

Solar Powered Healthcare: Resilience and Cost-Savings

Climate change, cost avoidance, and benefits to staff, patients and communities! Why Not!

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National Association of Community Health Centers



Our Vision: Stronger health centers, actively building healthy communities

Our Mission: Capital Link works to strengthen community health centers—financially and operationally—in a rapidly changing marketplace.

WE HELP HEALTH CENTERS:



Nearly
30 years
of experience

Worked with
50+
PCAs/HCCNs
and regional
consortia

ASSISTED **2/3^{rds}** OF HEALTH CENTERS NATIONALLY

LEVERAGED **\$1.4 billion**

FOR **244+** HEALTH CENTER PROJECTS

TOTALING OVER **\$2 billion**



Clean Energy for FQHCs



CHARGE⁴

Community Health Access to Resilient **Green** Energy

CHARGE is a partnership between three mission-oriented organizations committed to helping FQHCs transition to clean, resilient, and affordable energy. Together, the National Association of Community Health Centers (NACHC), Capital Link, and Collective Energy educate FQHCs on solar + storage and financing options. CHARGE then helps install cleaner, more reliable, more affordable power, allowing FQHCs to focus on providing quality care for their patients without the fear of power outages.



NATIONAL ASSOCIATION OF
Community Health Centers

The National Association of Community Health Centers (NACHC) was founded in 1971 to promote efficient, high quality, comprehensive health care that is accessible, culturally and linguistically competent, community directed, and patient centered for all.



CAPITAL LINK

Capital Link is a national, nonprofit organization that helps community health centers and Primary Care Associations plan for sustainability and growth, access capital, improve and optimize operations and financial management, and articulate value. Capital Link has helped community health centers leverage over \$1.5B in public and private capital for capital projects.



Collective Energy works with critical community health facilities to identify energy goals, design power solutions based on site-specific needs, and install solar + storage systems with trusted partners to save health centers money and ensure they can continue to operate during grid outages and reduce CO2 emissions. The Collective Energy team has installed more microgrids on FQHCs than any organization in the country.



CHARGE Partnership Goals

Motivated by the urgent need to tackle issues at the intersection of health equity, climate change, environmental justice, and financial and operational resiliency, CHARGE offers education, assessment, design, installation, and financing options to make clean and reliable energy easy and affordable for health centers.

- ▶ Utility savings invested back into patient care and new services
- ▶ Climate resilient health centers serving patients during climate related disasters
- ▶ Leverage the Inflation Reduction Act
- ▶ Provide support in low-income and disadvantaged communities via health centers governed by the patients that serve them
- ▶ Climate mitigation- reduced greenhouse gas emissions during CHC visits
- ▶ Clean energy job creation in Justice 40 communities

7 Reasons for CHARGE

1. Prevent patient health impacts because of health center closures due to power outages.
2. Reduce avoidable ER utilization and billing to patients.
3. Avoid lost health center revenue from closures and spoiled medicines.
4. Enable CHCs to serve as resilience hubs during times of emergency or crisis
5. Provide long-term savings on electricity costs that critical facilities can use to put towards other services.
6. Take advantage of Inflation Reduction Act investments in clean energy for non-profits serving disadvantaged communities.
7. Offset thousands of tons of carbon emissions by moving from fossil fuel and generator power to clean power.





The Problems of Rising Temperatures and Extreme Weather

Power Outages

- Power is essential for health care delivery
- The grid has become unreliable
- Planned utility outages due to capacity issues occur more frequently in low-income and rural areas.



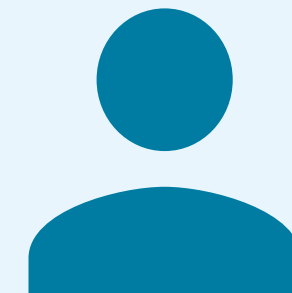
Rising Costs

- Increasing costs of power and healthcare delivery
- Health centers need levers to control costs
- Outages result in lost revenue and diminished continuity of care/ unnecessary ER utilization/ patient debt



Climate Change

- Climate change is negatively affecting health
- Health sector is a large contributor to GHG emissions
- Impacts don't affect everyone equally



From Collective Energy

Power shutoffs: populations at risk

Power outages can be life-threatening for medically vulnerable

2 million residents lost power during last year's California's PSPS

- 180,000 are registered as electricity-dependent for medical devices
- Gas and diesel generators pose require re-fueling and they fail 50% of the time.
- 83% of FL CHCs surveyed store temperature regulated vaccines on site.

Critical facilities don't always have a ready backup power system

Surveys of CA, TX and FL health centers show between 56%-60% of health centers do not have any backup power. Outages result in:

- Inability to provide healthcare
- Lost patient revenue
- Lost temperature-regulated vaccines and medications

Crescent Care CHC in LA experienced a \$250,000 loss when diesel back-up generators failed

Causes of power shutoffs

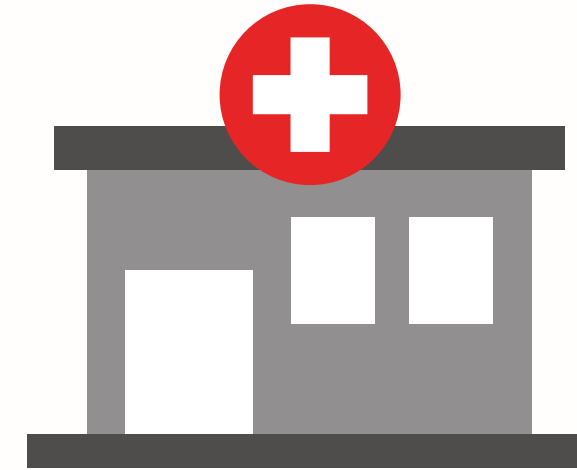
- Heat Waves
- Fires
- High Wind
- Hurricanes
- Tornadoes
- Cold Snaps
- Utility, Grid, Transmission Line Failure
- Demand

FQHC Overview



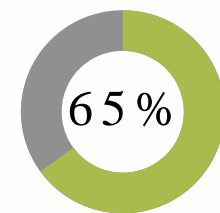
16,939 Total

Nationwide number of
Federally Qualified Health Centers



11,591 Permanent

Nationwide total excluding mobile units and temporary
facilities, which are not suitable for solar + storage



Estimated 65% of FQHCs own their site, making them especially good candidates for solar + storage



Annual Impact if all FQHCs have Microgrids



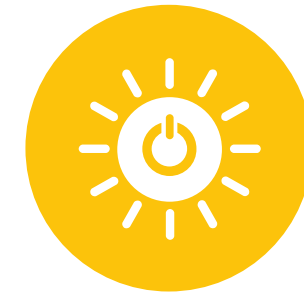
Annual estimated carbon offsets (tons)

870 K+



Annual estimated avoided financial losses

\$20 M+



Annual estimated energy savings

\$115 M+



Estimated number of communities benefiting

11K+



Annual estimated patients that benefit from FQHCs with microgrids

21M+



BIG IDEA:

POWER IS A BASIC RIGHT



Problem #1: Outages



Power is Essential for Health

Without electricity, health facilities are unable to serve their patients: cold medicines go bad, health records are inaccessible, and medical equipment is useless.



The Grid has Become Unreliable

The utility grid is underfunded, inefficient, and aging. Increasing temperatures and natural disasters are leading to more regular and longer lasting outages.



Outages Don't Affect Everyone Equally

Lack of reliable power has direct health consequences for all, but especially for people living in low-income and medically vulnerable communities.



Problem #2: Climate Change



Climate Change is Negatively Affecting Health

- Air Pollution: Cardiovascular, Asthma
- Vector Borne: Malaria, Dengue, Vibrosis, Lyme
- Heat
- Malnutrition
- Water Borne Illness



Health Sector is a Large Contributor to GHG Emissions

US Health Sector
Contributes 10% of the total GHG emissions

This is making the problems worse for patients



Impacts Don't Affect Everyone Equally

As always, people living in low-income and medically vulnerable communities and who are served by FQHCs are hit worst and first.



Problem #3: Rising Costs



Increasing Costs of Power and Health Care Delivery

- Power costs in the US are rising year over year
- Refrigerated RX costs are increasing
- Many losses are uninsurable



Health Centers have Increasingly Tight Budgets

- Power costs should be a fixed line item in the budget
- Outages should not create financial hardships to centers



Impacts Don't Affect Everyone Equally

As always, people living in low-income and medically vulnerable communities and who are served by FQHCs are hit worst and first.



Why it Matters:

 Health

 Refrigerated RX

 Continuity of Care

 Heat

 Lost Revenue


 Resiliency Hubs

 Water

 Electronic Health
Records

 Communications

 Avoiding ER Visits

 Electricity
Dependent
Medical Devices

 Death



Solution:



Clean, Reliable, Affordable Power for Health

By educating health centers about their energy options, designing innovative power solutions based on site-specific needs, offering low-cost funding only available to non-profits, and installing solar + storage systems with trusted partners, Collective Energy can ensure critical facilities have the power to operate during grid outages, reduce their impact on the planet, and save money year after year.

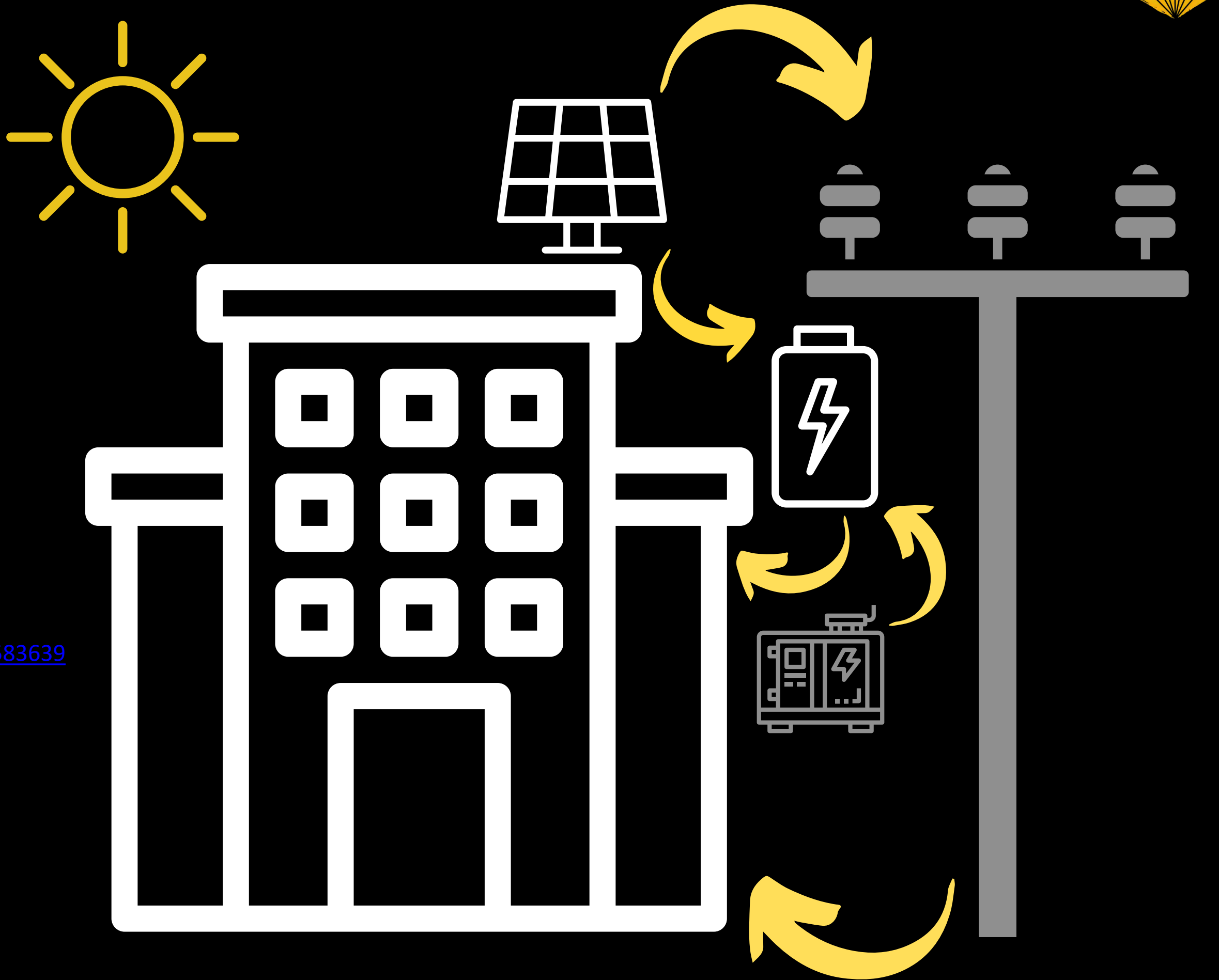


Goals:

- ① Prevent patients from dying because of health center closures due to power outages.
- ② Enable quality, equitable health care services for the medically underserved and the most vulnerable in our communities by ensuring energy reliability and resiliency.
- ③ Avoid lost health center revenue from closures and spoiled medicines.
- ④ Provide long-term savings on electricity costs that critical facilities can put towards other services.
- ⑤ Finance solar + batteries in a way that benefits investors and philanthropic institutions, but with the bottom line of serving health centers first.
- ⑥ Offset thousands of tons of carbon emissions by moving from fossil fuel and generator power to clean power.

How Does it Work?

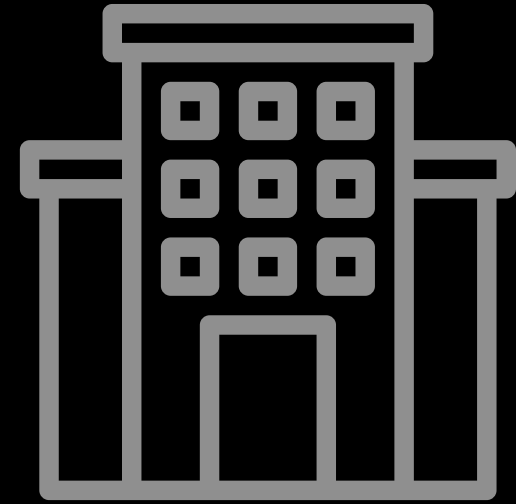
<https://vimeo.com/901583639>





How Valuable is a Battery?

In a CPCA Survey at their Annual Meeting...



50% of respondents said they'd experienced at least one 4-hour outage in the past year



69% of respondents said the estimated financial losses for a 1-day outage would be \$10,000 or more



54% of respondents said it's reasonable to pay more than \$1,000/month for energy reliability



Case Study:

Mendocino Community
Health Centers
Ukiah, CA



Case Study:

Clinicas del Camino Real
Fillmore, CA

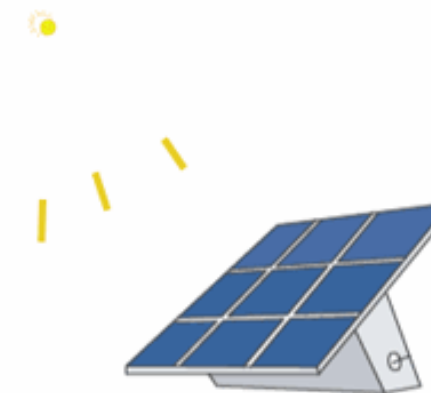


Case Study:

Crescent Care
New Orleans, LA



- ▶ Federal Tax Credits
- ▶ State Incentives
- ▶ Grant programs such as:
 - ▶ EPA \$2 billion Community Change Grant
 - ▶ Department of Energy Awards
 - ▶ State Infrastructure/ Justice 40 funding
 - ▶ FEMA- BRIC
 - ▶ Green Banks
 - ▶ State Offices of Resiliency
 - ▶ USDA



Leveraging the Inflation Reduction Act of 2022 (IRA)

The Inflation Reduction Act of 2022 (IRA) updated and expanded the Investment Tax Credit (ITC) for solar and battery storage resilient power projects.

- 1) Nonprofits with no tax liability can now apply for direct pay reimbursement equal to the value of the tax credit
- 2) Storage-only projects are now eligible for the ITC.
- 3) The ITC now includes several 'bonus credits', which can significantly increase savings for projects serving low-income and underserved communities.



FQHCs by Category (n=11,591)

2,246

Both Low Income +
Energy Community



3,224

Energy Community



7,341

Justice 40 Community

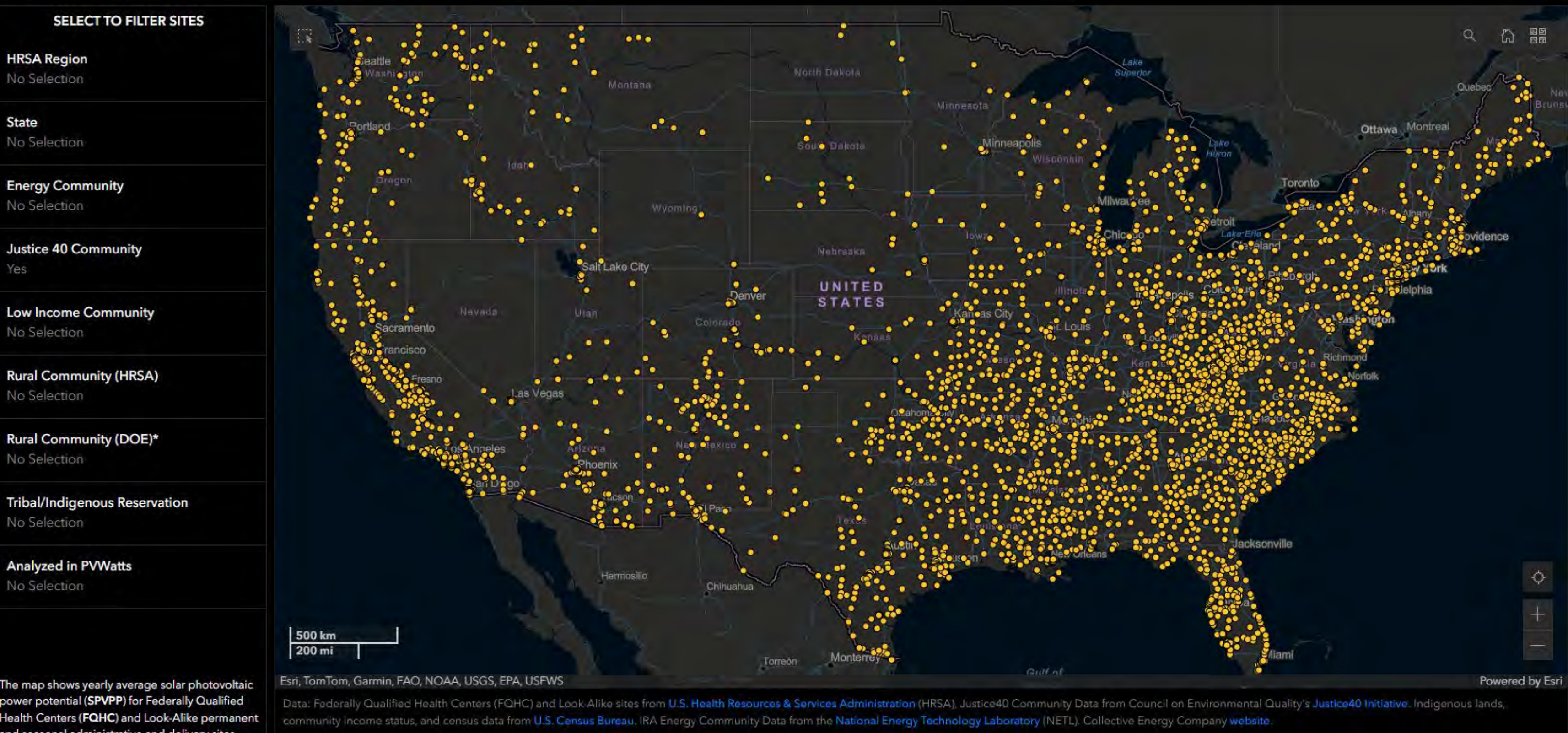


8,156

Low Income



FQHC Solar PV Power Potential



7,500 CHC sites, including PR, are located in Justice 40 areas. Justice 40 is the Administration's goal to have 40% of the overall benefits of certain Federal climate, clean energy, affordable and sustainable housing and other investments to flow to disadvantaged communities that are marginalized by under investment and overburdened by pollution.

State Incentives

States may have solar incentives:

- ▶ Production based incentives
- ▶ Rebates for battery storage
- ▶ Incentives for battery capacity

Combined with Federal incentives, a project designed in MA for an FQHC with a cost in excess of \$1 million (paid for by a grant), will provide \$1.2 million in net POSITIVE cash flow over 20 years for the HC, available to fund patient care and impact during that time.

Federal Incentives

- **Inflation Reduction Act (IRA)**- largest climate change legislation ever enacted in the U.S., estimated at \$258 billion over a 10-year period- financial incentives for investing in renewable energy, emissions reduction and energy efficiency. Created a **Direct pay election** for nonprofits (30%) and multiple 10% **“adders”** for: disadvantaged and “energy” communities, low-income community (environmental justice solar and wind or economic benefit project).
- **Green House Gas Reduction Fund- \$27B.** Administered by the EPA to support eligible nonprofit entities' emissions reduction projects; **\$8B designated to low-income and disadvantaged communities.** Eligible recipients must be nonprofit orgs that provide capital or financial assistance to low and zero emission projects and are not depositories.

Financing options for FQHCs

Energy Service Agreement	CHARGE designs, installs, permits, and finances the project. Energy Service Agreement “ESA” executed for 20+ years and power generated is sold back to health center at fixed cost. Financing costs rolled into ESA.	CHARGE receives ~ 50% tax credits PV/30% tax credits for battery. Transfers savings on to health center during payments. Third party equity invested in exchange for tax credits and remains in transaction for five years.
Self-Finance	CHARGE designs, installs, permits project. Health center pays for the installation upfront and owns the microgrid outright. Requires CHC to have available cash or grants.	Non-profit “direct pay” option of the IRA allows the health center to receive 30%- 50% of the cost of the microgrid back in rebates/tax credits from the federal government for PV and/or battery.
Capital Fund/Third party borrowing	CHARGE designs, installs, permits project. Health Center borrows cost of microgrid after federal and state incentives from Capital Fund/lender and repays via utility costs savings/cash flow.	Non-profit “direct pay” option allows the health center to receive 30%-50% of the cost of the microgrid back from the federal government.



Progress to Date



Raised over \$1 million in grant funding to assist in the program roll-out and provide no-cost screens for FQHCs across the US.

Invited to Negotiate a \$57 million Award with DOE for ‘Energizing Rural and Remote Communities’ grant to support microgrids on 125-175 rural health centers in the Southeast (AL, MS, TN, NC, SC, GA, KY, FL).



Created Arc GIS mapping tool identifying all FQHC sites across the country with layers to show IRA adders, Justice40 locations.

In just over the past year, over 100 solar+storage health center projects have been designed by Collective Energy at the request of health centers in 25 states and territories. 75% of these are in disadvantaged and/or Justice 40 communities.



Video primers on ESAs and Microgrids: <https://vimeo.com/901583639>

Publications (<https://caplink.org/building-resilient-fqhcs>), Case Study <https://kresge.org/resource/collective-energy-case-study/>, Center for American Progress article

<https://www.americanprogress.org/article/climate-resilient-health-care-promotes-public-health-equity-and-climate-justice/>

Reflections, Lessons Learned, Next Steps



- Center for Medicaid Services (CMS) updated their rules allowing CMS regulated medical facilities to install a clean energy microgrid in lieu of a fossil fuel generator to meet backup power requirements, which should be helpful.
- Community Change Grants are available [NOFO](#)
- Microgrid technology has been embraced by FQHCs who are taking a close look.
- PCA interest (TX, AZ, CT, PA) and demand is increasing: Emergency Management leaders, C-suite at PCA or FQHC
- Equitable deployment of microgrids is imbedded in Justice40 and other incentives.
- Greenhouse Gas Reduction Fund applications and relationships will accelerate the pace of funding and projects; uncertainty how the funds will be deployed, how much and to whom.

Take our Capital Plans and Needs of Health Centers Assessment!





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