



PPM ECO

EMPOWERING COMMUNITIES



PPM ECO CARIBBEAN

Empowering the future, together.

COMMUNITY MICROGRID PLAYBOOK

PRESENTED BY PPM ECO
CARIBBEAN

How to Build Energy Independence —
One Community at a Time

www.ppmecocom

Powering Resilience Through Innovation, Equity & Local Leadership





WHY THIS PLAYBOOK?

When the grid fails, so does progress.

Across the Caribbean and beyond, communities face an energy crisis that isn't technical — it's existential. Aging infrastructure, imported diesel dependence, and climate vulnerability leave hospitals dark, schools offline, and businesses shuttered during blackouts.

But there's a solution already within reach: community microgrids powered by solar + storage.

This playbook is your step-by-step guide to launching a resilient, locally owned, and financially sustainable microgrid — from vision to handover.

Whether you're a local co-op leader, municipal planner, or NGO partner, this resource will help you:

- ✓ Assess your community's energy needs
- ✓ Choose the right financing model
- ✓ Train local technicians
- ✓ Secure funding & partnerships
- ✓ Achieve true energy sovereignty

"We're not just powering islands. We're re-empowering nations."
— Teddy Saunders, Managing Director, PPM ECO Caribbean

STEP 1: THE CHALLENGE

Why Microgrids Now?

Issue	Statistic
Diesel Dependence	70% of electricity comes from imported diesel (IDB, 2023)
Electricity Cost	Avg. \$0.35/kWh – triple the global average
Grid Age	60% of grids are over 40 years old (World Bank)
Climate Risk	90% of islands face high-to-extreme climate risk (UNDP)

✦ The Cost of Inaction

- 42% of maternal deaths in rural clinics linked to power outages (PAHO)
- \$1.2 billion annual tourism losses due to blackouts (Caribbean Tourism Org)
- 18,000 youth migrated in 2023 citing lack of opportunity (UNICEF)

! When the grid fails, healthcare, education, and economic growth fail with it.

STEP 2: THE SOLUTION-SOLAR + STORAGE MICROGRIDS

Proven. Affordable. Resilient.

For the first time in history, solar + battery storage is cheaper than diesel across 95% of the Caribbean (IRENA, 2024)

Energy Source	Cost per kWh
Diesel	\$0.28 – \$0.45
Solar + Storage	\$0.12 – \$0.18

With a payback period of 3–5 years, Microgrids deliver:

- 100% uptime during hurricanes
- Lower bills for households and businesses
- Local job creation
- Zero emissions

STEP 3: BUILDING YOUR MICROGRID

A 4-Phase Framework



◆ Phase 1: Site Assessment & Feasibility (2 Weeks) PPM ECO conducts a rapid diagnostic including:

- Load profile analysis (homes, clinics, schools, SMEs)
- Solar irradiance mapping
- Existing grid condition
- Community engagement workshop

📌 Deliverable: Technical Feasibility Report

◆ PHASE 2: DESIGN & FINANCING PLAN (4-WEEKS)

We co-develop a customized system based on your needs.
Sample System: Rural Community (50 Homes)

✦ **Deliverable: Proposal with ROI, cash flow, and repayment schedule**

Component	Specification
Solar PV	50 kW
Battery Storage	200 kWh Li-ion
Inverters & Controls	AI-optimized for load shedding
Distribution Network	Upgraded poles & wiring

Choose Your Financial Model:

Model	Description	Best For
CapEx	Full ownership, upfront investment	Municipalities, utilities
Lease-to-Own	Low/no upfront cost, pay over 5–7 yrs	Co-ops, SME clusters
PPP	Public-private partnership with donor match	Government-led projects
Donor Co-Financing	Leverage IDB, CDB, GCF funds	NGOs, climate resilience zones

◆ PHASE 3: INSTALLATION & TRAINING (6–8 WEEKS)



We deploy fast, clean, and with full community involvement.

🔧 What Happens:

- Civil works (foundations, trenching)
- Panel & battery installation
- Smart control system setup
- Local hiring: 70% of labor from within the community
- PPM ECO Academy:
- On-site technician training (Level 1 Certification)

🎓 Every project trains 4–6 local residents as certified solar technicians.

📌 **Deliverable: Operational microgrid + trained local team**

◆ PHASE 4: HANDOVER & LONG- TERM SUPPORT

📄 Our handover includes:

- O&M manual (bilingual: English/Spanish/French)
- Remote monitoring via PPM AI Dashboard
- 24/7 support hotline
- Spare parts inventory stored locally
- Annual maintenance visits

💡 Optional: Enroll in PPM Care Program for extra or full coverage



SUSTAINABILITY INITIATIVES



Our Impact Model: PPM ECO Cares + PowerForward We don't just sell systems — we build economies.

♥ PPM ECO Cares

“For every 3 kits sold, we donate 1 to a school, clinic, or orphanage.”

¥ PowerForward Microloans

“\$5K–\$50K loans for women-owned businesses and SMEs — repaid through energy savings.”

🎯 Example: A bakery in Havana uses solar to run ovens → cuts energy costs by 60% → repays loan in 24 months → expands operations.

WORKFORCE DEVELOPMENT: ENERGY TRANSITION STARTS WITH PEOPLE

To ensure long-term success, we invest in human capital.

🎓 Launching the PPM ECO Academy

In partnership with:

- **University of Trinidad and Tobago (UTT)**
- **University of the West Indies (UWI)**
- **Cuban Technical Schools**

Goals by 2028:

- Train 300+ local technicians
- Hire oil & gas workers transitioning to clean energy
- Ensure 30% female participation in all training programs

“We train locals to own, operate, and benefit — forever.”

NEXT STEPS: LET'S CO-DEVELOP RESILIENCE READY TO BEGIN?



ESTIMATED TIMELINE:

Phase	Duration
Site Assessment	2 weeks
Proposal & Financing	4 weeks
Installation & Training	6–8 weeks
Handover & Support	Ongoing



OLIVIA WILSON

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.



TEDDY SAUNDERS

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.



JULIANA SILVA

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

 Pilot Projects Available Q4 2027

CHALLENGES AND SOLUTIONS

📞 **Contact Us to Start Your Journey**

Teddy Saunders

Managing Director, PPM ECO Caribbean

✉ teddy.saunders@ppmecocaribbean.com

📞 +1 (868) 789-4560

🌐 www.ppmeco.com

📍 JV Based in Trinidad & Tobago | U.S. Innovation, Caribbean Leadership

🌟 **Closing Call to Action**

The Caribbean's energy crisis isn't technical — it's existential.

Together, we have the technology, the financing, and the moral imperative to change the story.

Let's stop importing energy — and start exporting resilience.

Let's stop depending on diesel — and start developing dignity.

Let's not just power islands.

👉 Let's re-empower nations.



THANK YOU



© 2025 PPM ECO Caribbean

This playbook is free to download, share, and adapt for non-commercial use.
For licensing or partnership inquiries, contact us.