

# **SB 350**

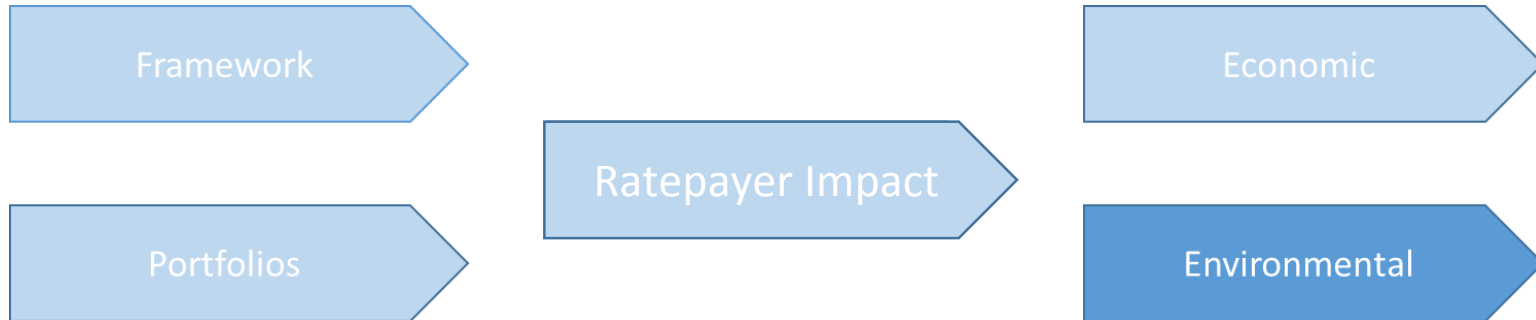
# **Environmental Study Plan**

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# SB 350 Study Process

- You are here:



# Agenda

- **Topics to be covered**
  - Environmental Study Methodology Overview
  - Scenarios and Modeled Build-Outs
  - Potential Indicators of Impacts
  - Initial Screening for Disadvantaged Communities
- **Key areas for stakeholder input**
  - Appropriate range of topics
  - Feedback on potential indicators of impacts

# Methodology Overview

- **Region of Study**
  - California
  - Rest of West
- **Sector Modeling Results**
  - Renewable Energy Solutions (RESOLVE)
  - Production Cost Simulation

# Methodology Overview

- **Three basic steps**
  - 1. Describe the regulatory setting and baseline environmental conditions, using GIS tools to focus on sensitive locations**
  - 2. Analyze build-out(s) for adverse effects on the environment or a potential to exacerbate an impaired baseline environmental condition**
  - 3. Recommend steps to take or indicators that can be monitored to mitigate potential environmental impacts**

# Scenarios and Modeled Build-Outs, Part 1

- **Renewable Energy Solutions (RESOLVE):** identifies opportunities for infrastructure
  - Locations identifiable by resource zone
  - MW capacity and type of new added generation resources and storage
  - New high-voltage transmission system additions between zones

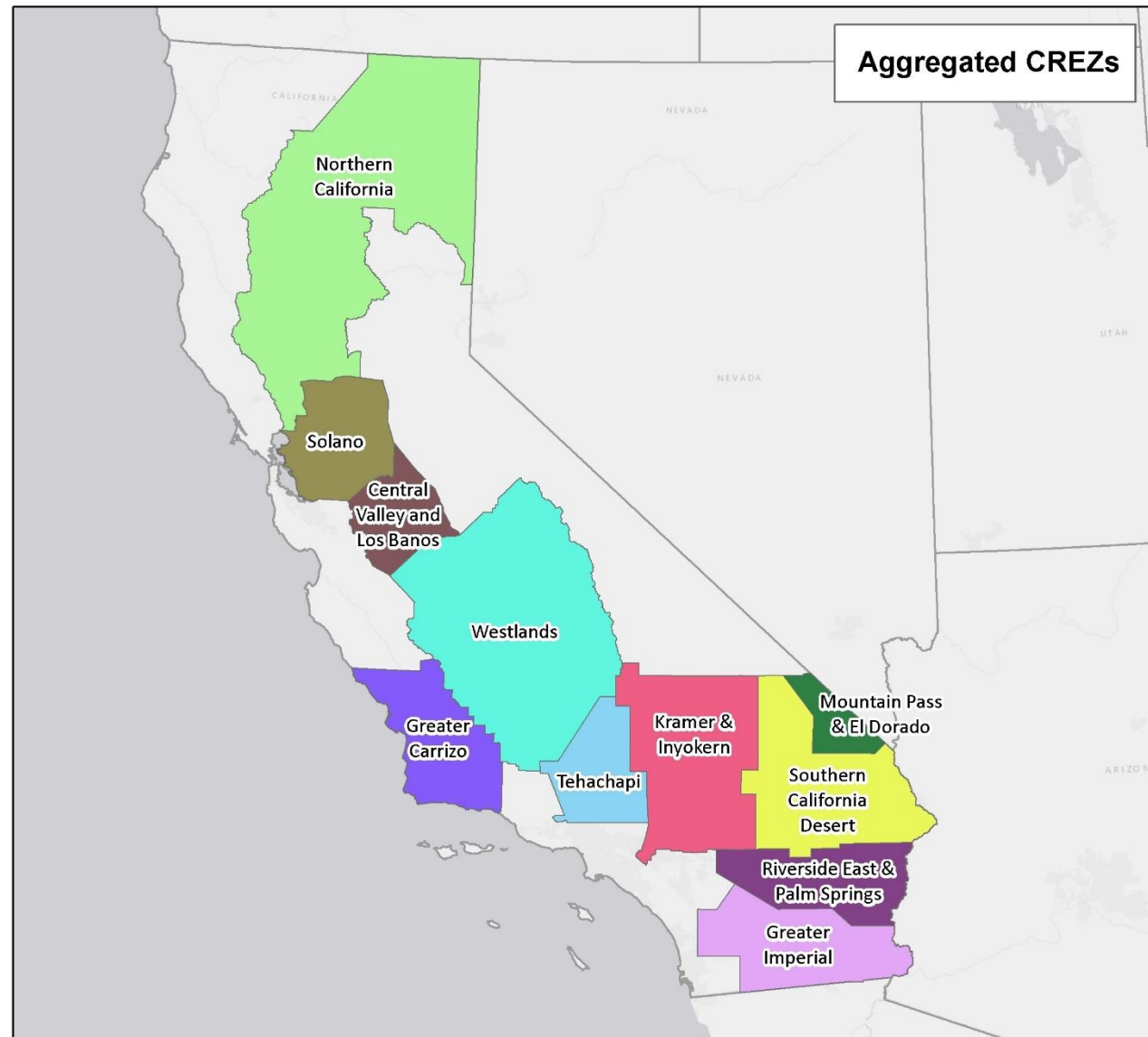
# Scenarios and Modeled Build-Outs, Part 2

- **Production Cost Simulation: identifies potential changes in system operation of generation**
  - Locations identifiable by unit but will be aggregated
  - MWh produced and/or displaced by generation or transmission additions
  - Fuel type(s) used and type of generating unit
  - Emissions of carbon dioxide (CO<sub>2</sub>) and key criteria air pollutants

# Resource Zones

Opportunities for infrastructure may be grouped into these Aggregated SuperCREZs from RESOLVE.

Results of production cost simulation would also be aggregated.

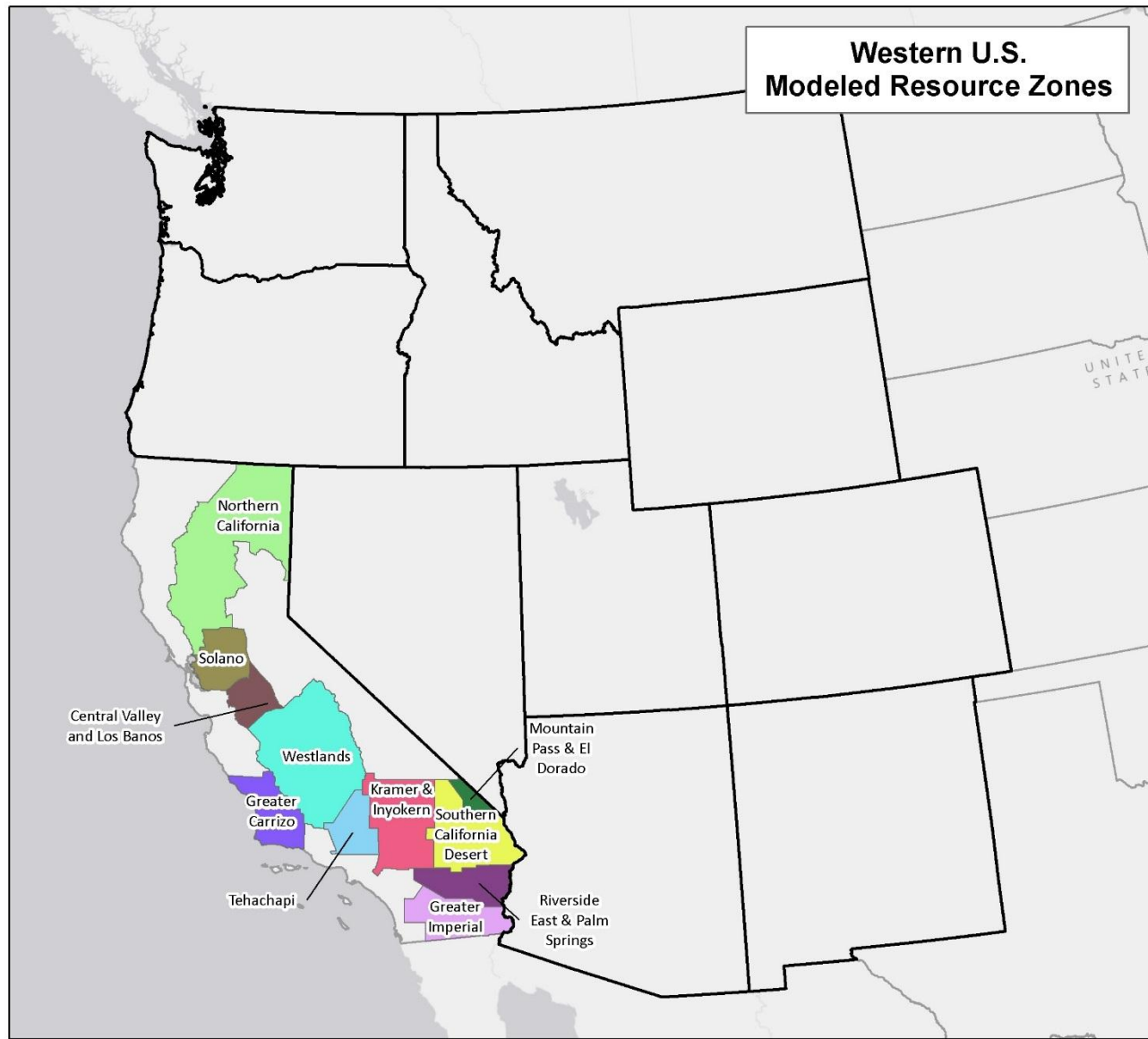




# Resource Zones

As in California, opportunities for infrastructure across rest of west may be grouped into zones.

Some key examples from WREZ Initiative:  
**Arizona West,**  
**New Mexico East,**  
**Wyoming East, and**  
**Oregon South**



# Regulatory Setting

- **High-level review of**
  - Federal Clean Air Act and state programs
  - Clean Power Plan (CPP), §111(d)
  - RPS programs
  - Land Use (CEQA and other western State Environmental Policy Acts)
  - Federal Land Management (NEPA)
  - Endangered Species Act
  - Federal Clean Water Act and state programs
  - Cooling Water Intakes, §316(b)
  - Environmental Justice programs and definition of Disadvantaged Communities

# Environmental Study Topics

- **Proposing to focus on six topics and potential changes between sub-regions or resource zones**
  - 1. Air Quality**
  - 2. Greenhouse Gas Emissions**
  - 3. Land Use and Visual Resources**
  - 4. Biological Resources and Ecology**
  - 5. Water Supply**
  - 6. Disadvantaged Communities**

# Potential Indicators of Impacts

- **1. Air Quality**

- Addition of fossil fuel generation capacity
- Changing fossil fuel consumption and emissions inside a zone with nonattainment conditions
- Shifting fossil fuel MWh production into a zone having more severe nonattainment conditions
- Changing MWh production towards coal or natural gas in mapped disadvantaged communities

# Potential Indicators of Impacts

- **2. Greenhouse Gas Emissions**
  - Changing fossil fuel consumption and emissions across entire study region
  - Changing MWh production towards coal or natural gas across entire study region

# Potential Indicators of Impacts

- **3. Land Use and Visual Resources**

- Addition of generation or transmission affecting areas designated as sensitive or special use, or areas where development is constrained or precluded
- Generation or transmission in or near tribal land areas
- Generation or transmission in constrained areas managed as sensitive visual resources (e.g., wilderness, National Parks, scenic highways)
- Generation or transmission affecting farm lands

# Potential Indicators of Impacts

- **4. Biological Resources and Ecology**
  - Addition of generation or transmission in locations more likely to be considered sensitive
  - Potential changes in generation resource mix that would affect local biological resources
  - Shifting the potential for land disturbance into a zone where likely to affect sensitive biological communities

# Potential Indicators of Impacts

- **5. Water Supply**

- Addition of thermal generation capacity in a zone of constrained groundwater availability or substantial groundwater depletion
- Changing MWh production towards solar and increasing the use of water for construction dust control and ongoing panel washing in a zone of low groundwater availability
- Changing MWh production towards technologies that may have greater cooling water demands and cooling water losses



# Potential Indicators of Impacts

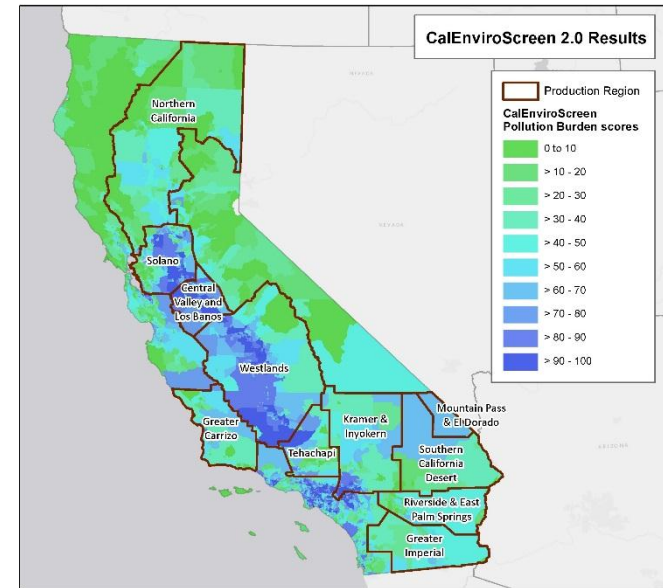
- **6. Disadvantaged Communities**
  - Addition of generation or transmission in locations disproportionately burdened by or vulnerable to pollution
  - Addition of transmission that may negatively alter the physical character and land uses within disadvantaged communities
  - Potential changes in adverse health effects, to the extent identifiable as a result of changes in emissions
  - Potential changes in water demand in communities dependent on groundwater for other productive use

# Disadvantaged Communities

- **Identify communities, consistent with federal and State policy (SB 535)**
  - **In CA, we propose to use CalEnviroScreen 2.0 (the California Communities Environmental Health Screening Tool)**
    - **Two types of indicators, without measure of race/ethnicity**
      - **Pollution Burden: potential exposures to pollutants and the adverse environmental conditions caused by pollution**
      - **Population Characteristics: biological traits, health status, or community characteristics that can result in increased vulnerability to pollution**
  - **For Rest of West use U.S. EPA's EJSCREEN**

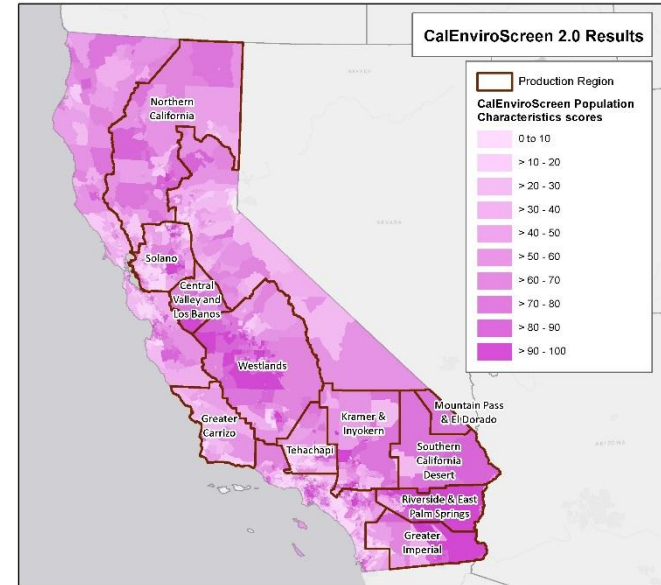
# Screening Communities for Pollution Burden

- Scores for exposure and environmental effect indicators
  - Air pollution
  - Toxic releases
  - Pesticide use
  - Traffic density
  - Drinking water
  - Groundwater threats
  - Hazardous waste facilities



# Screening Communities for Population Characteristics

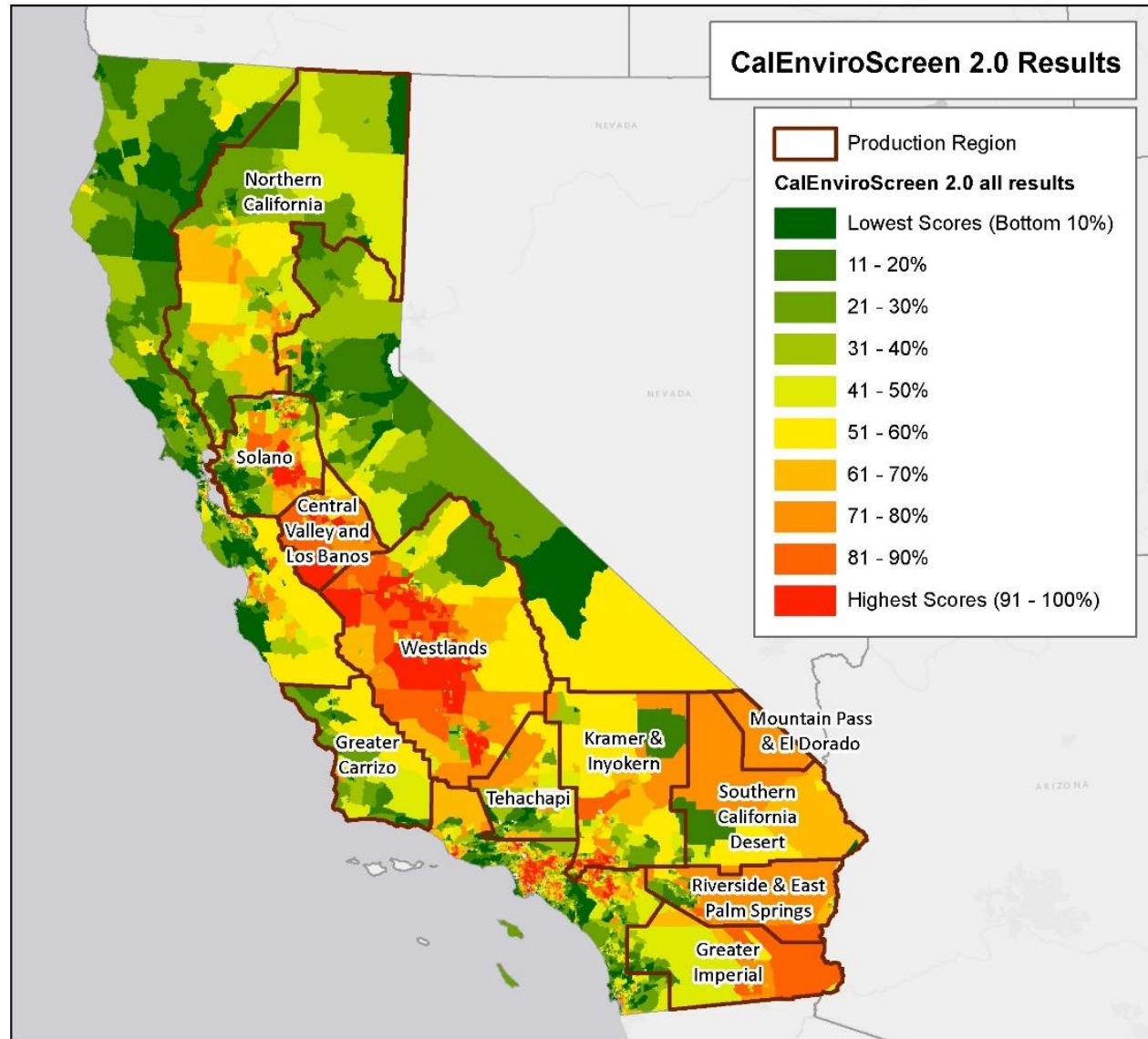
- Scores for sensitive population and socioeconomic factor indicators
  - Children or elderly
  - Asthma rates
  - Low birth weights
  - Educational attainment
  - Linguistic isolation
  - Poverty
  - Unemployment



# Overall Result of CalEnviroScreen

## Combination of Pollution Burden and Population Characteristics

Shows the CalEnviroScreen 2.0 score for each census tract; calculated by combining 19 individual indicators.  
(Source: OEHHA, Nov 2015)



# Next Steps: Stakeholder Input

- **Key areas for stakeholder input**
  - **Appropriate range of topics**
  - **Feedback on potential indicators of impacts**
- **Q&A**