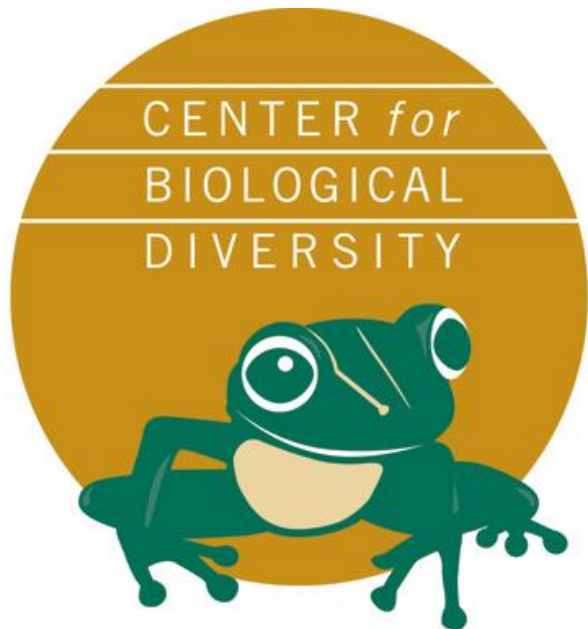


Envisioning the Grid for the Future

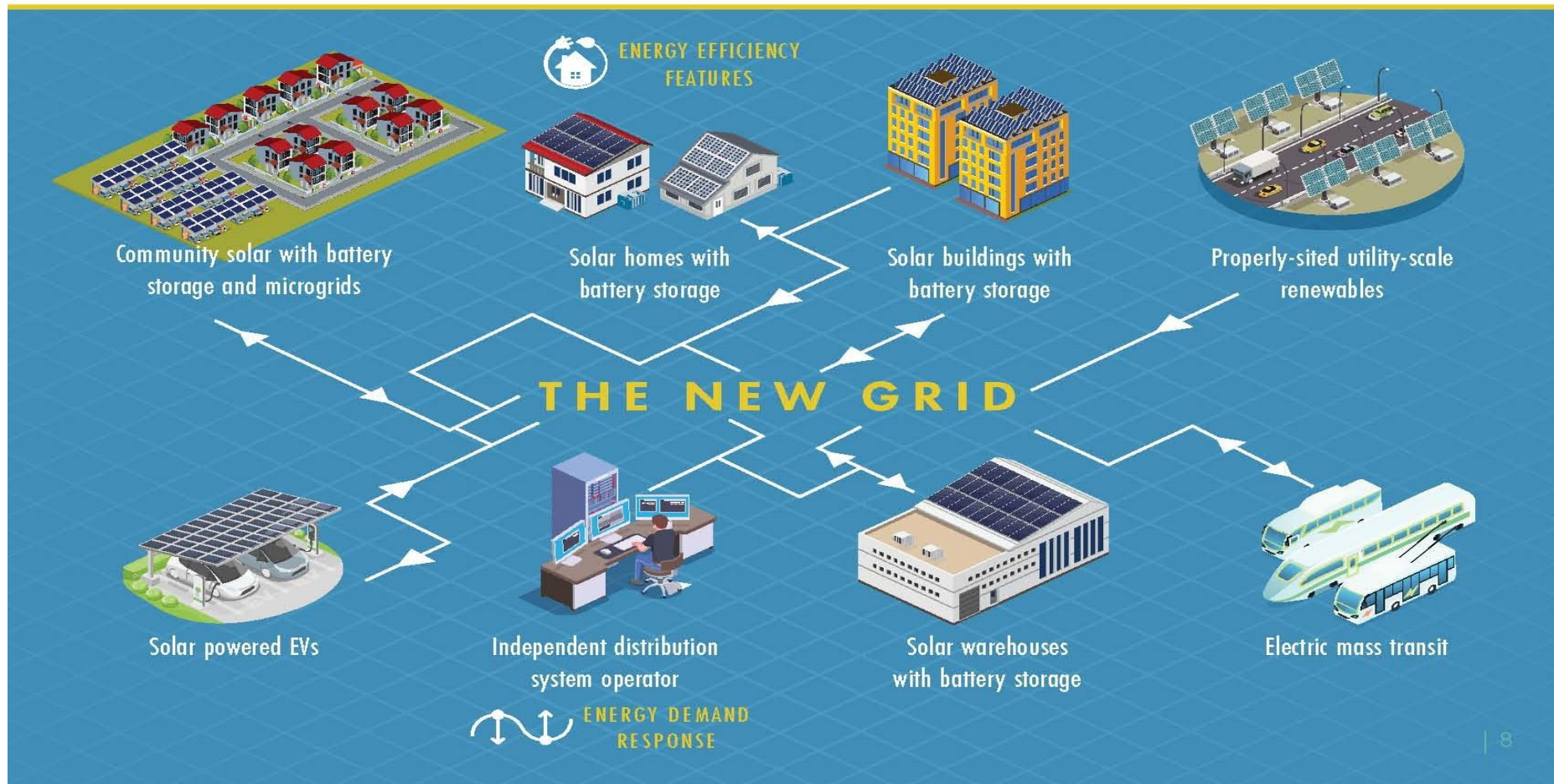
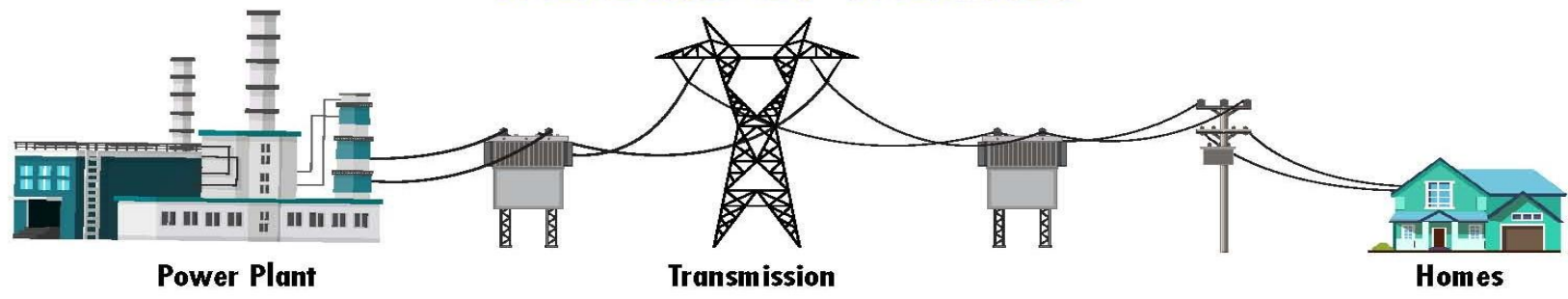


January 30, 2025

Energy Justice Program

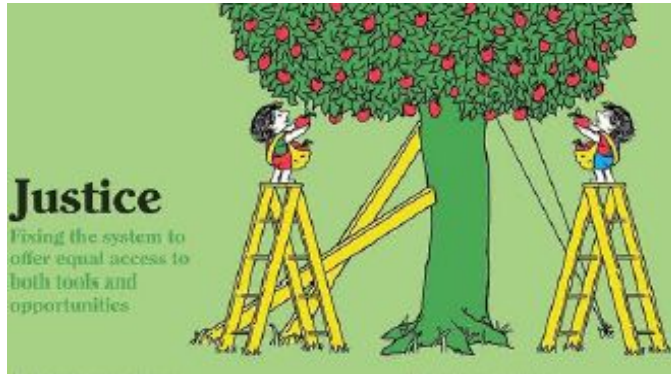
"It's not enough that our energy future be technologically clean and renewable: it must also be just."

THE GRID OF THE PAST



Center for Biological Diversity, *Rooftop Solar Justice: Why Net Metering is Good for People and the Planet and Why Monopoly Utilities Want to Kill It* (March 2023)

Some Essential Aspects of the New Grid



California Environmental Justice Alliance

1. **Environmental Justice** communities are prioritized and not left behind.

2. **Non-Energy Benefits** determine energy resource selection.



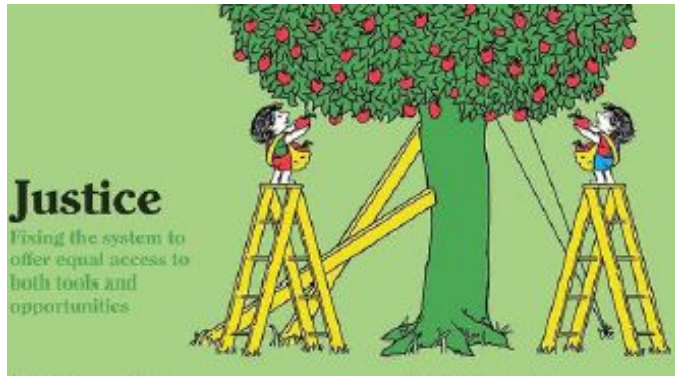
Local Clean Energy Alliance



3. **End reliance on fossil fuels** and false solutions



4. **Less reliance** on IOUs and the **bulk grid**



We Need Justice in the Energy System

Need to address:

- Resilience/Energy Burden
- Disproportionate Impacts of Pollution
- Disproportionate Distribution of Benefits of Energy System
- Local Ownership of Local Resources
 - Institute for Local Self Reliance, *Advantage Local: Why Local Energy Ownership Matters* (June 2023)

Community Advocacy + Vision



Leadership Counsel for Justice and Accountability



Non-Energy Benefits

Local air quality, water quality and quantity, resilience, local economic development, land use impacts, and other public health and environmental consequences of our energy decisions.

Our “top-down” planning and investment decision-making framework cannot meet today’s urgent needs.

Resilience Hubs - Non-Energy Benefits



A physical or mobile space that provides resources, risk mitigation and response before, during, and after emergencies.

Inclusion of non-energy benefits addresses daily disproportionate exposure and vulnerability to climate, natural disaster, and other crisis impacts and increase communities' capacity to adapt and thrive.



Example: Solar on Multi-Family Homes (California Environmental Justice Alliance)

Program Impacts

Workforce development

1,100+ paid solar job training opportunities supported.

Clean air + climate protection

In first 3 years, completed/active projects removing **20,835 metric tons of CO2** per year. Equivalent to removing ~5,000 gas vehicles from road per year.

Tribal access

In 2023, SOMAH celebrated its **first project on a tribal property** with the Bishop Paiute Tribe. SOMAH is working to expand solar access for Tribes.



Oscar, a SOMAH job trainee, supports the solar installation at Loma Sierra Apartments.



Ribbon cutting celebration with the Bishop Paiute Tribe.

Example: Solar on Multi-Family Homes (California Environmental Justice Alliance)

Program Impacts

Projects

565 solar projects serving 41,000+ tenant units.
Nearly a **third** of projects are located in DACs.

Uptick in active applications in 2024:

Q1: 530 → Q2: 565 → Q3: 629 → Q4: ?

Bill savings

Tenants are slated to receive **~84%** of solar credits
resulting in average savings of **\$21-39** per month.



"The money savings makes us most excited, being able to save \$50 a month will really help out. We'll be able to go on a family vacation and buy clothes."

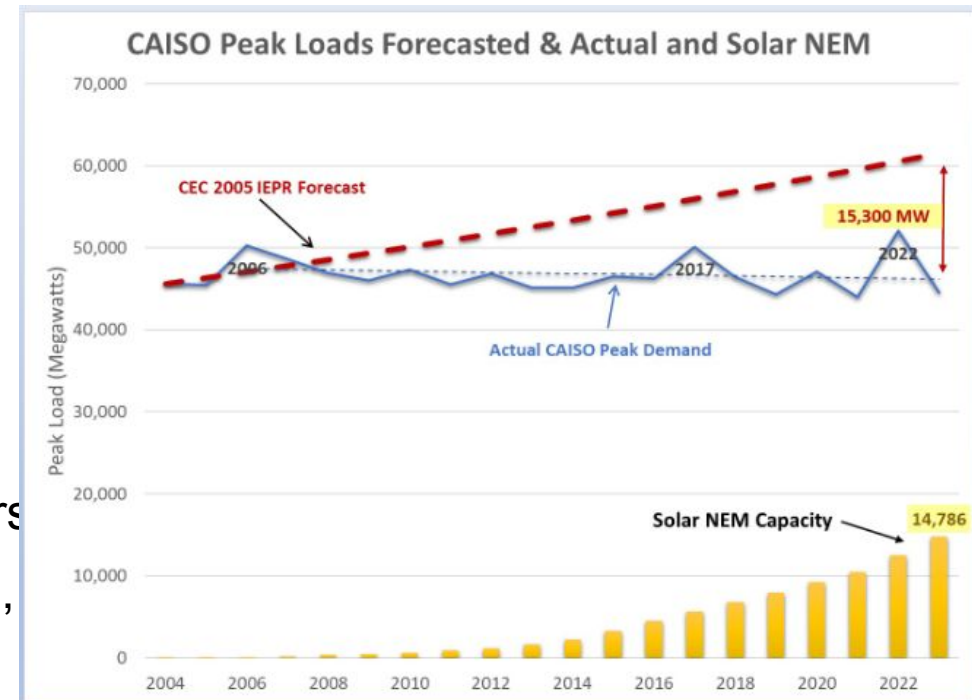
~Maria Garcia, celebrating her apartment getting solar via SOMAH with her family



Shut Down Dirty Power Plants

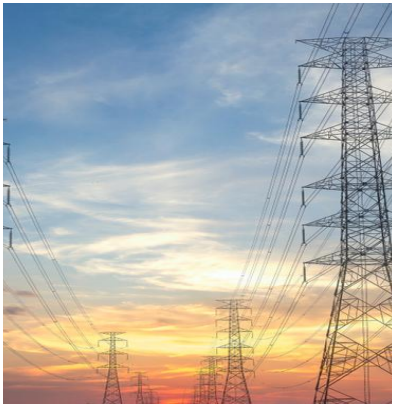
- Need to address false solutions: e.g. hydrogen, carbon capture sequestration and utilization
- Rooftop Solar: has kept peak electricity demand flat
- EVs: batteries on wheels
- Energy Efficiency:

2012 Local Government Portfolios: “4,000 gigawatt-hours and 750 megawatts of electricity savings over two years, reducing the need for at least two large power plants.”



Energy planners expected peak loads to increase by 15,000 MW

Instead, consumers covered load with 15,000 MW of solar



Less Reliance on the IOUs and Grid

- Resilience
- Affordability
- Energy Democracy

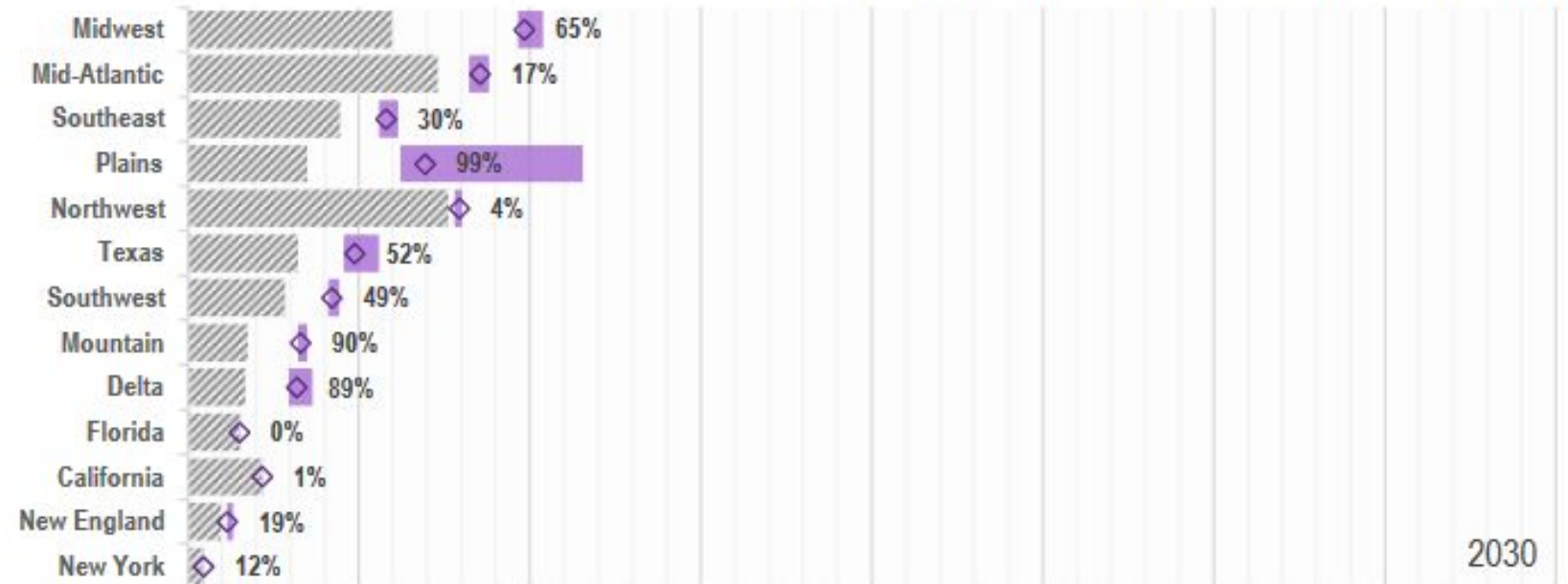
Anticipated within-region transmission deployment for High/High scenarios

Median % growth compared to 2020 system shown

▨ Currently installed

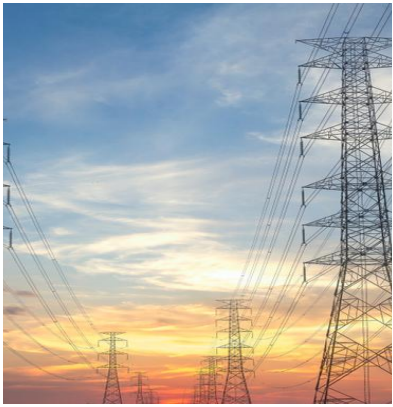
■ Range of anticipated need

◇ Median of anticipated need



2030

U.S. Department of Energy, National Transmission Needs Study (2023)



Better alternatives to the IOUs and Grid

- “The total rooftop and parking lot solar potential in SDG&E territory ranges from 27,50016 GWh to 35,000 GWh . . . [which is] greater than the clean energy supply “gap” of 27,000 GWh in SDG&E service territory to reach full decarbonization by 2045.”
 - Bill Powers/The Protect Our Communities Foundation (March 2023)
- Small, medium and large buildings, generation potential of rooftop PV in California can meet 74.2% of historic total electricity sales.
 - National Renewable Energy Laboratory, *Rooftop Solar Photovoltaic Technical Potential in the United States: A Detailed Assessment* (January 2016)

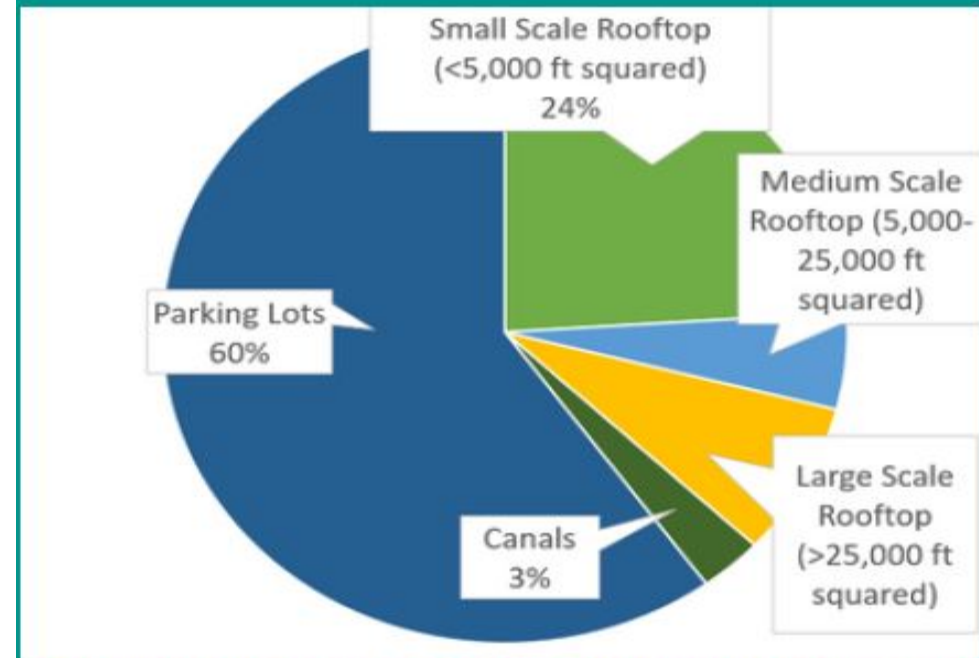


Better alternatives to the IOUs and Grid

“Canals, existing right-of-ways (e.g., along roads, railways, existing transmission, infrastructure), degraded lands, or co-located with other industries.”

- Center for Biological Diversity Policy Brief, *Pursuing a Just and Renewable Energy System* (May 2023)

Chart 1. Percentage of Electricity Sold in 2022 that can be Fulfilled by Different Solar Project Types

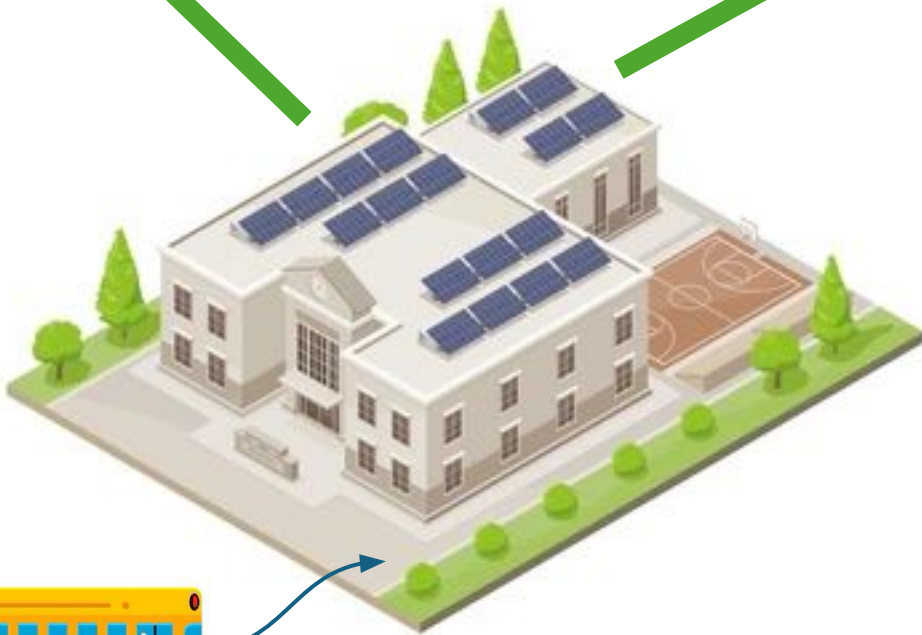


Distributed solar on rooftops alone can generate a significant portion of our energy demands while also bringing key benefits like resilience, local job generation, and avoided wildlife impacts. Once distributed energy is maximized, building renewables on top of parking lots and canals as additional built surfaces can fill the remaining gap in our current energy demand. Prioritizing these sites for renewable energy can avoid the community impacts and bottlenecks associated large-scale transmission construction.

Local Vision

Power Purchase Agreement
with
Community Choice Aggregator

Excess electricity to
neighbors



Microgrid: ability to island during
outages



Bidirectional capability; charging from local PV generation

Recommendations

- **Movement Building**
 - Education: school districts, local elected officials, city planners, non-profits, others?
 - Increase local capacity for energy planning
 - Retain and recirculate energy revenues locally to strengthen the local economy
 - Plan at the community level under a “local supply first” principle to serve local needs and priorities
- **Regulatory Reform**
 - Enable DERs to utilize existing utility distribution assets at fair and transparent rates under an open-access regulatory framework
 - Provide mechanisms and fair compensation for DERs to transact energy and grid services
 - Recognize non-energy benefits of distributed energy resources when comparing to other generating resources, in a bottom-up resource planning process
 - Address Regulatory Barriers
 - Remove Transmission Access Charges for distribution-level energy transactions
 - Establish termination process & date for Power Charge Indifference Adjustment (PCIA) fee
- **Protect Programs** that have been proven to work (e.g. SOMAH, Energy Efficiency)