

Maryland Clean Energy Resilience Toolkit

A practical procedure for local resilience and clean energy planning — built for Maryland communities, partners, and decision-makers.

From Story to Strategy to Solutions

Helping communities understand risks, build strategy, and implement clean energy resilience solutions

STORY	STRATEGY	SOLUTIONS
Quickly understand and communicate what is changing, who is affected, and why action matters.	Build a shared process for assessing risks and vulnerabilities, engaging partners, and organizing decisions.	Develop practical, fundable clean energy actions that improve resilience, reliability, affordability, health, and economic outcomes.

Better decisions. Stronger communities. Practical implementation pathways for Maryland.

Clean energy measures are tools for building a resilient, reliable, and affordable clean energy future for Maryland.

Maryland communities face interconnected pressures

Local governments are being asked to address new energy, economic and environmental pressures at the same time, often with limited capacity and overlapping deadlines.

Energy & cost

- Rising energy bills
- Reliability and outage risk
- Aging infrastructure
- New electrification demand
- Program access

Climate & environment

- Coastal flooding and storms
- Heat extremes and peak demand
- Land and water impacts
- Health and air quality
- Maryland GHG goals

Community & economic

- Concentrated energy price burden
- Equity and overburdened communities
- Workforce and local economic stress
- Limited local capacity

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What the Toolkit does for you

A structured way to scope local resilience and clean energy issues, develop targeted response options, and move adopted measures into implementation with data, programs, and partners fit for Maryland.

- **Frame the problem clearly.** A one-page problem statement that clarifies the issue and audiences in a way that leadership, residents, and technical advisors all recognize as accurate and relevant and is actionable.
- **Build a clear and defensible evidence base.** Instructions and resources for building scenarios, and assessing risks and vulnerabilities, preparing for stakeholder review and solution development and funding applications.
- **Identify the best response options.** Set priorities for action, design response measures, and evaluate using the Energy Resilience Action Catalog and Maryland funding pathways resources give a comparable, fundable option set.
- **Move measures into implementation.** Lead, timeline, funding, and metric named for every adopted measure. Monitoring, Evaluation, Reporting, Updating (MERU) system that aligns with MEA reporting.
- **Keep the plan alive.** Adaptive review triggers and a structure for community engagement through implementation, not just adoption.

The framework — four phases, ten steps

The Toolkit organizes the work into a sequence that surfaces decisions early, builds an evidence base, develops fundable measures, and keeps the plan alive after adoption.

PHASE 1	PHASE 2	PHASE 3	PHASE 4
Scoping	Problem Assessment	Solution Development	Implementation
<i>What is the problem?</i>	<i>What does evidence show?</i>	<i>What should we do?</i>	<i>How do we sustain it?</i>
1. Problem & need 2. Audience & authority 3. Process & engagement	4. Scenarios 5. Risk analysis 6. Vulnerability analysis	7. Identify & prioritize 8. Design & evaluate 9. Update iteratively	10. Implement & Monitor, Evaluate, Report, and Update (MERU)

What a Maryland community can produce

The Toolkit can produce a working set of planning resources, useful to leadership, residents, and funding partners.

Problem statement

One-page; recognized as accurate and relevant to priorities by leadership, residents, and technical advisors.

Stakeholder map and equity profile

Affected populations identified; MDEnviroScreen + DOE LEAD baseline documented.

Engagement plan

Design a stepwise collaborative process tied to specific decision points and milestones.

Scenario workbook

Develop scenarios with best available data sources and assumptions documented.

Priority risk and vulnerability outputs

Ranked risks; vulnerability gaps; stakeholder-reviewed and supported.

Multi-criteria & cost-benefit scoring

Catalog options scored on multiple criteria and cost-benefit analysis; cross-referenced with MEA funding pathways.

One-page measure worksheets

Cost, performance, lead, funding, dependencies — ready for adoption.

Implementation plan & MERU system

3-5 indicators tied to goals; annual public performance review.

Example: Energy affordability in Maryland counties

PROBLEM. 5 census tracts in severe energy burden (>10% of income spent on energy); ~9,400 high-burden households; bills up 18% over 3 years. Existing programs reach only ~6% of high-burden households annually. Target: cut severe-burden tract count in half by 2028.

RESPONSES THAT COULD BE CONSIDERED

- **Coordinated case management.** Case managers integrate intake across LIHEAP, EmPOWER weatherization, MEA Residential Energy Equity, and local assistance. Year 1: 1,200 households served. *MEA L-GEM + county GF*
- **Targeted weatherization expansion.** 1,000 priority-tract homes/year; bundled audit + retrofit; partnership with the housing authority. *MEA Residential Energy Equity + EmPOWER*
- **Heat pump retrofit pilot (150 homes).** Air-source heat pumps with incentive stacking; demonstrates bill reduction and electrification at scale. *EmPOWER + IRA tax credits + MEA Equity*
- **Community Solar LMI-PPA enrollment.** Expanded subscription pipeline for severe-burden households; estimated 10-15% bill offset. *MEA Community Solar LMI-PPA*
- **Resilience hub at community center.** 75 kW solar + 200 kWh storage + heat pump HVAC. Cooling/charging shelter during outages; serves priority tracts. *MEA Resilient Maryland + FEMA HMA (BRIC subapp via MDEM) + MCEC C3 bridge loan*

Maryland funding and partners

The Toolkit is built around the Maryland funding and assistance landscape. Cross-referencing options against available programs early in Phase 3 is what makes a plan adoptable.

MEA FUNDING PATHWAYS

- MCEC C3 Fund — catalytic financing (loans, lines of credit, feasibility grants)
- FEMA BRIC — federal pre-disaster mitigation (subapply via MDEM)
- Resilient Maryland — microgrids, resilience hubs, DERs
- Residential Energy Equity — LMI efficiency, electrification, solar
- Community Solar LMI-PPA — community solar serving LMI households
- Local Government Energy Modernization (L-GEM)
- EmPOWER Maryland — utility-administered efficiency
- Maryland C-PACE — commercial financing
- RCES Storage Grant — Commercial & Canopy Solar

KEY PARTNERS

MCEC

Technical assistance, feasibility studies, facilitation

MEA

Grant programs and state energy strategy

MDEM / Office of Resilience

Statewide resilience strategy, Agency Liaisons

MDE

MDEnviroScreen, GHG Inventory

*See Appendix A for full program eligibility and application data;
Appendix B for the state agency and plan landscape.*

How to start — a practical first 90 days

01

Convene and frame

Bring together planning, sustainability, and emergency management staff. Draft a one-page problem statement and stakeholder list. Use the Workbook for Steps 1-3.

02

Engage partners

Contact MCEC at the scoping stage for program orientation and feasibility support. Contact MDEM/MOR to connect to the statewide resilience strategy. Confirm current MDEM subapplication windows for the active FEMA BRIC cycle and current MCEC C3 Fund investment-window deadlines.

03

Scope a focused pilot

Pick one concrete issue (affordability, reliability, electrification, critical-facility resilience). Walk through Phases 1-2 with the Workbook on that issue before scaling.

TAKEAWAY. The Toolkit is designed to be adopted in pieces. Most communities benefit from running through Phase 1-2 once on a focused issue before scaling across the energy portfolio.

THANK YOU / QUESTIONS WELCOME

A practical path to local resilience and clean energy action.

EXPLORE THE FULL TOOLKIT

- **Main Report** — full procedural detail and worked examples
- **Implementation Guidebook** — 10-page narrative companion
- **Planning Workbook** — prompts, examples, capture pages
- **Decision-Maker Checklist** — short reference for leaders
- **Energy Resilience Action Catalog** — option screening tool
- **Appendix A** — Maryland State Programs Guide
- **Appendix B** — Maryland Clean Energy & Resilience Landscape

CONNECT

Maryland Clean Energy Center

Technical assistance & program guidance

Maryland Office of Resilience (via MDEM)

Statewide resilience strategy coordination

Center for Climate Strategies

Toolkit development partner

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