

## RIVERSIDE ACCELERATING CLEAN ENERGY BY 2040 STUDY WITH THE NATIONAL RENEWABLE ENERGY LABORATORY

### Public Utilities Department

Land Use, Sustainability, and Resiliency Committee  
November 14, 2022

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## Legislative Background

### 1. California goal: State-wide carbon neutrality by 2045

- a. Executive Order B-55-18
- b. Assembly Bill 1279 (2022) – California Climate Crisis Act

### 2. Renewable energy procurement

- a. Renewable Portfolio Standard – requires 60% renewable energy for retail electricity by 2030
- b. Senate Bill 1020 – Clean Energy, Jobs, and Affordability Act of 2022
  - i. 100% zero-carbon clean energy resources supply 90% of retail sales by Dec. 31, 2035 and 95% by Dec. 31, 2045

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## Envision Riverside 2025 Strategic Plan



### Environmental Stewardship

Champion proactive and equitable climate solutions based in science to ensure clean air, safe water, a vibrant natural world, and a resilient green new economy for current and future generations.

#### Goals

- 4.1. Rapidly decrease Riverside's carbon footprint by acting urgently to reach a zero-carbon electric grid with the goal of reaching 100% zero-carbon electricity production by 2040 while continuing to ensure safe, reliable and affordable energy for all residents.
- 4.6. Implement the requisite measures to achieve citywide carbon neutrality no later than 2040.



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## Riverside Accelerating Clean Energy by 2040

### 1. Carbon neutral electric utility by 2040

- a. Identify and evaluate optional paths for RPU's electric utility to achieve carbon neutrality by 2040



### 2. Supports RPU's efforts to cost effectively and equitably implement measures to support customer's needs in a rapidly changing and increasing complex electric energy industry

### 3. National Renewable Energy Laboratory (NREL) | Neutral, industry expert

- a. Meets Riverside purchasing resolution requirements for contracts with federal agencies
- b. Evaluation and scenarios will be for Riverside and address Riverside's questions, concerns, and direction



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# RACE/2040 Study



## 1. Clear purpose

- a. How to achieve Carbon Neutrality by 2040 – there are many ways to achieve it
- b. Parameters: Safety, Reliability, Affordability, Sustainability, Environmental Justice, and Economic considerations

## 2. Develop options and information for decision-making

- a. NREL does not recommend a path forward; instead evaluates different scenarios to provide decision-making information
- b. Comprehensive modeling from generation down to distribution system impacts
- c. Products are scenario evaluations AND datasets (incl. GIS data)

## 3. Guided by stakeholder and public input

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# Comprehensive Policy Questions



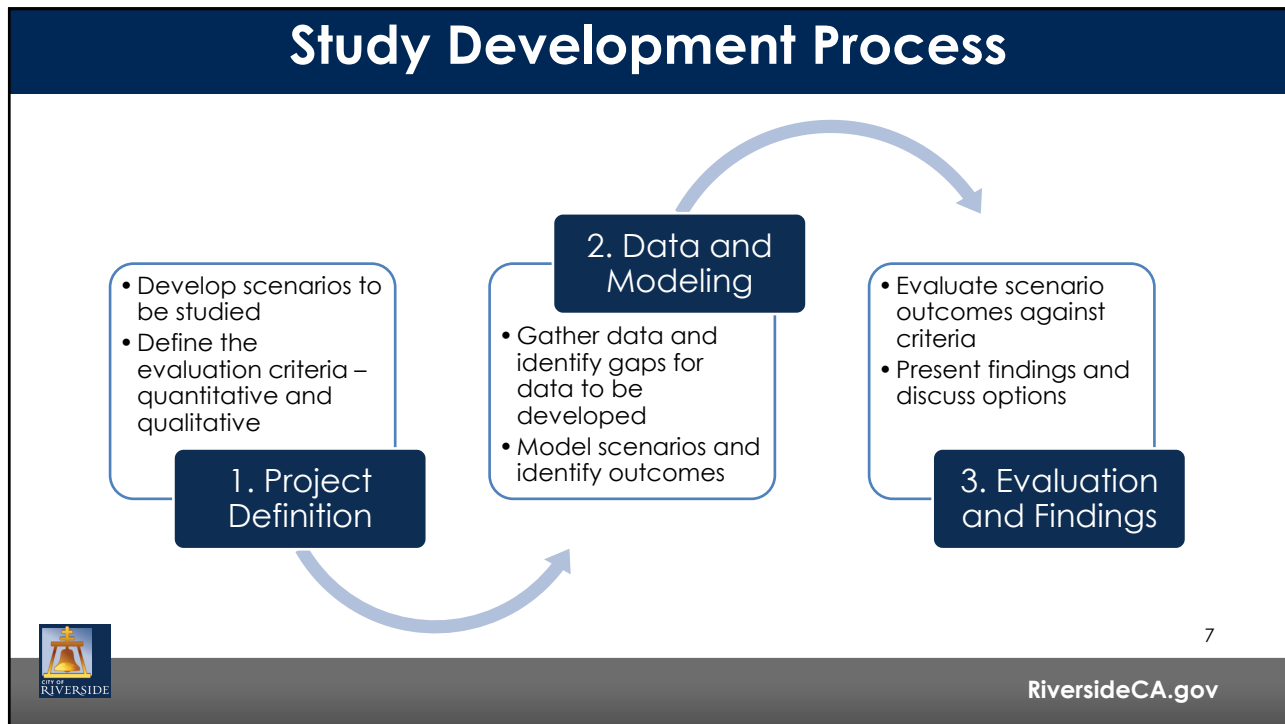
- How will this affect customer rates and costs?
- Can't everyone or RPU install solar in the City and then be 100% clean?
- Why do we need RTRP and transmission?
- Will there be enough generation to support bldg./transp. electrification?
- Will we have reliable electricity in the future with all of the planned growth?
- What is going to happen to RPU's power plants?



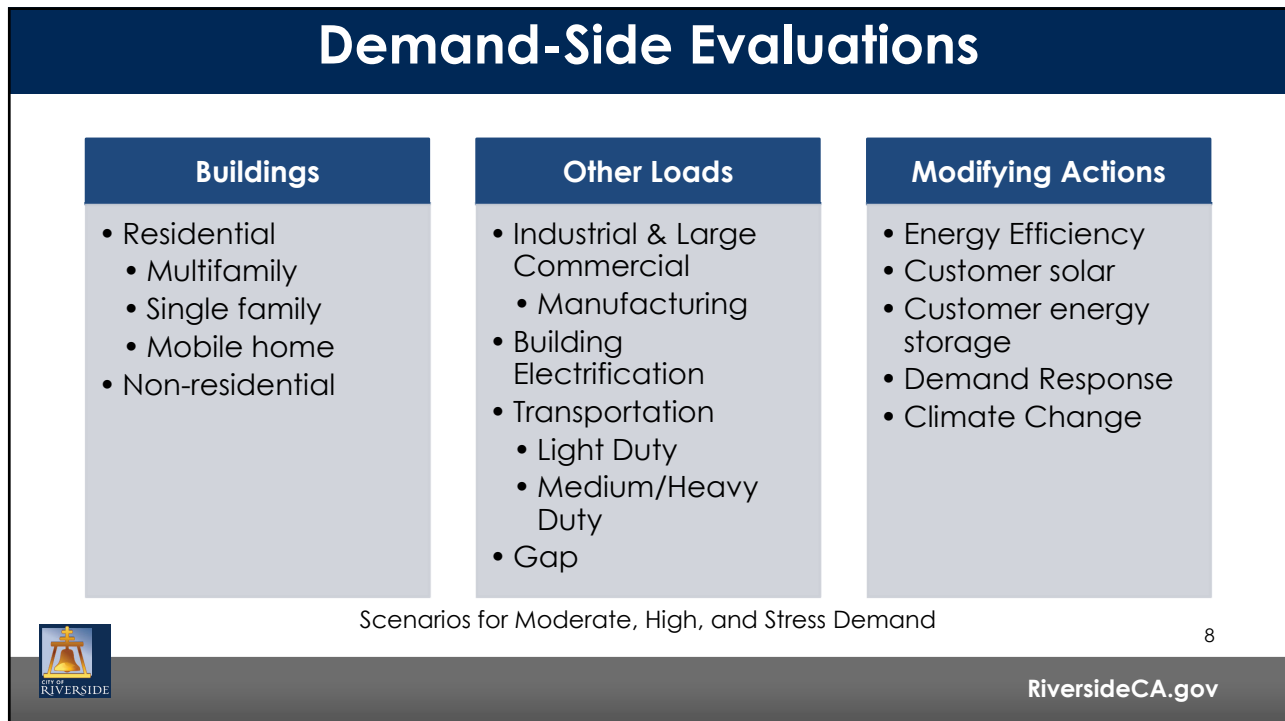
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# Supply Side and Grid Evaluations

## Utility Options for Local Solar and Storage

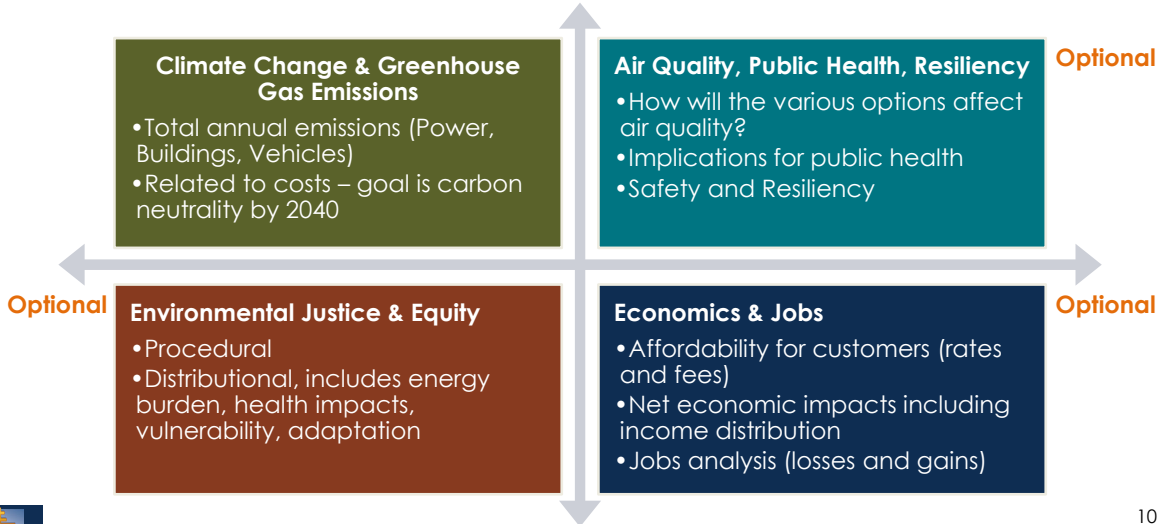
- Local/In service territory generation and storage
- Feed-in Tariff

## Renewable Energy Investments & Operations

- Resource Planning and Adequacy
- Optimize RTRP
- Short- and long-term energy storage (supporting seasonal shift of storage)
- Options for RPU's power plants
- Hydrogen production and use
- Reliability (grid level)

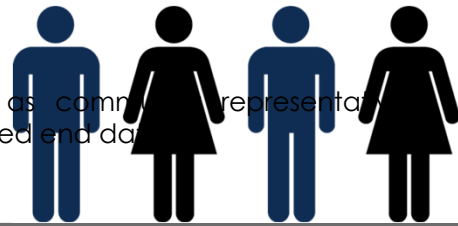


# Community Evaluations



# Stakeholder Working Group

- 1. 3<sup>rd</sup> party** community engagement team (consultants/moderators)
- 2. Utilize throughout the process**
  - a. Involve from the start to the end including scenario definition
  - b. Quarterly meetings – though possibly more often based on shorter timeline
- 3. Organized and formed through the Board**
  - a. Representation from wide variety of organizations – neighborhood representation, environmental justice interests, climate interests, business, housing/affordability, ratepayer, Council/Board, universities, other organizations/stakeholders
- 4. Clear role, intent and authority**
  - a. Initial meetings establish their purpose, role as community representatives, defined comment/input only authority, established end date



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# Project Tasks and Fiscal Breakdown

Task/Subtask	Year 1 Budget	Year 2 Budget	Total Budget
<b>Task 1: Project and Data Management</b>	\$650,296.42	\$636,217.72	\$1,286,514.14
<b>Task 2: Advisory Group</b>	\$373,502.71	\$455,935.86	\$829,438.57
<b>Task 3: Loads and Distributed Solar</b>	\$1,749,148.27	\$1,499,660.15	\$3,248,808.42
<b>Task 4: Supply/Grid</b>	\$988,360.42	\$1,085,827.72	\$2,074,188.14
<b>Task 5: Communication, Presentations, and Final Report</b>	\$259,721.13	\$484,119.58	\$743,840.71
<b>Total Statement of Work</b>	<b>\$4,021,029</b>	<b>\$4,161,761</b>	<b>\$8,182,790</b>
<b>10% Contingency</b>			<b>\$818,310</b>
<b>Total Fiscal Impact</b>			<b>\$9,001,100</b>



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# NREL Project Team Introduction



Douglas J. Arent  
Executive Director,  
Strategic Public-Private Partnerships



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# Strategic Plan Alignment



## Priority 4 – Environmental Stewardship

**Goal 4.1:** Rapidly decrease Riverside's carbon footprint by acting urgently to reach a zero-carbon electric grid with the goal of reaching 100% zero-carbon electricity production by 2040 while continuing to ensure safe, reliable and affordable energy for all residents.

**Goal 4.6:** Implement the requisite measures to achieve citywide carbon neutrality no later than 2040.

### Cross-Cutting Threads



Community Trust



Fiscal Responsibility



Sustainability & Resiliency



Equity



Innovation



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## Recommendations

That the Land Use, Sustainability, and Resiliency Committee recommend that the City Council:

1. Approve the Funds-In Agreement - Nonfederal Sponsor for the development of the Riverside Accelerating Clean Energy by 2040 (RACE/2040) Study with the United States Department of Energy facility contractor, Alliance for Sustainable Energy, LLC, manager and operator of the National Renewable Energy Laboratory, for a two-year period in the amount of \$8,182,790;
2. Authorize 10% change order authority in the amount of \$818,310, for a total contract not-to-exceed amount of \$9,001,100, for any additional service hours to support project completion;
3. Authorize the City Manager, or designee, to execute the Agreement and any additional documents necessary for the agreement, including amendments and extensions, and making minor and non-substantive changes to the agreement; and
4. With at least five affirmative votes, authorize a supplemental appropriation of \$9,001,100 from the Public Benefits Undesignated Reserve (511 Fund) to a new account number as established by the Finance Department for the Riverside Accelerating Clean Energy by 2040 Study.



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