

# RESILIENTPOWER

A project of **CleanEnergy**Group



## Building a Resilient Workforce: The Detroit Clean Energy Contractor Accelerator Program



May 3, 2023

# WEBINAR LOGISTICS



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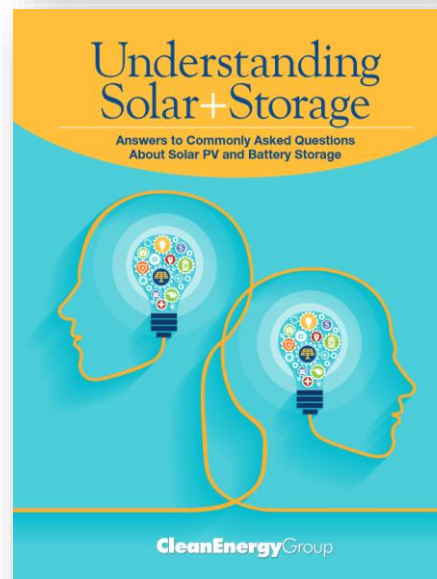
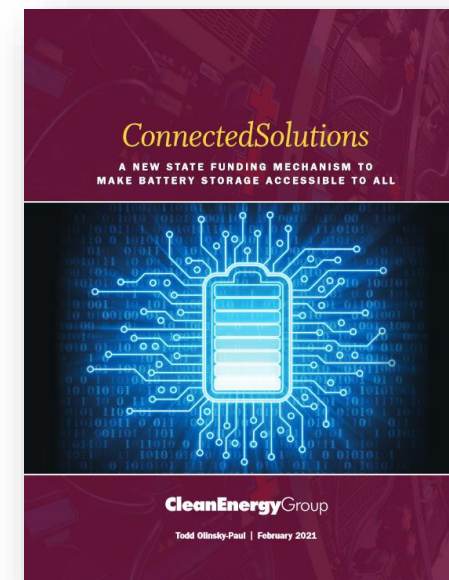
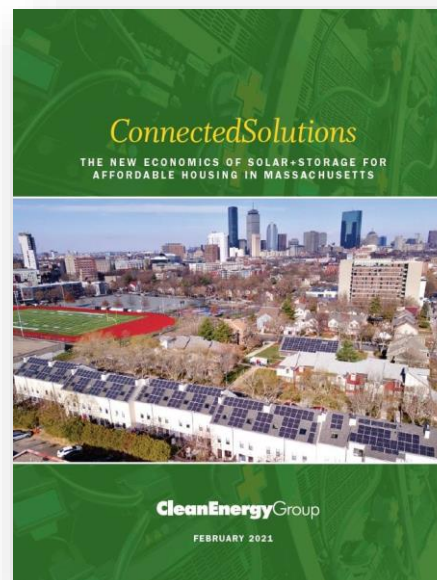


**Clean Energy Group (CEG) works at the forefront of clean energy innovation to accelerate an equitable and inclusive transition to a resilient, sustainable, clean energy future.**

**Visit [www.cleanegroup.org](http://www.cleanegroup.org) to learn more about our current initiatives, recent publications, and upcoming events.**

# THE RESILIENT POWER PROJECT

- Increase public/private investment in clean, resilient power systems (solar+storage)
- Protect low-income and vulnerable communities, with a focus on affordable housing and critical public facilities
- Engage city, state and federal policy makers to develop supportive policies and programs
- Visit [www.resilient-power.org](http://www.resilient-power.org) for more information and resources



# SUPPORTING 250+ PROJECTS ACROSS THE COUNTRY



# RESILIENT POWER TECHNICAL ASSISTANCE FUND

## *Providing technical support to build local resilience*



Provided over **\$1 million in funding** for communities to evaluate resilient solar+storage at essential community-serving facilities.



Advanced local energy resilience capacity and knowledge building with more than **100 community-based organizations across 27 states**, the District of Columbia, and Puerto Rico, as well as Tribal Governments.



Assisted with the deployment of **over 40 solar+storage installations** delivering reliable backup power and energy savings, with more projects working towards completion every day.

**DONATE or APPLY:**

[www.cleangroup.org/initiatives/technical-assistance-fund](http://www.cleangroup.org/initiatives/technical-assistance-fund)

“With our Technical Assistance Fund grant, our small grassroots non-profit was able to hire a local consultant to work with us on finding a low-budget solar+storage system for our small food hub in a rural community highly impacted by Hurricane María.”

*Tara Rodriguez Besosa  
Co-founder of El Departamento de la Comida, TAF Awardee 2019*

# Clean Energy Group

## Technical Assistance Fund

- Supports the development of clean energy projects aimed at decreasing energy burdens and increasing resiliency
- Funds preliminary technical and financial feasibility analyses to help determine size, cost, and benefits of solar, battery storage and other resilient energy technologies
- Grants range from \$5,000 - \$15,000 depending on scope of project
- Prioritizes projects serving low-income populations or Black, Indigenous, and People of Color (BIPOC) communities
- Low barrier to entry

[www.cleangroup.org/initiatives/technical-assistance-fund](http://www.cleangroup.org/initiatives/technical-assistance-fund)



# Clean Energy Group Resilient Power Leadership Initiative

- Goal: Seed long-term, community-led programs that further advance energy equity and environmental justice.
- CEG one-on-one support throughout
- Low barrier to entry
- Minimal reporting requirements
- Grants are \$10,000 for one year
- Average of 2 – 3 awards per year
- Prioritizes organizations serving low-income populations or Black, Indigenous, and People of Color (BIPOC) communities

[www.cleanenergygroup.org/initiatives/resilient-power-leadership-initiative](http://www.cleanenergygroup.org/initiatives/resilient-power-leadership-initiative)





# WEBINAR SPEAKERS

- **Tim Skrotzki**, Senior Market Development Lead, Elevate Energy
- **Elizabeth Wallace**, Senior Program Manager, Elevate Energy
- **Nate Mills**, Vice President of Operations, American Microgrid Solutions
- **Richard Ackerman**, Chief Sustainability Officer, Eastside Community Network
- **Karanja Famodou**, Chief Operating Officer, Ryter Cooperative Industries
- **Marriele Mango**, Project Director, Clean Energy Group (moderator)



# Thank you for attending our webinar

**Marriele Mango**

Project Director

Clean Energy Group

[marriele@cleanegroup.org](mailto:marriele@cleanegroup.org)

**Find us online:**

[www.resilient-power.org](http://www.resilient-power.org)

[www.cleanegroup.org](http://www.cleanegroup.org)

[www.facebook.com/clean.energy.group](https://www.facebook.com/clean.energy.group)

@cleanenergygrp on Twitter





# Building a Resilient Workforce: The Detroit Clean Energy Contractor Accelerator Program

Wednesday, May 3, 2023





- Elevate seeks to create a just and equitable world in which everyone has **clean and affordable heat, power, and water** in their homes and communities, no matter who they are or where they live. Making the benefits and services of the clean energy economy accessible to everyone is how we fight climate change while supporting equity.

# Resilient Eastside Initiative – Resilience Hubs’ Role

## Resilient Structure

- Energy and water efficient
- Solar, storage, and backup power
- Flood mitigation and water management
- Resilient and redundant communications systems
- High indoor air quality
- Secure and accessible

## Emergency Services

- Heating/cooling centers
- Communications hub
- Food, water, and medical supply storage and distribution
- Safe, secure, and accessible space
- Transportation for mobility-challenged

## Engagement & Communications

- Disruption planning and protocols
- Community needs and resilience gap assessments
- Strengthening outreach before, during, and after disruptions
- Training for resiliency

## Programmatic Services

- Everyday, mission-driven services
- Emergency services during disruptions
- Logistics and coordination during disruptions
- Water, energy, and resilience strategies for the community
- Resources and communications

# Connecting the Network

Envisioning a Network of Resilience Hubs across Detroit's Eastside  
Walkable, accessible, and always available



# Initiative Partners

## Coordinating Partners

- ✓ Eastside Community Network
- ✓ Elevate
- ✓ City of Detroit

## Technical Partners

- ✓ American Microgrid Solutions
- ✓ Ryter Cooperative Industries

## Community-based Organizations

- ✓ Brilliant Detroit
- ✓ 8-12 additional CBOs TBC

## City of Detroit Agency Partners

- General Services Department. (GSD)
- Department of Homeland Security (DHS)
- Community Health Core (CHC)
- Parks and Recreation (P&R)
- Detroit Health Department (DHD)
- Housing and Revitalization Department (HRD)
- Department of Neighborhoods

# Stakeholder Engagement and Emergency Planning

## Objectives:

- ✓ Build network of resilience hub CBOs
- ✓ Select three hubs for solar + storage design
- ✓ Engage residents to define and plan resilience
- ✓ Coordinate continued services planning with CBOs and City of Detroit
- ✓ Coordinate emergency planning and information and resource sharing with City of Detroit, Sister Agencies, Emergency Planning Agencies, and CBOs
- ✓ Document emergency plans for climate events, power outages, and other hazardous events
- ✓ Formally launch Resilient Eastside Network

## Led By:

- Eastside Community Network

## In Partnership With:

- Elevate
- Cohort Organizations
- City of Detroit
- CoD Dept. of Homeland Security
- CoD Sister Agencies

## Funded By:

- Kresge



# Resilience Hubs - Solar + Storage in Progress



## The Stoudamire Wellness HUB

### Total Rehab Scope

Roof & window replacement. Green Infrastructure. Energy efficient mechanicals. Solar & storage.

### Extended Services

Health, wellness, and behavioral services. Fitness and nutrition. Climate and sustainability education. Financial literacy. Arts & Civic engagement

### Resilient system scope

- 80 KW Onsite Solar
- 126 KW / 111 kWh Battery Storage
- 48 Hour Critical Load

### Costs & Funding

Total: \$677,254

### Resilience Benefits

Reduced operating costs. 48-hour critical load service during power outage. Emergency heating, cooling, and medical supply storage. Grid stabilization

### Environmental Benefits:

- **33%** reduction in carbon emissions; **74 tons** annually, **1,850 tons** lifetime.
- 1,030,294 car miles avoided annually

**\$13,398** average annual operating cost reduction



## Brilliant Detroit

### Total Rehab Scope

Gut Rehab, including roofing, and envelope. All new mechanicals and electric energy systems. Solar + storage

### Extended Services

Health and Wellness. Senior Support Services. Children's Activities. Community Center

### Resilient system scope

- 7.2 KW Onsite Solar
- 8 KW / 40.5 kWh Battery Storage
- 48 Hour Critical Load

### Costs & Funding

Total: \$551,237

### Resilience Benefits

Reduced operating costs. 48-hour critical load service during power outage. Emergency heating/cooling. Grid stabilization

### Environmental Benefits:

- **89%** reduction in carbon emissions, **6.5 tons** annually, **160 tons** lifetime.
- 90,368 car miles avoided annually.

**\$2,208** average annual operating cost reduction



## The Lenox Center

### Total Rehab Scope

New Construction, 8,433 sq. facility with community rooms, indoor athletics, kitchen, and large recreation/event space.

### Extended Services

Community Center. Enrichment Programs. Indoor Sports, kitchen, and event space.

### Resilient system scope

- 72 KW Onsite Solar
- 30 kW / 60 kWh Battery Storage
- 100 kW Diesel Generator.
- 72 Hour Critical Load

### Costs & Funding

Total: \$3,600,00

### Resilience Benefits

Reduced operating costs. 72-hour critical load service during power outage.

### Environmental Benefits

- **33%** reduction in carbon emissions, **63 tons** annually, **1,575 tons** lifetime.
- 878,139 car miles avoided annually

**\$14,434** average annual operating cost reduction

# Resilience Hub Solar + Storage Designs – Next Three

## Objectives:

- ✓ Engage facility managers to determine electrical loads
- ✓ Critical load assessment
- ✓ Load modeling as needed
- ✓ Solar and storage system design
- ✓ Financial modeling
- ✓ Solar + storage designs, ready for funding

## In Partnership With:

- Resilience Hub Sites
- Property Managers
- American Microgrid Solutions

## Funded By:

- Kresge/Clean Energy Group

## Led By:

- Elevate

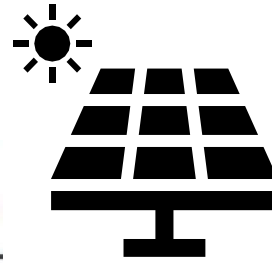
# Contractor Accelerator Program Design

Support minority-contracting businesses seeking to expand into energy efficiency, solar, and storage. Leverage the design and construction processes for Resilience Hub deployment.

- Systems Design
- Construction
- Permitting & Interconnection
- Contracting & Bidding
- Networking



# Our Workforce Network



Resilience



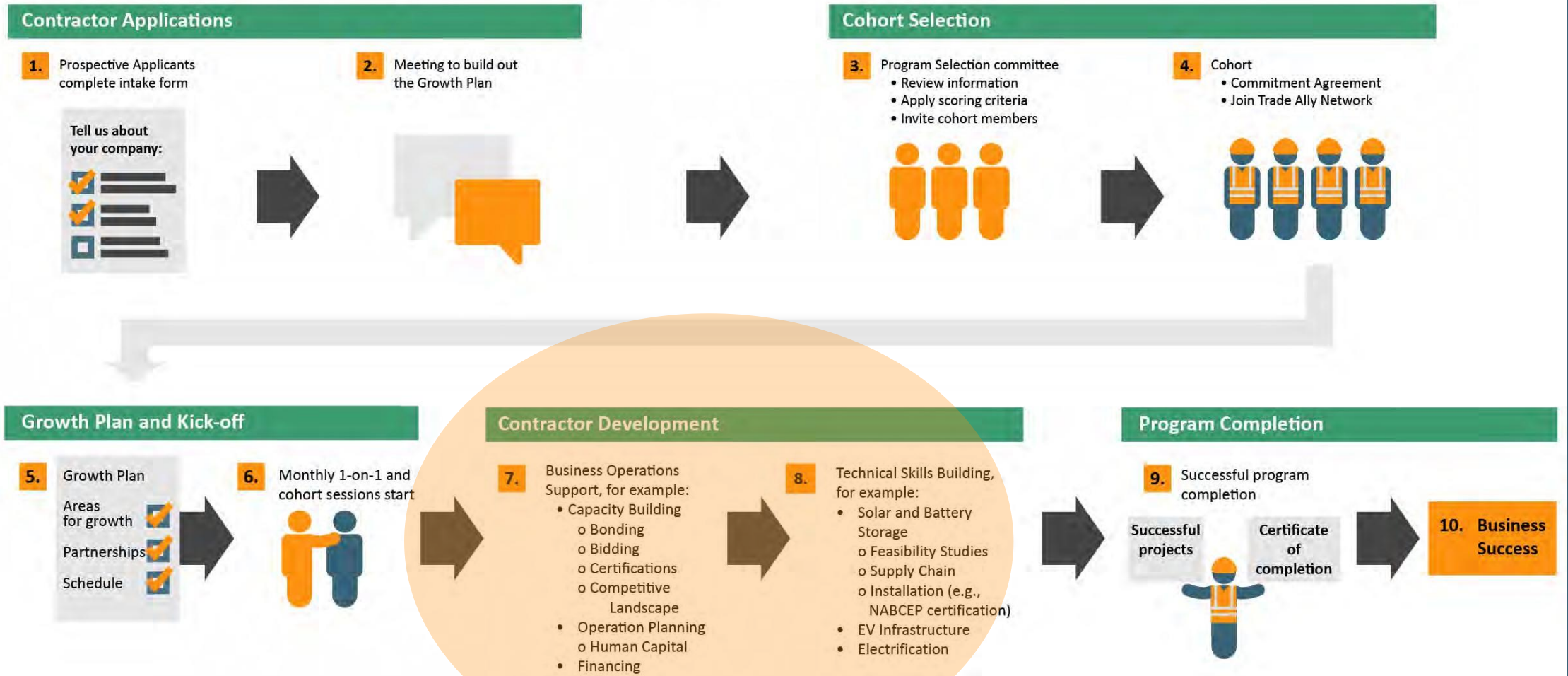
Is Our Future



AMERICAN MICROGRID SOLUTIONS

# Project Workflow

## Contractor Development Pathway



# Cohort No. 1

Contractor	Skills	Years of Experience	No. of Employees	Clean Energy Interest
Detroit Voltage	Electrical Contracting	6 Years	6	EV, Solar, Battery Storage
Ryter Cooperative Industries	Solar Project Management	7 Years	7	Solar, Battery Storage
Blanket Insulation Services	Insulation & Energy Efficiency Assessments	12 Years	15	Solar, Battery Storage
KMR Construction	Electrical and Construction Contracting	18 Years	7	EV, Solar, Battery Storage
Flintstone Construction	General Contracting Electrical Engineer	3 Years	1	Solar, Battery Storage



Deana Neely is a licensed electrical contractor, founder, and CEO of Detroit Voltage. Detroit Voltage is a certified Woman Business Enterprise headquartered in Detroit – offering both residential and commercial services. Deana’s background includes the Detroit Buildings & Safety Engineering Department. Detroit Voltage specializes in all phases of residential and commercial electrical from small repairs to powering and wiring a complete home or building.

<https://detroitvoltage.com/>



# Blanket Insulation Services



Blanket Insulation Services is a Minority-Owned, Southfield based, energy efficiency general contractor, a second-generation firm owned by Reginald Bailey. They specialize in insulation, energy efficiency assessments, and energy efficiency retrofits with a goal to transform your home into a more energy-efficient and comfortable space.

<https://www.blanketinsulationco.com>







KMR Construction Services, Inc. is a Women/Minority-Owned, Detroit headquartered Electrical Contracting and Construction Management firm led by Kimberly Redd. They specialize in energy optimization and conservation and believe that while helping clients they are also helping the planet and building a better future for all.

<https://kmrcon.com/>



# Flintstone Construction

Shaker Manns is an independent Certified Energy Manager/Electrical Engineer and President of Flintstone Construction. During the past decade, his work has been focused upon developing cost-effective methods for increasing system reliability and power quality as Energy Program Manager at the Great Lakes Water Authority. Flintstone Construction is a real estate investment company with a focus on making utility use more efficient in residential and commercial buildings.



Ali Dirul is CEO and President at RCI headquartered in Highland Park. He participated in a university project where he and classmates were charged to create a net zero home. Ali wanted to take this idea of Energy and creating net zero possibilities back to his community and thus RCI was born, to provide a community platform to educate the community about solar and renewable energy as well as introduce the community to the benefits and components of the technology.

<https://www.ryterci.com/>



# Contact information

Contact Information:

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Elizabeth Wallace – Senior Program Manager

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 ElevateNP.org

 [info@ElevateNP.org](mailto:info@ElevateNP.org)

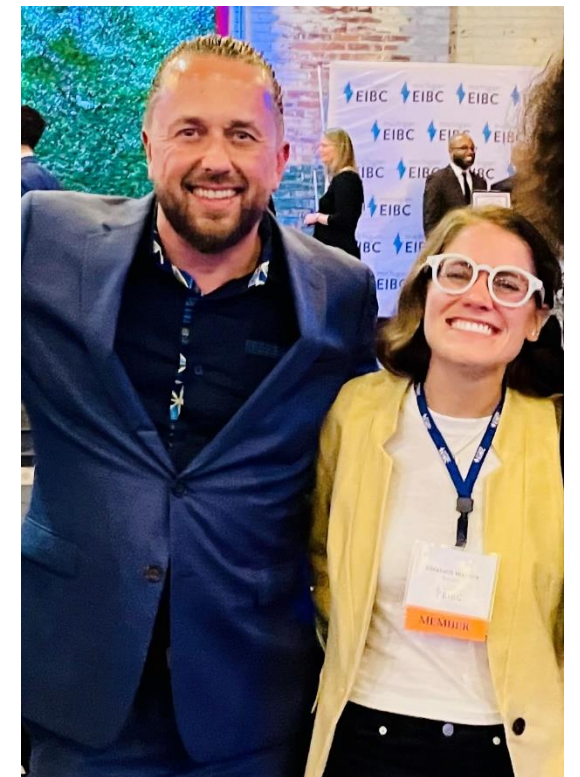
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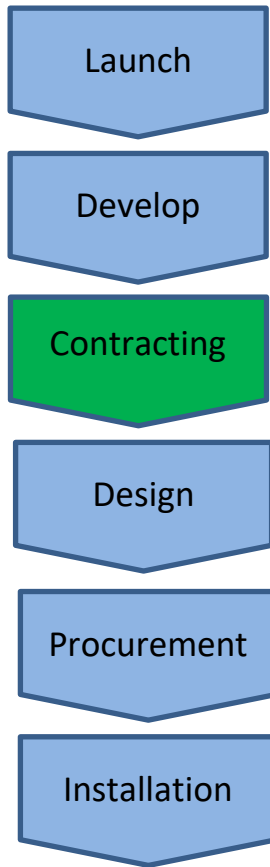
# Ryter Cooperative Industries



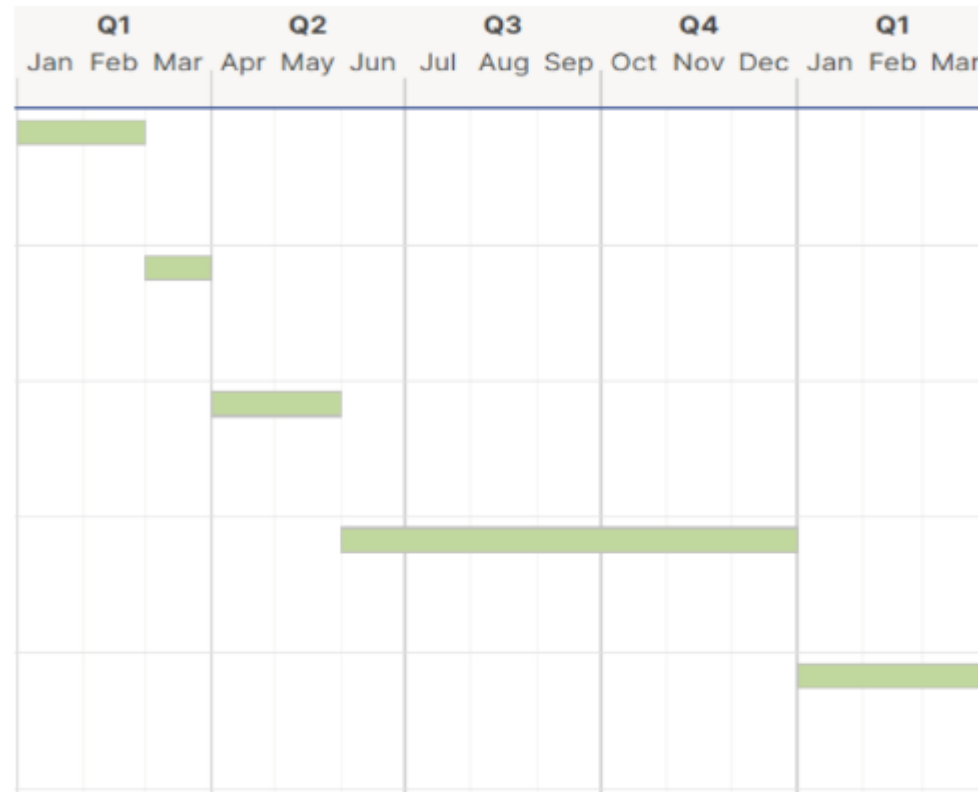
Karanja Famodou  
Ryter Cooperative Industries  
Chief Operating Officer

Lenox Community Center - Lead Microgrid Installer  
Solar + Storage + Generator

# Ryter Cooperative Industries Implementation Phases: Contracting

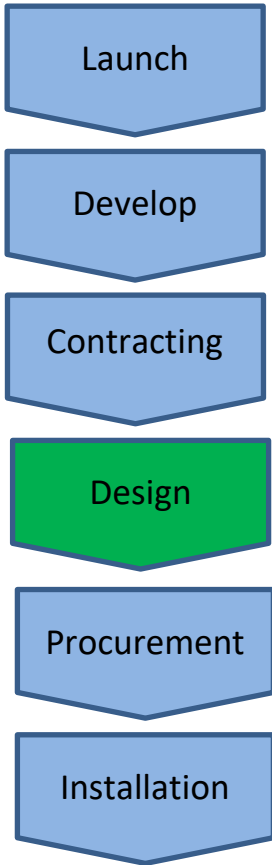


Execute Finance  
Contracts  
Execute Installation  
Contracts

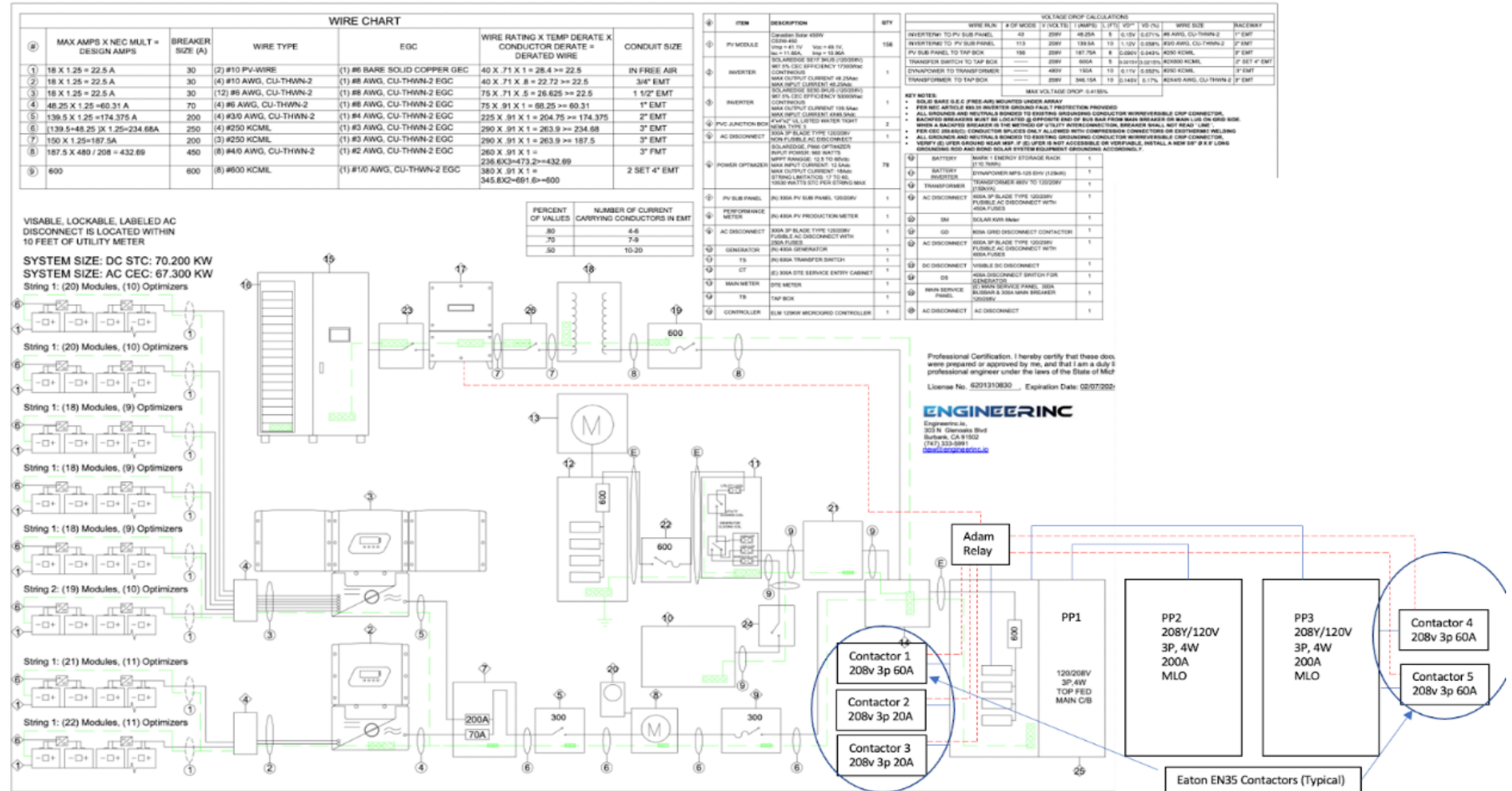




# Implementation Phases: Design



Finalize Design  
Interconnection / Permit  
Application



# Implementation Phases: Design

Launch

Develop

Contracting

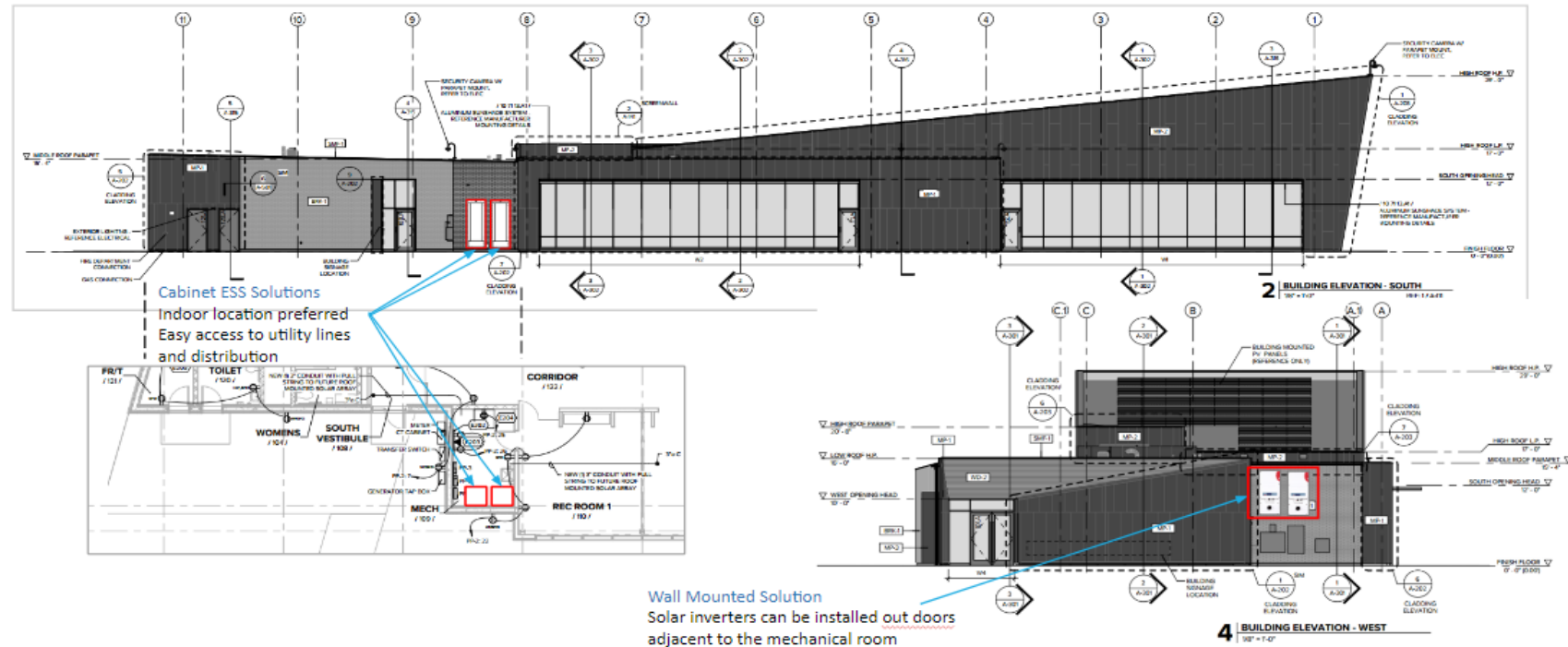
Design

Procurement

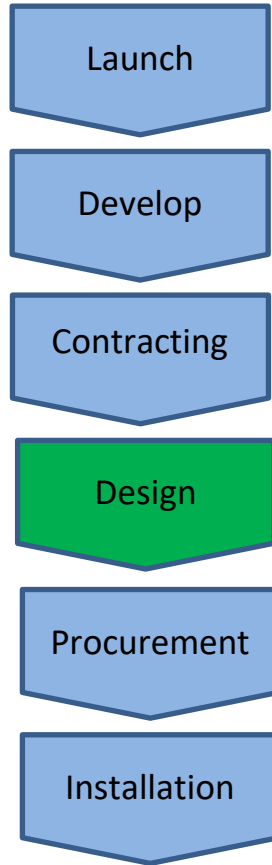
Installation

Finalize Design  
Interconnection / Permit  
Application

## Proposed Battery ESS Locations

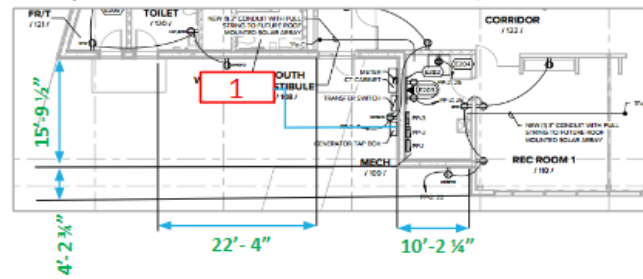
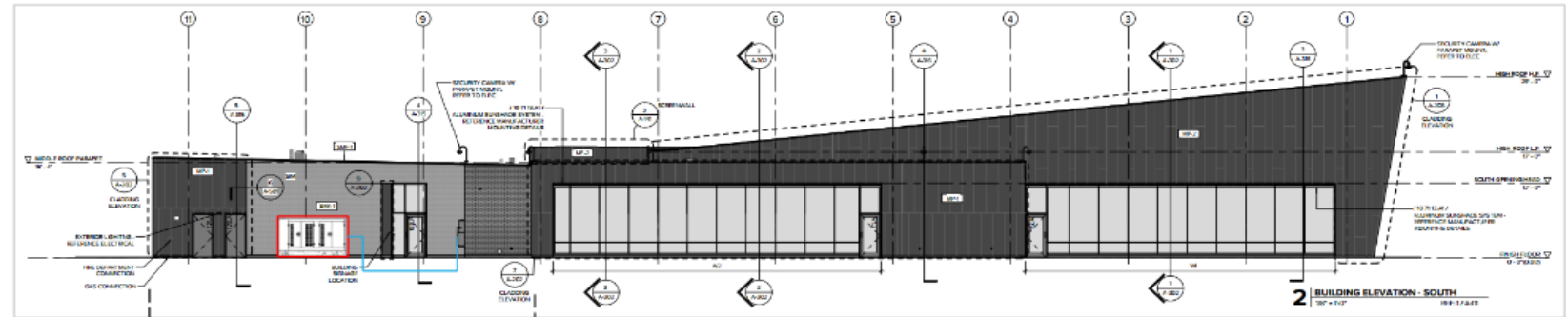


# Implementation Phases: Design

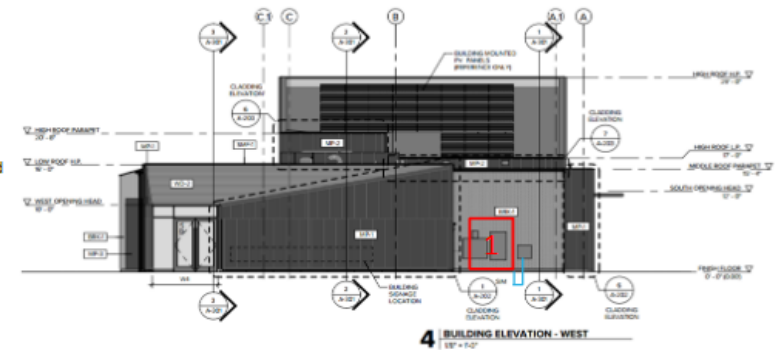


Finalize Design  
Interconnection / Permit  
Application

## Proposed Generator Locations

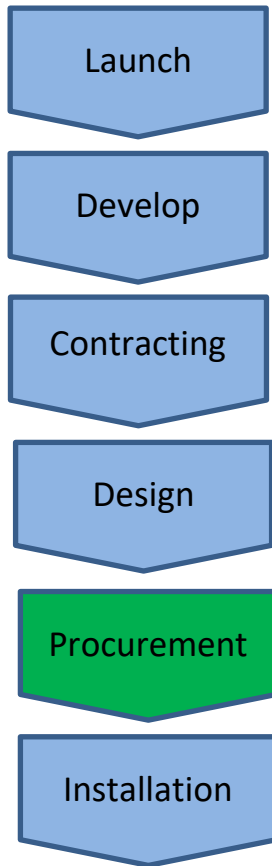


**Diesel Generator Ground Slab**  
There is space on the south side of the building on the western corner to install a generator. Installing the generator on the ground provides easier access but increase risk of damage due to flooding. Generator gas and electrical line burial recommended.





# Ryter Cooperative Industries: Procurement



Supply Chain Management

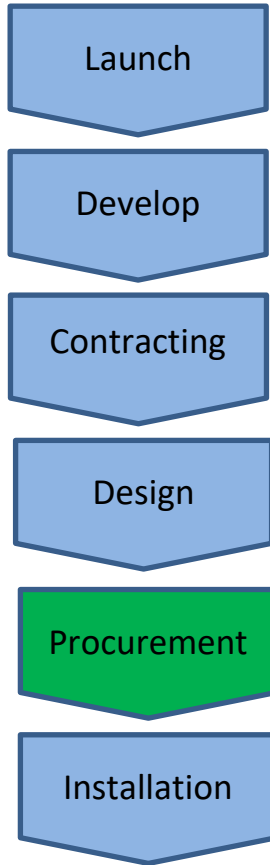


450W PV Panels



Automatic Transfer Switch – **6 Month Lead Time**

# Ryter Cooperative Industries: Procurement



Supply Chain Management

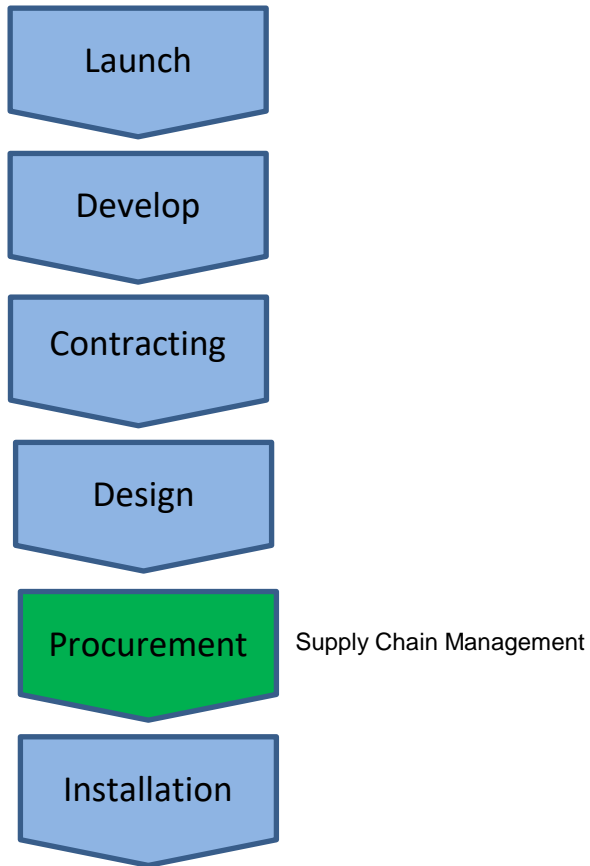


125kW 220kWh Lithium Ion Battery  
+ Microgrid Controller



150kW Natural Gas Generator – 1  
**Year Lead Time**

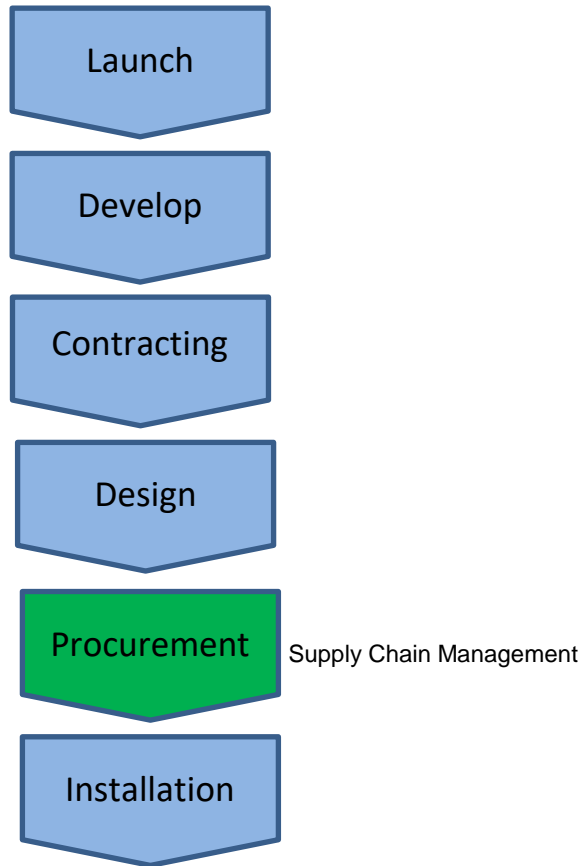
# Ryter Cooperative Industries: Procurement



## Major Components

- 70kW of PV Rooftop Solar
- 450W Solar Panels
- 125kW 220kWh Lithium Ion Battery
- ELM Microgrid Controller
- 150kW Natural Gas Generator

# Ryter Cooperative Industries: Procurement



## Components:

- Automatic Transfer Switch (non-service rated)
- Contactors
- Disconnects
- TAP Box
- Over Current Protection Devices
- Transformer
- Iron Ridge Racking and Ballast System
- (2) 43kW Solar Edge 3 Phase Commercial Inverters
- eGuage Monitors



# Ryter Cooperative Industries Implementation Phases: Installation

Launch

Develop

Contracting

Design

Procurement

Installation

Complete Installation  
Commissioning Testing  
Interconnection / Permit  
Approval  
Punchlist



# Ryter Cooperative Industries Implementation Phases: Installation

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# Ryter Cooperative Industries Implementation Phases: Installation

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**Installation**

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# American Microgrid Solutions: Turnkey Services



Operate & Maintain  
microgrids



Identify facilities that will  
benefit from microgrids



Model, optimize and  
design microgrid  
solutions

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SOLUTIONS

*American Microgrid Solutions manages each stage  
to deliver turnkey projects*



Manage installation  
and commissioning  
of the systems



Secure Permits  
&  
Authorizations



Source, secure &  
manage project finance  
for the microgrid

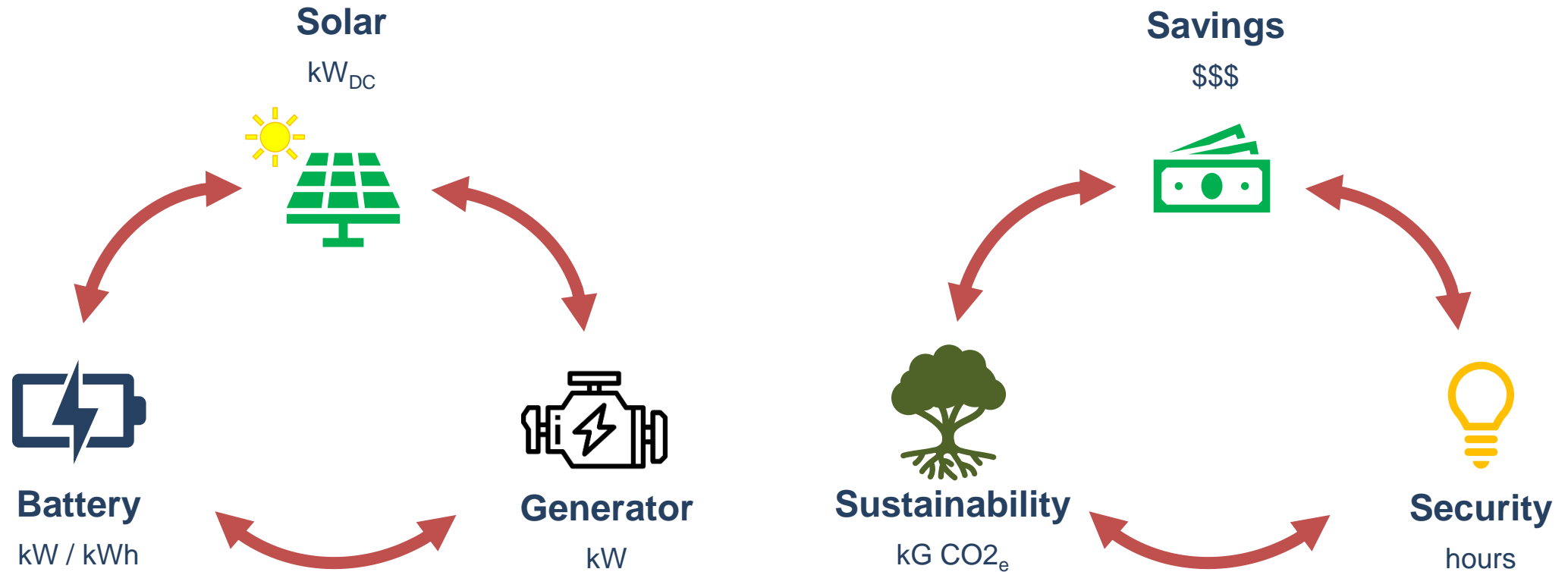
# Lenox Center at A. B. Ford Park



70 kW solar – 125 kW / 220 kWh ESS – 150 kW generator

- 2020: Feasibility Analysis funded by [Clean Energy Group](#) ([American Microgrid Solutions](#))
- 2021: Grant secured by [Elevate](#) ([Urban Sustainability Directors Network](#))
- 2022: Building size change +50%, construction begins ([City of Detroit](#))
- 2023 Q2: Power system installation begins ([Ryter Cooperative Industries](#))
- 2023 Q4: Power system installation complete

# System Balancing: Components and Outcomes



**The goal of a feasibility analysis:  
A right-sized system that the client understands, and balances outcomes according to their values.**



*Thank you for the opportunity to work with you!*  
American Microgrid Solutions

Nate Mills, Vice President of Operations

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