U.S. Department of Energy
FY23 Communities LEAP Program

NREL Overview and Technical Assistance

July 16, 2024

STRATEGIC PLAN

Goal 6: *Set the Standard for Sound Governance and Fiscal Management*

Overview

- NREL Introductions
- FY23 DOE Communities LEAP
- NREL Lab Overview

EP TX CITY OF EL PASO

NREL Transforming ENERGY

Introduction to the NREL Team & Why We’re Here

The City of El Paso was selected for technical assistance from the U.S. Department of Energy Communities LEAP Program for FY2023.

- New partnership with the National Renewable Energy Laboratory (NREL)
- Eligible for programs, projects, and communities between Paso del Norte and Stanton ports of entry and Bridge of the Americas (BOTA)

About Communities LEAP

The U.S. Department of Energy's Communities LEAP (Local Energy Action Program) pilot supports community-driven action plans for clean energy-related economic development.

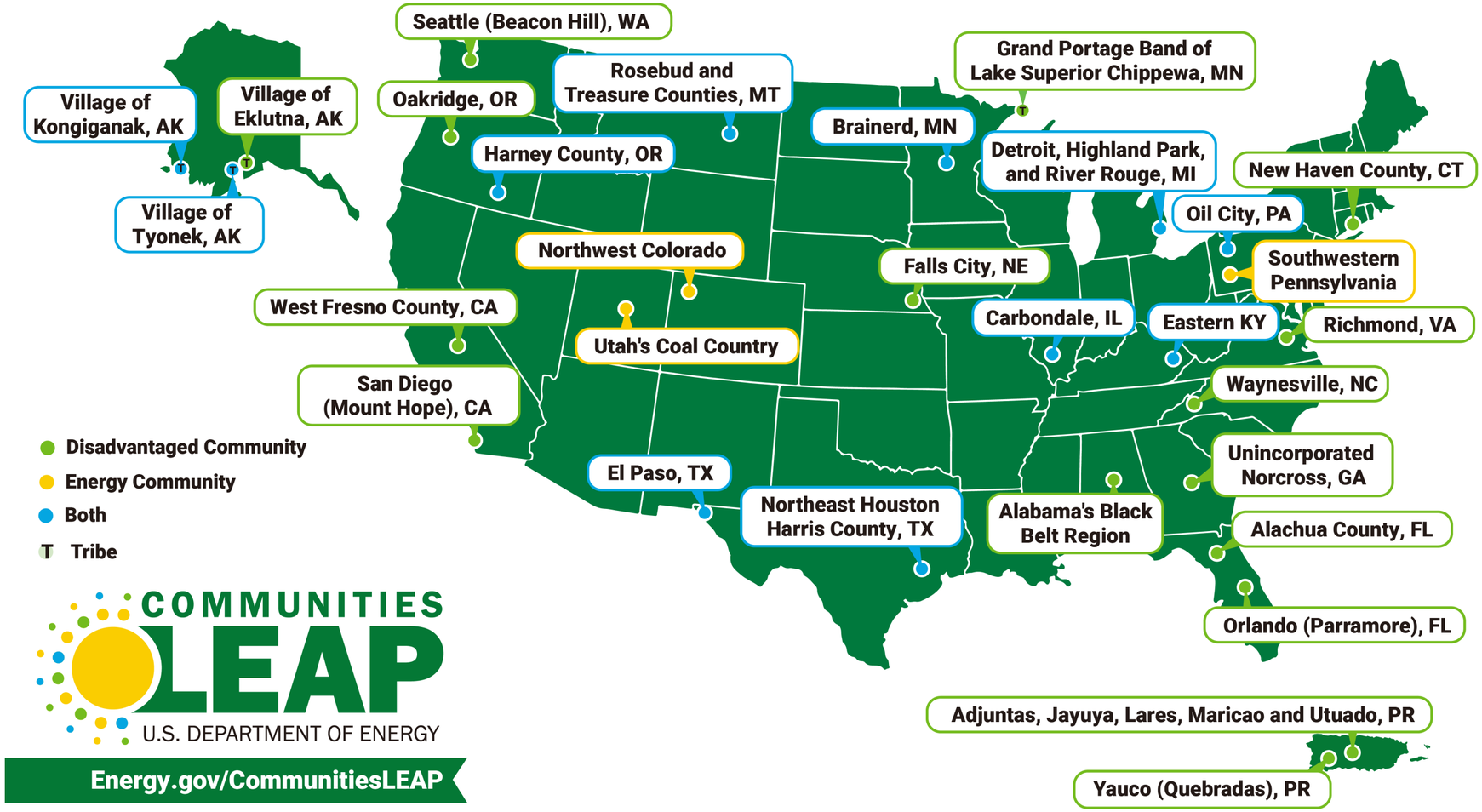
Communities LEAP is designed to:

- Facilitate sustained community-wide economic empowerment through clean energy
- Improve local environmental conditions
- Open the way for other benefits, primarily through DOE's clean energy deployment work

COMMUNITIES LEAP
U.S. DEPARTMENT OF ENERGY

Communities LEAP Cohort 2 Map

- The Communities LEAP pilot provides customized, high quality technical assistance to 24 communities to develop clean energy-related economic development pathways.
- In each community, coalitions of local partners contribute to project oversight and delivery.
- The National Renewable Energy Laboratory (NREL) is the primary technical assistance (TA) provider.



Technical Assistance Pathways

The National Renewable Energy Laboratory (NREL) provides technical assistance for 22 communities in the following pathways

- Clean Energy and Energy Efficiency
- Clean Energy Planning and Development
- Clean Transportation Planning and Investment
- Community Resilience Microgrid and Energy Storage
- Energy Efficient Buildings and Beneficial Electrification Planning and Investment
- New or Enhanced Manufacturing and Industry

NREL Lab Capabilities Overview

NREL Science Drives Innovation

Renewable Energy

- Solar
- Wind
- Water
- Geothermal

Sustainable Transportation & Fuels

- Bioenergy
- Hydrogen and Fuel Cells
- Transportation and Mobility

Buildings and Industry

- Buildings
- Industrial Efficiency and Decarbonization
- Advanced Materials and Manufacturing
- State, Local, and Tribal Governments

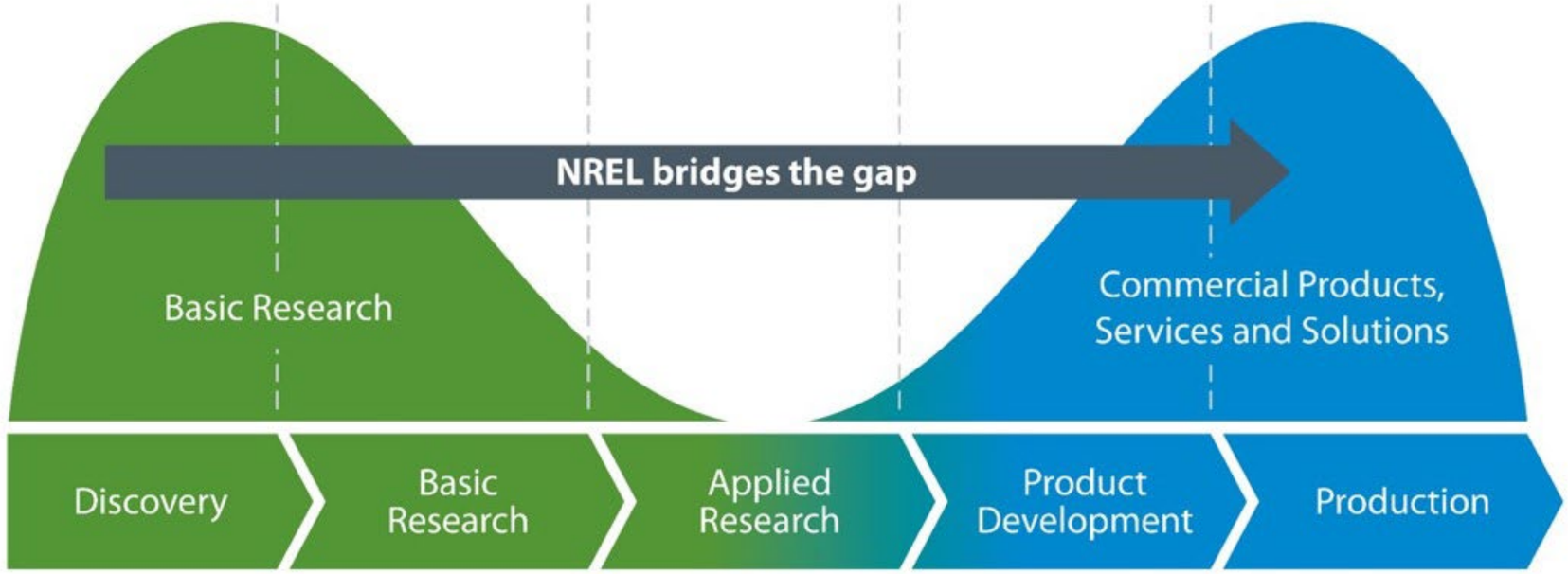
Energy Systems Integration

- Energy Security and Resilience
- Cyber resilience
- Grid Modernization
- Integrated Energy Solutions

Photo by Werner Slocum, NREL 66364

NREL Reduces Risk in Bringing Innovations to Market

- NREL helps bridge the gap from basic science to commercial applications
- Forward-thinking innovation yields disruptive and impactful results to benefit the entire U.S. economy
- Accelerated time to market delivers advantages to American businesses and consumers.



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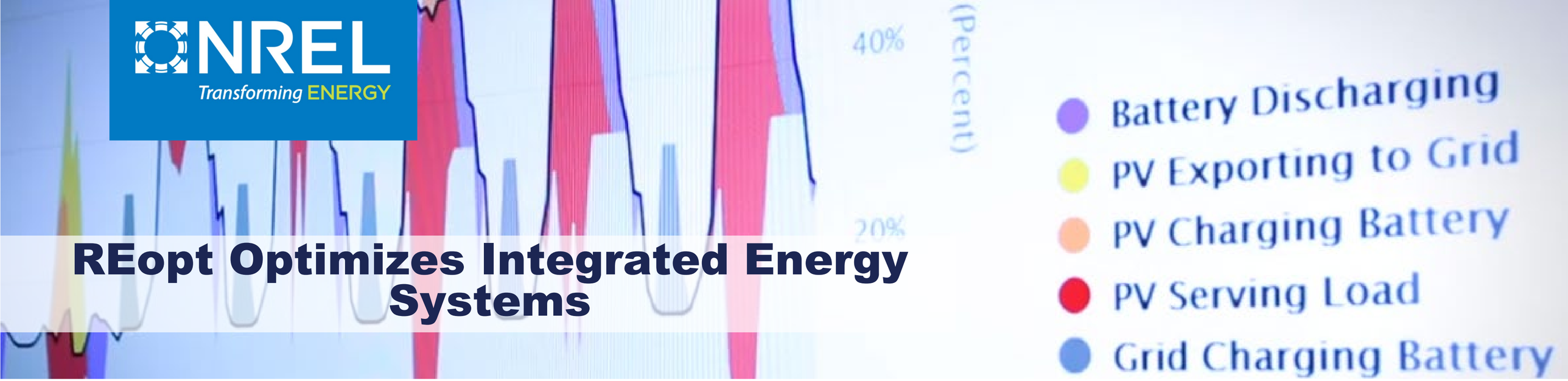
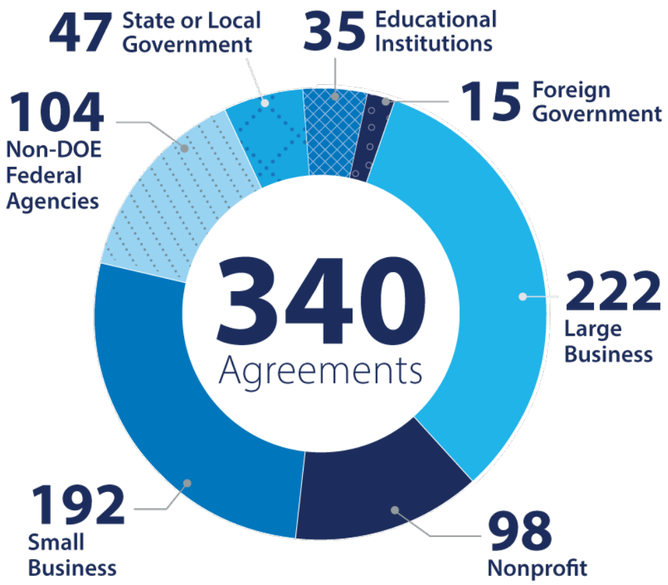


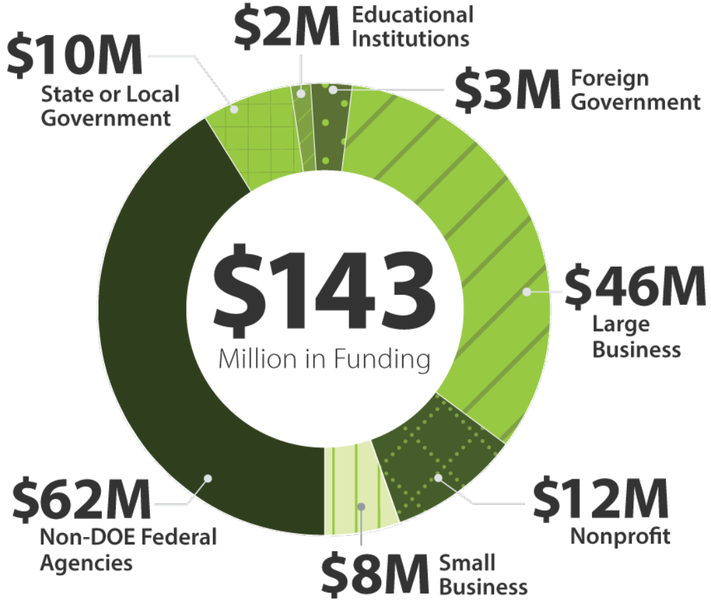
REopt Optimizes Integrated Energy Systems

- Among hundreds of other tools, NREL developed the Renewable Energy Optimization Platform (**REopt**) which **helps communities optimally size** renewable **energy generation and storage** technologies.
    - Such as solar photovoltaics (PV) and lithium-ion battery storage
- REopt helps single sites and campuses across broad geographies and climates **save energy costs**, **be resilient** against unusual weather events (i.e., heat waves), and **reduce CO2 emissions**.
- REopt can be used to consider electrical usage, as well as heating and **cooling** to **identify least-cost mix** of technologies.

NREL Partnerships

NREL Strategic Partnerships at a Glance





Ongoing Work Between NREL and El Paso

- The STAR program is a direct pipeline of students from Minority Serving Institutions (MSI), like UTEP, to NREL through internships.
- The FACES program enhances curriculums at MSIs by pairing professors from UTEP with NREL researchers and gaining experience in emerging technologies.
- Communities LEAP will continue to take place over the next year

- NREL is about to secure funding from DOE to **assist El Paso startup**, **Infinite Elements**, to scale their pilot electronics recycling facility to process 10 tons of electronic waste per week.
- Infinite Elements is led by **Dr. Jesica Urbina (El Paso native**) and **Dr. Ivan Lima**.
- This technical assistance can revolutionize electronic waste recycling at the Borderland by:
  - **Enhancing metals supply chain** for **electronic** and the **clean energy transition**,
  - **Decrease harmful pollutants** that leak into **El Paso's water sources**,
  - **Increase** El Paso's **competitiveness** in **supply chain markets**, and
  - **Increase job growth** in high demand labor markets.

Industrial Assessment Centers

- **Industrial Assessment Centers (IACs)** are entities established within Higher Ed to **build** a robust **workforce development program** and **provide services to local small and medium manufacturers**.
- DOE has focused on 2-year universities, community colleges, technical colleges to establish the next generation of IACs.
- ***Current NREL efforts:*** Assist EPCC to establish an IAC in the Borderland Region and be awarded a **$2 million grant from DOE**.

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Current IAC Network

https://www.energy.gov/mesc/locations-industrial-assessment-centers

Current IAC Network

There are no IACs within a 400-mile radius of El Paso. EPCC can help fill a valuable gap.

https://www.energy.gov/mesc/locations-industrial-assessment-centers

Thank You