একটি বাড়ি একটি খামার একটি বিদ্যুৎ কেন্দ্র

One Home, One Farm, One Power Station

Extending *Ekti Bari Ekti Khamar* into energy independence: solar panels on every rooftop and every livestock shed, transforming 10 million rural homesteads into distributed power stations that generate electricity and protect farm animals from heat.

↓ Explore the Proposal

See the Numbers

A policy proposal by **Lutfar Rahman (Nirjhar)** | CEO, KaritKarma Limited

THE ENERGY CRISIS

March 2026: Live Crisis

The Strait of Hormuz is closed. Bangladesh has imposed fuel rationing. Universities shut down. Troops deployed at oil depots. The IEA has released a record 400 million barrels from emergency reserves, the largest coordinated release in history.

Bangladesh is bleeding foreign currency

Every year, billions of dollars flow out of the country to import fossil fuels, money that could build schools, hospitals, and a brighter future.

$15B

Annual fossil fuel imports

$34B

Forex reserves, but $16–17B/yr energy imports post-crisis

86%

Electricity from fossil fuels

$3.9B

LNG imports alone (2025)

$28.28/MMBtu

LNG spot price (was $10.73)

BD procurement price, March 2026

Hormuz Chokepoint

72–81% of Bangladesh's LNG supply is exposed to the Strait of Hormuz (Qatar 64% + Oman 10% + Excelerate/QatarEnergy 17%). 100% of crude oil from Saudi Arabia and UAE transits Hormuz. One chokepoint controls nearly all of Bangladesh's energy supply.

Zero Strategic Reserve

Bangladesh has 7–14 days of commercial fuel stock. No dedicated strategic reserve. Japan has 254 days. South Korea 200+ days. Even India has 9.5 days and is expanding. Bangladesh has **nothing**.

Untapped Sunshine

Bangladesh receives 4–5 kWh/m²/day of solar radiation across 94% of its land, with 6.5 hours of daily sunshine. A national asset sitting on every rooftop and livestock shed, unused.

THE VISION

Five pillars of the Bidyut Khamar

Every rural home AND farm becomes a distributed solar power generator. Building on *Ekti Bari Ekti Khamar*: one house, one farm, one power station.

Rooftop + Khamar Solar

Every rural household receives a 6.8 kW grid-tied solar system (10 x 680W panels): 5 on the home roof, 5 on livestock shed and farm structures. No battery. The national grid acts as the battery through net metering.

867 kWh/month per household, 16x consumption

100% Solar Irrigation

All agricultural water pumps transition to solar, operating exclusively during daylight. Removes 1,400–2,000 MW of load from the national grid entirely.

$900M/year diesel consumption eliminated

Tax-Free Import: G2G China Deal

Zero import duty on panels, inverters, and equipment. Government-to-Government bulk procurement with China at near-factory prices.

67–74% cost reduction vs. current retail

Affordable 5-Year Installments

Small one-time fee of BDT 5,000 plus 60 monthly installments of BDT 1,971, more than offset by net metering income. Households EARN BDT 871/month from day one.

Household earns BDT 871/month during installment period

Khamar Solar Shade

Solar panels on livestock sheds absorb 99%+ of solar radiation, reducing heat stress that causes 24% milk loss and 25% poultry decline for 10–11 months per year. Dual benefit: electricity generation AND animal welfare.

BDT 6,835/month recovered per livestock household

HOW IT WORKS

The grid is the battery

No expensive battery storage needed. The national grid handles the day-night balance.

Daytime

6 AM – 6 PM

10 panels generate 28.9 kWh/day (roof + khamar)

Household uses ~1.8 kWh during daytime

27.1 kWh surplus exported to national grid

Net metering credit earned

+812 kWh/month

Nighttime

6 PM – 6 AM

- ✕ No solar production
- → Household draws from national grid
- ✓ Deducted from daytime credit balance

Night consumption from credit

~55 kWh/month

Net result per household per month

867 kWh produced – **55 kWh** consumed = **812 kWh** exported to grid

SYSTEM PER HOUSEHOLD

10 680W Panels	**6.8 kW** Total Capacity	**5** On Home Roof	**5** On Khamar Shed
22% Panel Efficiency	**-40%** Heat Load Reduced	**None** Battery Needed	**25 yr** System Lifespan

SYSTEM TIERS

Three tiers for every household

Not every rural home has the same energy needs. The program offers three system sizes, from basic lighting to a full farm power station. All use the same G2G pricing and net metering model.

Basic

Lights, fans, mobile, TV

System	**2 panels / 1.36 kW**
Monthly generation	**173 kWh**
Consumption	**~30 kWh**
Grid export	**143 kWh**

COST BREAKDOWN (G2G)

2x 680W panels @ $0.09/W	BDT 14,688
1.5 kW grid-tied inverter	BDT 9,000
Mounting system	BDT 3,000

Wiring & bi-dir meter	BDT 7,200
Installation labor	BDT 2,400
Total system	**BDT 36,288 ($302)**

One-time fee	**BDT 2,000**
Installment (60 mo)	**BDT 571/mo**
NM income	**BDT 502/mo**

Net monthly during installment

BDT 69/mo

Payback: 6.0 years

After payback: **+BDT 6,024/year income**

Standard

Fridge, appliances, full household

System	**5 panels / 3.4 kW**
Monthly generation	**434 kWh**
Consumption	**~55 kWh**
Grid export	**379 kWh**

COST BREAKDOWN (G2G)

5x 680W panels @ $0.09/W	BDT 36,720
3.5 kW grid-tied inverter	BDT 15,000
Mounting system	BDT 6,000
Wiring & bi-dir meter	BDT 8,040
Installation labor	BDT 3,960
Total system	**BDT 69,720 ($581)**

One-time fee	**BDT 3,000**
Installment (60 mo)	**BDT 1,112/mo**
NM income	**BDT 1,325/mo**

Net monthly: household EARNS

+BDT 213/mo

Payback: 4.4 years

After payback: **+BDT 15,900/year income**

FULL KHAMAR

Bidyut Khamar

Household + livestock shed + farm

System	**10 panels / 6.8 kW**
Monthly generation	**867 kWh**
Consumption	**~55 kWh**
Grid export	**812 kWh**

COST BREAKDOWN (G2G)

10x 680W panels @ $0.09/W	BDT 73,440
6.8 kW grid-tied inverter	BDT 24,000
Mounting (roof + khamar)	BDT 10,200
Wiring & bi-dir meter	BDT 9,600
Installation labor	BDT 6,000
Total system	**BDT 123,240 ($1,027)**

One-time fee	**BDT 5,000**
Installment (60 mo)	**BDT 1,971/mo**
NM income	**BDT 2,842/mo**

Net monthly: household EARNS

+BDT 871/mo

Payback: 3.6 years

After payback: **+BDT 34,104/year income**

Prices can drop further with aggressive G2G negotiation

The $0.09/W panel price above is a conservative G2G estimate based on 2025 China export prices. Factory-gate prices for bulk sovereign deals can go significantly lower: Chinese manufacturers like LONGi, JA Solar, Trina, and JinKO are sitting on massive overcapacity (China's solar cell exports grew 73% in 2025). A 10-year, 68 GW volume commitment gives Bangladesh extraordinary leverage to negotiate factory-direct pricing at $0.065/W or below.

AT FACTORY-DIRECT $0.065/W

Tier	Current ($0.09/W)	Factory ($0.065/W)	Savings	Net Monthly	Payback
Basic	BDT 36,288	**BDT 29,808**	**-18%**	BDT 39/mo	**4.9 yr**
Standard	BDT 69,720	**BDT 54,120**	**-22%**	+BDT 473/mo	**3.4 yr**
Khamar	BDT 123,240	**BDT 94,320**	**-23%**	**+BDT 1,353/mo**	**2.8 yr**

Factory-direct estimate includes reduced inverter, mounting, and labor costs achievable through standardized kits and trained local workforce at scale. National program cost drops from $5.81B to ~$4.45B with the same 40/35/25 tier mix.

National cost projection by tier mix

Tier	Share	Households	Cost/HH	Capacity	Subtotal
Basic (1.36 kW)	40%	4,000,000	$302	5.4 GW	$1.21B
Standard (3.4 kW)	35%	3,500,000	$581	11.9 GW	$2.03B
Bidyut Khamar (6.8 kW)	25%	2,500,000	$1,027	17.0 GW	$2.57B
Total	**100%**	**10,000,000**	n/a	**34.3 GW**	**$5.81B**

Flexible deployment: A 40/35/25 tier mix reduces the total national

Upgrade path: Households can start at Basic and upgrade to Standard or

investment from $10.27B (all Khamar) to **$5.81B** while still adding 34.3 GW of solar capacity across 10 million households.

Khamar tier later as their needs grow. The grid-tied architecture supports incremental panel addition with only an inverter upgrade required.

THE BIDYUT KHAMAR ECOSYSTEM

Solar panels that protect what they power

78% of rural households keep livestock. Solar panels on farm structures don't just generate electricity: they absorb 99%+ of solar radiation, creating shade that dramatically reduces heat stress on cattle, poultry, and goats.

Extending একটি বাড়ি একটি খামার (Ekti Bari Ekti Khamar)

The EBEK program has already reached 21.8 million people through 90,000 Village Development Associations. 55% of its activities are livestock and poultry. Bidyut Khamar extends this proven infrastructure: where EBEK built the farm, we add the power station.

21.8M people reached | 90,000 VDAs | 55% livestock/poultry | BDT 80B budget

One integrated ecosystem, three revenue streams

Electricity Income

10 panels across roof + khamar structures generate 867 kWh/month. 812 kWh exported to grid via net metering.

BDT 2,842/mo
net metering income

Livestock Recovery

Solar shade reduces radiant heat load by 40%. Recovers 3.0 L/day of lost milk production. Poultry weight gain improves 10%. Vet costs drop.

BDT 6,835/mo
per livestock-owning household

Irrigation Savings

Solar-powered pumps run during daylight only, when crops actually need water. Zero fuel cost. Zero grid dependency. 50–75% cost reduction per acre.

BDT 5,000–8,000/mo
irrigation cost savings

Heat stress: the invisible crisis

10–11	24.4%	25%	40%

months/year heat stress (THI > 74)

milk production loss during heat stress

poultry production decline in heatwaves

radiant heat reduced by solar panel shade

25.17 million cattle and **370+ million poultry** in Bangladesh suffer heat stress for most of the year. Solar panels absorb 99%+ of incoming radiation, reducing animal surface temperature by up to 6°C.

1.89 million dairy farms lose BDT 100–150/cow/day to heat stress. 90,000 poultry farms see weight gain drop by 500g per bird. Solar shade is the most cost-effective intervention: it generates revenue while solving the problem.

FINANCIAL IMPACT

$10B invested returns $27B in forex savings

How the math works

FOSSIL FUEL DISPLACED

$73.90

per MWh of solar generated

CUMULATIVE GENERATION

371 TWh

over 10-year phased rollout

ELECTRICITY FOREX SAVED

$27.4B

371 TWh x $73.90/MWh

Why $73.90/MWh?

86% of Bangladesh's grid runs on imported fossil fuels: 46% natural gas (increasingly LNG), 28% coal, and 12% oil. Each kWh of solar directly displaces this import-

dependent generation. At Bangladesh's weighted-average fuel import cost, every MWh of solar saves $73.90 in foreign exchange that would otherwise leave the country.

Diesel irrigation savings

Solar pumps replace 1.43M diesel-powered irrigation pumps, saving **$996M/year** in diesel imports, an additional **$10B** over 10 years.

Return on investment

Every **$1 invested** returns **$2.7** in electricity forex savings alone. Including diesel irrigation savings, the ROI rises to **$3.6 per $1**.

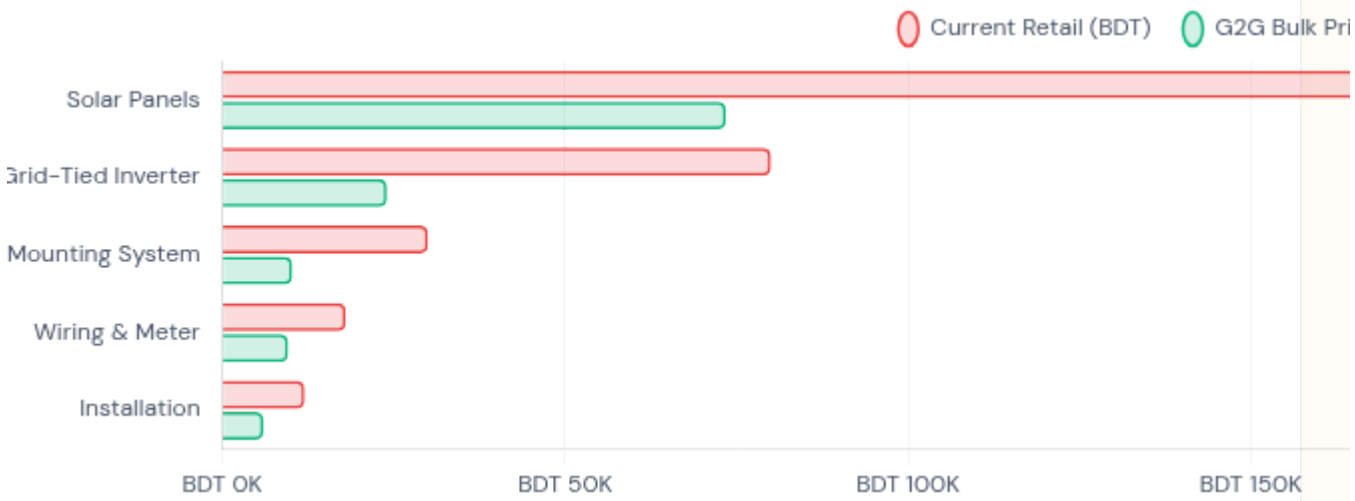
At full scale (Year 10): 68 GW capacity generates 105,485 GWh/year, saving $7.8B/year in forex, equivalent to 201% of current LNG import spending and 52% of total petroleum imports.

Select scenario to explore

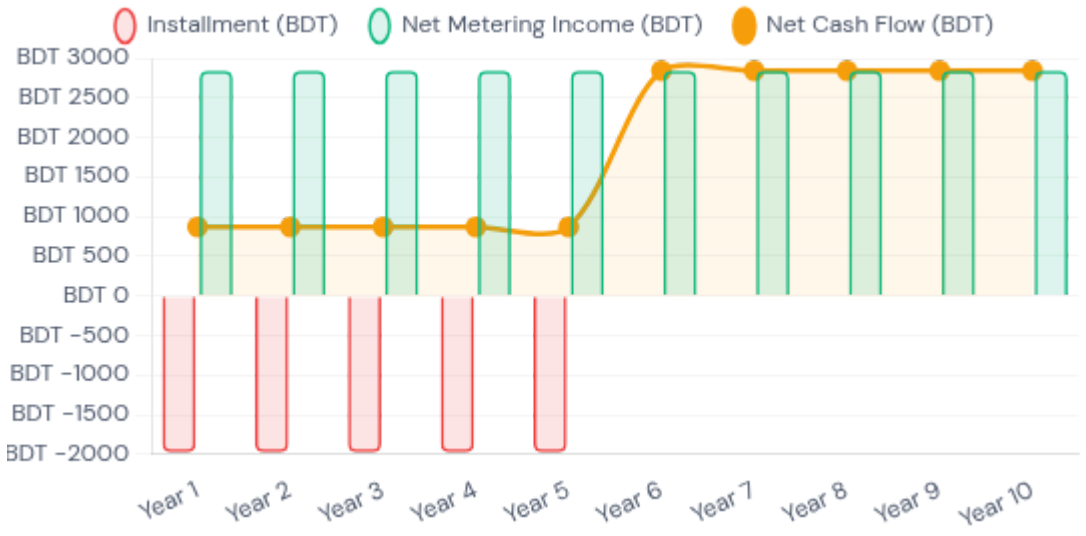
Base Case | Optimistic | Pessimistic

5.0	$0.090/W	BDT 3.50	55.0
kWh/m²/day irradiance	G2G panel price	Net metering rate/kWh	kWh/mo consumption

Per-Household Cost: G2G Deal vs. Retail



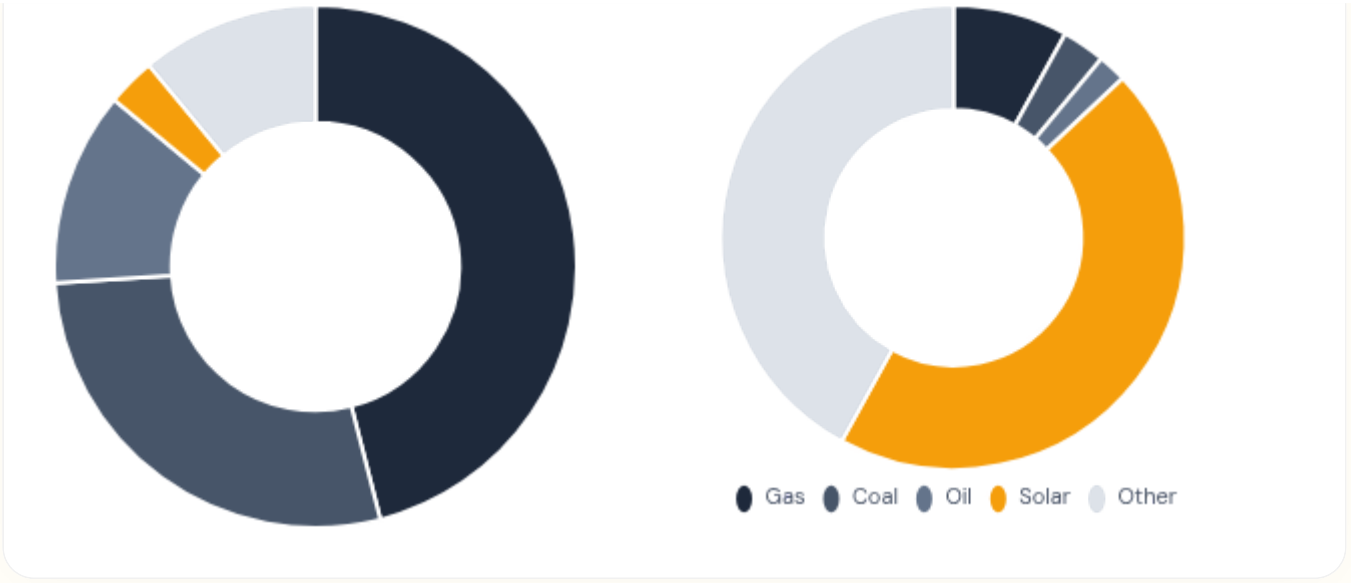
Household Monthly Cash Flow



Energy Mix Transformation

Current

With Bidyut Khamar (Year 10+)



10-Year Forex Savings Projection



System Cost	Payback Period	Monthly Earnings	10-Yr Forex Savings
BDT 123,240	3.6 years	+BDT 871	$27.4B

IRRIGATION REVOLUTION

Daylight-only solar pumps

All agricultural pumps transition to solar. Crops need water during the day. Pumps run when the sun shines. No grid, no diesel, no cost.

Current: Diesel Pumps

1.43 million pumps nationwide

Cost per acre (Boro)	BDT 13,000–14,500
Annual fuel cost	BDT 50,000–80,000
Maintenance/year	BDT 10,000–15,000
Lifespan	5–7 years
National diesel cost	$900M/year

Proposed: Solar Pumps

Daylight-only operation

Cost per acre (Boro)	BDT 3,500–4,000

Annual fuel cost	BDT 0
Maintenance/year	BDT 2,000–3,000
Lifespan	20–25 years
National fuel cost	$0/year

Annual farmer savings per household

BDT 60,000–95,000

50–75% reduction in irrigation costs, an immediate, transformative improvement in livelihood

PILOT DISTRICT

Start with Rajshahi

Highest solar irradiance in Bangladesh. Major rice-growing region. Existing solar infrastructure through IDCOL. The ideal proving ground.

6.33	100K	24

Peak kWh/m²/day

Target Households

Months Timeline

$103M
Total Investment

680
MW Capacity

5,000
Jobs Created

Implementation Phases

M 1–6 Preparation

G2G agreement signed. PMU established. 500+ technicians trained. Grid infrastructure audited.

M 6–9 Phase 1a

First 10,000 households installed. Real-world data collection. Review gate at month 9.

M 9–18 Phase 1b–c

Remaining 90,000 households. Irrigation pump conversion begins. Mid-pilot review at month 18.

M 18–24 Completion

Optimization and stabilization. Full results published. National rollout decision.

ENERGY SECURITY

Bangladesh has no strategic energy reserve

The March 2026 Hormuz crisis exposed a fundamental truth: Bangladesh cannot feed, power, or transport itself without foreign fuel flowing through a single chokepoint beyond its control.

72–81%

of Bangladesh's LNG supply exposed to the Strait of Hormuz

Qatar 64% direct + Oman 10% via OQ Trading + Excelerate 17% sourced under QatarEnergy SPA

100%

Crude oil from Saudi/UAE transits Hormuz

$28.28

Emergency LNG spot price/MMBtu

vs $10.73 pre-crisis, BD procurement

7–14

Days of fuel stock in the country

Commercial only, no strategic reserve

How Bangladesh compares

Country	Strategic Reserve	Days of Cover	March 2026 Status
Japan	470M barrels	254 days	Released 80M barrels
South Korea	100M barrels (govt)	200+ days	Released 22.46M barrels
China	~1.3B barrels (est.)	~90 days	Not officially disclosed
India	5.33 MMT	9.5 days	Expanding to 11.83 MMT
Bangladesh	**None**	**7–14 days**	**Commercial stock only**

30-day supply disruption

Factories shut down. RMG exports halt. Boro rice irrigation fails: March is peak season. Modeled estimate: economic losses of **$300–500M/day** across industry, transport, agriculture, and power.

Modeled estimate based on sector-by-sector analysis

The structural fix

Solar panels are a one-time import. **Sunlight is domestic and perpetual.** Every kWh of solar permanently reduces vulnerability to the next Hormuz. Unlike oil, gas, or coal, no country can blockade, ration, or price-gouge Bangladesh's sunshine.

FOSSIL FUEL DISPLACEMENT

What 68 GW of solar actually replaces

Sector by sector, dollar by dollar: how Bidyut Khamar structurally reduces Bangladesh's fossil fuel dependence.

Power Generation

45.5 TWh of daytime fossil generation displaced. Diesel peakers ($160–220/MWh) shut down first, then HFO rental plants, then LNG.

Up to $3.2B/year in fuel imports saved

Agriculture

1.43 million diesel irrigation pumps transition to solar. Farmers save BDT 60,000–95,000/year each.

Up to $900M/year in diesel eliminated

Transport

1.5M+ electric easy bikes already on the roads (likely 2–4M by 2025). Electric 3-wheelers, buses, rail electrification follow.

Up to $1.6–2.5B/year savings by 2036

Industry

8,000+ brick kilns consuming 7.1M tonnes of coal/year. RMG captive power plants. Electrification displaces the most polluting industrial fossil use.

Up to $1.1–1.75B/year in fossil fuel displaced

Total fossil fuel import reduction

CONSERVATIVE ESTIMATE

$5.2B/yr

OPTIMISTIC ESTIMATE

$7.4B/yr

That's **35–49%** of Bangladesh's current $15B annual energy import bill.

Sector card figures show maximum potential per sector at full deployment. Totals account for partial deployment, timing, and implementation friction.

What solar CANNOT replace: $4.1–6.1B/year

Nighttime power generation

Fertilizer gas feedstock

$1.5–2.0B/year, needs regional grid interconnection

$250–400M/year, requires alternative feedstock solution

Cement kilns
$400–600M/year, no electric alternative yet

Aviation + heavy transport
$1.0–1.3B/year, needs biofuels

→ This residual defines the **minimum strategic reserve requirement**. Bangladesh must maintain fuel reserves to cover what solar cannot, but solar dramatically shrinks that number.

SOLAR EV CHARGING NETWORK

Every fuel station becomes a solar charging point

4,500 fuel stations already have the land, the canopies, and the customers. Cover every shed with solar panels. Charge every electric vehicle from sunshine.

One station, fully converted

300 m²

Canopy covered with panels

57.2 kWp capacity

243 kWh

Generated per day

88.7 MWh per year

32–40

EVs charged per day

85–90% off-grid

Conversion cost: **$35,000–45,000** per station

Payback: **4–5 years** without subsidy

Scale it nationwide

4,500

Fuel stations converted

257 MW

Solar capacity added

to 426 MW (canopy size dependent)

$475M

Annual forex savings

13,000

Barrels/day oil displaced

Investment vs. return

TOTAL INVESTMENT	10-YEAR SAVINGS	RETURN ON INVESTMENT
$158–203M	**$2.3–3.2B**	**11–20x**
for all 4,500 stations	cumulative forex saved	over 10 years

53,500–92,750 jobs created in installation, maintenance, and EV service

700,000 tonnes CO2/year reduced from transport sector electrification

Bangladesh could be first

India's IOC has solarized 8,000–10,000 stations. China's Sinopec is converting 5,000. Shell, BP, and Fastned are building solar canopy stations across Europe. But no country has attempted a **national-scale full conversion**: every station, every canopy, 100% solar-powered EV charging.

Bangladesh already has the world's largest electric three-wheeler fleet (**2.5–4 million** easy bikes). The demand exists. The infrastructure exists. The sunshine exists. The only missing piece is the panels on the canopy.

STRATEGIC RESERVE

After solar, Bangladesh needs only 30 days of reserve

Bidyut Khamar reduces daily oil consumption by 34–55%. The strategic reserve that once seemed impossibly expensive becomes affordable.

8.6M

Barrels needed WITHOUT solar

30 days at current consumption

4.8M

Barrels needed WITH Bidyut Khamar

30 days at reduced consumption

$476M

Saved in oil procurement

By deploying solar first

Program cost and return

TOTAL PROGRAM COST

~$700M

over 15 years ($684–705M)

ANNUAL FISCAL BURDEN

$49M/yr

0.16% of GDP

MODELED ROI

$31 per $1

30-day disruption costs $12–15B*

*Modeled estimate based on sector-by-sector analysis

Three-phase reserve build

Year 1–5

Minimum Safety Buffer

15 days · 2.4M barrels · $228M

Year 5–10

Moderate Security

30 days · 4.8M barrels · $456M cumulative

Year 10–15

Full Strategic Reserve

45 days · 7.2M barrels · ~$700M cumulative

Above-ground tank farms at Chittagong, Mongla, and Payra ports. Salt cavern storage is not geologically feasible in Bangladesh's delta formation (Bengal Basin alluvium lacks evaporite/halite deposits).

NATIONAL ENERGY ROADMAP

From crisis to energy independence

A 15-year plan to take Bangladesh from 86% fossil dependency to below 15%.

Phase 1: Year 0–3

Emergency Response

• Solar: 6.8 GW (Rajshahi pilot → regional expansion)

- SPR: Build 15-day reserve (2.4M barrels)
- Grid: 1,000 MW additional India interconnection

Fossil: 86% → 70% | Cost: $2.7–3.0B | Saves: $1–2B/yr

Phase 2: Year 3–7

Structural Transition

- Solar: Scale to 40.8 GW (6 million households)
- SPR: Expand to 30-day reserve (4.8M barrels)
- Transport: Electric bus fleet, 3-wheeler mandates, rail
- Regional: Nepal/Bhutan hydropower (1,000–2,000 MW)

Fossil: → 35–40% | Cost: $13.2–16.6B | Saves: $20–35B cumul.

Phase 3: Year 7–15

Energy Independence

- Solar: Full 68 GW (10 million households)
- SPR: Complete 45-day reserve (7.2M barrels)
- Regional: Full BBIN energy grid (3,000–5,000 MW)

Fossil: below 15% | Cost: $21.7–33.2B | Saves: $120–235B cumul.

INVESTMENT	TOTAL SAVINGS	RETURN	FOSSIL SHARE
$37–53B	$120–235B	3–5x	86% → <15%
over 15 years	cumulative	on investment	in 15 years

⚠ **The alternative:** Continued fossil dependency is projected to cost $450–700 billion over 20 years at current demand growth trends.

AT FULL SCALE

The numbers speak

68 GW
Solar Capacity Added

105 TWh
Annual Generation
target at optimal conditions

$7.8B
Annual Forex Savings

100K+
Jobs Created

CARBON & CLIMATE REVENUE

Every kWh earns carbon credits

Bangladesh's grid emits 0.62 tCO2 per MWh. Every solar kilowatt-hour displaces fossil generation and earns tradeable carbon credits, an entirely separate revenue stream on top of net metering.

Bangladesh has a critical advantage: LDC status

Since 2020, Verra VCS and Gold Standard only accept new renewable energy carbon credit projects from Least Developed Countries. Most competing nations can no longer register. Bangladesh is one of the few countries where distributed solar credits are still eligible, a closing window that Bidyut Khamar must exploit immediately.

LDC-exclusive eligibility

IDCOL precedent: $16.25M earned

Article 6 deals with South Korea & Japan

The carbon credit math

0.62

tCO2/MWh grid emission factor
(Dept. of Environment, Jan 2025)

6.45

tCO2 avoided per household/year
(10.4 MWh x 0.62 tCO2/MWh)

645K

tCO2/year from pilot alone
(100K households, Rajshahi)

64.5M

tCO2/year at full scale
(largest distributed solar credit program in history)

Voluntary Carbon Market

Register under Verra VCS & Gold Standard using methodology ACM0002 (grid-connected renewable). Credits with SDG co-benefits sell at 86% premium. Bidyut Khamar touches SDGs 1, 5, 7, 8, 9, and 13.

Current price range

$5–30/tCO2

Article 6 (Paris Agreement)

Government-to-government carbon trading. Bangladesh has signed bilateral agreements with South Korea and Japan (MoC in progress). Both are active ITMO buyers for their NDC compliance.

Bilateral deal price range

$15–30/tCO2

I-RECs (Stackable)

International Renewable Energy Certificates can be earned simultaneously with carbon credits: they represent different environmental attributes from the same generation. First Bangladesh I-REC registered at Tetulia Solar by Monsoon Carbon.

Revenue at full scale

$104–177M/yr

Climate revenue projection (blended $15/tCO2)

Scale	Annual Credits	Carbon Revenue	I-REC Revenue	Total Climate Revenue
Pilot (100K HH)	645K tCO2	$9.7M	$1–2M	~$11M/yr
Year 3–4 (1M HH)	6.45M tCO2	$97M	$10–18M	~$112M/yr
Full Scale (10M HH)	**64.5M tCO2**	**$968M**	**$104–177M**	**~$1.1B/yr**

20-year crediting period: At a conservative $5/tCO2, carbon credits alone generate **$6.45 billion**, recovering 63% of the entire $10.27B program investment from climate revenue alone.

IDCOL proved this works: Bangladesh's IDCOL already earned $16.25M from 2.53M carbon credits through its Solar Home System programme. Bidyut Khamar uses the same Programme of Activities (PoA) registration approach at 25x the scale.



The Strait of Hormuz is closed today. The fuel queues are real. The rationing is real. Bangladesh has 7–14 days of fuel. Japan has 254 days.

একটি বাড়ি একটি খামার একটি বিদ্যুৎ কেন্দ্র

Every home powered. Every livestock protected. Every farmer energy-independent.

Start with Rajshahi.
Build the reserve.
Secure the nation.

~$700M buys 45 days of strategic reserve. 68 GW makes Bangladesh energy-independent.

Read Full Proposal | Explore the Model

DATA SOURCES & REFERENCES

SOLAR & ENERGY DATA

Global Solar Atlas: Bangladesh Irradiance Map (World Bank)

IEA: Bangladesh Energy Profile

Low Carbon Power: Bangladesh Electricity Mix

Ember Energy: China Solar Export Data

IRENA: Renewable Energy & Jobs Annual Review 2024

BANGLADESH GOVERNMENT

SREDA: Net Metering Guidelines 2025 & Solar Data

BPDB: Grid Capacity & Generation Mix

REB: Rural Electrification Statistics

Bangladesh Bank: Forex Reserves & Exchange Rates

BBS: Population Census 2022 & HIES Data

Dept. of Environment: Grid Emission Factor (0.62 tCO2/MWh)

INTERNATIONAL FINANCE & CLIMATE

Green Climate Fund: Bangladesh Portfolio

ADB: Bangladesh Energy & Solar Irrigation Projects

World Bank: Bangladesh Data & RERED Program

UNFCCC: Bangladesh NDC 3.0 (September 2025)

Climate Bonds Initiative: Solar Sector Criteria

CARBON MARKETS

Verra VCS: Carbon Credit Standard & Methodology ACM0002

Gold Standard: Programme of Activities Framework

ICVCM: Core Carbon Principles

I-REC Standard: Renewable Energy Certificates

IDCOL: Bangladesh Solar Home System Carbon Credits

COMPARATIVE PROGRAMS

PM-KUSUM: India Solar Irrigation (10 lakh+ pumps)

PM Surya Ghar: India Rooftop Solar (1 Cr target)

M-KOPA: Kenya Pay-As-You-Go Solar (3M+ homes)

IDCOL SHS: Bangladesh Off-Grid Solar (4.1M systems)

RESEARCH & ANALYSIS

IEEFA: Bangladesh Power Sector & Solar Analysis

pv magazine: Bangladesh Solar Policy Coverage

NREL: PV Penetration on Distribution Feeders

Trading Economics: Bangladesh Forex Reserves

WHO: Household Air Pollution & Health

ENERGY SECURITY & GEOPOLITICS

EIA: Strait of Hormuz Chokepoint Analysis

IEA: Emergency Oil Stock Release (March 2026)

Dallas Fed: Economic Impact of Hormuz Closure (March 2026)

Al Jazeera: Bangladesh Fuel Crisis Coverage

Inspira Advisory: Bangladesh LNG Vulnerability & Hormuz Dependency

STRATEGIC PETROLEUM RESERVES

JOGMEC/Nippon: Japan Strategic Petroleum Reserve Data

S&P Global/KNOC: South Korea Reserve Release

ISPRL/Business Today: India Strategic Petroleum Reserves (March 2026)

US DOE: Strategic Petroleum Reserve Quick Facts

FOSSIL FUEL DISPLACEMENT

CCAC: Bangladesh Brick Sector Roadmap (7.1M tonnes coal)

ADB: Road Map to Scale Up Solar Irrigation Pumps 2023–2031

ResearchGate/UNEP: Electric Rickshaws in Bangladesh

IEEFA: Fixing Bangladesh's Power Sector

A Policy Proposal by

Lutfar Rahman (Nirjhar)

Chief Executive Officer, KaritKarma Limited

consult@lonesock.pro | karitkarma.com