



ELECTRIC POWER
RESEARCH INSTITUTE

DER-VET Task Force

ESIC Working Group 1: Grid Services and Analysis

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Giovanni Damato | EPRI

January 14, 2021



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- To allocate customers/suppliers/territories;
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Agenda

- Installing DER-VET Video
- DER-VET GUI Validation
- CalEnviroScreen

Installing DER-VET 1.0

DER-VET Validation

DER-VET

DER-VETHomeProject OverviewModel ComponentsSummary

Overview

Technologies

PV: Installation 1

Battery: BESS 1

Services

Site Information

Reliability

Finances

Miscellaneous Inputs

External Incentives

Retail Tariff

Scenario Analysis

State of Health

106 %

State of Health must be between 0 and 100 (inclusive)

Include Housekeeping Calculations?

Yes

No

Include Housekeeping Power" – Apply a constant AC power consumption that does not discharge the battery directly. This is usually associated with HVAC requirements and keeping all equipment on.

Cost Function

Capital Cost

-33 \$

Capital Cost must be >= 0

What is the capital cost for the storage system?

Capital Cost per kW

ee \$ / kW

Capital Cost per kW must be a number

What is the capital cost per kW for the storage discharge power capacity?

Capital Cost per kWh

250 \$ / kWh

What is the capital cost per kWh for the storage energy capacity?

Fixed O&M Costs

1e4 \$ / kW-year

What is the cost of fixed operations and maintenance for

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DER-VET

DER-VETHomeProject OverviewModel ComponentsSummary

Overview

Technologies

PV: Installation 1

Battery: BESS 1

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Scenario Analysis

Battery Storage: Cycle Life Curve

Specify the cycle life curve for this battery.
Cycle Depth Upper Limit must be a number between 0 and 1 (inclusive)
Cycle Life Value must be a number greater than or equal to 0

Cycle Depth Upper Limit	Cycle Life Value	
0.05	75000	remove
0.1	40500	remove
1.5	2250	remove
2	-33	remove

+ Add Cycle

Save

There are errors with 2 rows in the table.

Save and Continue >>

DER-VET

DER-VET

HomeProject OverviewModel ComponentsSummary

Overview

Technologies

PV: Installation 1

Battery: BESS 1

Services

Site Information

Reliability

Finances

Miscellaneous Inputs

External Incentives

Retail Tariff

Scenario Analysis

11	10	12	1	8			1	0.054152	Energy	Winter Offpeak
12	10	12	9	21			1	0.062392	Energy	Winter Peak
13	10	12	22	24			1	0.054152	Energy	Winter Offpeak
14	10	12	1	24			0	0.054152	Energy	Winter Weekend
15	1	12	1	24			2	7.016	Demand	Demand Charge
16	6	3	1	24			0	3.33	Energy	

Add Billing Period

Import Tariff

Export Tariff

There are errors with 1 row in the table.

Done Adding Billing Periods

DER-VET

DER-VETHomeProject OverviewModel ComponentsSummary

Overview

Technologies

Battery: my battery

Services

Site Information

Finances

Miscellaneous Inputs

External Incentives

Scenario Analysis

Decomissioning Cost

!

\$

Decomissioning Cost is required

The cost to decommission Battery when it has reached its expected lifetime end

Salvage Value

-

!

↕

Salvage Value is required

Applies a financial benefit in the last year of the analysis window if the resource is not beyond its end of life. **Sunk Cost** means that there is no end of analysis value (salvage value = 0), **Linear Salvage Value** which will calculate salvage value by multiplying the technology's capital cost by (remaining life/total life), or **User Defined** to specify the exact salvage value of the technology.

Technology Escalation Rate

!

%

Technology Escalation Rate is required

The rate at which the Battery's cost increases or decreases in cost each year. A negative value indicates the technology is decreasing in cost over time. A value equal to the inflation rate indicates that the real cost of the technology is constant.

MACRS Term

!

↕

years

MACRS Term is required

Which MACRS GDS category does Battery fall into?

Save

There are errors on the page.

Save and Continue >>

DER-VET

DER-VETHomeProject OverviewModel ComponentsSummary

- Replaceable? is required
- Technology Escalation Rate is required

Errors in Services Components

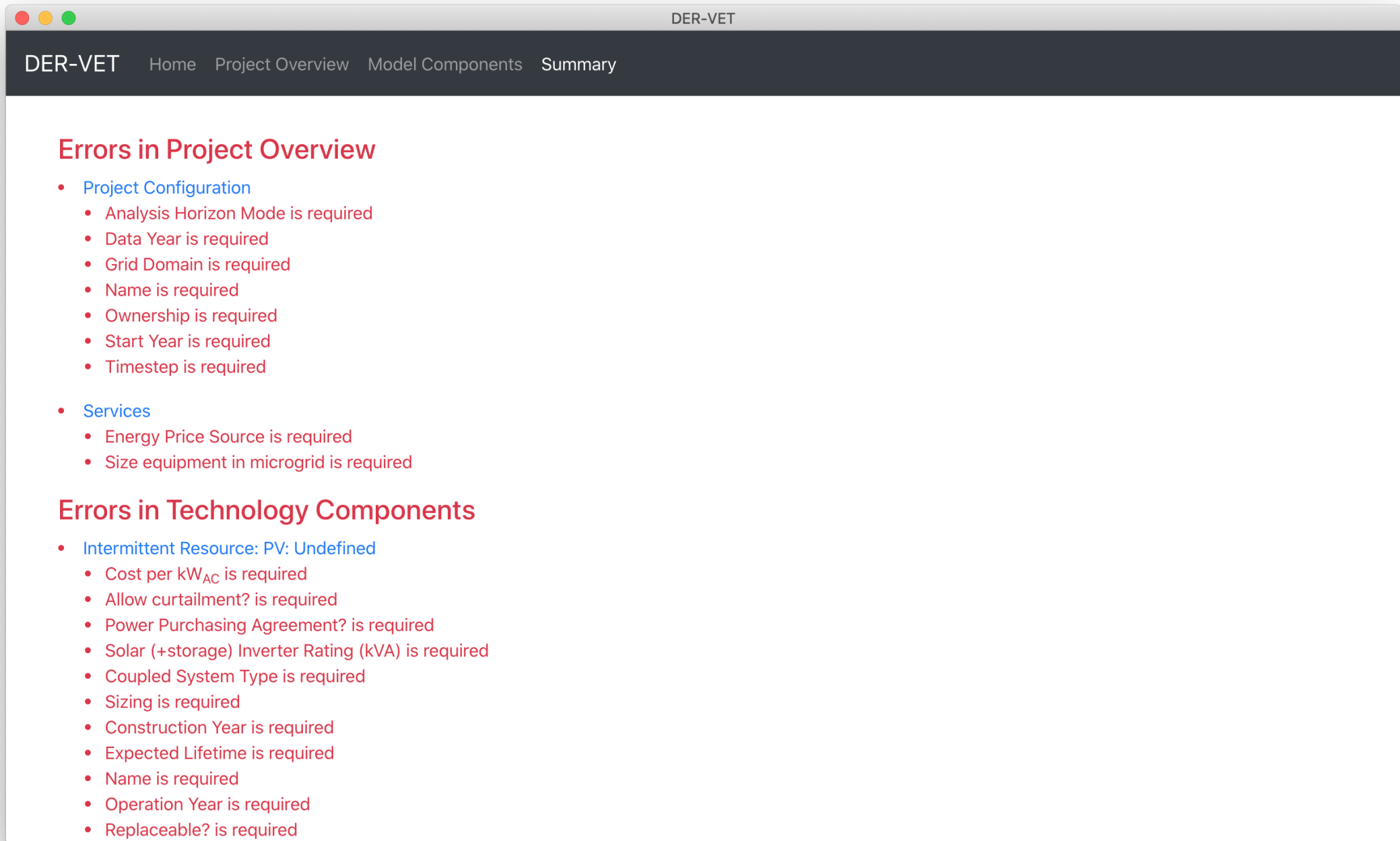
- Site Information
 - Apply interconnection constraints is required

Errors in Finances Components

- Miscellaneous Inputs
 - Discount Rate (for discounted cash flow analysis) is required
 - Federal Tax Rate is required
 - Inflation Rate is required
 - Property Tax Rate is required
 - State Tax Rate is required
- Retail Tariff
 - There are no billing periods specified.

Project Configuration

Project Name	
Start Year	
Analysis Horizon	
Analysis Horizon Mode	



DER-VET

DER-VETHomeProject OverviewModel ComponentsSummary

Errors in Project Overview

Project Configuration: Not Started

Services: Not Started

Technology Specifications: Not Started

Errors in Services Components

Site Information: Not Started

Errors in Finances Components

Miscellaneous Inputs: Not Started

Project Configuration

Project Name	
Start Year	
Analysis Horizon	
Analysis Horizon Mode	
Data year	
Grid Data	

DER-VET CalEnviroScreen

DER-VET

DER-VETHomeProject OverviewModel ComponentsSummary

Project Configuration

Services

Technology Specifications

CalEnviroScreen

CalEnviroScreen

CalEnviroScreen is a mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. It uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. To find the approximate impact of your project, enter your zip code below. For more information, please visit [CalEnviroScreen homepage](#).

Zip code

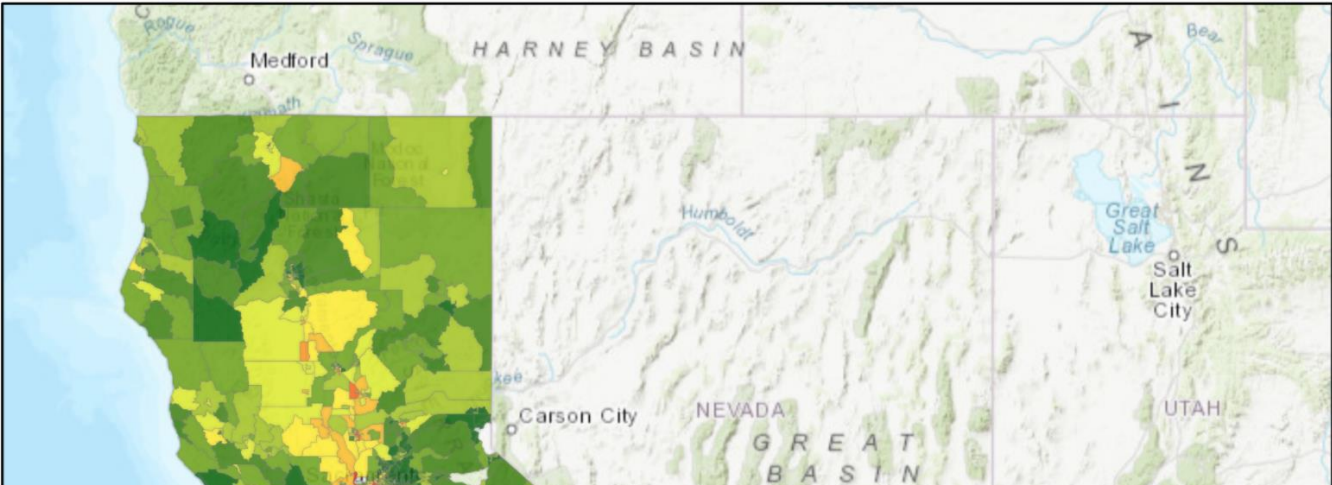
333

!

Go

Zip code must be five digits

CalEnviroScreen 3.0 Results (June 2018 Update)

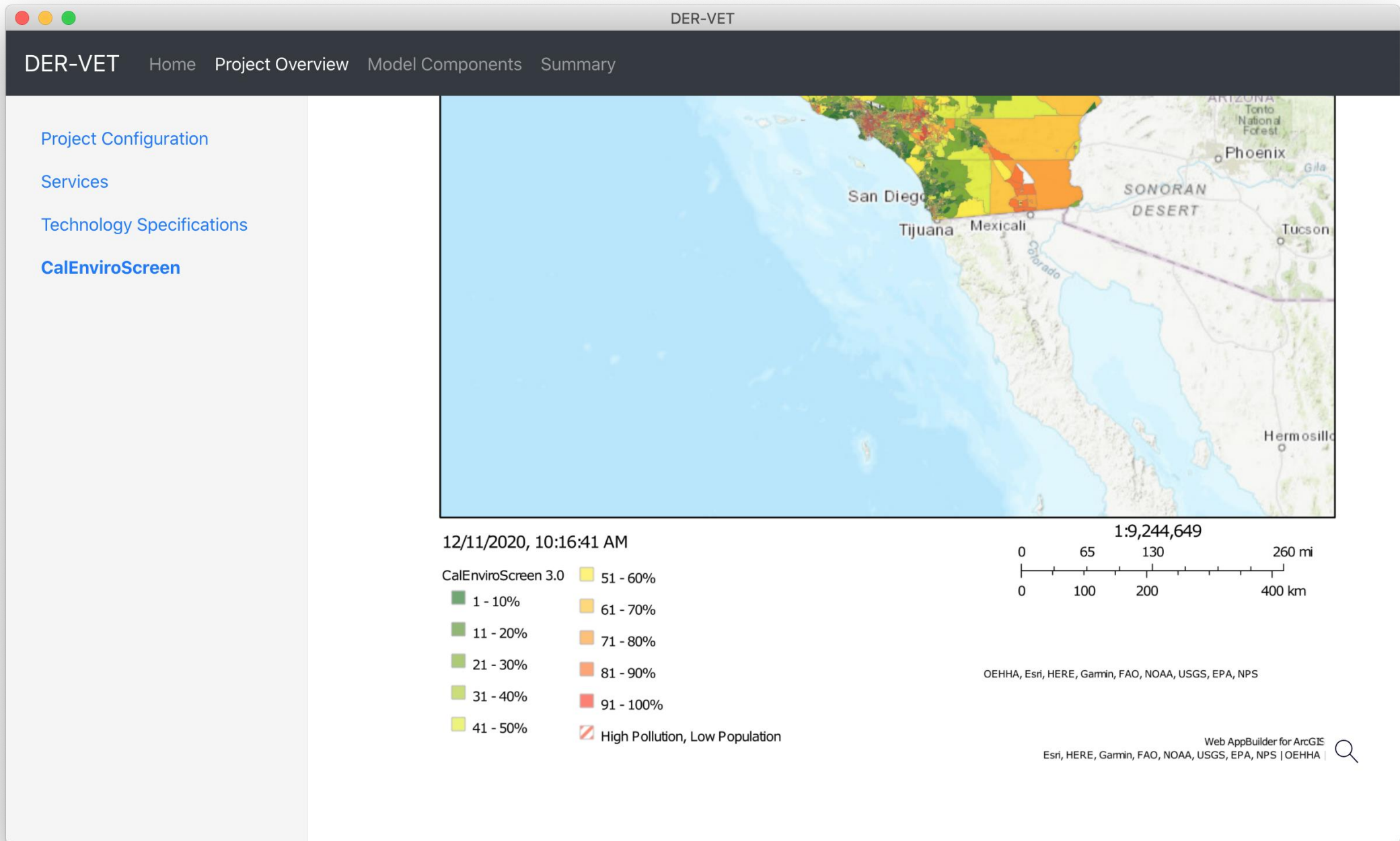


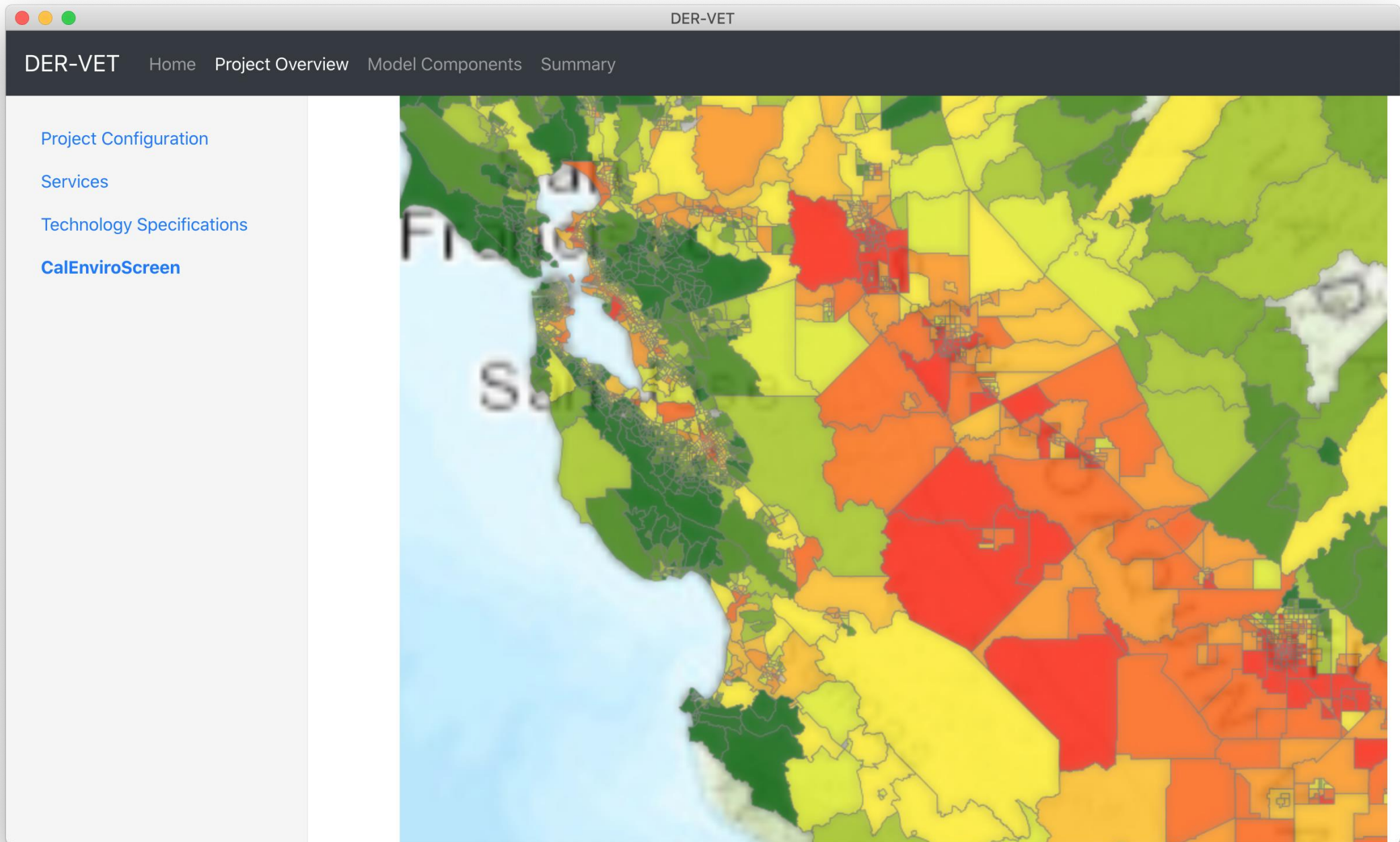
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Summary

Dispatch

Design

Financial

Reliability

CalEnviroScreen

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Zip code

Go

CalEnviroScreen scores for the census tracts in zip code **94612**:

Census Tract	CES Score
6001402700	40.23
6001402800	38.17
6001403400	29.99
6001402900	26.65

CalEnviroScreen 3.0 Results (June 2018 Update)



Next Meeting

Regularly-Scheduled Meetings

- **Next Meeting – Thursday February 4, 11:00 am Pacific Time**

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