

**Frequently Asked Questions (FAQ) for
California Utility Allowance Calculator (CUAC) submissions to TCAC**

General Guidance - CUAC Submission Requirements

1. What are TCAC's submission requirements for projects requesting the use of CUAC utility allowances?

A list of documentation requirements is available on the TCAC website:

<http://www.treasurer.ca.gov/ctcac/cuac/requirements.pdf>

<http://www.treasurer.ca.gov/ctcac/cuac/fee.pdf>

2. What are the required qualifications for preparing a CUAC?

TCAC requires that the signing consultant must be CABEC CEA-qualified and, for field verification, a certified HERS Rater.

3. Is there a list of active CEAs and HERS Raters?

Yes. Please check with the California Association of Building Energy Consultants (CABEC) for an up to date list of CEAs: <https://cabec.org/>. CalCERTS maintains a HERS Rater directory:

https://www.calcerts.com/Rater_Directory.cfm

4. If one person in our company is a HERS Rater and another is a CABEC certified CEA¹, can we still provide the CUAC services for LIHTC projects?

The person running the analysis and signing the reports must have both qualifications. She or he must be a CABEC-certified CEA and must be a HERS Rater. It is not acceptable to have the two required certifications split between different staff members.

5. Do IRS utility allowance regulations permit owners' own staff be certified to perform the modeling of a tax credit development for use with the CUAC?

No, the IRS regulation states "The utility consumption estimates must be calculated by either a properly licensed engineer or a qualified professional approved by the agency (TCAC) that has jurisdiction over the building (together, qualified professional), and the qualified professional and the building owner must not be related within the meaning of section 267(b) or 707(b)." Thus, employees of a developer would not qualify as permitted qualified professional for purposes of satisfying these requirements.

6. How does the use of the CUAC affect tenant rents?

If the CUAC results in a lower utility allowance compared to the local public housing authority utility allowance, tenant rents typically increase by the same amount.

7. How does using a utility allowance schedule impact the determination of the gross rents for tax credit developments?

The use of the appropriate utility allowance amounts is crucial in the determination of gross rents under IRC Section 42 regulations for purposes of complying with the maximum gross rent limits as established by HUD annually. If a tax credit project owner were to utilize the incorrect

¹ "CABEC" is the California Association of Building Energy Consultants. "CEA" means Certified Energy Analyst.

utility allowance amounts at a tax credit project, this could result in a gross rent violation which is a reportable event to the IRS on Form 8823.

8. Is TCAC the responsible entity for obtaining the applicable utility allowance for tax credit projects?

No, it is the owner's responsibility to contact the appropriate entity (PHA, utility company, HUD, or RD) to request the most current utility allowance information. TCAC does not collect or maintain the various utility allowance schedules. Failure to maintain or provide the utility allowance schedules and supporting documentation on an annual basis is considered noncompliance.

Applicability

9. Which tax credit developments can use a utility allowance schedule using an energy consumption model (the CUAC)?

At this time, TCAC is restricting use of the CUAC to:

- **newly constructed projects in the design phase, upon approval**
- **existing tax credit projects with Multifamily Affordable Solar Housing (MASH) program awards that offset tenant area electrical load, upon approval**

10. Can the CUAC be used for rehabilitation applications?

No. The CUAC can only be used by existing tax credit projects with Multifamily Affordable Solar Housing (MASH) program awards that offset tenant area electrical load. Please refer to these submittal requirements: <http://www.treasurer.ca.gov/ctcac/cuac/requirements.pdf> <http://www.treasurer.ca.gov/ctcac/cuac/fee.pdf>. Existing tax credit projects with MASH awards can submit the CUAC as part of a syndication application.

11. Can an existing LIHTC project that originally used the local public housing authority utility allowance schedule now switch to the CUAC?

No, the only existing tax credit buildings that are currently permitted to use the CUAC to set utility allowances are those that added or are adding PV through the MASH program.

12. At what point in a development's timeline should the CUAC analysis be done and submitted to TCAC?

The CUAC report will need to be produced or reproduced at three stages in the life of a project. The CUAC report must be approved by TCAC at all three stages.

- **First, at the point of initial application where the CUAC utility allowance is crucial to the underwriting of a project. This should be the "draft" version of the CUAC utility allowance.**
- **Second, when the project is ready to begin leasing, so that tenants are appropriately charged for rent (submitted to TCAC 60 days prior to the issuance of the certificate of occupancy). This should be the final version of the CUAC utility allowance and represents the project as built rather than as proposed. Please ensure that the HERS Rater verifications are completed prior to submitting to TCAC. A copy of this CUAC report should be included in any placed-in-service package. The quality control process**

must be complete and the CUAC utility allowance(s) approved by TCAC before the CUAC utility allowance(s) are applied to tenant rents. See also Question #29.

- **Third, the final version of the CUAC should be updated annually throughout the TCAC compliance period when tariffs change and/or project alterations have been done. The energy analyst will reproduce the utility allowance using the latest version of the CUAC lookup tables, which will contain the most up-to-date version of the utility company rates. This will bring the utility allowance up-to-date. If there have been no tariff changes or project alterations, the energy analyst must verify this annually via certification to TCAC, but need not produce a duplicate CUAC for the project owner.**

CAUTION: Although TCAC only requires the CUAC to be reviewed at the point the project is placed in service (PIS), it may be important for some projects to have a very accurate CUAC analysis at the application phase. Otherwise there may be a significant negative impact at the PIS stage if any errors in the CUAC analysis (or changes in material or equipment during construction) materially affect the amount of rent and therefore, debt service for the project.

- 13.** I am working on a project that has a central boiler and chiller for space conditioning. The hot and chilled water are circulated in a loop through the building and each apartment has a water-source heat pump attached to the loop. How do I model this in the CUAC?
This is one of the few types of systems with which you cannot use the CUAC. The owner pays for part of the heating and cooling energy (boiler and chiller), and the tenants pay for the rest (heat pump). Since there is no way within EnergyPro to separate the two portions of heating energy or the two portions of cooling energy, there is no defensible way to estimate what the tenants will pay for heating and cooling.
- 14.** I don't want to use the CUAC because some energy-impacting features of my nearly net-zero projects can't be modeled accurately with the CUAC. For example, even with solar panels producing 100% of the matched load, the local housing authority's utility allowance schedule (without solar) is lower than the CUAC estimate. Are the flaws that cause this going to be fixed?
The CEC may be releasing a newer version of the CUAC that improves some features. Some of the difference may be due to a very low utility allowance schedule from the local PHA. Some of the difference may be due to the fact that the CUAC cannot currently accommodate time of use (or other time-variable) rates, and much of a solar system's benefit is to cut (net) usage during peak times. This last issue may be fixed in the next iteration that the CEC will be releasing.
- 15.** Is it acceptable to use the CUAC for only water and sewer rates, and use the public housing authority's utility allowance schedule for all other utilities?
No. You must use the same methodology for the whole utility allowance analysis. You cannot mix-and-match among methodologies for a project's annual utility allowance.
- 16.** If we obtain an audit for the SMUD Multifamily Retrofit Program, will that audit report meet all of TCAC requirements?
There are separate but parallel sets of requirements for modeling and documentation for TCAC's Sustainable Building Measures points and for submittal of CUAC analyses to TCAC. For the former requirements, see the Sustainable Building Method guidance applicable to the

project award year: <http://www.treasurer.ca.gov/ctcac/tax.asp> . For documentation requirements in using the CUAC, download the “Data Collection Spreadsheet” from GoSolar California <http://www.gosolarcalifornia.org/affordable/cuac/index.php>. The audit report for the SMUD program will not likely meet all the TCAC requirements, but it could be submitted as part of the package.

17. We want to include an energy efficiency feature that is not currently addressed in the CEC approved performance software. Is that allowed?
Generally, TCAC only accepts results from analysis programs that are approved by the CEC. However, if a sidebar calculation that would provide an input to the CUAC is well documented and makes sense in the specific situation, it may be allowed at the discretion of the Executive Director.

Software Questions

18. We upgraded to new computers and are now using newer Windows and MS Office software. When I open the CUAC tool I get a message that the lookup tables are not a valid path. Is this a known issue?
Please follow the download instructions on the GoSolar California web site: <http://www.gosolarcalifornia.org/affordable/cuac/index.php>. Downloading Instructions: Create a folder in your C drive and name it ‘CUAC.’ Right-click the link [just above this message on the site] to download the CUAC.zip file into the ‘CUAC’ folder you've just created on your C drive. Unzip the files from the CUAC zip file. This will place the calculator and the look-up tables in the same folder. The CUAC will not work unless the files are in the same folder.
19. In reviewing the CUAC submittal requirements, I see that there is a new version of the CUAC calculator. Does it work differently than the earlier version?
Each iteration of the CUAC includes some changes compared to the previous version(s). You must always check the GoSolarCalifornia web site to ensure you have the most up to date version before modeling your project.

Documentation and Verification

20. What documentation is needed from a HERS Rater to verify “all high efficacy lighting” was installed?
Sample pictures and a signed statement from the HERS Rater stating that all the lighting is high efficacy. A letter from the owner or energy consultant is not sufficient.
21. What suffices as proof that appliances are Energy Star?
There are two options: (1) Sample pictures and a signed letter/report from the HERS Rater. (2) Bill of lading for the appliances that shows the make and model number, and that shows the project address.

22. Are certificates of occupancy (COOs) from the local building department required for verification of any measures?
COOs are not required, but are potentially useful for verifying certain specific energy efficiency features.
23. How should fenestration U-factors and SHGCs be verified?
The best way to verify that the U-factors and SHGCs are as modeled for the CUAC is to provide pictures of the NFRC labels while they are still on the windows. If that is not possible, you can provide the bill(s) of lading showing what windows were delivered to the site, plus a print-out of the NFRC directory showing the U-factor and SHGC for those specific products.
24. For purposes of the CUAC, what verification does TCAC expect for “special features” such as (a) radiant barrier, (b) split high/low attic venting, or (c) combined hydronic space and water heating systems?
All special features must be specifically verified by the building department or the HERS Rater, and documentation of the verification must be submitted with the CUAC analysis.

CUAC Utility Allowance and Housing Authority Utility Allowance Questions

25. Why does the CUAC sometimes give utility allowance estimates that are higher than the local public housing authority’s utility allowance schedule?
The CUAC was designed to provide a more accurate estimate of tenants’ utility costs than any other methodology currently in use. An estimate from the CUAC may be higher than a public housing authority’s schedules while still being more accurate as an average utility cost for the project in question.
26. What if the local public housing authority (PHA) will not accept the CUAC analysis for HUD subsidized units in a project funded with low income housing tax credits (LIHTCs)?
If your project does not have LIHTC funding, it is outside TCAC’s jurisdiction and you are advised not to use the CUAC. If your project is funded with LIHTCs but also has HUD funding or subsidies, it may be possible to get the PHA to accept the CUAC analysis once it has been accepted by TCAC. HUD has granted waivers allowing certain PHAs to permit use of the CUAC for HUD-funded units if the CUAC analysis was submitted to TCAC for approval. Check with your local HUD office for assistance.
27. Since we did not have a CUAC analysis done at the application phase, we will apparently be required to use the higher local housing authority (PHA) utility allowance schedule initially. What is the date upon which we will be able to make an ‘annual switch’ to a CUAC UA schedule? Will that be when the annual TCAC rent adjustment is made? The anniversary of the project’s placed in service date? Or, some other pre-determined annual date?
You would need to submit the CUAC at placed-in-service and TCAC would allow you to switch from the PHA utility allowance schedule to the CUAC alternative on the anniversary date of the project’s placed-in-service date once the CUAC is approved by TCAC.
28. What is the timing of the new utility allowance for LIHTC projects?

The timing of the annual utility allowance should be the start of the month of earliest placed-in-service date (month and day) of all buildings in the project; this would be the appropriate date by which an analyst should deliver an updated, TCAC-approved CUAC utility allowance to the project owner. IRS regulations stipulate a 90 day window in which to implement utility allowance changes at the project level.

29. Since the final approved CUAC utility allowance schedule will likely not be processed and approved in time for lease-up, what version of the CUAC analysis should the developer use for lease-up (before the placed in service package can be prepared)?

As a project approaches completion and some of the apartments are leasing, if an owner does not have a TCAC-approved CUAC-calculated utility allowance schedule based on fully verified project details, then the owner must use the local PHA utility allowance schedule for the initial year. In year two when all units are leased, after the project has been “placed in service,” and all third-party verification inspections have been completed, the owner can then use the final CUAC calculations with the current tariffs.

Under federal rules, TCAC cannot allow tenants to be charged rents using a model based on potentially incorrect assumptions if doing so could result in tenants being over-charged rent (e.g., the estimated utility allowance was too small). Using the PHA’s utility allowance schedule for the first year may mean that tenants’ rents would significantly increase in year two, but that is possible in any case since property owners may switch between utility allowance estimate methods from year to year under federal regulations. The project’s leasing officer should explain the utility allowance to the prospective tenants, and explain that when the utility allowance is re-calculated based on verified data; it may decrease, increasing rents.

Tariffs/Rates

30. I am working on a project in Pasadena but I cannot find their electric tariffs. Can you confirm that Pasadena is included in the CUAC look-up tables?

Pasadena has a municipal electric utility with a very unique structure for its residential tariff. Unfortunately, the current iteration of the CUAC cannot accommodate Pasadena’s tariff structure, and therefore cannot be used for projects in the Pasadena Water and Power service territory.

31. TCAC’s guidance says that we can only use the CARE² rates in our CUAC analysis if (1) we can establish that all tenants will be eligible to be on CARE rates, and (2) we establish a program to assist tenants with signing up for CARE rates. How are we supposed to document that our project meets these two criteria?

Household income limitations of your project must be at least as low as the income limitations for the CARE rates. To document this, provide a printout of the applicable CARE restrictions. To document in the application that you will have a compliant program for assisting tenants

² “CARE” stands for California Alternative Rates for Energy. All California investor owned utilities (IOUs) are required to provide CARE rates for low-income households. The municipal utilities have similar tariffs but they are generally not called “CARE” rates. For simplicity, we also use the term to apply to municipal utilities’ rates.

with signing up for CARE rates, simply affirm that you will and have a company officer sign the affirmation. At the placed in service phase, you will need to more fully describe the CARE program, including any active steps you will take to (a) ensure that every tenant understands their eligibility, and (b) assist those who want to, with completing all the necessary paperwork for the utility companies. During compliance inspections, the TCAC staff may request records of both your outreach efforts and the CARE sign-up status for all tenants.

Photo Voltaic (PV)

32. Can consultants use the EPBB calculator, or some other calculator, instead of the CEC PV Calculator to determine the kWh from PV to enter into the CUAC?

No, the CEC PV Calculator is the only tool approved for calculating the contribution of a PV system when preparing a CUAC analysis.

33. The “new” MASH guidelines require that 50% of the solar benefit from high-incentive MASH projects remain with the tenants. How do we handle this in the CUAC?

To whatever the actual percentage of the PV output is that will serve the common area load, add ½ of the percentage that would actually serve the tenants’ load, and enter that total percentage as the common load percentage on the PV tab in the CUAC. Example: if 20% of PV output will actually serve common area load; enter 60%. $20\% + (\frac{1}{2} \times 80\%) = 60\%$

34. Does the “Common Loads” column on the PV tab of the CUAC refer to the energy used in the common area?

No, it refers to the percentage of PV output allocated to common area loads.

35. If a project is going to have central DHW, do I set the water heating value to “0” in the CEC’s T24 software?

In the T24 software, you should model the building as it actually is; in other words, with the real water heating system. But if tenants do not pay for water heating, as in a central DHW system, simply do not enter any water heating values into the CUAC.

CUAC Quality Control Review

36. Do TCAC’s quality control review procedures apply at the application phase, or just at the placed in service (PIS) phase?

A different review is done at each phase. TCAC staff reviews documentation submitted in support of a CUAC analysis at the application phase and a third party contractor performs a quality control review at the placed in service phase. At the application phase the review consists of comparing the energy model outputs to the values entered into the CUAC to ensure the CUAC calculations are accurate. The unit count and bedroom sizes are also verified. TCAC recommends you take care to eliminate errors at the application phase to avoid having them caught during the placed in service review and potentially affecting eventual debt service and funding. See Question #37 below for information about the quality control review at the placed in service phase.

For existing projects where PV is added through the MASH program, the CUAC analysis and supporting documentation should be submitted to TCAC as early as possible to ensure that accurate utility allowance and rent assumptions adequately inform the financial decision to invest in PV.

37. What is the quality control process?

See Question #36 for the quality control process at the application phase. Placed in service quality control reviews are done by Benningfield Group or Build It Green. The reviewers check to make sure that the inputs to EnergyPro match what is on the building plans and/or verified by HERS Raters. They check to ensure that any energy efficiency measures claimed in the CUAC (e.g., Energy Star appliances, high-efficacy lighting) have been verified by a HERS Rater or other acceptable means, and they review the rest of the documentation that supports claims of energy efficiency and renewable energy. In some cases this could include CEC PV calculator runs and power purchase agreements for solar energy. For a more complete list of what to submit for review, please see <http://www.treasurer.ca.gov/ctcac/cuac/requirements.pdf> . An approval letter is sent once the quality control process is complete.

38. Do TCAC's quality control processes only apply to 4% tax credit projects?

No. Any project that uses the CUAC to develop the estimate of tenants' utility costs is subject to the same quality control processes.

Annual Reviews

39. Would you be able to tell me what information/forms are needed for a CUAC annual renewal?

The complete description of what you need to do and what you need to submit are available at <http://www.treasurer.ca.gov/ctcac/cuac/index.asp> as well as a PowerPoint presentation that covers the steps required.

40. What information is needed for an annual review, and when should it be done?

The purpose of the annual review is to capture any changes that would materially affect tenants' actual energy costs; e.g., changes in local tariffs, changes in HVAC equipment, etc. As long as the building and equipment have not been changed, all you need to do is download the most recent version of the CUAC look-up tables and rerun the analysis using the original project file, click on the Annual Update button, and submit the output. See also Question #12. If the project has undergone alterations since the last update, you will need to create a new ACM (Alternative Compliance Method, which is software such as EnergyPro or Micropas) building model and a new CUAC model. In the CUAC tool, click on Final. Submit the output along with the new ACM model, HERS verification reports, and bills of lading, as appropriate for the specific changes. The updated CUAC utility allowance calculations must be approved by TCAC. You will need to have the annual update available for the TCAC compliance staff when they do their compliance inspections.

41. As an energy consultant, I need to know what kind of documentation I need to get from the developer for me to do a CUAC annual update.

To perform an annual update you will have to contact the client and ask them if there were

any architectural changes, appliance changes, etc. If not, then simply make sure you have the latest version of the CUAC look-up tables and rerun the project, using the Print Annual Update button to produce the utility allowance (see also Question #12). Have the client give you a letter or email stating that there were no material changes that affect energy use, and submit a copy with the update.

If they did make changes to the project that will materially affect tenants' energy use, you will need to create a modified ACM model to represent the "new" design, and then generate a new CUAC analysis. You must request a copy of any documentation that the client has (on the changes made and their verification), and keep them in your records. The updated CUAC utility allowance calculations must be approved by TCAC.

Building Performance Software (ACM) Issues

42. If the local PHA does not include an allowance for cooling in their published utility allowance schedule, can we eliminate cooling energy from our CUAC analyses?

Generally, if you are not installing AC, the answer is "yes." However, if AC is required for comfort and health in your project's location, or you are installing AC, then you must use the estimate of cooling energy produced by your ACM model.

43. Our project will have furnaces with forced air heating. Should we input to the CUAC both the heating kWh and heating Btu's? ...or should we only use the Btu's?

Forced air units that rely on gas for the heat also rely on electricity for the fans. Therefore, you need to enter both the kWh and Btu values.

44. Since our project will have gas heating and gas domestic water heating (DHW), how do we separate the monthly gas usage values into heating and DHW values? Can the ECON-1 be used as the source of data for the monthly energy use of the heating and cooling systems instead of using the hourly CSV energy end-use data?

Using the ECON-1 approach is not appropriate in all circumstances and is somewhat less accurate in even the most appropriate cases. Use the CSV approach when possible.

To separate gas heating and gas DHW monthly values, assume that the apartments are not going to need space heating in June, July and August, and therefore the total gas usage in each of those three months will just be for DHW. Average the gas usage for those three months. That value is a good estimate of the monthly DHW usage for the rest of the year. Subtract that value from all of the other months to obtain a good approximation of the heating energy use in those months. For June, July and August, simply enter the entire gas usage in the DHW section of the CUAC.

Note that a very similar process can be used to separate cooling and DHW energy usage if the fuel source for DHW is electricity. Simply assume that there is no cooling in the months of December, January and February; average the kWh for those three months; and subtract that from the electricity usage for each of the other nine months. The remainder in March through November will be the cooling energy use by month.

45. Using data from CalGreen and manufacturer's cut sheets (for plumbing fixtures), is it okay to modify the water usage assumptions inside the CUAC?

It is permissible in certain instances to modify the water usage assumptions in the CUAC, but manufacturers' cut sheets and the assumptions in CalGreen do not comprise an adequate justification. You are cautioned not to modify the water usage assumption unless you have compelling data for a portfolio of multifamily projects. One example of an adequately robust report is Burbank Water and Power's study on the gallons/day used by multifamily residents versus single family residents. Projects in Burbank's service territory could use this report to reduce the gal/person/day to 33. Another example would be a long term (e.g., 3+ years) set of data showing that occupants of your buildings use X gal/person/day.

46. I am working on a building with heat pumps. The EnergyPro output shows energy use for both heating and cooling. I tried to separate the two functions (heating and cooling) and in both cases ECON-1 shows the highest energy consumption to be in July (heating or cooling) and the lowest to be in January. First, is this a problem with EnergyPro? Second, how do we separate heating cost from cooling costs to satisfy CUAC requirements?

Because so little of the surface area of each apartment is exposed to the outdoors, there is significantly lower heat loss per square foot of conditioned floor area than in single family homes. In many parts of California, this means that there is very little need for additional heat in the winter, and a relatively greater need for air conditioning in the summer. It is not unusual for your heat pumps' greatest energy use to be in July.

For separating heating and cooling energy with a heat pump, we recommend you use the CSVs instead of the ECON-1. See the answer to Question #44 for how to do this.

47. With the CUAC calculator, how do the fans get modeled? Does the fan energy get coupled with the cooling or is it ignored?

For hours when there is only heating, allocate the fan energy to heating.

For hours when there is only cooling, allocate the fan energy to cooling.

For hours when there is both heating and cooling, allocate the fan energy to the function that is predominant that month (i.e., to cooling in the cooling season, to heating in the heating season).

For hours when there is neither heating nor cooling, allocate the fan energy to the function that is predominant that month.

48. Shouldn't the residential performance module be used rather than the ACM module?

For new construction projects, use the ACM module as inputs to the CUAC. For existing projects with MASH awards, use the residential performance module.

49. I noticed that if I am using different versions of EnergyPro (i.e., EP5 versus EP6), I get different results, which in turn affects the analysis in the CUAC. Am I required to use the most current version of EnergyPro?

No. You must use EnergyPro 5 to obtain inputs to the CUAC, even though you will be required to use the current version of EnergyPro to demonstrate compliance with the building code.

50. The project on which I am working has a few buildings with somewhat different configurations. In one building, the heating and cooling is provided through an air-source heat pump, while the hot water is central gas boiler with solar-thermal covering part of the DHW load. In the other buildings, the individual units have combined heating/DHW equipment and no cooling. Can I run this project through the CUAC analysis?

You can, but you will need to make one model for the building with heat pumps and another model for the other buildings. Utility allowances are just for tenant-paid utilities, so in the first building, the DHW data from EnergyPro or Micropas is not entered into the CUAC, since the tenants are not billed for the gas used to make the hot water.

Laundry

51. Our project will have laundry hook-ups in the individual units but we will not be supplying washers and dryers. The energy consultant on the project said that we must assume minimally efficient washers and electric dryers. Is this true?

Yes. If there are washer and dryer hook-ups, assume there will be washers and dryers. You may only assume an Energy Star washer and a gas dryer if you are actually installing them, otherwise you must assume a standard washer and an electric dryer (even if the only available outlet is 110 volts).

52. Does the same answer apply if in addition to the hook-ups in the individual units, there is **also** a complete communal laundry facility in the building?

Yes.