

LA100 Equity Strategies
Steering Committee Meeting #12
October 19, 2022







Los Angeles Department of Water & Power (LADWP) Project Leads



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Senior Assistant General Manager of Power System Construction, Maintenance, and Operations at LADWP





Agenda

Start Time	Item
10:00 a.m.	Welcome
10:05 a.m.	Meeting Purpose and Agenda Overview
10:10 a.m.	Steering Committee Spotlight: Pacific Asian Consortium in Employment (PACE)
10:20 a.m.	Community Listening Sessions Update
10:25 a.m.	Air Quality & Health Response to Feedback
10:30 a.m.	Potential Community Solar & Storage Siting Options
11:10 a.m.	Green Jobs & Workforce Development
11:55 a.m.	Wrap Up and Next Steps



Our Guide for Productive Meetings



Raise your hand to join the conversation (less chat entries, more talking)



Help to make sure that everyone has equal time to contribute



Keep input concise and focused so that others have time to participate



Actively listen to others to understand their perspectives



Offer ideas to address others' questions and concerns



Steering Committee Roster

Organization	Representative
Alliance of River Communities (ARC)	Vincent Montalvo
City of LA Climate Emergency Mobilization Office (CEMO)	Marta Segura, Rebecca Guerra
Climate Resolve	Jonathan Parfrey, Bryn Lindblad
Community Build, Inc.	Robert Sausedo
DWP-NC MOU Oversight Committee	Tony Wilkinson, Jack Humphreville
Enterprise Community Partners	Jimar Wilson, Michael Claproth
Esperanza Community Housing Corporation	Nancy Halpern Ibrahim
Los Angeles Alliance for a New Economy (LAANE)	Kameron Hurt, Estuardo Mazariegos
Move LA	Denny Zane, Eli Lipmen
Pacific Asian Consortium in Employment (PACE)	Celia Andrade, Susan Apeles
Pacoima Beautiful	Veronica Padilla Campos, Melisa Walk
RePower LA	Michele Hasson, Roselyn Tovar
The South Los Angeles Transit Empowerment Zone (SLATE-Z)	Zahirah Mann, April Sandifer
South LA Alliance of Neighborhood Councils	Thryeris Mason
Strategic Concepts in Organizing and Policy Education (SCOPE)	Agustín Cabrera, Tiffany Wong



Including Future Agenda Items

Tentative Schedule

This Meeting

- Steering Committee member check-in: PACE
- · Listening sessions update
- Community solar and storage siting options
- Jobs & workforce development
- SLTRP update

November 16, 2022

- CEMO LA Equity Index
- Vehicle electrification and charging modeling
- · Household energy modeling
- · Rates and affordability modeling
- Legal and regulatory constraints around rates and affordability

Future Meetings

- Grid reliability and resilience
- Listening sessions
- UCLA Energy Atlas and buildings

Steering Committee Spotlight

Pacific Asian Consortium in Employment (PACE)





Energy & Environmental Service Celia Andrade, Director

About PACE

Pacific Asian Consortium in Employment (PACE) is a non-profit, community development corporation that creates economic solutions to meet the challenges of employment, education, housing, the environment and business development in the Pacific Asian and other diverse communities.

Our ethnically diverse staff reflects the multicultural diversity of our clients. PACE served about 42,000 clients from across LA County in 2020-2021.



PACE Energy

PACE Energy, in collaboration with its community partners – the State of California Department of Community Services & Development (CSD), Los Angeles Department of Water & Power (LADWP), Southern California Gas Company (SoCalGas), and Southern California Edison (SCE) – provides outreach, energy and environmental conservation education, weatherization services, and assistance with utility bill payment to low-income individuals and families throughout the Greater Los Angeles Area under its designated service territories.









Energy By The Numbers

As a result of the COVID-19 pandemic, the number of households struggling to pay utility bills has grown exponentially. Statewide, an estimated 1.6 million households

are late on water bills and about 4 million customers are behind on energy bills. PACE Energy has been on the frontlines to provide financial assistance to low-income households disproportionately burdened by utility expenses.

PACE Energy by the Numbers -

- 12,335 Clients receiving Emergency Utility Payment Assistance
- \$6,144,155 in Emergency Utility Payments
 - 13,964 Clients served through the Home Weatherization Program
 - 5,213 Households served by the Energy Savings Assistance Program

PACE Programs

- Home Energy Assistance Program (HEAP)
- Low Income Home Water Assistance Program (LIHWAP)
- LADWP Community Partnership Outreach Program
- Weatherization Assistance Program (WAP)
- Energy Savings Assistance (ESA) Program
- American Rescue Plan Act (ARPA) Program

PACE Energy Programs

Home Energy Assistance Program (HEAP)

The Home Energy Assistance Program (HEAP) offers incomeeligible residents of Los Angeles County a credit to their utility bill. HEAP is available for people who purchase energy from LADWP, SCE, or the SoCalGas. Along with the utility credit,



clients will also receive valuable information about energy conservation and practical tips on how to save energy and keep your utility bill at a manageable level.

Low Income Home Water Assistance Program (LIHWAP)

LIHWAP assists eligible households in paying their water and wastewater bills. This program offers a one-time payment assistance on their water bills up to \$2,000.00.

LIHWAP serves eligible customers at a first come, first served basis.

PACE Energy Programs

PACE/LADWP Community Partnership Program

This is a community outreach and public education partnership to accomplish LADWP's mission to actively help its low-income customers, particularly the most vulnerable, with their utility bills.

PACE reaches out to promote LADWP's rebate, discount, low-income/lifeline program and water and landscape conservation programs to its low-income and hard to reach customers.

PACE Weatherization Assistance Program

The Weatherization Assistance Program assists income-eligible families by reducing their heating and cooling costs and addressing health and safety issues in their homes. Weatherization services provide energy efficiency services. Household energy-use reductions and resultant energy cost savings are significant, with an average annual savings estimated to be in excess of 20% per year.

PACE Energy Programs

Energy Savings Assistance (ESA) Program

PACE's Energy Savings Assistance Program helps eligible customers of Southern California Gas Company (SoCalGas) and Southern California Edison (SCE) conserve energy and save money by providing energy efficiency services like minor home repair and repair or replacement of appliances and equipment to heat and cool their homes.

American Rescue Plan Act (ARPA) Program

ARPA is a Federally-funded program that provides utility bill payment assistance to qualified households who have been impacted by the COVID-19 pandemic.

ARPA can provide qualified households a one-time assistance of up to \$3,000 to assist to settle their unpaid electricity or natural gas utility

bills. Assistance is provided on a first come, first served basis.

Community Listening Sessions Update

Dr. Paty Romero-Lankao, NREL



From the What to the How

Listening Sessions

Spaces of Collaboration with Community Participants

The What

First Round:

We asked five small groups of Angelenos <u>what</u> energy justice means to them, including their:

- (1) **vision** for a just energy future in their community
- (2) understandings of factors influencing energy inequities in their community
- (3) suggested energy strategies to redress these inequities.

The How

Second Round:

The next 10 listening sessions aim to **understand** *how* **to**:

- (1) rectify the challenges shared in our last sessions
- (2) achieve the energy equity goals community members have outlined.



Listening Sessions

Highlights

San Fernando Valley

- With Pacoima Beautiful
- 12 participants
- Key highlights
 - Access & Use | Rental conditions thwarting access/eligibility to LADWP benefits; financial institutions thwarting use of existing benefits
 - Institutional Action | Improve program design
 - Collective Action | Request for community-led program design
 - Continuing the Loop | Appreciated feedback loop

South LA

- With SLATE-Z
- 6 participants
- Key highlights
 - Fit | Tailor engagement strategies to different groups; i.e., social media for the youth versus door-to-door for the elderly
 - Access | Request for educational opportunities for youth in schools + adults
 - Safety | Request for public street lighting and more shade
 - Continuing the Loop | Requested we return



Listening Sessions

Round Two

10 In-Person Listening Sessions

- Two sessions in September 2022
 - —Communities of Focus: San Fernando Valley, South LA #1
- Three sessions in October 2022
 - —Communities of Focus: South LA #2, Two in Harbor
- Two Sessions in November 2022
 - —Communities of Focus: South LA #1, East LA
- Three Sessions in December 2022
 - —Communities of Focus: East LA, South LA #2, San Fernando Valley

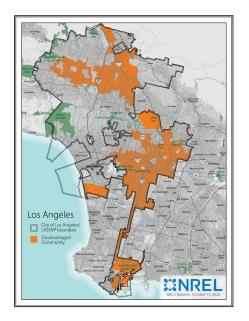


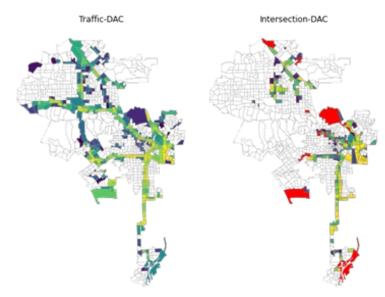
Air Quality & Health

Response to feedback from September meeting



Air Quality & Health: Medium- and Heavy-Duty Vehicle Electrification Update





Based on Steering Committee and UCLA feedback, NREL revisited the traffic-impacted disadvantaged community mapping and realized new census tracts—designated by California Senate Bill 535—were missing. These census tracts have now been added, resulting in the additional census tracts in red and greater representation of the LAX area and Wilmington neighborhood for the analysis.

Potential Community Solar and Storage Siting Options

Ashreeta Prasanna, NREL Jane Lockshin, NREL



Project Overview

Questions to be answered:

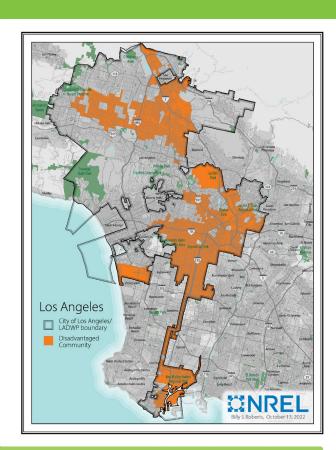
- How much community solar can be sited in the City of LA and how can it be used to provide bill reduction or resiliency benefits to underserved communities or low-income customers?
- Where should community solar be sited based on community priorities?

Outcomes:

 Answers will inform ranking of potential community solar and/or resiliency centers based on their location and potential benefits provided to underserved communities or low-income customers.

Steering Committee guidance:

- Which neighborhoods and customer types should be prioritized?
- Feedback from prior Steering Committee meetings:
- Recreation centers, other public buildings which are accessible to the public.
 - Multifamily and renters should be prioritized.
 - Age and income of customers should also be considered.



Goals of Today's Presentation

- Provide information on solar and storage siting data and methods.
- Prioritize sites and other datasets.



Importance of Local Community Solar



Community wealth-building. Solar can support jobs and local workforce development as well as create educational opportunities, build wealth, and generate investments in under-resourced communities.



Mitigating environmental impacts. Solar can be located on industrially contaminated lands that often cannot accommodate other uses and are too often located in under-resourced communities.



Community resilience. Solar can be paired with battery storage at critical facilities to offer frontline communities resiliency benefits in the event of an extended electrical outage.

Importance of Local Community Solar



Siting flexibility. Utilities can help guide projects to optimal grid locations.



Economies of scale. Potential to be more cost-effective than smaller solar arrays.



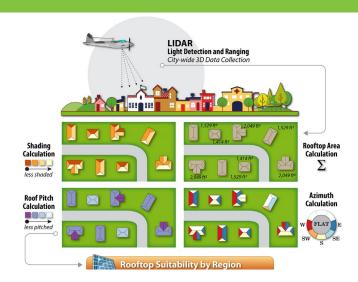
Federal incentives such as Clean Energy Coalition Prize. Starting in 2023, small community solar projects (under 1 megawatt [MW]) will qualify for a base investment tax credit (ITC) of 30% through 2033.

Additional Inflation Reduction Act (IRA) credits:

- + 10% for meeting domestic content specifications
- + 10% if at a brownfield site or in a community directly impacted by fossil fuels
- + 10% if in a low-income community or on tribal land (by application)
- + 20% if part of a Low-Income Residential Building Project or Qualified Low-Income Economic Benefit Project (by application)

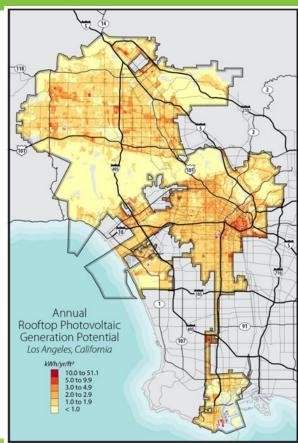
Source: World Resources Institute, "How Community Solar Can Benefit Low- and Moderate-Income Customers," and DOE's Solar Energy Technology Office, "Reaching for the Solar Future: How the Inflation Reduction Act Impacts Solar Deployment and Expands Manufacturing."

Data - Rooftop Solar



Identification of solar rooftop potential relies on lidar data sets provided by the U.S. Department of Homeland Security's Homeland Security Infrastructure program for the larger Los Angeles Metropolitan Area collected in 2007 and 2013.

Technical potential estimates are supplemented by parcel-level tax assessor data for Los Angeles County (Los Angeles County 2017).



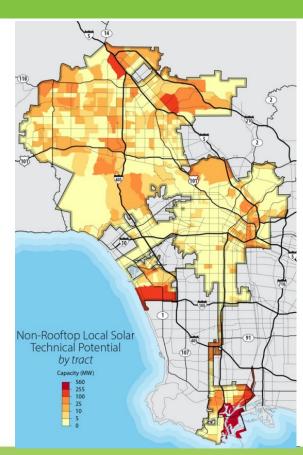
Source: Chapter 4: Customer-Adopted Rooftop Solar and Storage in The Los Angeles 100% Renewable Energy Study.



Data – Non-rooftop Solar

Identification of non-rooftop potential relies on County-, City-, and LADWP-provided datasets. The technical potential for non-rooftop local solar is calculated by excluding land that is unsuitable for local solar development. Some of the criteria for exclusions are listed below, and additional exclusions are described in <u>U.S. Renewable Energy Technical</u> Potentials: A GIS-Based Analysis:

- Existing developments (buildings, streets, bike paths, airport runways)
- Land cover (water, wetlands, forests, shrubland, farmland)
- Parks and recreational sites
- Steep terrain (slope greater than 10%)
- Landmarks (schools, cemeteries, stadiums, etc.)
- Excessively shaded areas
- Non-parking-lot lands.

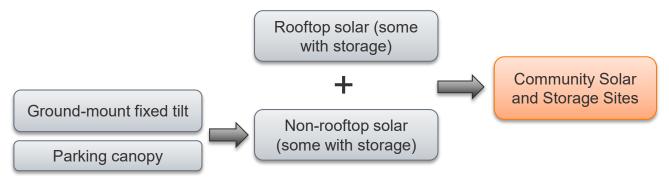


Source: Chapter 5: Utility
Options for Local Solar and Storage
in The Los Angeles 100%
Renewable Energy Study.

Data

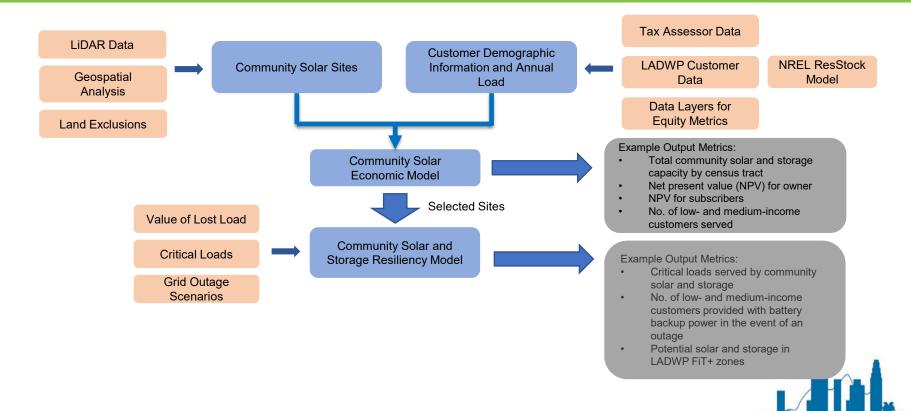
All technical potential data (at potential solar sites) is obtained from the LA100 Study (described in Chapter 4 and Chapter 5). Additional processing and filtering of the data is carried out based on the following conditions:

- Sites which have the following land-use: multifamily, government-owned land, educational institutions, recreation centers, hospitals, religious institutions, other (i.e., airport, port).
- Sites with total capacity >/= 30 kilowatts (kW) (using LADWP FiT program lower limit).
- Total capacity at each site could include rooftop, carport/parking, and ground-mount.





Project Overview



Local Solar and Storage Output Metrics

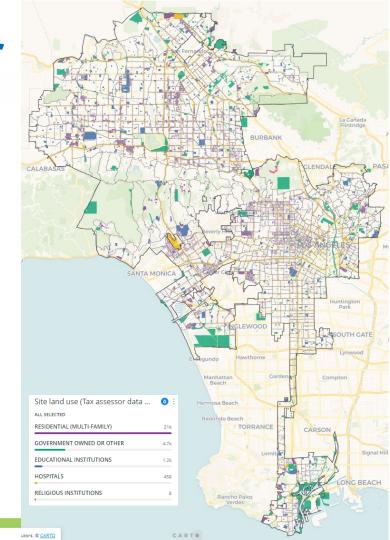
Local Solar and Storage Output Metrics	Example of Enabled Equity Strategy Analysis	
List of potential sites for community solar development with geospatial coordinates, along with key metrics such as capacity potential (kW and land area), number of potential subscribers by tract, tenure, income, and DAC status.	Identifying potential community solar sites and their associated technical potential, net present value (NPV) for the project developer, NPV for subscribers, and the number of customers (subscribers) served by tract, tenure, DAC status, and income bins.	
Ranking of community solar sites based on benefits to LADWP (economic value) and benefits to the community (ability to serve a higher percentage of low-income customers in the same tract).	Ranking community solar sites based on metrics identified by the Steering Committee (e.g., type or usage of building and ease of access to community members), as well as metrics identified by LADWP subject matter experts (SMEs), such as the distributed energy resources (DER) priority map.	
Storage potential for top-ranked community solar sites to provide backup power to connected customers in the event of a grid outage.	Identifying community solar sites that can provide backup power in the event of grid outages to the highest percentage of low-income customers and disadvantaged communities.	
Critical loads and number of low- income customers served at a tract scale if community solar and storage are used to provide backup power.	Identifying community solar sites that can serve critical loads and higher numbers of low-income or disadvantaged customers to increase resiliency.	



Potential Community Solar Sites

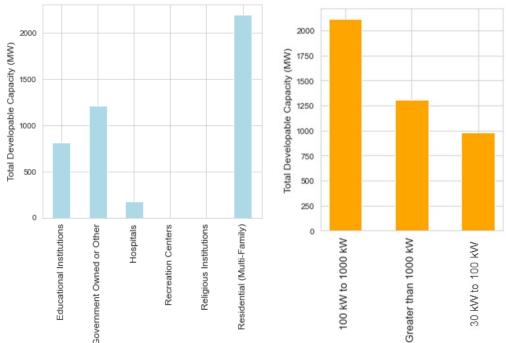
- 27,477 potential community solar sites identified
- 4,400 MW combined solar capacity potential
- 6,400 gigawatt-hours per year generation potential

If all potential community solar sites were developed, they would produce the equivalent of 100% of annual electricity consumption of all renter occupied households in the city of LA (assuming an average consumption of 5,000 kWh per household). However, not all potential community solar sites can be developed due to regulatory, ownership, or other issues.



Potential Community Solar Sites

- More than half of the potential solar sites are on multifamily buildings, followed by government owned or other land and educational institutions.
- 98% of the sites have capacity less than 1 MW.

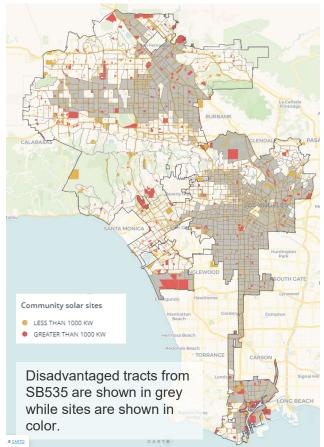


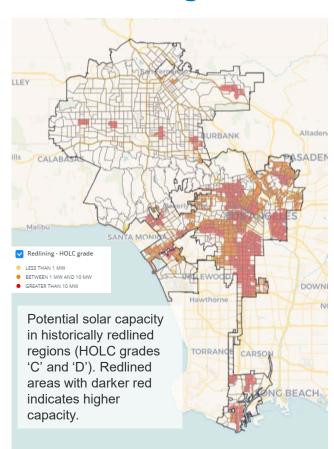
Land Use	No. of Sites	Capacity (MW)	Generation (GWh/yr)
Residential (Multi-Family)	21,077	2,195	3,329
Government Owned or Other	4,602	1,167	1,860
Educational Institutions	1,214	815	1,020
Hospitals	458	179	199
Recreation Centers	118	46	55
Religious Institutions	8	1.1	2.4
Total	27,477	4,400	6,400

Type of Installation	Capacity (MW)
Ground-mount solar	866
Carport solar	947
Rooftop solar	2,591
Storage (sited with solar)	524



Potential Solar Sites in Disadvantaged Tracts & Redlined Areas





Disadvantaged tracts (SB 535)

- 52% of potential sites are in disadvantaged tracts (SB 535).
- Total potential solar capacity in disadvantaged tracts is 2,100 MW (49% of total capacity in LA).

Historically redlined areas

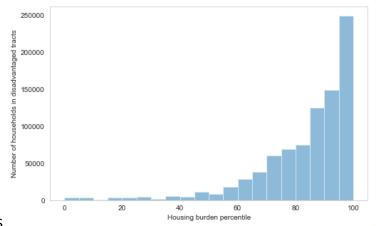
- 57% of the sites are in historically redlined areas (areas designated C or D).
- Total potential solar capacity in historically redlined communities is 1,290 MW (29% of total capacity in LA of total capacity in LA).

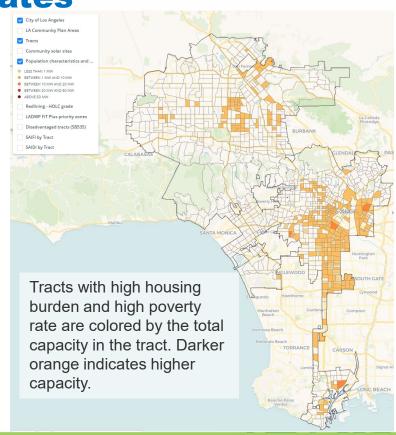


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Potential Solar Sites in Tracts with High Housing Burdens and High Poverty Rates

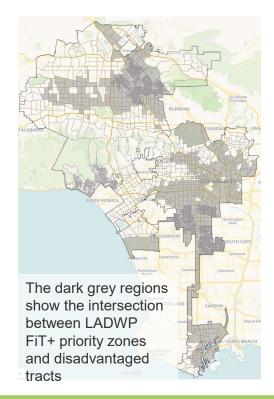
- 95% of households in disadvantaged tracts have high housing burden (>=50%). (Calculated from ACS 2019 data)
- 830 MW of potential capacity is in disadvantaged tracts with high housing burden (greater than 80%) and high poverty rate (greater than 80%).
- This corresponds to 19% of the total potential capacity.

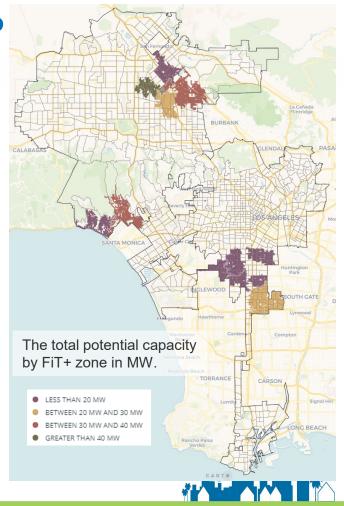




Potential Solar Sites in LADWP FiT+ Priority Zones

 250 MW of potential solar capacity is in LADWP FiT+ priority zones which corresponds to 6% of the total potential capacity.





LADWP Local Solar

Local Solar - By the Numbers

(Updated as of December 31, 2021)

Total 60,237 customer-installed solar systems connected to the grid

Net Energy Metering/Solar Incentive Program (SIP):

- \$338.9 million in solar incentives for 34,601 systems since the program launch in 1999
- \$288 million in incentives for 279.7 MW under state legislated program (SBI)*
- Total net-metered solar (includes SIP): 454.81 MW from 60,074 systems, generating approximately 751,000 MWh per year

*Includes incentives processed after the SIP program closed on December 31, 2018.

Feed-in Tariff (FiT) Program:

- 131 solar projects in service in the city, totaling 83.4 MW
- Two additional projects in the Owens Valley totaling 4 MW of capacity and 1 renewable landfill gas project with a capacity of 2.95 MW
- · Total installed FiT program capacity: 90.35 MW.
- The energy produced from these projects is enough to supply nearly 26,700 homes

Feed-In Tariff Plus Program

• 5 projects submitted for evaluation totaling 1.78 MW

Solar Rooftops Program:

- · 32 installations completed
- · 116.4 kW of solar power being delivered
- 16 projects totaling 66.9 kW are expected to be installed in 2022

Shared Solar Program:

- 2,116 customers enrolled
- 177,850 kWh per month supplied

Utility Built Solar (in-basin)

47 installations completed totaling 6.9 MW

Source: <u>LADWP 2021-22 Briefing Book</u>



Interactive Map

https://nrel.carto.com/u/gdsmember/builder/411ffd42-3873-42cb-8ae0-521d01f8f5b9/embed



Discussion

- Which layers in the presented map should be included in the ranking? Are communities interested in working with the data and curating the dataset—potentially identifying promising sites? Or providing rankings?
- Recreation centers have limited generation potential, while there is a much higher generation potential on multifamily buildings—how to address limitations with installing solar on multifamily buildings in low-to-moderate income (LMI) or disadvantaged neighborhoods?
- Can communities get involved in developing/initiating shared solar programs?
- Using parking canopies or solar carports for shading?
- Covered sidewalks with solar? (potential for future analysis)



Image source: <u>Singapore</u> sheltered walkway.



Image source: <u>BCIT Burnaby campus' "energy oasis" solar panels.</u> (<u>BCIT</u>).

Green Jobs Workforce Development

Dr. Raúl Hinojosa-Ojeda and Dr. Abel Valenzuela, UCLA



Agenda

Part 1: Green Jobs Historical Calculator

Part 2: DWP Jobs and Regional Equity

Part 3: Projecting Green and DWP Jobs

Part 4: Workforce Development and Community Engagement Challenges



Part 1: Green Jobs Historical Calculator 1

Green Job Historical Trends

2

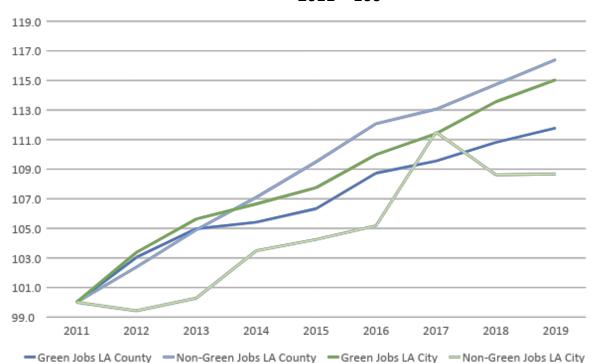
Calculating Direct, Indirect and Induced Green Jobs

3

Regional/Racial Equity and Interdependence

Total green jobs have been growing more rapidly compared to total non-Green Jobs in LA City since 2011

Figure 1: LA City and LA County, green and total non-green jobs growth index, 2011 = 100

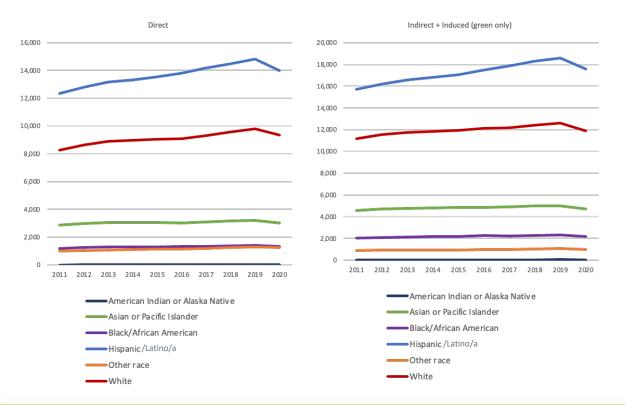


Green jobs in LA City have grown 8.2% on average from 2011 to 2019 (base year = 2011), while total non-green jobs grew 4.6%.



The Growth of Hispanic Green Jobs is very complementary and beneficial to White and Black Green and non-Green workers

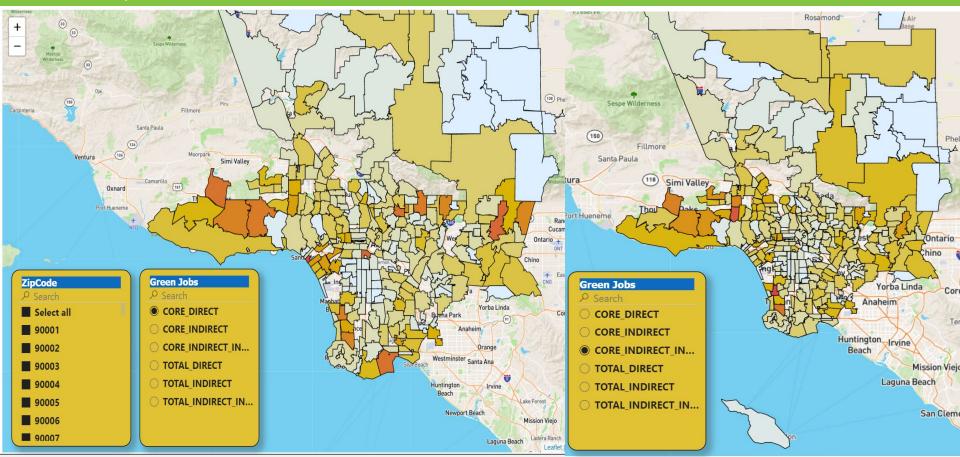
Figure 4: LA City Green Direct, Indirect and Induced Total Green Jobs by Ethnicity, Number of Jobs



Hispanic workers are
the largest group with
Direct Green Jobs, yet
the indirect + induced
Green Jobs growth
effects for all other
races is higher than for
Hispanic workers.



UCLA GIS MAPPING: Green Jobs by location of Work, Direct/Indirect+Induced



Part 2: DWP Jobs and Regional Equity Income

Occupation

Race/Ethnicity/Gender

Geo-Residency DAC/non-DAC

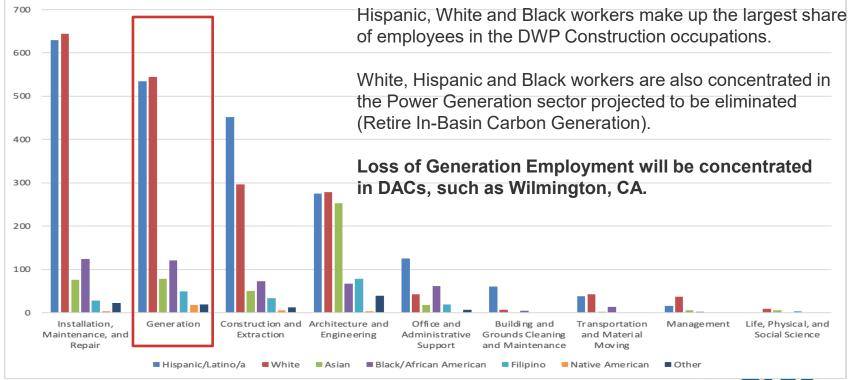
Employment Impact of Investment



Main Takeaways from LADWP Employee Data

- 1. Hispanic, White, Asian and Black workers make up the largest shares of employees in the DWP Power sector
 - Hispanic workers are most represented in Construction, followed by White and Black workers
 - White workers are most represented in Generation, followed closely by Hispanic workers, and then Black workers
- 2. Most DWP Workers do not live in Dis-Advantaged Communities (DACs)
- 3. However, Hispanic and Black workers make up the largest share of DWP employees living in DACs
- 4. Hispanic and Black workers earn the lowest wages of DWP workers living in DACs and Non-DACs

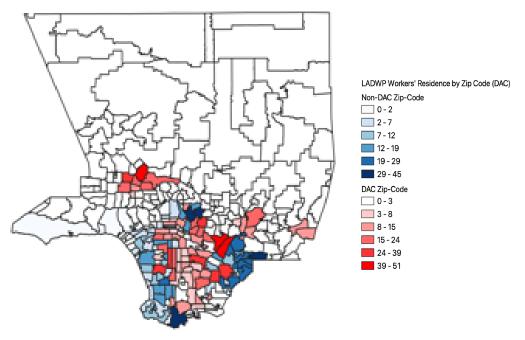
LADWP Total Workers in Power Sector by Occupation and Ethnicity

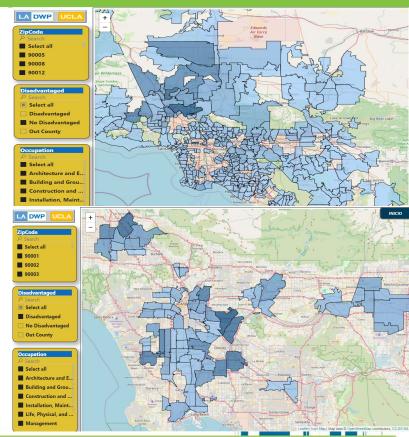




UCLA Mapping Tool: LADWP Workers Zip Code Residence by DAC / Non-DAC Density

LADWP's Workers Zip Code of Residence by DAC Density





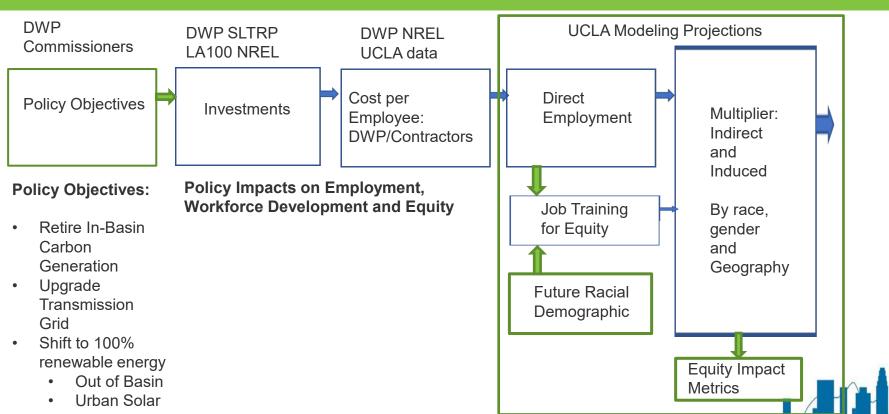
Part 3: Projecting LADWP Green Jobs

To ensure investments in DWP employment are sustainable and equitable, we must:

- 1) Estimate Baseline Inequality Gaps;
- 2) Estimate Employment Impacts of DWP;
- 3) Estimate Projected Demographic Change;
- 4) Estimate Necessary Workforce Development Investments.



Methodology for Estimating **DWP Investment and Employment Impact**

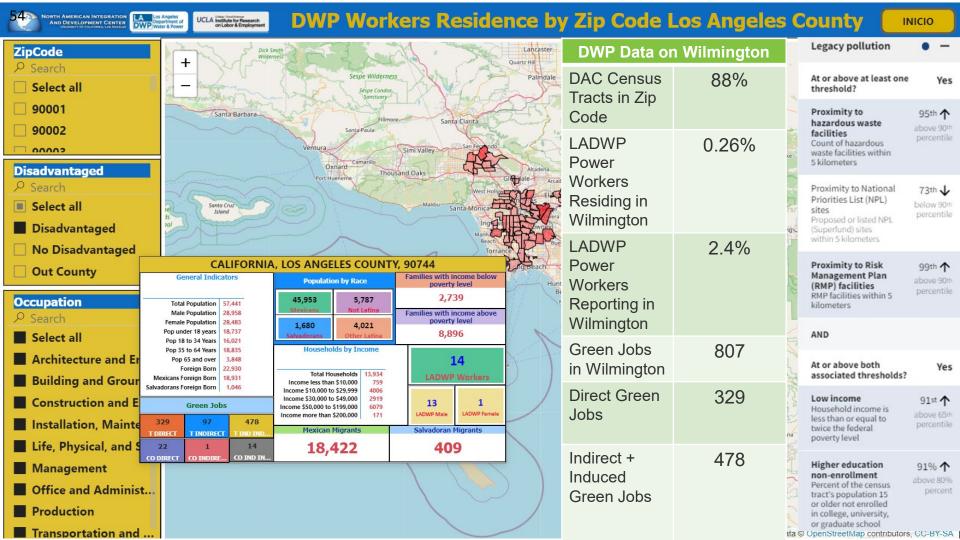


Part 4: Community Engagement and Workforce Development Challenges

CASE STUDY: Wilmington Community

Methodology

- Historical Construction of Inequality, Projected Options
- Complementary Check to Equity Impact Modeling and Estimating Workforce Investment Requirements
- Community Resident and Organization Engagement of Data Evidence Usage for Future Strategic Investments for Workforce Training and Equitable Development
- Foundations for Equitable Workforce Trainings
- Principles of the High Road Workforce System



Wilmington Residents Community Engagement Meeting Approach

- 1. Community leaders have already identified the participants, all residents of Wilmington
- 2. Our first approach is to understand their level of knowledge on:
 - LADWP
 - Energy Consumption and Environmental Impacts
 - Wilmington Historical Background
 - Green Jobs Workforce Development
 - Justice 40 Funding Initiatives
- 3. Evaluate first resident's community engagement meeting to develop follow up meeting based on level of understanding.

Principles of the High Road workforce system — targeting quality jobs that provide economic security

Policy goals are to create job training and workforce pipeline to fulfill Green Economy needs, enabling upward mobility for Californians, while integrating all programs and resources into one effective community oriented strategy.

Public investment

 funds should be provided to ensure the program succeeds

Job quality

 green jobs that pay well, are secure, and contribute to valuable industries

Equity

 bring green job workers to the table, enabling more voices to be heard

Environmental sustainability

 work to increase green jobs that are environmentally sustainable

Worker voice

 address systemic inequalities, bringing people to green jobs that have excluded them



Discussion

 How does the Steering Committee envision an equitable (energy) green jobs workforce development, both for the future and in the context of historical inequalities?

 How should DWP distribute and train for a more equitable direct, indirect green job growth as well as the indirect and induce green jobs within and outside the LA basin?



December Meeting Poll

Link has been sent from LADWP:

Should there be a Steering Committee meeting in December? The meeting is currently scheduled for December 21st, 10:00 am - 12:00 pm?



Going Forward *Tentative*

Steering Committee Meetings

November 16, 2022 Virtual

- Climate Emergency Management Office (CEMO) LA Equity Index
- Vehicle electrification and charging modeling
- · Rates and affordability modeling
- · Household energy modeling
- Legal and regulatory constraints around rates and affordability

Subsequent Meetings

- Third Wednesday of each month, 10:00 a.m. 12:00 p.m. PT
- Virtual for near-term



What would you like to discuss in upcoming meetings? Drop your agenda suggestions in the chat!



Thank you!