







Turning Around MEC: Putting Ideas into Practice

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MEC at a glance

Government-owned since 1984: from Majuro alone to communities across the Marshall Islands

MAJURO SYSTEM

22.8 MW
installed generation

9.3 MW
peak demand

64 GWh
energy per year

~6,000
customers

83%
of customers on prepaid meters

3
13.8 kV feeders

OUR GROWING SERVICE AREA

1984 **Majuro**

Over the years **Jaluit, Wotje**

Recently **Kili, Ebeye**

Soon, via REGAIN **Arno**

PARTNERS IN THE TURNAROUND

Asian Development Bank
Energy Transition Project (ETP)
Energy Security Project (ESP)

World Bank
SEDeP and REGAIN

Tetra Tech
Supplemental Management Operations (SMO) contractor

Where we started: an honest diagnosis

In 2018, an ADB-supported Utility Maturity Model review gave us a clear baseline



ADB Utility Maturity Model: eight domains, scored 0 (nascent) to 3 (advanced)

1 **Assess | 2018**
ADB-supported maturity review across eight domains exposed the gaps in how MEC was run.

2 **Plan**
An Action Plan with specific interventions, investments and timelines.

3 **Implement | 2023 onward**
ADB-funded SMO contractor Tetra Tech works alongside MEC staff to deliver it.

OUR MATURITY PATH

Level 1
2018 baseline

Level 2
in 3–5 years

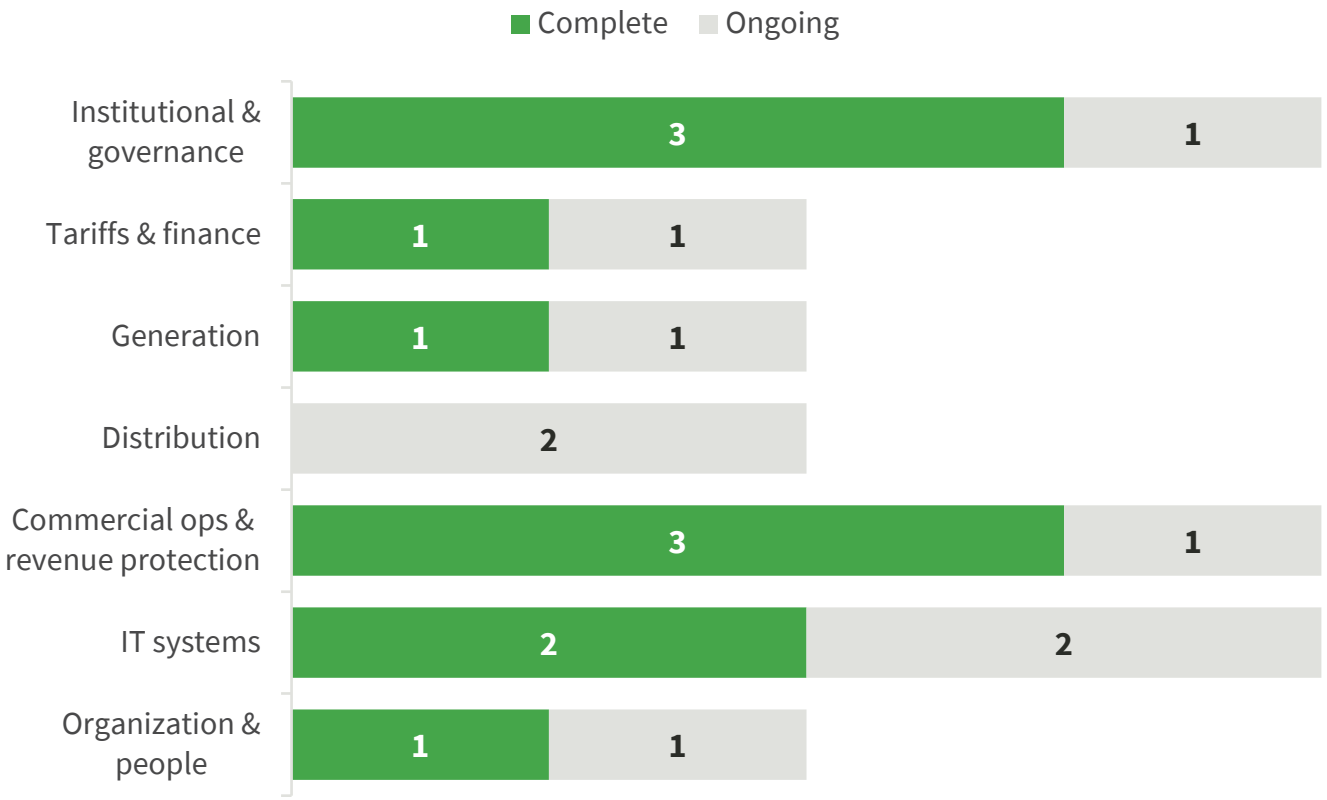
Level 3
in 7–10 years

Next: a fresh maturity assessment under ADB-funded SMO Phase 2

One plan, seven pillars, 20 interventions

A whole-of-utility plan, tracked openly: 11 interventions complete, 9 under way

ACTION PLAN INTERVENTIONS BY PILLAR (count)



11/20 **interventions complete**

DELIVERED SO FAR

- ✓ Sector law adopted
- ✓ MEC–KAJUR merger
- ✓ Solar policy
- ✓ Tariff policy & methodology
- ✓ IRRP 2024–2034
- ✓ AMI & energy balance system
- ✓ Maintenance management system (CMMS)
- ✓ Organizational restructure

Getting the fundamentals right

Clear rules and cost-reflective tariffs, built with ADB-funded SMO support, underpin our investments

NEW TARIFF METHODOLOGY

Built with ADB-funded SMO

First full tariff review since 2009

BASE

Opex (excl. fuel), depreciation, return and taxes

From latest audited accounts

\+

FUEL

Actual fuel cost per kWh sold, prior 3 months

Updated monthly

Governance: Management proposes, the Board reviews and approves, giving Government and Legislators assurance the tariff is sound.

SMO role: our ADB-funded SMO consultant (Tetra Tech) built the methodology and the tariff model that applies it the same way every time.

Sector law & merger

Complete

Sector law adopted; MEC and KAJUR (Ebeye) merged

Solar policy

Complete

- Only MEC-operated or MEC-contracted solar may export to the Majuro grid
- Customer systems need inverters that block export, as MEC cannot control them

Next: tariff review

2027

REGAIN-funded: extends the SMO method to Ebeye after the KAJUR merger, and tests time-of-use, EV and solar export tariffs.

People make the turnaround

Skills, structure and accountability, led by Marshallese staff, and more women in technical roles



KPI training sessions



Back-billing and kWh methodology training



MEC women engineers (PWIP)



STEM Day with MEC engineers

Restructured
organization aligned to performance objectives

Accountable
departmental action plans and KPI monitoring

PACIFIC WOMEN IN POWER (PWIP), SINCE 2024

6
women engineers hired, all in operational and plant roles

12-month
mentorship with World Bank PWIP and GWNET

3
school levels reached through STEM Days

How we did it: discipline plus data

A dedicated Revenue Protection team, a repeatable cycle, and smart meters at every level

1 Analyze	2 Balance	3 Inspect	4 Diagnose	5 Update	6 Act
billing and energy accounting	pinpoint high-loss areas	every meter, in the field	root causes of leakage	billing and GIS records	fix, back-bill, follow up

SMART METERS (AMI) AT EVERY LEVEL

Feeder → **Transformer** → **Customer**

- ✓ Transformers and large customers billed via AMI
- ✓ Real-time balance flags overloads, outages and theft
- ✓ Every customer GPS-mapped to transformer and feeder

Next: Wayne Kijiner on MEC's Energy Balance Platform



Findings GPS-mapped

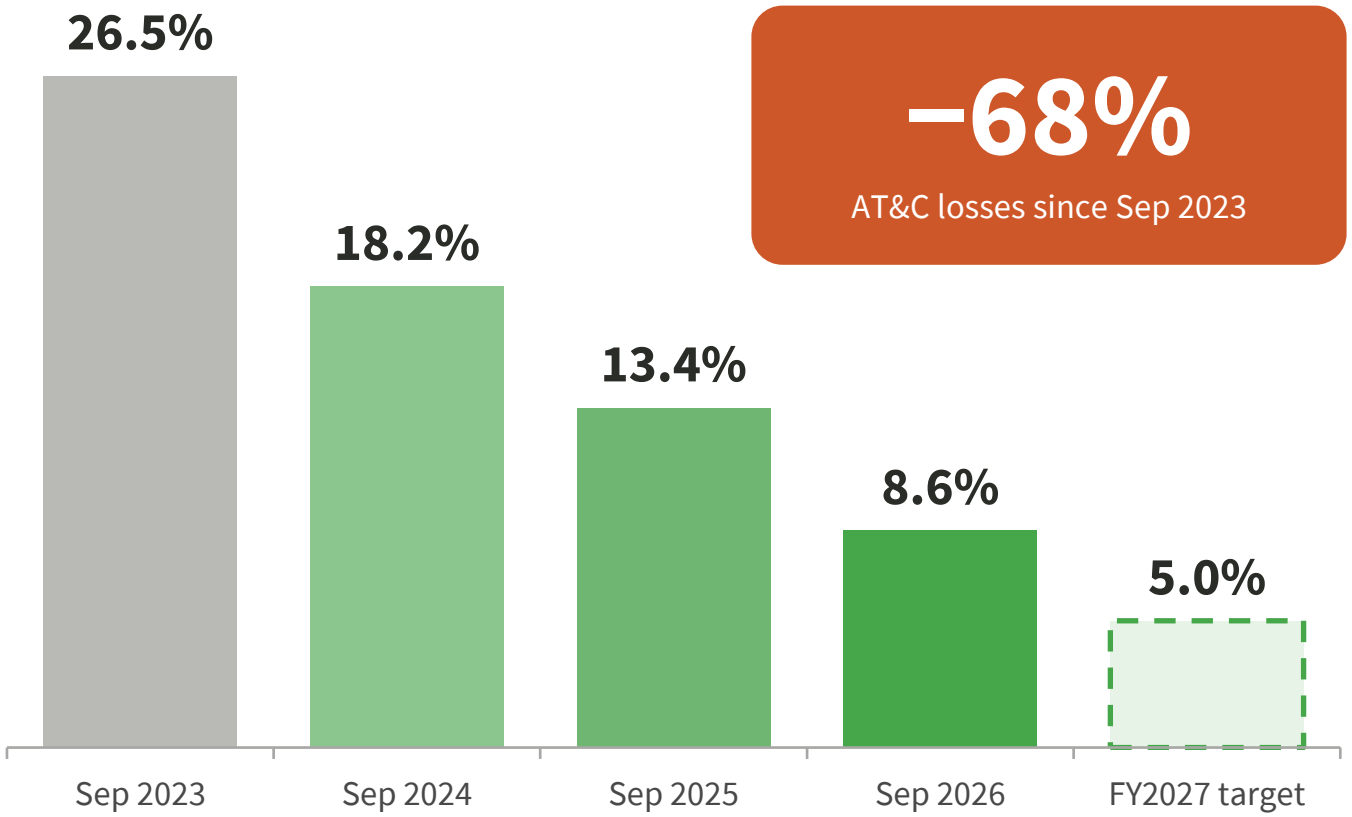

Meter tampering found


AMI installation

Results: losses cut by two-thirds in three years

Now at or below the Pacific regional median, and targeting 5% in FY2027

AT&C LOSSES, MAJURO



−68%
AT&C losses since Sep 2023

$3.5M
saved every year from lower losses

$5.8M lost revenue back-billed

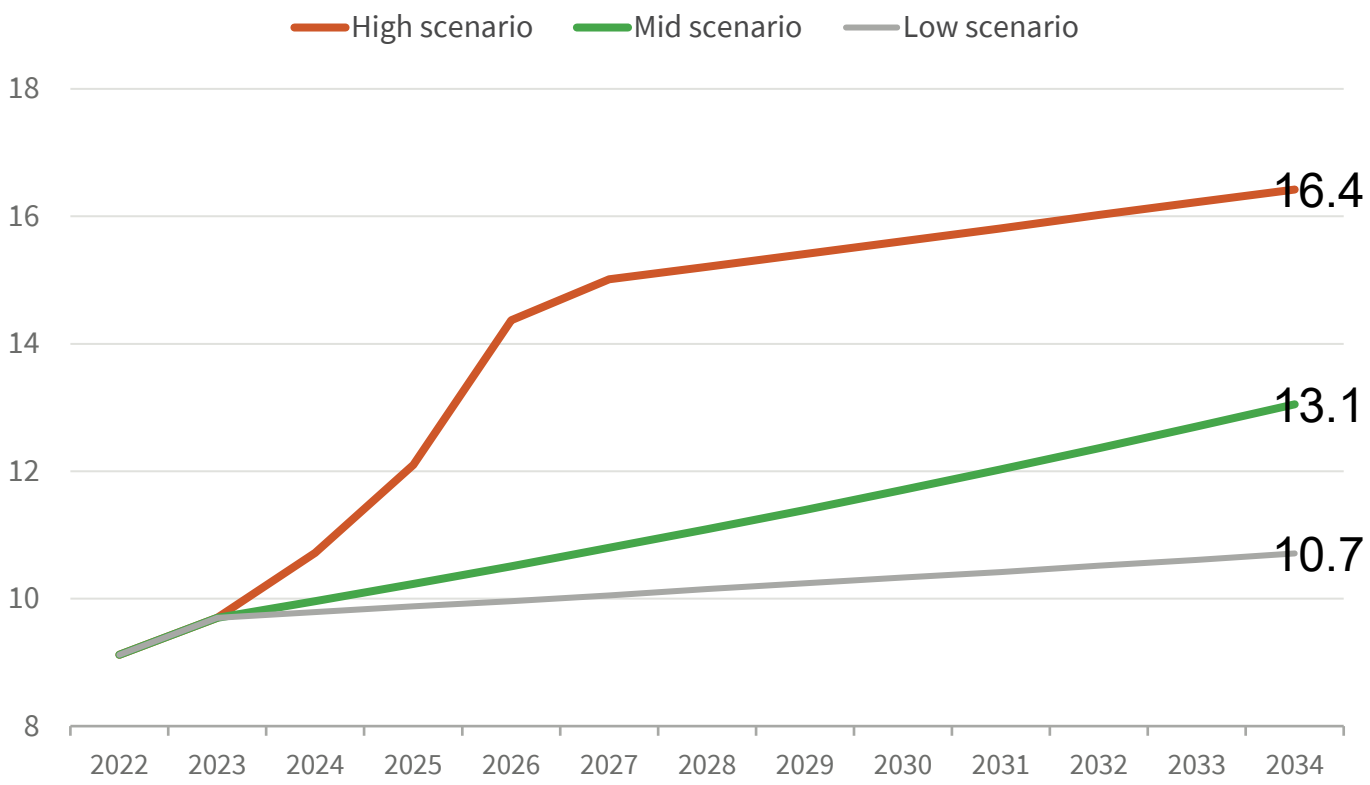
100% of customer installations inspected and GPS-mapped

5% loss target for FY2027

Planning ahead: the IRRP 2024–2034

Moving from “least cost” to “least regrets” on the road to 100% GHG reduction by 2050

PEAK DEMAND FORECAST, MAJURO (MW)



2022–23 actual; 2024–2034 forecast (IRRP scenarios)

Up to 16.4 MW

peak demand by 2034 (high scenario), up from 9.7 MW in 2023

Least cost → Least regrets

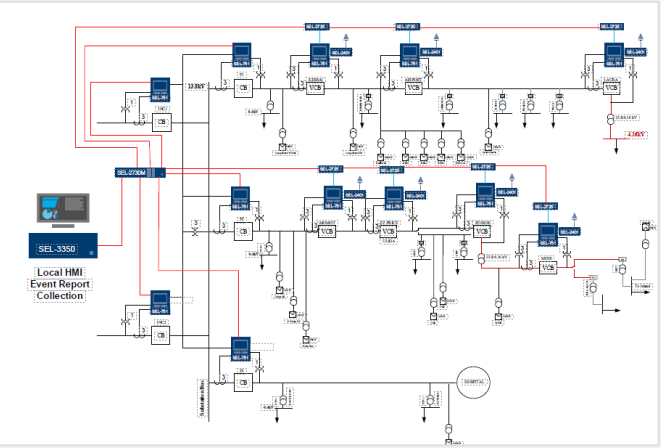
Coastal flooding and typhoons rated high risk; resilience is built into every investment.

100% by 2050

RMI target for greenhouse gas reduction

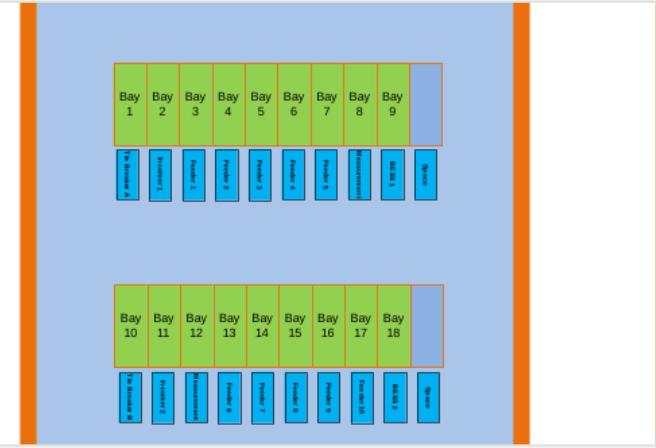
Preparing the grid for high renewables

A $90 million IRRP investment program to keep the grid stable as solar passes 60%



Digital protection system

Faults located and cleared in milliseconds, not system-wide outages; designed for more solar PV



New switching station

Two switchgear busbars add capacity and flexibility; construction starting soon



Four new feeders

Better load distribution, plus feeder looping for automated switching and resilience

Also in the $90M program: firm generation and storage · advanced SCADA and AGC · RE and Blue Economy pilots · tariff and financial strengthening · staff capacity building

Building the new generation mix: PS1 and SEDeP

New firm capacity at PS1, and 4 MW of solar across six Majuro sites



PS1 power station reconstruction

5 MW
2 × 2.5 MW gensets

Late 2027
completion target

WB grant
building, gensets, BESS, controls

Construction 40%

- New building, gensets, battery and control system



4 MW solar PV | SEDeP

4 MW
solar at six Majuro sites

2 MWh
battery at PS1

3% → 8%
RE share, FY2026 → FY2027

Battery & ring main units 90%

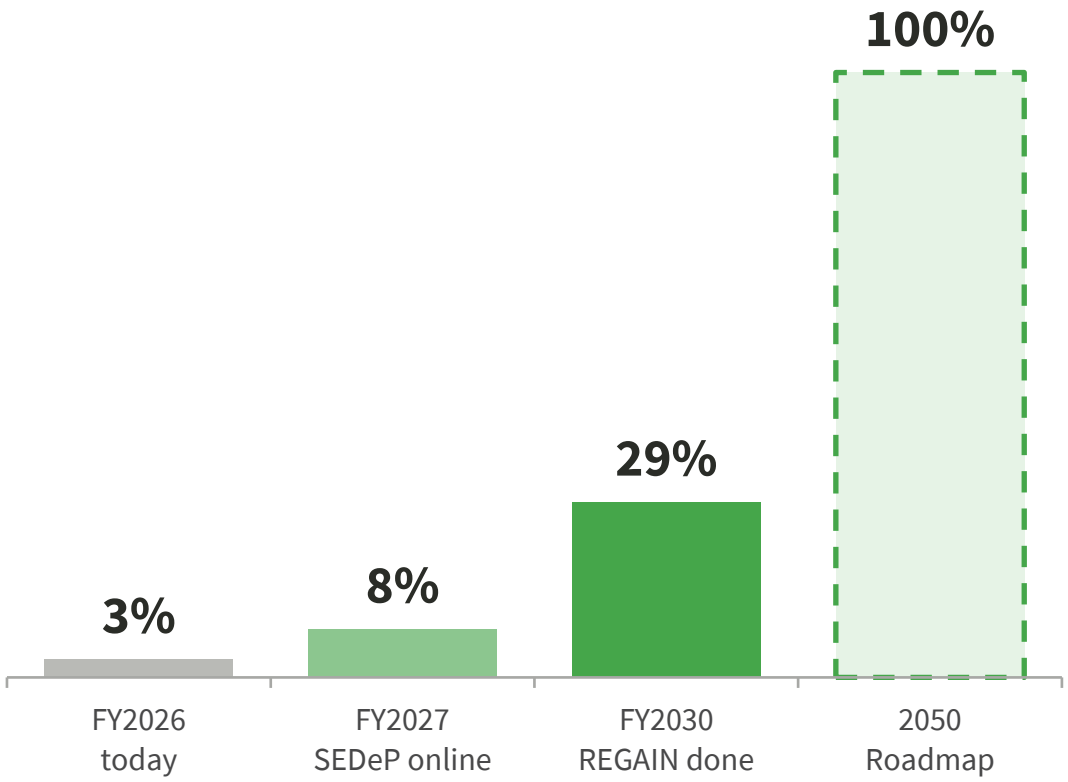
Final testing and commissioning: early Nov 2026

- Solar installed and hot-commissioned; communications fix under way

REGAIN: scaling up solar, storage and access

A US$60 million World Bank grant: from 3% renewable today to 29% by 2030

RENEWABLE SHARE OF RMI POWER PRODUCTION



FY2026–FY2030: MEC projections (Sep 2026). 2050: RMI Electricity Roadmap.

6.6 MW + 11 MWh
solar and storage on the Majuro and Ebeye grids; bids launch Dec 2026

8 mini-grids
1.4 MW / 4.2 MWh for outer islands; 4 new on Arno for ~130 households

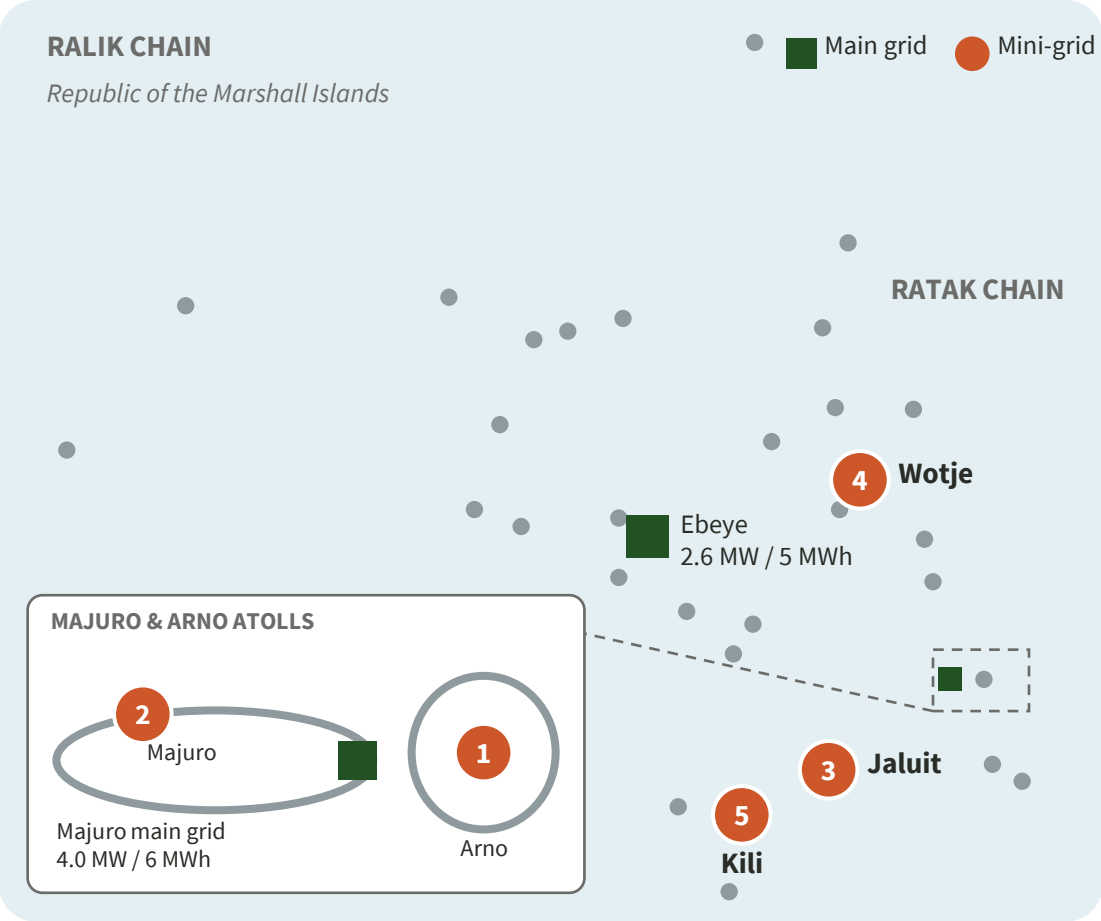
~2M gal a year
of diesel displaced by 2030, keeping ~US$9M a year in RMI

45 → 60 days
of power from every fuel cargo once REGAIN is complete

✓ **US$20.5M mini-grid contract signed with Sunergise, Oct 2026**

Bringing renewables to the outer islands

REGAIN’s eight mini-grids, plus solar and storage on the Majuro and Ebeye grids



Schematic map; positions approximate.

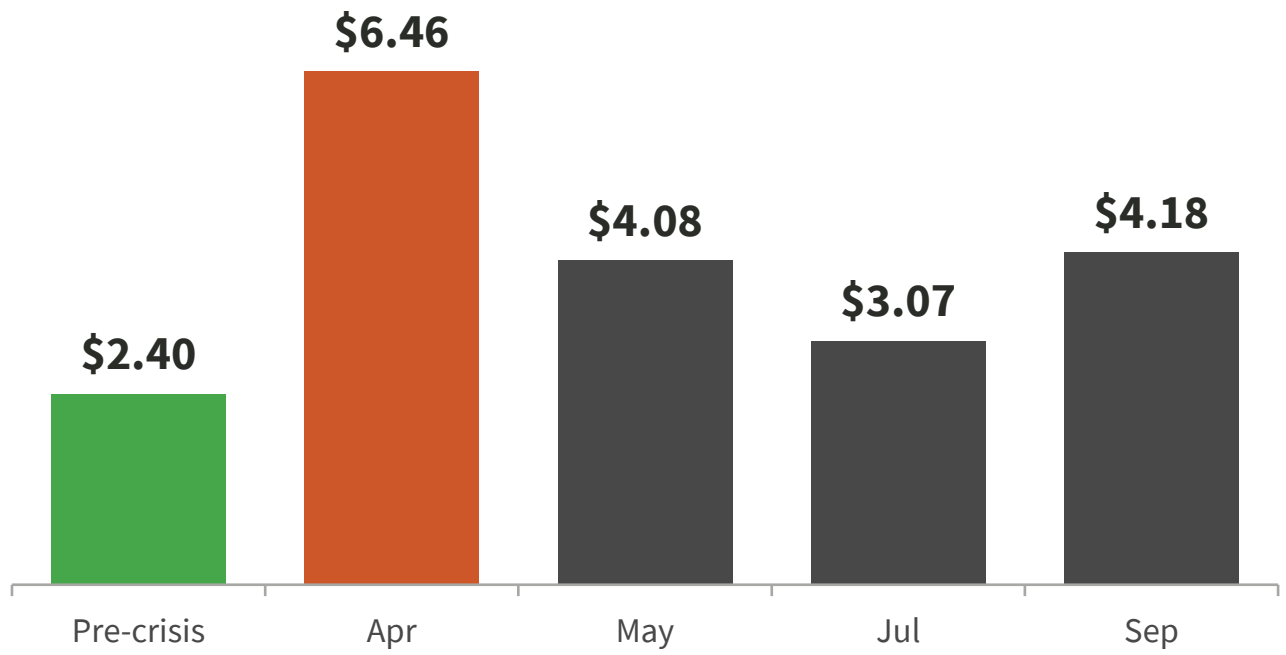
8 MINI-GRIDS · 1.4 MW SOLAR · 4.2 MWh STORAGE

1. **Arno**
   4 new mini-grids: ~130 households, schools, clinics and fish bases
2. **Rongrong, Majuro**
   Solar hybrid: diesel use cut 85–90%
3. **Jaluit**
   Solar hybrid: diesel use cut 85–90%
4. **Wotje**
   Solar hybrid: diesel use cut 85–90%
5. **Kili**
   Next to follow, now that MEC operates its system

Fuel security: the risk under our grid

We import 100% of our fuel. In 2026, cargo prices reached 2.7 times their pre-crisis level

COST PER GALLON OF MEC FUEL CARGOES, 2026



Source: MEC fuel cargo invoices. Pre-crisis ≈ $2.40 a gallon.

100% of our fuel is imported; MEC is the sole bulk importer

36 days of fuel held on average, and as little as 15 before a delivery

4 of 8 tanks in service: 3.0 of 6.0 million gallons of storage

How we responded: automatic fuel tariff (July 2025) · every cargo paid on time · power's share of each cargo raised 70% → 80%

Rebuilding the tank farm: storage is security

ADB-funded rehabilitation is restoring our national fuel storage, and finishing it unlocks a 90-day supply

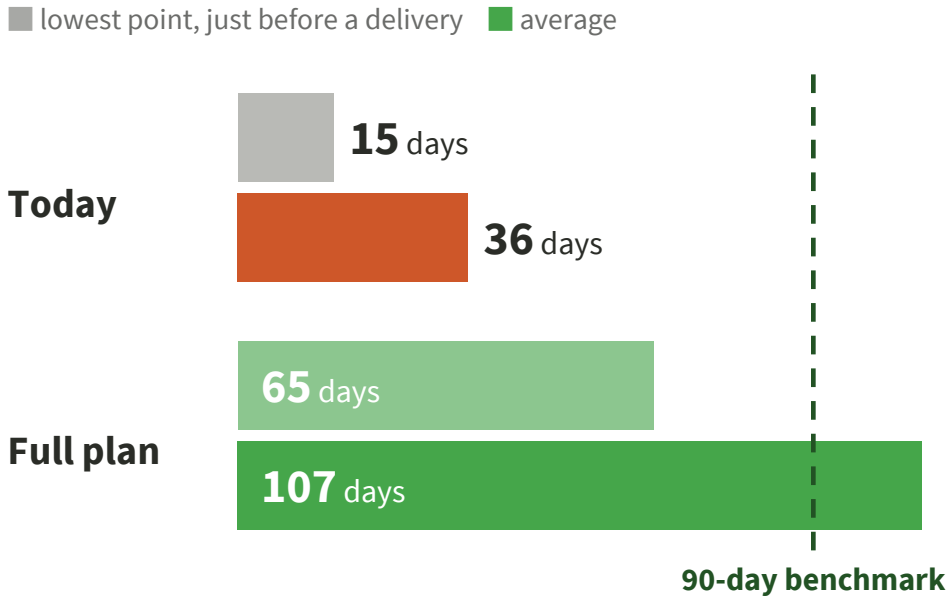
MAJURO FUEL TANK FARM: 8 TANKS, 6.0M GALLONS



- **In service** Tanks 3, 4, 5, 7 · 3.0M gal
- **Under rehabilitation** Tanks 1, 2 · 1.5M gal
- **Out of service, unfunded** Tanks 6, 8 · 1.5M gal

ADB grant ~US$12.7M: storage up from 2.2M to 3.0M gal; corrosion far worse than expected. ~US$6.2M needed to finish all eight.

DAYS OF NATIONAL FUEL SUPPLY HELD



Full plan: finish all eight tanks, a revolving fund to double cargoes to 60,000 barrels, and a 1.5M-gallon strategic reserve

Source: Marshalls Energy Company.

After the ribbon is cut: who keeps the lights on?

These assets must run for 20 years or more. Training during construction is a start, not the finish



THE NAVIGATOR'S WAY

Our navigators did not learn from a manual handed over at the dock. They sailed beside a master for years, until they could read the waves themselves.

WHAT WOULD HELP US CLOSE THE GAP

1 Operate

A qualified team runs and maintains the new systems with MEC after handover

2 Train

Marshallese staff work beside them and earn recognized qualifications

3 Transfer

Responsibility moves to MEC step by step, as our people qualify

When we plan the next investment, who will stand beside our people after handover?

…and who pays to keep them running?

Donor and Government funding will not last forever, so MEC must pay for upkeep and replacement

TYPICAL LIFE OF A SOLAR-PLUS-BATTERY SYSTEM



THE FUNDING REALITY

Donors: fund the build, but not forever

Government: many urgent needs and priorities

MEC: must cover maintenance and replacement

HOW WE PLAN TO FUND IT

1

Price it in

Cost-reflective tariffs that recover maintenance and depreciation

2

Set it aside

A ring-fenced fund for major maintenance and replacement

3

Train management

Asset management and long-term financial planning to run the scheme

Our hope: every new investment comes with a plan for the people and money to run it.

Kommol tata!
Thank you

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