| DOCKETED | |
|------------------|--|
| Docket Number: | 23-PSDP-01 |
| Project Title: | Power Source Disclosure Program - 2022 |
| TN #: | 250458 |
| Document Title: | Calpine Solutions 2022 PSD Redacted |
| Description: | N/A |
| Filer: | Bryan White |
| Organization: | Calpine Energy Solutions, LLC |
| Submitter Role: | Applicant |
| Submission Date: | 6/1/2023 3:13:42 PM |
| Docketed Date: | 6/1/2023 |

2022 POWER SOURCE DISCLOSURE ANNUAL REPORT For the Year Ending December 31, 2022

Retail suppliers are required to use the posted template and are not allowed to make edits to this format. Please complete all requested information.

GENERAL INSTRUCTIONS

| RETAIL SUPPLIER NAME | | | | | | | | |
|--------------------------------|---------------------------|--|--|--|--|--|--|--|
| Calpine Energy Solutions, LLC | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| CA Power Mix | | | | | | | | |
| | CONTACT INFORMATION | | | | | | | |
| NAME | Greg Bass | | | | | | | |
| | | | | | | | | |
| TITLE | Regulatory Director | | | | | | | |
| MAILING ADDRESS | 401 West A St., Suite 500 | | | | | | | |
| CITY, STATE, ZIP | San Diego, CA 92101 | | | | | | | |
| PHONE | 619-684-8199 | | | | | | | |
| EMAIL | greg.bass@calpine.com | | | | | | | |
| WEBSITE URL FOR PCL POSTING | calpinesolutions.com | | | | | | | |

Submit the Annual Report and signed Attestation in PDF format with the Excel version of the Annual Report to PSDprogram@energy.ca.gov. Remember to complete the Retail Supplier Name, Electricity Portfolio Name, and contact information above, and submit separate reports and attestations for each additional portfolio if multiple were offered in the previous year.

NOTE: Information submitted in this report is not automatically held confidential. If your company wishes the information submitted to be considered confidential an authorized representative must submit an application for confidential designation (CEC-13), which can be found on the California Energy Commissions's website at https://www.energy.ca.gov/about/divisions-and-offices/chief-counsels-office.

If you have questions, contact Power Source Disclosure (PSD) staff at PSDprogram@energy.ca.gov or (916) 639-0573.

2022 POWER SOURCE DISCLOSURE ANNUAL REPORT SCHEDULE 1: PROCUREMENTS AND RETAIL SALES For the Year Ending December 31, 2022 Calpine Energy Solutions, LLC CA Power Mix

Instructions: Enter information about power procurements underlying this electricity portfolio for which your company is filing the Annual Report. Insert additional rows as needed. All fields in white should be filled out. Fields in grey auto-populate as needed and should not be filled out. For EIA IDs for unspecified power or specified system mixes from asset-controlling suppliers, enter "Unspecified Power", "BPA", or "Tacoma Power" as applicable. For specified procurements of ACS power, use the ACS Procurement Calculator to calculate the resource breakdown comprising the ACS system mix. Procurements of unspecified power must not be entered as line items below unspecified power will be calculated automatically in cell N9. Unbundled RECs must not be entered on Schedule 1; these products must be entered on Schedule 2. At the bottom portion of the schedule, provide the other electricity end-uses that are not realial sales including, but not limited to transmission and distribution losses or municipal street lighting. Amounts should be in megawatt-hours.

 Retail Sales (MWh)

 Net Specified Procurement (MWh)

 Unspecified Power (MWh)

 Procurement to be adjusted

 Procurement to be adjusted

 Net Specified Natural Gas

 Net Specified Nuclear, Large Hydro, Renewables, and ACS Power

 1,412,909

 GHG Emissions (excludes grandfathered emissions)

 1,856,964

 GHG Emissions Intensity (in MT CO₂e/MWh)

 0.3377

| | DIRECTLY DELIVERED RENEWABLES | | | | | | | | | | | | |
|---|-------------------------------|----------------------|-------------------|--------|---------------|---------------------|-----------------------|---------------|---------------------|------------------------------|--|--|-----------------------------|
| Facility Name | Fuel Type | State or Province | WREGIS ID | RPS ID | N/A | EIA ID | Gross MWh Procured | MWh Resold | Net MWh Procured | Adjusted Net MWh Procured | GHG Emissions Factor (in MT CO ₂ e/MWh) | GHG Emissions (in MT COge) | N/A |
| Arlington Energy Center III, LLC - Arlington III | Solar | CA | W13876 | 64745A | | 57680 | 123767 | Restord | 123,767 | 123,767 | cogenintinj | - | |
| Blythe Solar 110, LLC - BLY110-B01 Block 1 | Solar | CA | W4880 | 60878A | | 60093 | 110153 | - | 110.153 | 110,153 | | | |
| Blythe Solar 110, LLC - BLY110-B02 Block 02 | Solar | CA | W4953 | 60878A | | 60093 | 104483 | | 104,483 | 104,483 | | - | |
| Blythe Solar 110, LLC - BLY110-B03 Block 03 | Solar | CA | W4954 | 60878A | | 60093 | 82346 | - | 82,346 | 82,346 | | - | |
| Calabasas Gas-to-Energy Facility - CGTEF | Biomass & biowaste | CA | W1376 | 60866A | | 57163 | 28641 | - | 28,641 | 28,641 | 0.0043 | 122 | |
| Geysers Power Plant - Calistoga Power Plant | Geothermal | CA | W486 | 60117A | | 50066 | 2763 | - | 2.763 | 2,763 | 0.0366 | 101 | |
| Geysers Power Plant - Calpine Geothermal Unit 11 | Geothermal | CA | W119 | 60025A | | 286 | 2737 | - | 2,737 | 2,737 | 0.0366 | 100 | |
| Geysers Power Plant - Calpine Geothermal Unit 12 | Geothermal | CA | W120 | 60004A | | 286 | 4471 | - | 4,471 | 4,471 | 0.0366 | 164 | |
| Geysers Power Plant - Calpine Geothermal Unit 13 | Geothermal | CA | W121 | 60005A | | 286 | 8566 | - | 8,566 | 8,566 | 0.0366 | 314 | |
| Geysers Power Plant - Calpine Geothermal Unit 14 | Geothermal | CA | W122 | 60026A | | 286 | 14548 | - | 14,548 | 14,548 | 0.0366 | 533 | |
| Geysers Power Plant - Calpine Geothermal Unit 16 | Geothermal | CA | W123 | 60006A | | 286 | 27114 | - | 27,114 | 27,114 | 0.0366 | 993 | |
| Geysers Power Plant - Calpine Geothermal Unit 17 | Geothermal | CA | W124 | 60007A | | 286 | 44617 | - | 44,617 | 44,617 | 0.0366 | 1.634 | |
| Geysers Power Plant - Calpine Geothermal Unit 18 | Geothermal | CA | W125 | 60008A | | 286 | 13250 | - | 13,250 | 13,250 | 0.0366 | 485 | |
| Geysers Power Plant - Calpine Geothermal Unit 20 | Geothermal | CA | W126 | 60009A | | 286 | 6222 | - | 6,222 | 6,222 | 0.0366 | 228 | |
| Geysers Power Plant - Sonoma/Calpine Geyser | Geothermal | CA | W127 | 60010A | | 510 | 3552 | - | 3,552 | 3,552 | 0.0366 | 130 | |
| Golden Hills A - Golden Hills A | Wind | CA | W4800 | 62804A | | 60049 | 124962 | - | 124,962 | 124,962 | - | - | |
| Lake Mathews - MWD Lake Mathews | Eligible hydro | CA | W5510 | 60545A | | 6644 | 828 | - | 828 | 828 | - | - | |
| MM West Covina - MM West Covina 2 | Biomass & biowaste | CA | W442 | 60478A | | 54015 | 16611 | - | 16,611 | 16,611 | 0.0050 | 82 | |
| MM West Covina - MM West Covina, LLC | Biomass & biowaste | CA | W440 | 60478A | | 54015 | 23054 | - | 23,054 | 23,054 | 0.0050 | 114 | |
| Mohave County Wind Farm LLC - White Hills | Wind | AZ | W10999 | 64321A | | 63114 | 139394 | - | 139,394 | 139,394 | - | - | |
| Red Mountain - MWD Red Mountain | Eligible hydro | CA | W473 | 60625A | | 484 | 403 | - | 403 | 403 | - | - | |
| San Dimas - MWD San Dimas | Eligible hydro | CA | W5515 | 60547A | | 6646 | 4034 | - | 4,034 | 4,034 | - | - | |
| Sanborn Solar 1A - Sub Project S1 - Edwards Sanborn S1 | Solar | CA | W12674 | 64741A | | 64879 | 102395 | - | 102,395 | 102,395 | - | - | |
| Total Energy Facility - TEF - GEN 1 | Biomass & biowaste | CA | W866 | 60633A | | 10091 | 1272 | - | 1,272 | 1,272 | 0.0563 | 72 | |
| Total Energy Facility - TEF - GEN 4 | Biomass & biowaste | CA | W3412 | 60633A | | 10091 | 1186 | - | 1,186 | 1,186 | 0.0563 | 67 | |
| Total Energy Facility - TEF - GEN2 | Biomass & biowaste | CA | W867 | 60633A | | 10091 | 1272 | - | 1,272 | 1,272 | 0.0563 | 72 | |
| Total Energy Facility - TEF - GEN3 | Biomass & biowaste | CA | W868 | 60633A | | 10091 | 1272 | - | 1,272 | 1,272 | 0.0563 | 72 | |
| Yorba Linda - MWD Yorba Linda | Eligible hydro | CA | W5516 | 60548A | | 6647 | 6247 | - | 6,247 | 6,247 | - | - | |
| | | | | | | | | | - | | #N/A | | |
| | | | | | | | | | - | | #N/A | | |
| | | | | | | -AND-SHAPE | ED IMPORTS | | | | | | |
| | | Ct-t- | | | EIA ID of | EIA ID of | C | | | | GHG Emissions | | Eligible for |
| Facility Name | Fuel Type | State or Province | WREGIS ID | RPS ID | REC Source | Substitute Power | Gross MWh Procured | MWh Resold | Net MWh Procured | Adjusted Net MWh Procured | Factor (in MT CO ₂ e/MWh) | GHG Emissions (in MT CO ₂ e) | Grandfathered Emissions? |
| Facility Name | Wind | CO | WXE0151D W3157 | 62246A | | Unspecified I | 105.053 | | | 105,053 | 0.4280 | | No |
| Limon Wind - Limon Wind I Limon Wind II - Limon Wind II. LLC | Wind | co | W3157 W3158 | 62246A | 58120 | Unspecified I | 94,947 | - | 105,053 | 94,947 | 0.4280 | 44,963 40,637 | No |
| | Wind | OR | W3158 W1458 | 60944A | 55989 | Unspecified I | 39,008 | | 39,008 | 94,947 39,008 | 0.4280 | 40,037 | No |
| Vansycle II - Vansycle II | VVIII C | UR | 1400 | MHHROD | 00989 | onspecified (| 38,008 | - | 59,008 | 39,008 | U.4280 #N/A | 10,090 | NO |
| | | | | | | | | | - | - | #N/A #N/A | | |
| | 1 | | | | | | | | - | - | #N/A | | |

SPECIFIED NON-RENEWABLE PROCUREMENTS

| | | State or | | | | | Gross MWh | | Net MWh | Adjusted Net MWh | GHG Emissions Factor (in MT | GHG Emissions | |
|-----------------|-------------|----------|-----|-----|-----|--------|-----------|------------|----------|------------------|--------------------------------|---------------------------|-----|
| Facility Name | Fuel Type | Province | N/A | N/A | N/A | EIA ID | Procured | MWh Resold | Procured | Procured | CO ₂ e/MWh) | (in MT CO ₂ e) | N/A |
| Big Creek No. 3 | Large hydro | CA | | | | 319 | 84,796 | - | 84,796 | 84,796 | - | - | |
| Balch #1 PH | Large hydro | CA | | | | 217 | 703 | | 703 | 703 | - | - | |
| Balch #2 PH | Large hydro | CA | | | | 218 | 2,458 | | 2,458 | 2,458 | - | - | |
| Belden | Large hydro | CA | | | | 219 | 1,885 | | 1,885 | 1,885 | - | - | |
| Bucks Creek | Large hydro | CA | | | | 220 | 746 | | 746 | 746 | - | - | |
| Butt Valley | Large hydro | CA | | | | 221 | 807 | | 807 | 807 | - | - | |
| Caribou 1 | Large hydro | CA | | | | 222 | 621 | | 621 | 621 | - | - | |

| Caribou 2 | Large hydro | CA | | | | 223 | 3,086 | | 3,086 | 3,086 | - | - | |
|--|-------------|-----|-----|---------|-----------|------------|---------------|------------|----------|------------------|---|---------------------------|-----|
| Cresta | Large hydro | CA | | | | 231 | 1,697 | | 1,697 | 1,697 | - | - | |
| Drum #1 | Large hydro | CA | | | | 235 | 447 | | 447 | 447 | - | - | |
| Drum #2 | Large hydro | CA | | | | 236 | 2,833 | | 2,833 | 2,833 | - | - | |
| Electra | Large hydro | CA | | | | 239 | 3,645 | | 3,645 | 3,645 | - | - | |
| Haas | Large hydro | CA | | | | 240 | 1,879 | | 1,879 | 1,879 | - | - | |
| James B Black | Large hydro | CA | | | | 249 | 3,492 | | 3,492 | 3,492 | - | - | |
| Kerckhoff #2 PH | Large hydro | CA | | | | 682 | 3,327 | | 3,327 | 3,327 | - | - | |
| Kings River | Large hydro | CA | | | | 254 | 821 | | 821 | 821 | - | - | |
| Pit 1 | Large hydro | CA | | | | 265 | 1,163 | | 1,163 | 1,163 | - | - | |
| Pit 3 | Large hydro | CA | | | | 266 | 1,222 | | 1,222 | 1,222 | - | - | |
| Pit 4 | Large hydro | CA | | | | 267 | 2,984 | | 2,984 | 2,984 | - | - | |
| Pit 5 | Large hydro | CA | | | | 268 | 5,162 | | 5,162 | 5,162 | = | - | |
| Pit 6 | Large hydro | CA | | | | 269 | 2,282 | | 2,282 | 2,282 | - | - | |
| Pit 7 | Large hydro | CA | | | | 270 | 2,390 | | 2,390 | 2,390 | - | - | |
| Poe | Large hydro | CA | | | | 272 | 3,592 | | 3,592 | 3,592 | = | - | |
| Rock Creek | Large hydro | CA | | | | 275 | 2,662 | | 2,662 | 2,662 | - | - | |
| Salt Springs | Large hydro | CA | | | | 279 | 1,378 | | 1,378 | 1,378 | - | - | |
| Stanislaus | Large hydro | CA | | | | 285 | 2,335 | | 2,335 | 2,335 | - | - | |
| Tiger Creek | Large hydro | CA | | | | 287 | 2,463 | | 2,463 | 2,463 | - | - | |
| NID-Chicago Park | Large hydro | CA | | | | 412 | 1,107 | | 1,107 | 1,107 | - | - | |
| Mid-C Hydro - Priest Rapids & Wanapum Dams (Grant County P | Large hydro | WA | | | | 3887 | 989 | | 989 | 989 | - | - | |
| | _ | | | PROCURE | MENTS FRO | M ASSET-CC | NTROLLING SUP | PLIERS | | | | | |
| | | | | | | | Gross MWh | | Net MWh | Adjusted Net MWh | GHG Emissions | GHG Emissions | |
| Facility Name | Fuel Type | N/A | N/A | N/A | N/A | EIA ID | Procured | MWh Resold | Procured | Procured | Factor (in MT CO ₂ e/MWh) | (in MT CO ₂ e) | N/A |
| Bonneville Power Administration (BPA) - ACS | Other | | | | | BPA | | | 30,771 | 30,771 | 0.0160 | 492 | |
| | | | | | | | | | | - | #N/A | | |
| | | | | | | | | | | - | #N/A | | |
| | | | | | | | | | | - | #N/A | | |
| END USES OTHER THAN RETAIL SALES | MWh | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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2022 POWER SOURCE DISCLOSURE ANNUAL REPORT SCHEDULE 2: RETIRED UNBUNDLED RECS For the Year Ending December 31, 2022 Calpine Energy Solutions, LLC CA Power Mix

INSTRUCTIONS: Enter information about retired unbundled RECs associated with this electricity portfolio. Insert additional rows as needed. All fields in white should be filled out. Fields in grey auto-populate as needed and should not be filled out.

| | | Total Retired U | Inbundled RECs | 112,058 |
|---|-----------------|----------------------|----------------|------------------------|
| RETIRED UNE | UNDLED RECS | | | |
| Facility Name | Fuel Type | State or Province | RPS ID | Total Retired (in MWh) |
| Bear Mountain Wind Park - Bear Mountain Wind Park | Wind | BC | 61051A | 56172 |
| Campbell Hill - Campbell Hill | Wind | WY | 61017A | 1600 |
| CED Lost Hills Solar, LLC - Fron ier Solar | Solar | CA | 62516A | 367 |
| Dunlap I - Dunlap I | Wind | WY | 61188A | 1200 |
| Foundation Cemex BMQ North - Foundation Cemex BMQ North | Wind | CA | 62264A | 978 |
| Foundation Cemex BMQ South - Foundation Cemex BMQ South | Wind | CA | 62265A | 939 |
| Foundation Cemex Madison - Cemex - Madison | Wind | CA | 62252A | 1058 |
| Foundation Cemex River Plant - Foundation Cemex River Plant | Wind | CA | 62262A | 1446 |
| Glenrock I - Glenrock I | Wind | WY | 60805A | 7640 |
| High Plains - High Plains | Wind | WY | 60899A | 1800 |
| Nine Mile HED - Nine Mile HED | Hydro | WA | 60497A | 856 |
| Nine Mile HED 2 - Nine Mile HED 2 | Hydro | WA | 60497A | 1,913 |
| Rolling Hills - Rolling Hills | Wind | WY | 60806A | 1,600 |
| RPUWD Cooley Pumping Station - Cooley - Riverside Public Utilities | Solar | CA | 63073A | 149 |
| RPUWD Garner Pumping Station - Garner Well 7 - Riverside Public U ilities | Solar | CA | 63072A | 381 |
| RPUWD Scheuer Wells - Riverside Public Utilities | Solar | CA | 63074A | 703 |
| Three Peaks - Three Peaks | Solar | UT | 63608A | 10,656 |
| Top of the World - Top of the World | Wind | WY | 61199A | 2,400 |
| Total Energy Facility - TEF - GEN 1 | Biomass & biowa | CA | 60633A | 1,912 |
| Total Energy Facility - TEF - GEN 4 | Biomass & biowa | CA | 60633A | 4,976 |
| Total Energy Facility - TEF - GEN2 | Biomass & biowa | CA | 60633A | 3,088 |
| Total Energy Facility - TEF - GEN3 | Biomass & biowa | CA | 60633A | 5,661 |
| Weed Cogen - Weed Powerhouse | Biomass & biowa | CA | 60501A | 1,204 |
| Wright Solar Park - Wright Solar Park | Solar | CA | 62620A | 3,359 |
| | | | | |
| | | | | |
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2022 POWER SOURCE DISCLOSURE ANNUAL REPORT SCHEDULE 3: POWER CONTENT LABEL DATA For the Year Ending December 31, 2022 Calpine Energy Solutions, LLC CA Power Mix

Instructions: No data input is needed on this schedule. Retail suppliers should use these auto-populated calculations to fill out their Power Content Labels.

| | Adjusted Net Procured (MWh) | Percent of Total Retail Sales |
|------------------------|--------------------------------|----------------------------------|
| Renewable Procurements | 1,239,168 | |
| Biomass & Biowaste | 73,308 | |
| Geothermal | 127,840 | |
| Eligible Hydroelectric | 11,512 | |
| Solar | 523,144 | |
| Wind | 503,364 | |
| Coal | - | 0.0% |
| Large Hydroelectric | 142,970 | |
| Natural gas | - | 0.0% |
| Nuclear | - | 0.0% |
| Other | 30,771 | |
| Unspecified Power | | |
| Total | | 100.0% |
| | | |

Total Retail Sales (MWh)

GHG Emissions Intensity (converted to lbs CO2e/MWh)

744

| Percentage of Retail Sales Covered by Retired Unbundled | 2.00/ |
|---|-------|
| RECs | 2.0% |

2022 POWER SOURCE DISCLOSURE ANNUAL REPORT ATTESTATION FORM For the Year Ending December 31, 2022 Calpine Energy Solutions, LLC CA Power Mix

I, Greg Bass, Regulatory Director,

declare under penalty of perjury, that the information provided in this report is true and correct and that I, as an authorized agent of Calpine Energy Solutions, LLC, have authority to submit this report on the retail supplier's behalf. I further declare that all of the electricity claimed as specified purchases as shown in this report was sold once and only once to retail customers.

but

Name: Greg Bass

Representing (Retail Supplier): Calpine Energy Solutions, LLC

Signature: Ang Cass Dated: 06/01/2023 Executed at: San Diego, CA