose is clear—and our path is shared.
If we cut through the noise and look in the right direction, there is so much reason to hope. The future is already being built—by us, with us, and for those long excluded from the clean energy conversation.
To our **team**—thank you for your relentless dedication.
To our **partners**—thank you for believing in us.
To our **communities**—thank you for growing with us, side by side.

Let's keep looking closer.
Let's build from the edges.
Let's **create a network. Share electricity. Brighten the future**

With gratitude and resolve,

Dr. Sebastian Groh
Managing Director, SOLshare

Sebastian with his co-panelists at the Cleantech Forum Asia during a panel session co-hosted by Zayed Sustainability Prize

Sebastian at the solar rooftop installation at Hydroxide Knitwear Ltd.

EXECUTIVE SUMMARY

2024 was a landmark year for SOLshare, marked by deepened community impact, accelerated clean energy adoption, and bold steps toward global scale-up. From deploying smart lithium-ion batteries across Bangladesh's electric three-wheeler (E3W) ecosystem to pioneering peer-to-peer microgrids in underserved regions, SOLshare's decentralized model continues to deliver tangible social, environmental, and economic value. Over 100,000 people benefited from our solutions till date, including 1,000+ E3W drivers who saw income gains of up to 30% and 4900+ metric tons of carbon dioxide reduced across our operations.

SOLshare's flagship business line SOLmobility experienced significant expansion. Smart battery deployments and solar-powered charging hubs under SOLmobility supported the rise of the Rickshaw Virtual Power Plant (R-VPP), a scalable innovation with the potential to buffer up to 30% of national peak demand. This year was particularly significant for the VPP, as we successfully piloted the concept in one of our garages turning it from theory into practice with a functioning proof of concept. Meanwhile, SOLroof installed over 5 MWp of rooftop solar till date, with 20+ MWp in the pipeline, enabling industries to decarbonize while cutting energy costs.

Globally, 2024 saw record EV adoption and a shift toward distributed renewable energy systems. These trends affirm SOLshare's integrated model of clean mobility and smart energy access. Nationally, emerging energy policies now formally recognize Virtual Power Plants and peer-to-peer trading, directly validating SOLshare's approach.

Looking ahead to 2025 and beyond, SOLshare aims to scale its Rickshaw VPP model, expand access to green financing, and take its innovations global. As part of the EU-backed SWARM-E initiative, SOLshare is piloting intelligent swarm grids in Rwanda and Tanzania. We are also determined to leverage AI-backed data analytics and cloud-based signaling to further strengthen the intelligence, flexibility, and responsiveness of our VPP systems—ushering in the next phase of inclusive energy innovation.

Together with communities, partners, and policymakers, SOLshare is building a future where clean, inclusive energy reaches those who need it most—starting in Bangladesh and expanding beyond.

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MISSION

CREATE A NETWORK. SHARE ELECTRICITY. BRIGHTEN THE FUTURE

VISION

FACILITATE A CLIMATE-RESILIENT, EQUITABLE AND SUSTAINABLE FUTURE FOR ALL WHERE SMART TECHNOLOGY INNOVATION IS THE ENABLER FOR THE PEOPLE'S EMPOWERMENT.

KEY METRICS & IMPACT

AT THE END OF 2024

ENVIRONMENTAL AND SOCIAL

4900+
METRIC TONS OF CO_2 REDUCED
72% MORE THAN 2023

4000+
MWH OF SOLAR GENERATED
ACROSS ALL BUSNESSES

48.8K
KGS OF LEAD SWAPPED
WITH LI-ION BATTERIES

75%
BENEFICIARIES ARE WOMEN AND CHILDREN

2300+
HOUSEHOLDS AND MICROBUSINESSES BENEFITTED

1000+
TOTAL NUMBER OF E3W DRIVERS BENEFITED

DRIVING CLEAN ENERGY ACCESS AND CLIMATE RESILIENCE,
SOLSHARE'S 2024 IMPACT REFLECTS DEEPER DECARBONIZATION AND BROADER COMMUNITY REACH AMONG WOMEN, CHILDREN, AND EV DRIVERS.

2600+
EMPLOYMENT OPPORTUNITIES CREATED

100K+
TOTAL NUMBER OF BENEFICIARIES
ACROSS ALL BUSNESSES

KEY METRICS & IMPACT

AT THE END OF 2024

ECONOMIC AND OPERATIONAL

220+
NUMBER OF SMART BATTERIES DEPLOYED ON THE ROAD

50+
NUMBER OF SOLAR POWERED GARAGE PARTNERS

30%
INCREASE IN INCOME FOR E3W DRIVERS
THROUGH BATTERY LEASING

5.25+
MWP OF SOLAR INSTALLED
BOTH OPEX AND CAPEX

20+
MWP OF PROJECTS IN PIPELINE
BOTH OPEX AND CAPEX

120+
P2P MICROGRIDS INSTALLED
INCL. 4 IN ROHINGYA CAMPS

7.8M+
FUNDING RAISED TILL DATE
ACROSS ALL BUSINESSES

$670K+
TOTAL REVENUE GENERATED IN 2024
ACROSS ALL BUSINESSES

ADVANCING INCLUSIVE ENERGY INNOVATION,
SOLSHARE'S 2024 GROWTH EMPOWERED DRIVERS ECONOMICALLY WHILE SCALING SMART INFRASTRUCTURE ACROSS COMMUNITIES AND CLEAN MOBILITY HUBS.

MARKET & INDUSTRY INSIGHTS

BANGLADESH'S RENEWABLE ENERGY LANDSCAPE

Bangladesh's renewable energy (RE) sector stands at a pivotal juncture. Despite significant strides in electrification—officially reaching 100% grid coverage in 2022—sustainable energy access remains elusive for many. The nation's dependence on fossil fuels still accounts for more than 97% of its energy mix, and the Bangladesh Power Development Board (BPDB) reported in 2023 a staggering production loss of BDT 47,788 crore (USD 3.91 billion) due to the high cost of generation (BDT 11.33/ USD 0.093 per unit) versus subsidized sale prices (BDT 6.7 / USD 0.055 per unit). This imbalance underscores the urgent economic need for alternative, cost-effective energy sources such as solar.

The Renewable Energy Policy (REP) 2025, released in February, seeks public feedback and sets ambitious targets: 20% (6,145 MW) of electricity from renewables by 2030, and 30% (17,470 MW) by 2041. However, according to the Centre for Policy Dialogue (CPD), a more realistic demand forecast would mean 20% corresponds to just 5,600 MW by 2030, and 30% to 10,500 MW by 2041. A major shortcoming of the policy is its lack of a fossil fuel phase-out plan. While countries like the UK and Germany have announced coal exit timelines—2024 and 2038 respectively—Bangladesh continues to support conventional fossil fuels. Without a clear strategy to reduce reliance on these sources, the renewable energy targets risk being viewed as symbolic rather than actionable.

However, private sector players like SOLshare are filling this void with distributed solar innovations such as SOLroof and SOLgrid, which have added 5 MWp of commercial rooftop capacity in 2024 alone.

The emerging Draft Renewable Energy Policy signals a forward-looking approach. It proposes clearer mandates on distributed solar integration, support for net-metered systems, and incentives for decentralized Virtual Power Plants (VPPs)—directly validating SOLshare's decentralized solar + storage models. The inclusion of these policy shifts marks a national pivot from utility-scale ambitions to community-based, bottom-up energy systems that align with SOLshare's foundational mission.

Source: The energy transition in Bangladesh, *The Business Standard*; PDB incurs record losses, *The Daily Star*; The draft Renewable Energy Policy 2025 needs revision, *The Daily Star*; The Renewable Energy Policy, 2025; CPD

GLOBAL ENERGY TRENDS & SOLSHARE'S EFFORTS

Globally, 2024 witnessed a continued surge in renewable energy adoption and electrification. The International Energy Agency (IEA) reported a 25% rise in global EV sales, reaching 17.1 million units, with two- and three-wheelers accounting for nearly half the global EV fleet. This reinforces the strategic relevance of SOLmobility's focus on E3Ws in Bangladesh, where over 5 million such vehicles operate. While developed economies prioritize four-wheeler EV infrastructure, the Global South's energy transition is increasingly shaped by micro-mobility—making SOLshare's interventions especially timely.

Virtual Power Plants (VPPs) have gained mainstream attention in Europe and parts of Asia, as grid operators seek flexible, decentralized solutions for load balancing amid growing renewable penetration. For instance, Germany and South Korea launched large-scale VPP pilots integrating household storage and small-scale renewables. Similarly, peer-to-peer (P2P) energy trading has gained traction, particularly in Australia and Japan, where utilities are piloting blockchain-based energy marketplaces. These global experiments parallel SOLgrid's architecture—a proven P2P microgrid system allowing users to trade excess solar via mobile money.

In the distributed storage space, India's rural lithium battery leasing models have scaled rapidly, de-risking financing for EV drivers and creating new fintech-energy synergies—an approach that SOLshare adapted through its IoT-enabled PAYG battery model. By embedding smart technology in batteries and solar assets, SOLshare transforms them into bankable, trackable assets—a prerequisite for climate-aligned financing that mirrors trends in fintech-integrated energy ecosystems globally.

As global markets shift from centralized megaprojects to resilient, distributed networks, SOLshare's hybrid model of decentralized generation, mobility-linked storage, and IoT-backed financial innovation places it firmly at the forefront of climate-tech evolution—not just in Bangladesh, but as a replicable model for other frontier markets.

Source: Trends in electric car markets,*IEA*

GOVERNMENT PARTNERSHIPS & REGULATORY DEVELOPMENTS

The Government of Bangladesh has taken cautious yet deliberate steps toward regulatory modernization in the renewable energy space. The Draft Renewable Energy Policy acknowledges several structural bottlenecks and aims to rectify them. Key proposals include raising net metering capacity limits, introducing performance-based incentives for decentralized storage, and formally recognizing Virtual Power Plants (VPPs) and peer-to-peer microgrids within the national energy framework.

These policy pivots are directly aligned with SOLshare's portfolio. The company's SOLgrid networks, which began as off-grid community microgrids, are now being integrated with the national grid through Points of Common Coupling (PCC), creating the infrastructure foundation for decentralized grid participation. This integration—validated by the success of the PCC at Saddam Bazar—is exactly the type of decentralized energy service envisioned in the draft policy.

In parallel, SOLshare's partnerships with financial institutions such as Prime Bank and Mutual Trust Bank signal a growing appetite among formal lenders to back clean mobility solutions. This alignment between policy evolution and financial innovation is critical. By using its IoT-powered battery platform to de-risk energy asset lending, SOLshare is enabling financial institutions to confidently extend credit—directly supporting the policy goal of widening access to green financing.

International donor support is also rising in tandem. The UK government's backing of SOLshare's PCC pilot and visits from the EU Delegation and German Embassy in 2024 indicate strong multilateral interest in Bangladesh's distributed energy future. These engagements further validate our model as one that not only fits within emerging regulatory frameworks but actively shapes them.

OUR INVESTORS GET A CHANCE TO INVEST IN THE CLEAN ENERGY FUTURE OF BANGLADESH THROUGH OUR SCALABLE SOLUTIONS AND THUS TAP INTO THE CHANGING GLOBAL ENERGY MARKET CONSTANTLY INFLUENCED BY THE 5D'S- DECENTRALIZATION, DECARBONIZATION, DIGITALIZATION, DEMOCRATIZATION AND DISRUPTION.

COMPETITIVE EDGE

SOLshare provides clean energy solutions to rural and semi-urban areas via its unique ICT service platform, making renewable energy accessible and affordable to marginalized communities, aligning with global sustainable development goals. Our in-house quality assurance and customer relationship management enable us to adapt our technology to client demands, staying dynamic in a shifting energy market and bridging the energy gap at the grassroots level.

Invest in Bangladesh

Now is the time to invest in Bangladesh. With electricity demand surging, the country plans to scale up to 60,000 MW of power generation by 2041, including 6,145 MW (20%) from renewables by 2030—mainly solar. It has also pledged to cut carbon emissions by up to 21.85% by 2030 under its updated NDC for the Paris Agreement. As Bangladesh graduates from LDC status in 2026, energy demand will accelerate, creating strong demand for decentralized, resilient solutions.

The Renewable Energy Policy 2025 explicitly supports Battery Energy Storage Systems (BESS) and peer-to-peer (P2P) energy trading through decentralized grids. SOLshare is uniquely positioned for this shift. We are leveraging existing infrastructure—over 5 million electric three-wheelers and 6 million solar home systems—to build a decentralized Virtual Power Plant integrating distributed solar and storage into the national grid.

As pioneers in climate tech in Bangladesh, we bring proprietary solutions, deep technical expertise, and over 100 years of combined industry experience. We are ready to lead global climate action and deliver future-ready energy systems.

Source: Bangladesh pledges to reduce 22% carbon emission by 2030; The Renewable Energy Policy 2025

5M+
E3Ws on the road

30K+
E3W charging stations

40%
Clean energy target by 2041

31K+ MW
Total generation capacity

1270 MW
Total generation capacity

OUR IMPACT

As a climate tech start-up, we're committed to combating climate change by leveraging technology to provide clean energy solutions across diverse user groups, from rural communities to commercial and industrial sectors, mitigating the impacts of global warming.
In 2024, we reduced approximately 4900 metric tons of CO_2 emissions in Bangladesh, advancing sustainability in the energy sector through innovative and sustainable solutions. We at SOLshare believe our innovative actions go beyond mere responsibility; they pave the way for positive change, inspiring future generations and start-ups to join us in leading the way towards a sustainable future, beginning right here in Bangladesh.

REDUCING 4900+ $MTCO_2E$ ANNUALLY

THIS IS EQUIVALENT TO GHG EMISSIONS FROM

1,143
Gasoline-powered passenger vehicles driven for one year

12.5 M
Miles driven by an average gasoline-powered passenger

CO EMISSIONS FROM

550K
Gallons of gasoline consumed

481K
Gallons of diesel consumed

5.5 M
Pounds of coal burned

11,345
barrels of oil consumed

THIS IS EQUIVALENT TO THE CARBON SEQUESTERED BY

81,022
tree seedlings grown for 10 years

Source: *Greenhouse Gas Equivalencies Calculator,* EPA

SOLSHARE AT A GLANCE

Founded in 2014, SOLshare is pioneering decentralized energy solutions in Bangladesh and beyond. We take pride in empowering communities through innovation, inclusivity, and a shared commitment to a cleaner, smarter energy future.

SOLSHARE IS A GREEN UTILITY COMPANY CREATING A GLOBAL NETWORK OF SMART DISTRIBUTED SOLAR PV AND STORAGE ASSETS AT THE NEXUS OF ENERGY AND TRANSPORT TO INCREASE RENEWABLES TO THE GRID WHILE PUTTING MORE MONEY INTO THE POCKETS OF FIVE MILLION ELECTRIC THREE-WHEELER DRIVERS IN BANGLADESH TODAY.

Using smart battery technology, these assets become bankable and as such accessible to the low-income population driving the electric vehicle revolution. We are on the verge of developing the country's first AI driven Virtual Power Plant, the Rickshaw VPP, with the potential to buffer up to 30% of the country's peak grid load. This is a critical piece of the journey to net-zero. And if we can do it here in Bangladesh, we can do it anywhere.

SOLshare was founded with a vision to transform energy access in Bangladesh by addressing a fundamental challenge: while the country had installed over six million solar home systems, a significant portion of the generated energy—up to 30%—remained unused. At the same time, rural households and businesses struggled with limited power due to the constraints of their system design. With a strong will to bridge this gap, SOLshare pioneered an innovative approach to energy sharing, enabling communities to trade excess electricity, optimize their energy consumption and minimize energy wastage.

From the outset, SOLshare's mission extended beyond mere access to electricity. We recognized that true transformation towards sustainability lies in the flexibility and profitability of energy use—empowering communities to generate income through innovative approaches. Through the interconnection of solar home systems, SOLshare has pioneered decentralized peer-to-peer energy trading networks, redefining energy distribution to be not just accessible, but also more efficient, flexible, and economically empowering.

With the energy landscape in Bangladesh evolving, the country is now witnessing a new emerging market: electric three-wheelers (E3Ws). With over five million of these E3Ws on the road, the demand for efficient and accessible charging solutions has heightened. However, the existing charging infrastructure comes with significant challenges—shortening battery life, increasing financial strain, and contributing to hazardous battery disposal which poses environmental risks. SOLshare is now expanding its operations to deliver innovative, decentralized and solar powered energy solutions that enhance battery efficiency, reduce costs, and create a more sustainable charging network. By mainstreaming clean energy adoption, we are not only fostering a more resilient and inclusive energy ecosystem but also driving the decarbonization of both the environment and the national grid.

As a climate-tech pioneer, SOLshare is redefining Bangladesh's energy transition through SOLbazaar, our globally recognized energy marketplace. Designed to bridge the energy access gap, SOLbazaar provides vulnerable communities with clean, affordable energy, micro-mobility services, financially inclusive pay-as-you-go (PAYG) technology, and IoT-enabled solutions. By integrating energy and transport, we are not only tackling energy deficits but also driving economic empowerment in these communities.

Expanding beyond household energy solutions, SOLshare is now tackling the challenges of Bangladesh's rapidly growing electric three-wheeler (E3W) sector. With over five million E3Ws on the road, the demand for efficient charging solutions is rising. To address this, we are developing a network of smart distributed solar and storage assets, empowering EV drivers while paving the way for virtual power plants.

Our patented battery management technology integrates with smart Li-ion batteries, enabling remote monitoring and control. These batteries are sold to garage owners and then leased to EV drivers on a PAYG subscription model, featuring an automatic shut-off function. Coupled with mobile payment systems, this innovation eliminates high capital expenditures for drivers, increasing the drivers' incomes by at least 30%, while the Li-ion batteries reduce energy consumption by 40%.

Each business line lends each other synergy effects from a strong IoT backbone, integration from mobile financial services, and secure authentication. SOLshare has thus grown from an energy access company to an energy service provider and from solving a household energy challenge to transforming the e-mobility scenario in Bangladesh.

AT THE CORE OF SOLSHARE'S MISSION ARE THE FIVE D'S OF ENERGY—DECENTRALIZATION, DECARBONIZATION, DEMOCRATIZATION, DIGITALIZATION, AND DISRUPTION.

Each of SOLshare's business lines is powered by an IoT-driven backbone, seamless mobile financial integration, and secure authentication systems, creating a powerful synergy that has propelled SOLshare from an energy access provider to a climate-tech-driven energy innovator.

We began by innovating in the off-grid energy market, creating the world's first peer-to-peer (P2P) microgrid, the SOLgrid. This breakthrough enables both households and microbusinesses—whether they own a solar home system or not—to participate in the energy economy as producers, consumers, or prosumers. Our ICT-based energy service platform, SOLbazaar, monetizes excess solar energy in real-time through mobile money, allowing users to earn an income directly from the sun.

What began as a solution for household energy challenges has now evolved into a transformative force in Bangladesh's e-mobility landscape, driving sustainable growth and decarbonization.

By seamlessly integrating more renewables into the national grid, we are not only reducing carbon emissions but also empowering underserved communities with sustainable energy solutions. This transformation enhances socio-economic livelihoods, creating new opportunities for income generation while fostering resilience against energy poverty.

Our journey has been one of continuous evolution—refining and expanding our services to tackle the most pressing challenges faced by underserved communities at the base of the economic pyramid.
In an ever-changing market with growing energy demands, SOLbazaar has thus evolved into three distinct business lines, each designed to build a future-proof energy infrastructure while seamlessly adapting to technological advancements and shifting market demands.

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SOLGRID

PEER TO PEER SOLAR MICROGRID FOR RURAL AND ENERGY POOR COMMUNITIES

SOLMOBILITY

SMART LI-ION BATTERY SOLUTION FOR 5 MILLION E3W DRIVERS IN BANGLADESH

SOLROOF

ROOFTOP SOLAR SOLUTION FOR THE COMMERCIAL AND INDUSTRIAL ESTABLISHEMNTS

SCALING SOLMOBILITY: THE FUTURE OF E3WS

The global electric vehicle (EV) market is rapidly expanding, fueled by rising environmental awareness, growing demand for eco-friendly transport, and the ongoing energy crisis accelerating the shift from internal combustion engine (ICE) vehicles. In 2024, global EV sales rose by 25% year-over-year to a record 17.1 million units, marking a major move toward sustainable mobility

While four-wheeler passenger EVs dominate in developed economies, electric three-wheelers (E3Ws) present a more promising alternative for developing countries like Bangladesh, offering a compact, affordable, and spacious solution for multi-passenger commutes. Bloomberg reports that 2- and 3-wheelers account for a staggering 47% of the global e-mobility market, with a fleet size of over 301 million. The demographic reality of emerging economies, with dense populations and communal living patterns, makes E3Ws a practical choice for daily transport, aligning perfectly with local mobility needs. However, the electrification of micro-mobility still faces hurdles such as affordability, infrastructure gaps, and energy reliability.

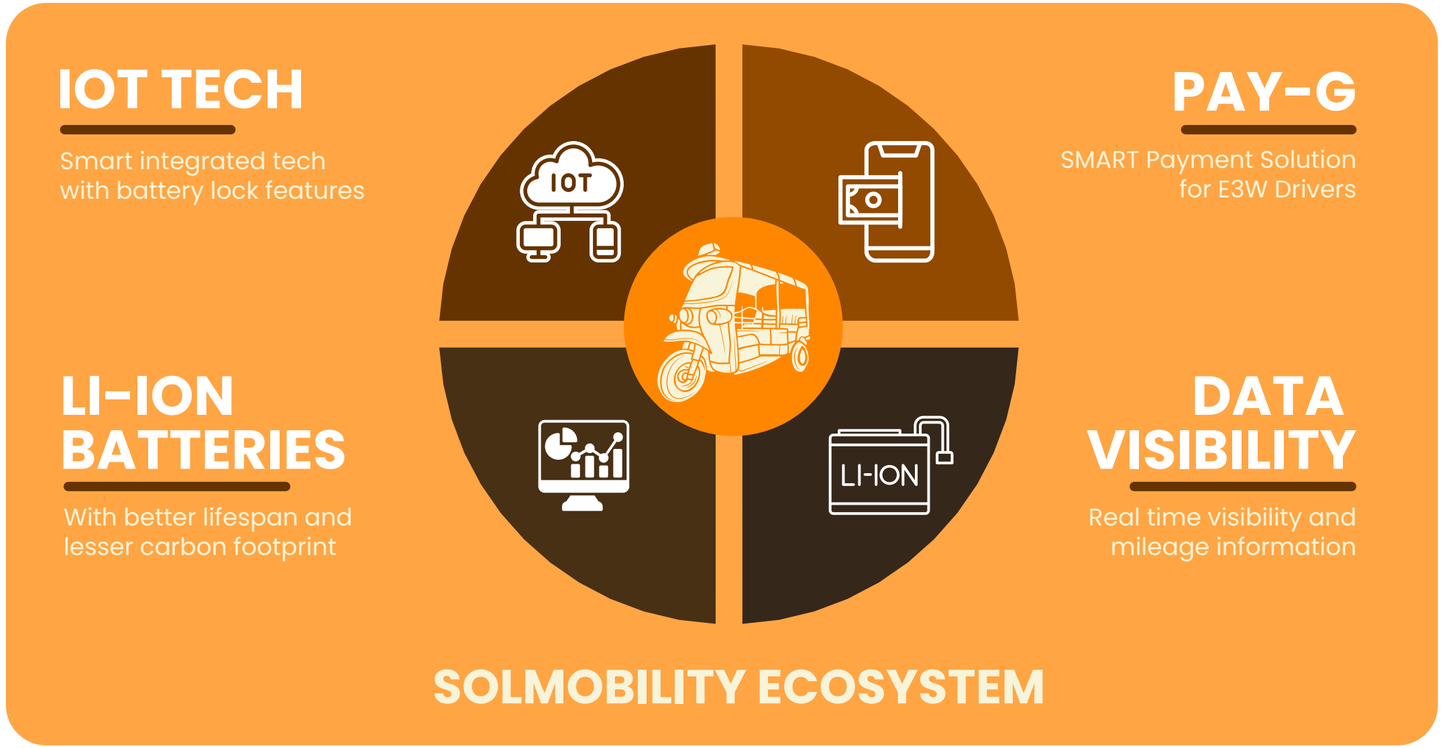
Bangladesh features a 5-million-strong E3W fleet, which combined with the 30,000 charging stations, underscores the country's rising demand for a reliable and affordable mass transportation option. Currently valued at USD 10 Billion, the E3W market is projected to reach 8 million EVs following a 30% YoY growth by 2029. However, the sector lacks formalization, with toxic lead-acid batteries, hazardous charging infrastructure available only at night and range anxiety among drivers preventing them from taking longer trips.

THE TECH IN PLAY

SOLshare's technological intervention focuses on transforming conventional lithium-ion batteries into smart, pay-as-you-go (PAYG) batteries. Through our disruptive solution, SOLmobility, we integrate a proprietary IoT device— the SOLdongle—into E3W batteries. This device enables Bluetooth connectivity, unlocking a range of smart features including operational safety monitoring, real-time data acquisition, and remote locking and unlocking. As a result, the batteries can communicate directly with nearby devices such as Android smartphones.

These smart batteries are sold to garage owners, who then lease them to electric vehicle (EV) drivers on a PAYG basis. An automatic shut-off function ensures that batteries deactivate once a lease expires, providing secure and efficient management. Garage owners monitor their earnings and manage cash-outs via a dedicated app, while SOLshare collects a software-as-a-service (SaaS) fee during each cash-out for enabling and maintaining the smart battery system.

For EV drivers, the use of modern lithium-ion (Li-ion) batteries offers significant benefits, including longer lifespans, lower daily costs, and greater payment flexibility—helping them avoid falling into cycles of debt. SOLshare's PAYG battery leasing model represents a pioneering innovation in Bangladesh, building on the success of similar models already established in neighboring India.



Swapping toxic lead-acid batteries for smart lithium-ion (LI) ones is a critical step toward a cleaner, safer future. In Bangladesh, 5 million electric three-wheelers (E3Ws) contribute to a public health crisis, exposing over 36 million children to lead and producing 118,000 metric tons of hazardous waste annually—70% of it unsafely recycled.

SOLmobility is replacing these with sustainable LI batteries that use 40% less electricity, charge 50% faster, and allow mid-day top-ups—raising driver income by up to 30%. Integrated with solar-powered garages and vehicle-to-grid (V2G) technology, they reduce costs, emissions, and grid strain.

With SOLmobility, underserved communities gain access to advanced, affordable clean energy technology that helps buffer the grid, improve air quality, and protect future generations from toxic pollution. It's not just about better batteries; it's about creating a cleaner, smarter energy ecosystem that empowers people while healing the planet

USING IOT TO TRANSFORM E3W BATTERIES INTO BANKABLE ASSETS

The electric three-wheeler (E3W) market in Bangladesh has faced a major hurdle: the lack of secure financing for battery purchases. Traditional lenders have been reluctant to extend credit due to the absence of recoverable collateral, as conventional batteries become unrecoverable once installed. This risk limited access to modern battery solutions and slowed clean mobility adoption.

SOLmobility solves this by embedding smart battery management systems with IoT technology, allowing real-time monitoring and remote control. Batteries become remotely manageable assets, giving financial institutions confidence to finance them, even after deployment.

This shift enables garage owners to lease batteries on a pay-as-you-go basis, improving cash flow and business growth. Drivers gain access to reliable energy through affordable subscriptions, overcoming the barrier of high upfront costs and expanding clean mobility to underserved communities. This model not only advances Bangladesh's E3W sector but also offers a scalable blueprint for similar markets worldwide.

BY DE-RISKING BATTERY FINANCING, SOLMOBILITY BOOSTS GREEN LOAN DISBURSEMENT, REDUCES EMISSIONS, AND ACCELERATES SUSTAINABLE TRANSPORT.

VOICES OF IMPACT: STORIES FROM THE FIELD

FROM PEDDLES TO POWER
THE STORY OF MOKARRAM HOSSAIN

What began as a modest bicycle repair shop in Haidarabad, Tongi, Gazipur, has grown into a thriving garage known as Mokarram Enterprise—specializing in building and trading Mishuks and electric three-wheelers (E3Ws). At the heart of this transformation is Mokarram Hossain, a determined entrepreneur driven by both ambition and necessity.

Eight years ago, Mokarram set out on this journey with little more than a dream and the responsibility of supporting his family of four—his wife and two children. Balancing family life with a fledgling business was never easy, but that very sense of responsibility shaped his resilience and drive.

In the early days, his vehicles ran on lead-acid batteries. But the numbers told a grim story: by the end of each month, profits were inconsistent, and some months even ended in losses. The growing financial strain left Mokarram worried about the sustainability of his business.

Everything began to change when he met a representative from SOLshare, who introduced him to lithium battery technology. Intrigued, Mokarram learned how lead-acid batteries were silently eating into his profits, while lithium batteries—though initially more expensive—promised better efficiency and long-term savings.

He decided to give lithium batteries a try. Over the next six months, the results spoke for themselves. His vehicles performed better, maintenance costs dropped significantly, and profits steadily improved. Encouraged by these outcomes, Mokarram transitioned his entire fleet to lithium battery technology.

That marked a turning point. His monthly income remained at BDT 90,000 (USD 736), but with reduced expenses, his profit more than doubled. The business became easier to manage, and Mokarram found himself operating with a clearer vision and renewed peace of mind.

PIONEERING VIRTUAL POWER PLANTS (VPPS) IN BANGLADESH

EVERY DAY, AROUND 5 MILLION ELECTRIC THREE-WHEELERS (E3WS) OPERATE ACROSS BANGLADESH. THESE VEHICLES ARE TYPICALLY RENTED FULLY CHARGED, USED THROUGHOUT THE DAY, AND RETURNED TO GARAGES IN THE EVENING WITH AN AVERAGE OF 30% BATTERY CHARGE REMAINING. IN CONVENTIONAL SETUPS, THIS RESIDUAL ENERGY GOES UNUSED AS BATTERIES ARE IMMEDIATELY PLUGGED IN FOR OVERNIGHT CHARGING, OFTEN DURING PEAK TARIFF HOURS, FURTHER STRAINING THE NATIONAL GRID.

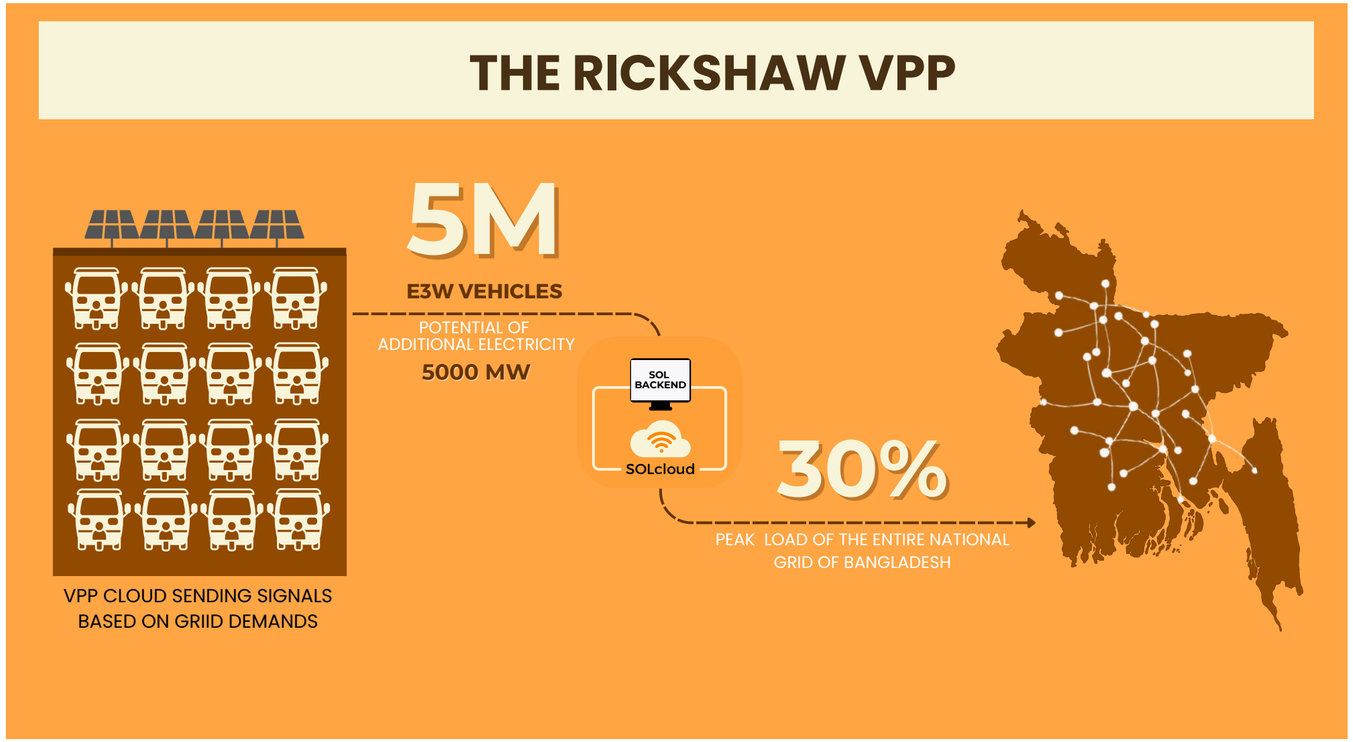
SOLSHARE'S RICKSHAW VIRTUAL POWER PLANT (R-VPP) TURNS THIS OVERLOOKED RESERVE INTO A VITAL ENERGY ASSET. BY AGGREGATING AND DISPATCHING SURPLUS BATTERY ENERGY FROM E3WS, THE VPP HELPS REDUCE PRESSURE ON THE GRID DURING PEAK EVENING HOURS, SUPPORTS NATIONAL ELECTRICITY RESILIENCE, AND CONTRIBUTES TO BANGLADESH'S BROADER RENEWABLE ENERGY GOALS.

IMAGINE A FUTURE WHERE BANGLADESH'S 5 MILLION E-RICKSHAWS BECOME A DECENTRALIZED ENERGY NETWORK, REDUCING GRID STRESS, INCREASING INCOME FOR DRIVERS, AND CUTTING EMISSIONS. AT SOLSHARE, WE ARE BUILDING THAT ENERGY FUTURE.

WHAT IS THE RICKSHAW VPP?

The Rickshaw VPP integrates electric three-wheelers with smart lithium-ion batteries and solar-powered charging garages into a single, cloud-coordinated network. By managing real-time charging and discharging based on grid demand, the system enables stored energy in idle E3Ws to be fed back into the grid exactly when it's needed most.

Currently, many E3Ws rely on lead-acid batteries that require overnight charging. Transitioning to lithium-ion systems not only improves efficiency and battery life but also enables bidirectional energy flow—vehicle-to-grid (V2G) and grid-to-vehicle (G2V)—allowing energy to be both drawn and supplied as needed. This intelligent coordination helps shift energy consumption to off-peak hours, lowers electricity costs for drivers, and enhances overall grid flexibility.



CLOSING THE LOOP WITH SOLAR-POWERED GARAGES

The Rickshaw VPP reaches its full potential when charging garages are equipped with net-metered rooftop solar panels. These solar-powered garages act as decentralized energy hubs, generating renewable power during peak sunlight hours—particularly midday when many E3Ws are idle. Vehicles can be charged directly from solar energy, reducing dependency on the grid, minimizing costs, and allowing garage owners to benefit from government incentives.

Any surplus solar power can be exported to the grid during high-demand periods, increasing the share of renewables in the national energy mix. Combined with lithium-ion battery storage and cloud-based management, this setup strengthens energy resilience and supports a more efficient, climate-friendly infrastructure.

At SOLshare, we've developed the first-ever Proof of Concept (PoC) for the Rickshaw VPP, demonstrating how Bangladesh's electric mobility sector can actively support the grid. Using smart lithium-ion batteries and bidirectional charging, E3Ws are transformed into flexible, distributed energy assets. Solar-powered garages feed clean energy into the system through net-metering, unlocking the potential to buffer up to 30% of peak national load. Equipping just 30,000 garages with rooftop solar could add 600MWp of renewable capacity.
By leveraging existing resources like rooftops and E3Ws, the VPP offsets the need for any major new infrastructure, making it both cost-effective and highly scalable.

THE WHITE PAPER

Our **White Paper on the Rickshaw VPP** presents a clear roadmap for how this innovative solution can strengthen both Bangladesh's energy and transportation infrastructure. By unlocking the untapped potential of electric three-wheelers, the Rickshaw VPP stands as a pivotal enabler in the country's journey toward achieving its clean energy goals.

STRENGTHENING ENERGY NETWORKS SOLGRID & PCC EXPANSION

SOLgrid: SOLAR PEER-TO PEER MICROGRIDS

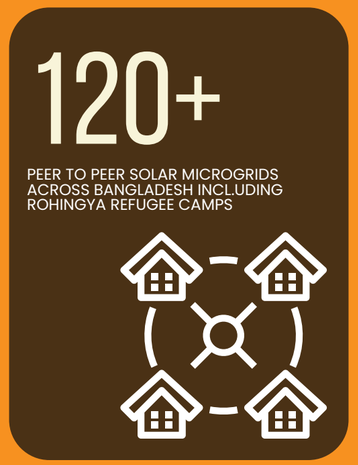
At the foundation of SOLshare lies SOLgrid- the world's first peer-to-peer microgrid designed to empower energy-poor rural communities by enabling them to exchange electricity and earn an income directly from the sun. Built on Bangladesh's six million solar home systems (SHS)—the largest deployment of SHS in the world—SOLgrid leverages this existing infrastructure to create a decentralized energy-sharing network. With Bangladesh leading the global Solar Home System (SHS) market, these systems serve six million households and microbusinesses, impacting the lives of over 30 million people.

Addressing Energy Poverty Through Innovation

Despite remarkable progress in rural electrification, energy poverty remains a major challenge. Millions still lack access to reliable electricity due to insufficient distribution networks and frequent power outages. SOLgrid emerged as a direct response to these challenges, ensuring that underserved communities have access to affordable, stable, and sustainable energy.

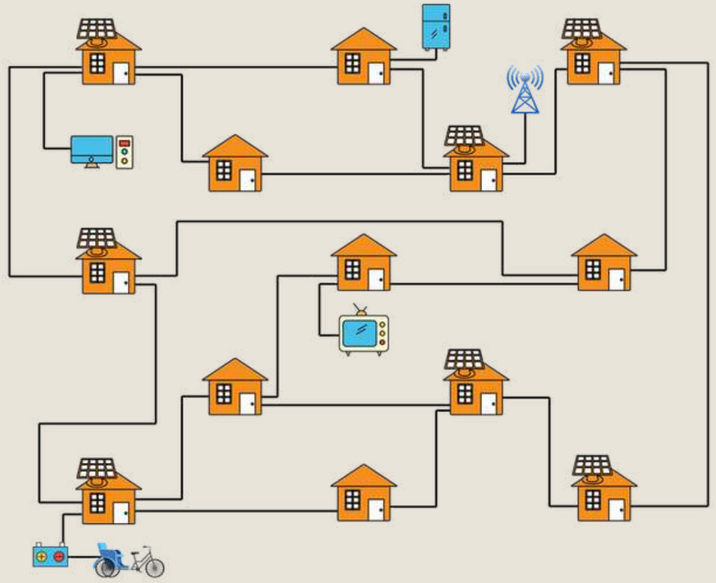
120+

PEER TO PEER SOLAR MICROGRIDS ACROSS BANGLADESH INCLUDING ROHINGYA REFUGEE CAMPS



POOR PEOPLE DON'T NEED CHEAP PRODUCTS, BUT HIGH-QUALITY PRODUCTS MADE AFFORDABLE.

To bridge this energy gap, SOLshare introduced the world's first peer-to-peer energy exchange network for rural households and small businesses equipped with SHS. This pioneering model, known as the "prosumer" model, enables households to both generate and consume electricity. Those with surplus energy can sell it into the microgrid network, while their neighbors- households or small businesses- can purchase it in small increments using mobile credits.



SOLgrid's Peer-to-Peer Microgrid Network

THE TECHNOLOGY IN WORK

SOLbox

A bi-directional DC electricity meter that seamlessly integrates with existing solar home systems (SHS), batteries, and other energy sources, creating a DC smart grid.

The SOLapp

SOLapp is a digital platform that manages user data, energy consumption, and payments, ensuring smooth peer-to-peer energy trading within the SOLgrid network.

The SOLweb

The central intelligence hub of SOLgrid that analyzes real-time data from SOLbox and SOLapp to optimize grid performance, detect irregularities, and enhance reliability.

Together, SOLbox, SOLapp, and SOLweb form a comprehensive, decentralized energy ecosystem, enabling clean, affordable, and efficient energy distribution while fostering economic empowerment and energy security for rural communities.

A New Paradigm in Energy Distribution

By interconnecting rooftop solar home systems atop households and microbusinesses within the same neighborhood, SOLshare created the world's first peer-to-peer energy exchange network, allowing for:
Efficient electricity distribution across rural communities
Access to higher loads for productive use and improved livelihoods
First-time electricity access for the poorest segment of village populations

Unlike traditional net-metering platforms, which only allow users to save on electricity costs, SOLgrid enables users to profit from their excess electricity. Through mobile money transactions, households can essentially monetize their surplus power, converting it into additional disposable income, which directly contributes to economic progress within 'base of the pyramid' (BoP) communities.

Off-grid solar home systems (SHS) play a transformative role in emerging markets, providing affordable and scalable energy solutions for those lacking access to reliable and stable energy sources. In frontier economies, SHS complements traditional grid-based power, facilitating the transition from fossil fuels to renewables and contributing to carbon neutrality. With Bangladesh's dependence on fossil fuels to meet 95% of its energy needs.

SOLGRIDS HAVE PROVIDED ENERGY SERVICES TO THE MOST MARGINALIZED AND VULNERABLE GROUPS OF SOCIETY, ENABLING THEM TO ACCESS EDUCATION, WORK AND HEALTHCARE.

VOICES OF IMPACT: STORIES FROM THE FIELD

LIGHTING THE WAY THROUGH EDUCATION AND RESILIENCE:
THE STORY OF MD. KAISER

Md. Kaisar, 21, lives in Camp 26 of Cox's Bazar. A Grade 11 student and part-time teacher at a UNICEF-supported school, he balances his own education with a deep commitment to supporting displaced children in his community. Kaisar's life changed at age 12 when his family fled violence in Myanmar. Having completed Grade 7, he was forced to leave behind his home, school, and dreams. For months, he couldn't continue his education. A brief enrollment in Mochoni ended when the school shut down. Undeterred, he resumed his studies in Balukhali Camp and completed Grade 10 before returning to Camp 26.

There, he began teaching children affected by displacement. His routine is demanding—attending classes early morning, teaching during the day, and offering private tuition in the evenings. Kaisar's goal has always been to make education engaging and empowering, especially for children who have endured trauma.

A breakthrough came when a fellow camp resident, Nur Alam, received a monitor powered by SOLshare's SOLbox solar system. Kaisar began using it to teach with visual and digital content, transforming lessons into dynamic, meaningful experiences. Evenings that once lacked resources became powerful learning moments.

Every bit of his income supports his family and funds his studies. Inspired by their sacrifices, Kaisar dreams of becoming a qualified educator and a symbol of resilience for displaced youth. Though the pain of leaving home endures, he remains focused on building a future defined not by loss, but by hope and opportunity.

POWERING REFUGEE RESILIENCE THROUGH SHARED SOLAR

In 2024, SOLshare expanded its impact in the Rohingya refugee camps of Cox's Bazar by installing two additional SOLgrids—solar peer-to-peer (P2P) microgrids—under the 'Financial Inclusivity through Peer-to-Peer Microgrids' project. Supported by the #ISIFAsia2023 grant from the APNIC Foundation (Inclusion category), these installations build on the success of the initial two SOLgrids launched in 2022.

Today, a total of 100 households across the camps are interconnected through SOLshare's proprietary IoT technology, the SOLbox, creating a decentralized energy network that enables users to buy, sell, and share solar electricity within their communities.

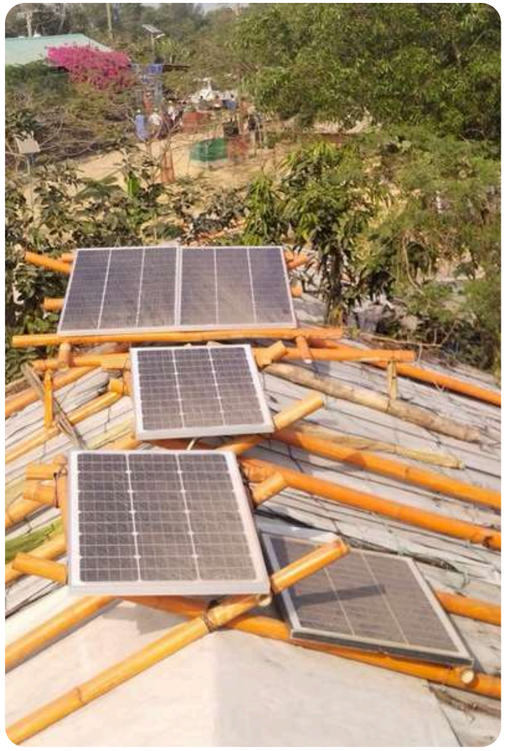
In a setting where access to electricity is limited and livelihoods are precarious, these grids offer more than just power—they create resilience. Refugees, especially women, now have greater access to digital financial services and the opportunity to generate income through energy trading and microenterprise. By facilitating the use of productive-use appliances, the SOLgrids are laying the foundation for long-term economic empowerment.

This expansion reflects SOLshare's unwavering commitment to SDG 7: Affordable and Clean Energy and reinforces the belief that energy access must be inclusive, dignified, and community-owned—especially for those who need it most.

We're inviting organizations, funders, and global change-makers to partner with us in expanding this groundbreaking work. If you believe energy is a fundamental right and want to become part of a transformative journey,

Reach out to us at
contact@solshare.com or visit www.me-solshare.com to learn more.

Together, we can power hope, dignity, and opportunity—one solar connection at a time!



POINT OF COMMON COUPLING (PCC): A NEW ERA IN ENERGY INTEGRATION

IN 2022, BANGLADESH ACHIEVED A MILESTONE IN ELECTRIFICATION, OFFICIALLY REACHING 100% NATIONAL GRID COVERAGE. WHILE MANY ASSUMED THIS WOULD MARK THE END OF SOLGRID, IT INSTEAD SET THE STAGE FOR THE NEXT TECHNOLOGICAL REVOLUTION IN BANGLADESH'S ENERGY LANDSCAPE: THE POINT OF COMMON COUPLING (PCC)—A NEW PHASE IN SMART GRID INTEGRATION THAT WILL FURTHER REVOLUTIONIZE DECENTRALIZED ENERGY EXCHANGE.

100% electrification in Bangladesh marked a major milestone in the country's energy transition. However, this accomplishment also presented an opportunity: how to maximize the potential of the six million Solar Home Systems (SHS) installed nationwide. The integration of SOLgrids—decentralized networks of peer-to-peer microgrids—with the national electricity grid through a single connection point could revitalize these systems and establish a new global benchmark for electricity distribution. This concept led to the development of the Point of Common Coupling (PCC)—a solution aimed at enhancing the resilience of the national grid.

In 2022, SOLshare achieved a major breakthrough with the launch of the first PCC at Saddam Bazar, supported by funding from the UK government and in partnership with Shakti Foundation. This milestone successfully interconnected the Saddam Bazar SOLgrid to the national grid, allowing rural villagers to sell excess solar energy back to the grid. The integration not only empowered local communities but also advanced sustainable energy practices by increasing renewable energy contributions.

Impact and Scaling Potential

Since the installation of the PCC at Saddam Bazar, a community of 20 farmers has injected over 3,000 kWh of solar electricity into the national grid—covering 25% of their annual electricity consumption while earning over BDT 100,000 (USD 818) in additional income. Even during frequent load shedding, the PCC ensured uninterrupted electricity, significantly improving energy security.

Expanding this model from a single grid to 50 SOLgrids could inject 13.5 MWh of solar electricity into the national grid every month, providing prosumers with an additional income of BDT 700-800 per month.

E3W CHARGING PITSTOP: A SMART SOLUTION TO ENERGY WASTAGE

Post-PCC installation, extensive monitoring revealed a critical challenge—during frequent load shedding and severe power outages, the community struggled to sell excess energy back to the grid. In response, SOLshare and its partners introduced an innovative solution: a solar microgrid-powered Electric Three-Wheeler (E3W) charging pitstop.
This simple yet effective intervention allows the community to sell excess solar electricity even when the national grid is down, ensuring optimal solar utilization and reducing energy wastage. As a result, the pitstop enabled the sale of 40% surplus solar energy during outages, improving overall system efficiency by 80%.

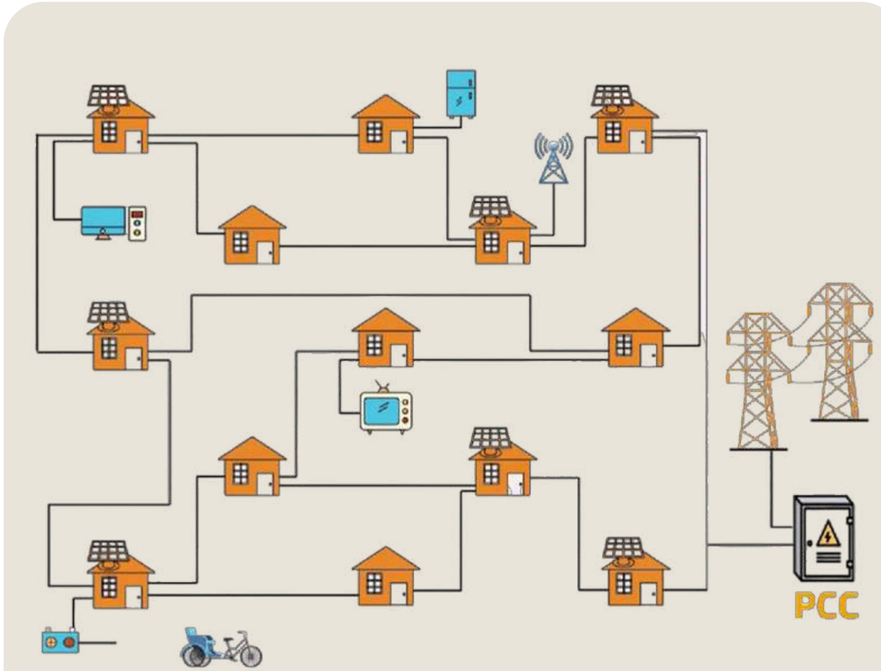
SCOPES FOR A GREENER FUTURE

In 2024, local farmers expanded the scope of the PCC by connecting a solar-powered irrigation pump and transforming it from shared infrastructure into a locally owned, income-generating asset. This shift from passive use to active innovation signals a broader movement: clean energy is no longer just lighting homes; it's powering livelihoods, boosting agricultural productivity, and reducing reliance on diesel. Looking ahead, this transfer of ownership gives us hope for a future driven by community-led innovations and entrepreneurship—advancing social inclusion and financial empowerment from the ground up.

4000KWH
Electricity sold by the PCC community till date

135K BDT
(USD 1104) In additional income for the community

13.5MWH
Potential contribution to national grid



Point of Common Coupling

ADVANCING SOLAR ADOPTION: THE RISE OF SOLROOF

Commercial and industrial (C&I) rooftop solar installations are no longer just a sustainability trend; they are becoming a strategic necessity for businesses dealing with escalating energy costs, supply chain vulnerabilities, and global decarbonization pressures. The global rooftop solar market was valued at approximately USD 124.42 billion in 2024 and is projected to reach around USD 534.86 billion by 2034, growing at a compound annual growth rate (CAGR) of 15.70% . The Asia-Pacific region dominates this market, accounting for about 42% of the global share.

Electricity costs have been steadily increasing, compounded by uncertainties arising from global geopolitical crises and supply chain disruptions. In 2023, the Bangladesh Power Development Board (BPDB) reported a per-unit production cost of BDT 11.33 (USD 0.093), while selling electricity at BDT 6.7 (USD 0.055) per unit, incurring a loss of about BDT 4.63 (USD 0.038) per unit. Such an imbalance led to a staggering loss of BDT 47,788 crore (USD 3.91 billion) for that fiscal year. These financial strains highlight the economic imperative for industries to explore alternative energy sources like rooftop solar to reduce their operational costs and enhance energy resilience.

BANGLADESH RENEWABLE ENERGY GENERATION OVERVIEW 2025

27,000 MW
In installed power capacity

15,000 MW
Actual peak power generation

1,559 MW
Bangladesh's renewable energy capacity

3.9 GW
Solar market is projected to reach 3.9 GW by 2030

Source: Renewable Energy Installed Capacity, *SREDA*, BIDA

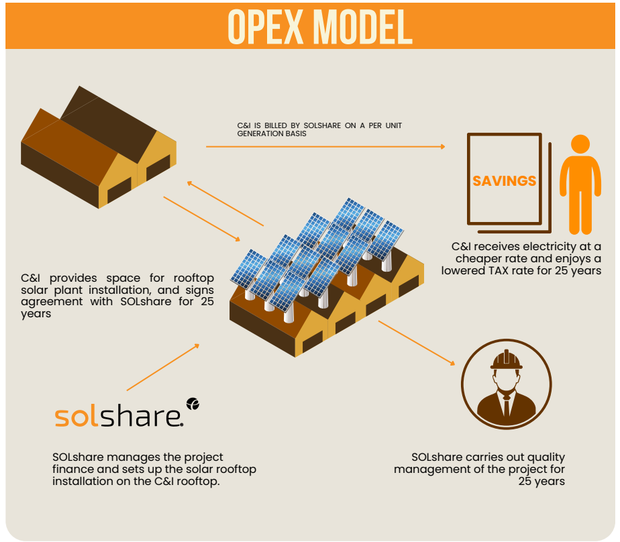
While much of the lag can be attributed to a lack of political will, policy barriers such as caps on renewable energy converters, an underdeveloped net metering policy, and insufficient financial incentives have further hindered progress. Despite these challenges, private sector initiatives can still play a significant role in unlocking the potential of solar energy in Bangladesh.

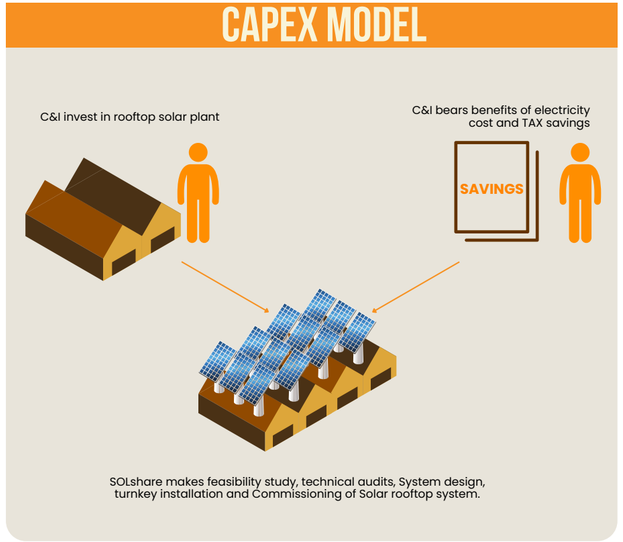
To that end, and in response to the growing shift of industries toward alternative energy sources, SOLshare launched SOLroof—an adaptive initiative aimed at making renewable energy both accessible and affordable for commercial and industrial (C&I) establishments across the country.

RECOGNIZING THE TREMENDOUS POTENTIAL OF THIS MARKET IN BANGLADESH, SOLSHARE HAS DIVERSIFIED ITS PRODUCT AND SERVICE PORTFOLIO BY EXPANDING INTO C&I ROOFTOP SOLAR INSTALLATION SERVICES.

With over 20 years of experience in solar photovoltaics and renewable energy, SOLshare blends seasoned expertise with the precision of German engineering. Our services enable clients to lease solar PV plants for C&I rooftops, reducing environmental impact and utility costs, while offering a reliable alternative to load shedding and diesel/gas generators.
We manage project financing and oversee the full installation process, providing industries with tax benefits and electricity rates that are 15–20% lower—locked in for 25 years—contributing to a cleaner, more sustainable global future.

BECOME LEED CERTIFIED AND ATTRACT MORE INTERNATIONAL BUYERS, AS SUSTAINABILITY BECOMES MORE IMPORTANT IN THE GLOBAL CONTEXT.





5.6 MWP

Solar capacity installed till date

20 MWP

Rooftop solar projects in the pipeline

Solar rooftop installations on C&I establishments go beyond cost-cutting measures. It aligns with global ESG standards increasingly shaping investment and supply chain decisions. Manufacturers, in particular, are adapting to growing demand for sustainable operations from international partners.

Supportive policies like net metering make rooftop solar even more attractive by lowering energy costs, improving margins, and reducing reliance on expensive fossil fuels, while contributing to Nationally Determined Contributions.

GREENER GARMENTS INITIATIVE (GGI)

SDG IMPACTS

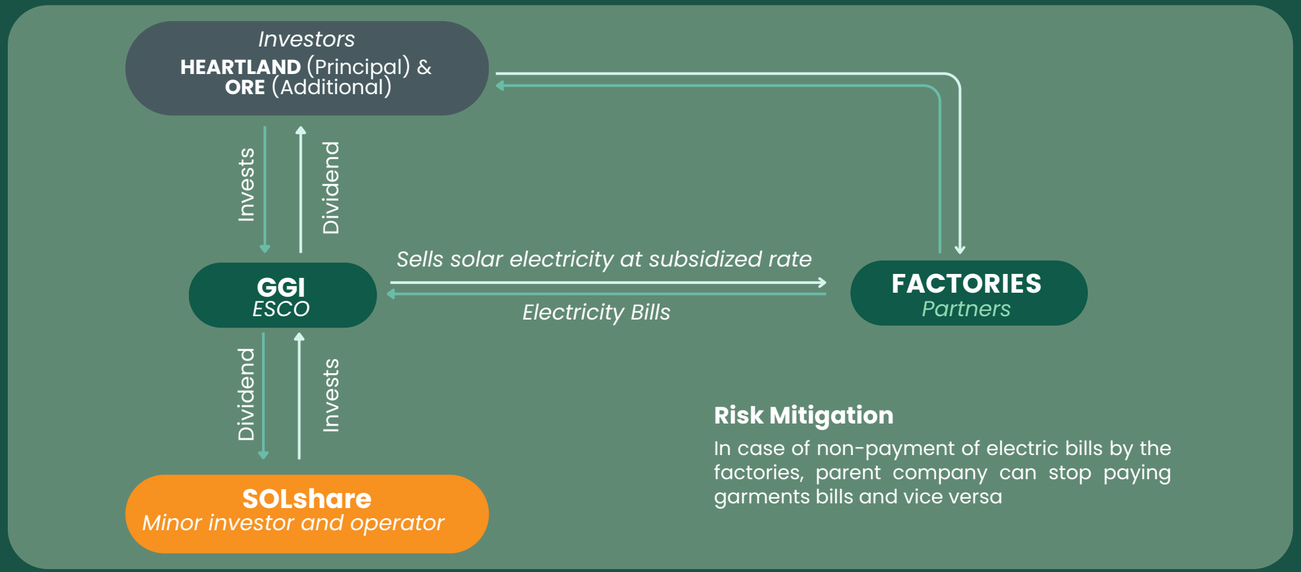
THIS IS THE FIRST TIME EVER IN BANGLADESH THAT A GLOBAL FASHION BRAND HAS BECOME PART OF AN ESCO COMPANY TO DEVELOP AND SET UP SOLAR ROOFTOP INSTALLATIONS ACROSS THE COUNTRY FOR A GREENER SUPPLY CHAIN.

GGI is an Energy Service Company (ESCO), established by SOLshare, a Bangladeshi climate-tech company, and Heartland (the holding company of BESTSELLER), a global family-owned fashion company. The initiative is supported by the Off-Grid Renewable Energy Fund (ORE Fund) from One to Watch, which invests in scalable clean energy solutions across South Asia.

GGI currently has a pipeline of 12 MWp of solar rooftop projects across the country. The partnership has clearly defined roles, with SOLshare being the local operator and technical partner and BESTSELLER, through its parent company Heartland, being the main equity investor.

GGI'S INNOVATIVE FINANCIAL MODEL FOR BOOSTING RENEWABLE GROETH IN BANGLADESH

The reduction of carbon dioxide emissions is a pressing global issue. However, investing in solar rooftop installations can pose a financing problem as it requires a long-term commitment before the benefits can be fully enjoyed. GGI offers an innovative financing model that provides a solution to this problem. By investing in rooftop solar across Bestseller's factories in Bangladesh, GGI is leading by example and demonstrating a long-term commitment through concrete actions.



GGI's model enables partners to receive subsidized electricity rates while also helping them to reach scope 3 carbon emission reduction targets. Additionally, partners have the option of a solar rooftop buyback, which allows them to monetize their investment if necessary. Overall, GGI's innovative financing model provides a solution to the core financing problem of solar rooftop installations while also contributing to the global goal of reducing carbon dioxide emissions.

UNIQUE FEATURES

20 years ppa at a floating discount rate over utility tariff

Partners receive subsidized electricity rates

Partners reach S3 carbon emission targets

Solar Rooftop buyback options for partners

OUR IMPACTS

Social

Increased awareness and adoption of renewable energy, and a better public perception as an environmentally responsible organization

Environmental

Reduced greenhouse gas emissions while contributing to a net-zero future

Financial

Reduced greenhouse gas emissions while contributing to a net-zero future

OUR PRIORITY SDGS

OUR PROJECTS

In just two years, the Greener Garments Initiative (GGI) has made promising progress toward decarbonizing Bangladesh's RMG sector, commissioning over 5 MWp of solar capacity. Here's a look at some of the latest installations completed by GGI in 2024, marking a significant step toward a cleaner, more sustainable garment industry.

Ayesha Clothing Ltd.

Capacity: 285.12 kWp
Location: Jamgora, Ashulia

Aswad Composite Mills Ltd.

Capacity: 534.4 kWp
Location: Kabirpur, Ashulia

Cortz Apparels Ltd.

Capacity: 522.72 kWp
Location: Bagherbazar, Gazipur

Hydroxide Knitwear Ltd.

Capacity: 269.28 kWp
Location: Mouchak, Gazipur

Fashion Pulse

Capacity: 210.54 kWp
Location: BSCIC Industrial Estate, Tongi

Azmeri Composite Knit Ltd.

Capacity: 129.3 kWp
Location: Atipara bajar, Faidabad, Abdullapur

LOOKING AHEAD: SWARM GRIDS IN AFRICA

A NEW FRONTIER FOR CLEAN ENERGY AND COMMUNITY EMPOWERMENT

SOLshare is proud to be part of a transformative new initiative set to redefine decentralized energy access across the Global South. As a key member of the SWARM-E project, co-funded by the European Union, we are collaborating with a powerful consortium of 16 organizations from Europe and Africa to implement intelligent swarm grids in Rwanda and Tanzania.

This initiative marks a significant step beyond traditional electrification efforts. Swarm grids are decentralized, peer-to-peer energy networks that enable energy trading and sharing at the community level. But SWARM-E is about more than just electricity. These grids will also support clean cooking solutions, water purification, and productive-use appliances—unlocking opportunities for microentrepreneurship, health, and livelihood development.

By integrating cutting-edge technology with local knowledge and capacity building, the SWARM-E project is setting a new standard for how clean energy can serve as a foundation for broader sustainable development. From powering homes to energizing small businesses, these next-generation grids are designed to build resilience, reduce inequality, and accelerate climate-smart growth.

As SOLshare expands its impact beyond Bangladesh, our work in Africa represents a bold step forward in delivering inclusive, scalable, and community-driven energy solutions. This is more than a pilot—it's a blueprint for a just energy transition across the Global South.

OUR COMMITMENT TO THE GLOBAL GOALS

Despite Bangladesh's leading status in achieving SDG 5 for gender equality in South Asia, gender disparities persist, notably among the Bottom of the Pyramid (BoP) population, The rollout of SOLgrid in remote Bangladeshi regions empowered more women to become solar entrepreneurs. Additionally, SOLshare's DEG project distributed smart home appliances to SOLgrid users, facilitating entrepreneurship. Mamoin Ching Marma, pictured here, uses SOLbox to power digital health equipment with which she provides healthcare service to villagers.

A little over 18% of the population in Bangladesh live below the national poverty line, according to the Household Income and Expenditure Surveys (HIES). Since its inception, SOLshare has strived to alleviate poverty in Bangladesh by providing accessible and affordable technology and services, enabling end users to generate income. SOLgrid allowed users to sell solar electricity, revitalizing remote areas previously lacking electricity access. SOLmobility facilitates electric three-wheeler drivers to lease smart batteries, reducing upfront costs and enhancing income potential.

SOLshare focuses on clean, accessible, affordable energy, making SDG 7 paramount. Peer-to-peer microgrids enable users to share clean energy, with excess power fed into the national grid via the PCC. SOLmobility's solar charging and smart batteries offer greener energy. Solar PV reduces garage electricity costs by 40%, while rooftop solar on EV stations promotes sustainable transport. Garage solar generation could contribute over 400,000 kWh to the grid. Our SOLroof allows C&I to install rooftop solar for clean energy, lower bills, and grid contribution.

The unemployment rate declined to 4.2% in 2023. SOLshare's peer-to-peer microgrids supported rural migrants, enabling work and income generation through selling excess electricity. Moreover, with smart DC appliances, users were able to set up their microbusinesses such as small shops for tailoring services or household goods to earn an income. Electric three-wheelers offer potential for decent work, with over 4 million vehicles in Bangladesh. SOLmobility's leasing services expand access by eliminating upfront capital expenses, benefiting drivers with improved technology and financing mechanisms.

SOLshare fosters resilient communities through innovative infrastructure, driving sustainable development and socioeconomic progress. Our SOLgrids provide rural areas with clean, affordable solar energy, tapping into 6 million solar home systems for maximum efficiency. By linking rural households to the national grid via the PCC, communities contribute to national power generation. SOLmobility transforms E3W industry with safer, sustainable tech like smart batteries and solar charging. SOLroof helps thew manufacturing industry to reduce emissions and combat climate change.

10 REDUCED INEQUALITIES

SOLshare prioritizes quality over affordability, ensuring high-quality products are accessible to the marginalized people. Our P2P microgrid enables rural communities, including women, to earn income from solar energy. The disparity in income distribution in Bangladesh needs more focus and action. SOLshare's e-mobility solution empowers marginalized individuals to become E3W drivers, breaking the cycle of debt. We are addressing inequality in Bangladesh by providing affordable energy and income opportunities, bridging the gap and reducing gender disparities.

11 SUSTAINABLE CITIES AND COMMUNITIES

SOLshare believes sustainable energy builds resilient communities, a principle that underpins all our services. The P2P microgrid has helped create sustainable communities in rural areas that were initially left behind but now have a source of income by sellling excess electricity. In Bangladesh's 4 million E3W market, our technology swaps harmful LA batteries for smart LI ones, slashes charging times, and trims grid use via solar-equipped stations, fostering sustainability. SOLroof covers commercial and industrial rooftops with net-metered solar PV, curbing emissions, and cutting electricity expenses

13 CLIMATE ACTION

SOLshare prioritizes climate action, integrating clean energy tech into existing infrastructure. Our services integrate clean energy tech with existing infrastructure, realized through SOLgrids sharing excess solar energy in rural areas and feeding it to the national grid via PCC, boosting efficiency and reducing waste. SOLmobility's solar-equipped charging stations and smart batteries cut electricity needs by 40%, slashing emissions. SOLroof reduces industrial carbon footprints. In 2023, all our efforts combined reduced over 2300 mtCO2e, with ongoing scaling nationwide.

PEOPLE & CULTURE: OUR TEAM AND COMMUNITY IMPACT

During the reporting period, several key leadership updates and staff development initiatives were implemented to enhance organisational performance and employee engagement. Strategic appointments were made to strengthen leadership capacity and align teams with evolving departmental objectives. As part of our ongoing commitment to professional development, various training programmes were delivered on digital skills, inclusive leadership, and performance management.

These efforts are actively tracked and showcased through our monthly People & Culture (P&C) updates, which serve as a transparent record of all staff development activities. One of our flagship initiatives is the Fundamentals programme, conducted monthly to reinforce core behavioural values and best practices across teams. Each month, a Fundamentals Champion is recognised for going above and beyond in embodying these values, further fostering a culture of accountability, excellence, and peer recognition. Leadership coaching, performance reviews, and flexible engagement strategies further reinforced our holistic approach to talent growth and retention.

FY INITIATIVE: INVESTING IN GROWTH, STABILITY, AND ENGAGEMENT:

At SOLshare, we are committed to continuous employee development and organizational excellence. As part of our FY initiatives, we are implementing a Training Needs Assessment (TNA) by collecting data from every employee to identify skill gaps and areas for growth. The execution planning for these training programs is set for the upcoming quarter, ensuring that our team receives the necessary learning opportunities to excel in their roles.

Additionally, our succession planning strategy ensures one designated successor for every role, maintaining workflow continuity and preventing disruptions. This proactive approach safeguards our operations and reinforces a sustainable leadership pipeline.

To promote workplace well-being, we also conduct monthly employee engagement programs, providing our team with refreshing activities that foster motivation, teamwork, and a positive work environment. Through these initiatives, SOLshare continues to invest in its people, ensuring professional growth, operational stability, and a thriving company culture.

GENDER STATISTICS FROM SOLSHARE'S WORKFORCE & BENEFICIARIES

Employees by Gender (Fiscal Year 2023 - 2024)

QUARTER	MALE (%)	FEMALE (%)
Q1	66	34
Q2	65	35
Q3	65	35
Q4	67	33

Employees by Gender (Fiscal Year 2024 - 2025)

QUARTER	MALE (%)	FEMALE (%)
Q1	69	31
Q2	69	31
Q3	69	31
Q4 - To Date	70	30

HIGHLIGHTS FROM EVENTS

EU DELEGATION VISITS SOLSHARE'S EV CHARGING STATION

SOLshare welcomed the Team European Initiative on the Green Energy Transition, led by Mr. Edwin Koekkoek of the EU Delegation to Bangladesh, to our EV charging station in Dakshinkhan. The visit included a live demonstration of our SOLmobility solution and Virtual Power Plant technology, showcasing their role in advancing renewable energy integration.

Dr. Sebastian Groh highlighted how SOLmobility is transforming the energy landscape, while garage owner Md. Alamin shared how smart lithium-ion batteries and rooftop solar have improved his profitability. The visit marks a promising step toward future collaborations supporting Bangladesh's green energy transition.

SOLSHARE AT SLINGSHOT 2024

SOLshare was proud to be selected among the Top 50 startups at SLINGSHOT 2024, one of Asia's premier deep-tech competitions. Represented by Deputy CEO Mukti, SOLshare showcased its decentralized energy solutions at the Singapore Week of Innovation and Technology (SWITCH) 2024, pitching to a global audience of investors and industry leaders.

While we did not make it to the Top 10, the experience strengthened our network and reaffirmed our commitment to revolutionizing energy access through innovation and sustainability.

GERMAN EMBASSY DELEGATION VISITS SOLSHARE

On September 30, 2024, SOLshare had the honor of hosting Mr. Jan Janowski, Deputy Head of Mission, and Ms. Melanie Pfanner, Attaché of the German Embassy in Dhaka. The visit provided a valuable opportunity to showcase our technology and discuss potential collaborations to accelerate sustainability in Bangladesh's evolving EV and solar energy landscape.

SOLSHARE AT THE WORLD INVESTMENT CONFERENCE 2024

On December 12–13, 2024, SOLshare was proudly represented by Director Isa Abrar Ahmed at the SolarX Startup Challenge Acceleration Workshop in Colombo, Sri Lanka. Organized by Invest India and the International Solar Alliance, this prestigious event brought together innovators, investors, and industry leaders from across the Asia-Pacific region. Abrar pitched SOLshare's cutting-edge solar solutions, engaging in high-level discussions aimed at accelerating innovation and expanding access to sustainable energy across emerging markets.

SOLSHARE AT THE CLIMATE ACTION FORUM 2024

On October 10, 2024, SOLshare proudly participated in the Bangladesh Climate Action Forum, a pivotal event addressing the critical challenges of climate change and sustainability. Sebastian, Mukti, and Ishtiaque represented SOLshare during the Forum discussing funding strategies for the decarbonization of the supply chains in the textile sector via innovative partnerships with global brands.

HIGHLIGHTS FROM COP29, BAKU

At COP29 in Baku, SOLshare was invited by the Zayed Sustainability Prize to join key panel discussions on climate action. Representing SOLshare, Sebastian shared insights on how decentralized solar and e-mobility solutions can drive sustainability while highlighting the company's commitment to energy equity, policy integration, and community empowerment through innovation.

CLIMATE ADAPTATION FOR RESILIENT SOCIETIES – UNDESA

In the Climate Adaptation for Resilient Societies session, Sebastian emphasized the importance of decentralized energy systems in enhancing resilience against climate disruptions. Drawing from SOLshare's work with community-based solar grids and electric mobility, he showcased how these solutions not only reduce carbon footprints but also improve livelihoods—particularly for vulnerable populations.

TECH AND SOCIAL INNOVATION FOR CLIMATE ACTION – ZAYED SUSTAINABILITY PRIZE

At this session, Sebastian emphasized scaling both decentralized and centralized energy solutions. Citing SOLshare's innovations, he highlighted how tech combined with inclusive policies can drive sustainable development and called for stronger collaboration to enable a just energy transition.

Artificial Intelligence in Smart Grids – Green Energy Park

As a panelist in the Artificial Intelligence in Smart Grids session, Sebastian shed light on how AI is revolutionizing decentralized energy management. Highlighting SOLshare's Rickshaw Virtual Power Plant (R-VPP), he explained how AI can optimize energy distribution, reduce peak grid loads, and empower millions of EV drivers in Bangladesh. He also emphasized the need for stronger policy frameworks to amplify the reach and impact of these technologies.

NEW PARTNERSHIPS

SOLshare Pairs Up with Prime Bank to Power Green SME Financing

SOLshare has joined forces with Prime Bank PLC to finance smart, energy-efficient lithium batteries for electric three-wheeler garages across Bangladesh. Backed by SOLshare's Pay-As-You-Go (PAYG) technology, this collaboration enables Prime Bank to offer accessible green SME loans—starting with the first disbursal to a garage in Gazipur. The partnership marks a key step toward accelerating clean energy adoption in the transport sector.

SOLshare and ENSEC to Localize Smart Battery Solutions

SOLshare has partnered with ENSEC, a concern of Aman Group, to locally assemble eco-friendly lithium batteries tailored for Bangladesh's electric three-wheeler market. Powered by SOLshare's Pay-As-You-Go (PAYG) technology, this collaboration aims to make energy-efficient battery solutions more accessible. The partnership marks a key step toward a sustainable energy future and paves the way for innovative business models.

SOLshare and MTB Partner Up to Launch Smart Financing for E3Ws

SOLshare entered a landmark partnership with Mutual Trust Bank PLC (MTB) to promote smart lithium batteries for electric three-wheelers—marking the first time a commercial bank in Bangladesh is offering financing for this segment. This collaboration aims to empower the E3W community by enabling access to SOLshare's innovative battery technology, helping drivers transition to more energy-efficient and sustainable solutions. As a climate tech pioneer, SOLshare is excited to work with MTB to accelerate the adoption of smart energy solutions for a Smart Bangladesh.

AWARDS & RECOGNITION

SOLshare's journey of innovation and impact has been consistently recognized on global platforms. In 2024, we were honored with the prestigious Keeling Curve Prize for Energy, celebrating our pioneering work in climate-resilient e-mobility solutions. This award joins a growing list of accolades that underscore our mission to democratize clean energy and empower communities.

This award is a testament to our commitment to creating innovative and impactful climate solutions. This recognition will aid us in furthering our efforts to create a lasting positive change for our planet through our smart energy solutions in e-mobility.

Named after the graph depicting CO2 concentrations in Earth's atmosphere over time, the Keeling Curve Prize (KCP) is an exemplary initiative by the Global Warming Mitigation Project that recognizes climate innovations working to pull this curve downwards.

SOLshare won the award for its e-mobility solution SOLmobility, which replaces lead-acid batteries in electric three-wheelers (E3Ws) with smart tech-integrated lithium-ion batteries, reducing carbon emissions while boosting driver incomes. The KCP will be crucial in scaling our efforts to establish Bangladesh's first Virtual Power Plant (VPP). Connected into VPPs, the current 5M E3Ws have the potential to buffer 30% of the current national peak load. This achievement will enable us to secure capital, gain knowledge, and increase visibility, ultimately supporting our mission to provide climate tech to vulnerable communities.

From global climate prizes to national ICT honors, each recognition fuels our resolve to scale inclusive energy technologies that drive environmental and social transformation.

Bangabandhu Innovation Grant
Top 50 Startups

Green Leaders Award 2022
Winner of the Green Startup Company Category

Zayed Sustainability Prize 2022
Winner of the Energy Category

BASIS National ICT Awards 2022
Winner of Sustainability and Environment Category of Inclusions and Community

Earthshot Prize 2021
Finalist in the "Fix Our Climate" Category

Ashden Awards 2020
Winner of the Financial and Business Model Innovation in Energy Access Category

MIT Solve's 2020 Global Challenges
Winner of the Good Jobs and Inclusive Entrepreneurship Category

Global CleanTech 100 Company 2019 & 2020
Listed as one of the 100 CleanTech Companies

Unilever Young Entrepreneurship Award 2019
Top Eight Finalists

Siemens Stiftung Empowering People Network Award 2019
Winner

Energy Globe Awards 2019
Winner

Free Electrons Accelerator Program 2018
World's Best Energy Startup

Microsoft Airband Grant Fund 2018
Winner

GIZ-Endev Innovation Competition 2018
Winner

World Economic Forum Tech Cohort 2018
The Most Game-Changing Startups in the World

MIT Inclusive Challenge Asia 2018
Winner

IKU Award by the German Industry Association (BDI) & The German Ministry of Environment (BMUB) 2018
Winner

UNDESA Powering the Future We Want 2017
Winner

Renewable Transformation Challenge by Elsevier Energy & the International Solar Energy Society 2017
Winner

Start-Up Energy Transition Challenge by DENA (German Energy Agency) 2017
Winner

UNFCCC Momentum for Change Award at COP22 2016
Winner

Inter Solar Award 2016
Outstanding Solar Project

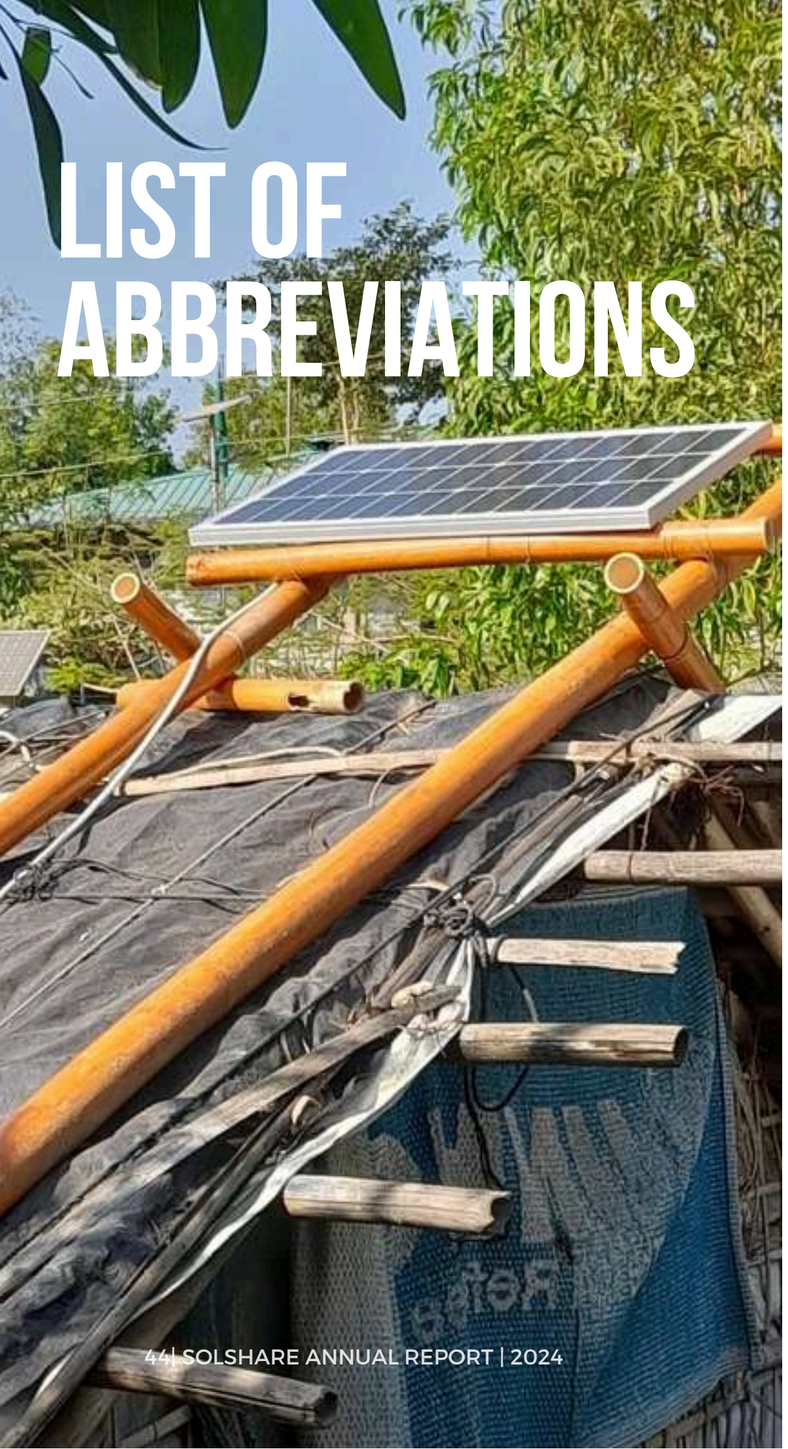
FREQUENTLY USED TERMS

CAUTIONARY STATEMENT

All statements which refer to future conditions and/or events in this report are forward-looking. Actual future results, including, but not limited to the demand for electricity, changes in production, rates, project plans, costs, capacities, resources available, cash flow generation, the impact of new technology, and its benefits, can differ due to several factors. These factors include but are not limited to local, national, regional, and global changes in raw material prices, market, and economic conditions; timely completion of our projects;

Changes in the demand of our products and services; in the public health, war, security, political, governmental regulation scenarios; Unexpected developments in technology, economy, political sanctions and regulations, and research. Every future statement has been based on management's knowledge and expectations.

- E-Mobility: Transport modes that are battery-powered, eliminating the need for an internal combustion engine (ICE), that releases toxic particulate matter and carbon dioxide.
- SOLmobility: Converts EV charging garages into grid-friendly net-metered solar garages, providing smart PAYG-tech integrated lithium-ion batteries for improved battery tech and leasing models.
- SOLdongle: SOLshare's patented technology that enables regular lithium ion batteries to become smart batteries.
- SOLroof: Commercial and Industrial solar rooftop installation projects by SOLshare
- Rooftop solar: Photovoltaic system that has its electricity-generating solar panels which are mounted on the rooftop on various infrastructures.
- OPEX model: A dedicated energy service company (ESCO) builds, owns and operates a solar rooftop system on C&I premises, and the C&I buys the electricity from the ESCO via a long-term power purchasing agreement. SOLshare delivers services to this ESCO and may opt to be a co-shareholder.
- CAPEX model: The C&I owns the rooftop solar installation on its premises whereas SOLshare undertakes the engineering, procurement and construction (EPC). The parties might engage in a separate maintenance and operation (M&O) contractual agreement.
- Greener Garments Initiative: The Greener Garments Initiative (GGI) is an Energy Service Company (ESCO), established by SOLshare and BESTSELLER, a global family-owned fashion company, and a leading provider of solar energy solutions in the ready-made garments sector of Bangladesh
- Virtual Power Plant (VPP): A network of decentralized, power generating units and flexible power consumers with storage systems.
- SOLgrid: A peer-to-peer (P2P) solar micro-grid, that physically interconnects households and microbusinesses with and without solar home systems enabling real-time energy exchange.
- Swarm Electrification: Similar to a swarm of bees, the concept of swarm electrification refers to a swarm of electrons. The more houses that are interconnected, the stronger the swarm becomes, there is more energy, which equals more power.
- Prosumer: A person/ entity that is empowered to pro-actively produce and consume electricity.
- Point of Common Coupling (PCC): The PCC is a single access point for pooling and smartly interconnecting distributed energy generation and storage assets to the national grid.



LIST OF ABBREVIATIONS

AC: ALTERNATING CURRENT
ACEF: ASIA CLEAN ENERGY FORUM
B2B: BUSINESS-TO-BUSINESS
BAT: BRITISH AMERICAN TOBACCO
BBC: BRITISH BROADCASTING CORPORATION
C&I: COMMERCIAL & INDUSTRIAL
CAPEX: CAPITAL EXPENDITURE
CNG: COMPRESSED NATURAL GAS
COP22: 22ND CONFERENCE OF THE PARTIES
COP26: 26TH CONFERENCE OF THE PARTIES
DC: DIRECT CURRENT
DEG: DEUTSCHE INVESTITIONS- UND ENTWICKLUNGSGESELLSCHAFT
DPMA: DEUTSCHES PATENT- UND MARKENAMT (GERMAN PATENT AND TRADE MARK OFFICE)
EPC: ENGINEERING, PROCUREMENT AND CONSTRUCTION
ESCO: ENERGY SERVICE COMPANY
EV: ELECTRIC VEHICLE
FCDO: FOREIGN, COMMONWEALTH AND DEVELOPMENT OFFICE
FOREX: FOREIGN EXCHANGE MARKET
FY: FINANCIAL YEAR
GW: GIGAWATT
GGI: GREENER GARMENTS INITIATIVE
GS: GRAMEEN SHAKTI
IEA: INTERNATIONAL ENERGY AGENCY
IOT:INTERNET OF THINGS
IPS: INDEPENDENT POWER SUPPLY
KPI: KEY PERFORMANCE INDICATORS
KW: KILOWATT
KWP: KILOWATT PEAK
LA: LEAD-ACID
LEV: LIGHT ELECTRIC VEHICLE
LI: LITHIUM-ION
LNG: LIQUEFIED NATURAL GAS
MFI: MICRO FINANCE INSTITUTIONS
MW: MEGAWATT
MWP: MEGAWATT PEAK
M2M: MACHINE TO MACHINE
OPEX: OPERATING EXPENDITURES
P2P: PEER-TO-PEER
PAYG: PAY-AS-YOU-GO
PCC: POINT OF COMMON COUPLING
PCT: PATENT COOPERATION TREATY
PPA: POWER PURCHASING AGREEMENT
PV: PHOTOVOLTAIC
PO: PARTNER ORGANIZATION
QA: QUALITY ASSURANCE
R&D: RESEARCH AND DEVELOPMENT
SAFE: SIMPLE AGREEMENT FOR FUTURE EQUITY
SAM: SOLSHARE AREA MANAGER
SCADA: SUPERVISORY CONTROL AND DATA ACQUISITION
SF: SHAKTI FOUNDATION
SHS: SOLAR HOME SYSTEMS
SLA: SERVICE LEVEL AGREEMENT
SME: SMALL AND MEDIUM ENTERPRISES
SOP: STANDARD OPERATING PROCEDURE
SPV: SPECIAL PURPOSE VEHICLE
SREDA: SUSTAINABLE AND RENEWABLE ENERGY DEVELOPMENT AUTHORITY
UAE: UNITED ARAB EMIRATES
UN: UNITED NATIONS
UN DESA: UNITED NATIONS DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS
UNFCCC: UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE
USD: UNITED STATES DOLLAR
UX: USER EXPERIENCE
VAS: VALUE-ADDED SERVICE
VPP: VIRTUAL POWER PLANT
YOY: YEAR-ON-YEAR
WEF: WORLD ECONOMIC FORUM
ZSP: ZAYED SUSTAINABILITY PRIZE

TO ALL OUR PARTNERS, INVESTORS, CUSTOMERS, SUPPORTERS, EMPLOYEES, AND WELL-WISHERS — THANK YOU.

Your continued support has empowered SOLshare to put Bangladesh on the global map for energy innovation, positively impacting over 100,000 beneficiaries to date.

As we look to the future, we invite you to join us in co-shaping a new energy era—driven by the 5 D's: Decentralization, Decarbonization, Disruption, Democratization, and Digitization.
Together, we're building a smarter, fairer, and more sustainable energy future.

THE FUTURE OF ENERGY BEGINS WITH BANGLADESH

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