

VALLEY CLEAN ENERGY ALLIANCE

Staff Report – Agenda Item 7

TO: Valley Clean Energy Alliance Community Advisory Committee

FROM: Mitch Sears, Interim General Manager
Gary Lawson, Sacramento Municipal Utility District (SMUD)

SUBJECT: Adoption of Key Criteria for Long Term Renewable Solicitation

DATE: July 30, 2018

RECOMMENDATION

Staff is requesting the Community Advisory Committee (CAC) support the recommendations it will be making to the Board on the key criteria for the Long Term Renewable Solicitation (“Solicitation”) planned for issuance in August.

BACKGROUND

General

In August, staff will release a request for proposals for VCE to procure renewable energy through long-term power purchase agreements that will be executed in VCE’s name. This solicitation is identified in the Action Plan included as a requirement in VCE’s Integrated Resource Plan to be filed with the CPUC by or on August 1, 2018. The number one item in the Action Plan is conducting the Long Term Renewable Procurement. The Action Plan states specifically:

“VCE will be conducting a long-term solicitation in 2018 in which it will be seeking renewable power from RPS-qualifying renewable energy projects, with an expectation that power purchase agreements will be executed in early 2019. In support of the initial solicitation, VCE will:

- Develop criteria/information requests to evaluate new renewables for projects implementing responsible siting practices (both environmental and land use). Develop associated evaluation criteria.
- Develop criteria for acceptable and preferred renewable technologies and locations (e.g. local vs. remote).
- Develop position on procuring out-of-state resources. Develop criteria defining limits on which states VCE will procure long term renewables from.
- Develop a position on the definition of “local” for renewable resource procurement.
- Determine whether to include battery or other storage options in solicitation.
- Develop criteria for assessing the portfolio content of local versus non-local for short-list selection.

- Do a literature review on the economic impacts/value of locally sited renewable resources.

Other Considerations

To put this solicitation in context with VCE's immediate needs, as well as to set expectations for outcomes resulting from this solicitation, here are some facts to keep in mind:

Key Outcome Needed from Solicitation. The primary result needed from this first long-term renewable solicitation for VCE is to begin building its long-term renewable portfolio with low cost renewable resources. VCE currently has no long-term energy supply commitments.

Legal Requirement for Long Term Renewables. VCE needs to have at least 65% of its minimum RPS requirements under long term contract by 2021. 2021 RPS minimum requirements are 34.8% of retail load. Minimum RPS requirements continue to increase each year, so this solicitation should probably target renewables needed to meet the minimum contracting requirements out through 2025, which are at 41.7%. That's 27.11% of retail load, or 206,761 MWh/yr for 2021. So, for a minimum long-term contracted amount, this minimum amount equates to the annual energy output of a 91 MW solar PV plant.

VCE is Likely to Receive Some Attractive, Low-Priced Solar Proposals. Staff expects that some PPA pricing will be more attractive than the cost of purchasing renewables on the short-term market. If this is the case, it may be feasible from the offers received in this solicitation to procure up to VCE's full 42% renewable content. For 2021 this would be a renewable supply of 320,383 MWh, the equivalent energy output of a 141 MW solar PV plant.

Offers for Output from Operating Projects. VCE may receive proposals for projects that are existing and already in commercial operation.

Additional Future Procurements. This initial solicitation will not be VCE's only solicitation for renewable power. Once the base portfolio is procured, VCE can consider future efforts to encourage local renewables development. Various procurement approaches can be used to accomplish this, including a feed-in-tariff, VCE-coordinated efforts to locate developable parcels in each member's community and enlist participating project developers, issuing more targeted solicitations, etc.

Evaluation Methodology. The solicitation will be requesting bidders to submit a lot of information concerning their proposed projects. The solicitation document will not however, provide bidders a defined rating methodology. There will be additional work after the solicitation is issued to build the evaluation methodology and review with the Community Advisory Committee

Criteria for The LT Solicitation

The set of criteria that Staff is requesting the Board approve is a subset of many criteria in the solicitation. The criteria selected generally are those that set the tone and direction for the types of renewable resources that VCE, given its desires for a local emphasis and encouraging sustainable development practices. The balance of the solicitation criteria has been developed over time to increase the likelihood that selected projects have a high likelihood of successfully achieving commercial operation. The criteria staff is requesting consideration for are:

1. Definition of Local Resources
2. Siting Criteria
3. Development Status Criteria
4. Acceptable Technologies
5. Energy Storage
Include in Solicitation (or Not)
Which Technologies
6. Out-of-State Resources
7. Interconnection Status

Additionally, staff recommends that only two policy decisions related to these criteria are needed by the Board. One for the definition of “Local” resources, and a second related to siting criteria with regard to excluding for consideration any project proposed to be constructed on farmland with a prime designation.

Staff does not believe that policy decisions are required at this time for the other criteria. An example of criteria not needing a policy decision at this time relates to whether to accept proposal for out-of-state projects. Staff is recommending that the current planned solicitation be limited to resources located in California only. There may be good reason in the future to request resources from out-of-state. Establishing a Board policy now that states a prohibition against out-of-state renewable resources would require reversing this policy in order to facilitate the follow-up solicitation.

ANALYSIS

The paper included as Attachment 1, Long Term Renewable Solicitation Criteria Discussion, presents discussion on each of the criteria, which won’t be repeated for this staff report, only highlighted, along with the staff recommendations.

1. Definition of Local Resources

Discussion

If the definition of Local is limited to located within Yolo County, resource opportunities won’t be as readily plentiful than if Local were defined as a broader geographical area. Regardless, in the long run to encourage the development of resources within Yolo County additional efforts subsequent to this Solicitation will be required. Those efforts may include Yolo County-only solicitations, direct coordination between land owners and developers, feed-in-tariffs, etc.

Reserving the distinction of “Local” for Yolo County located resources makes sense, particularly if consideration is given to establishing a “Regional” definition, which encompasses resources nearby, but not located within Yolo County.

Recommendation

Staff recommends that the Board adopt a policy defining following resource criteria for location, and that these criteria be included in the Solicitation.

“Local” is defined as any resource located within Yolo County, or nearby Yolo County if having a nexus back to Yolo County (the Indian Valley Hydro Project owned by Yolo County Flood Control and Water Conservation District is an example of a nearby project having a nexus back to Yolo County).

“Regional” is defined as any resource located within the six adjacent counties and including the Geysers Geothermal Resource Area in Sonoma County.

2. Siting Criteria

Discussion

Defining restrictions on the types of lands associated with energy projects that VCE wants to procure is important so that VCE does not procure power from projects that may be proposed for areas:

- a. VCE determines have important land uses to protect, such as prime farm lands;
- b. That increases the likelihood of there being conflicts with sensitive wildlife species, cultural sensitivities, or other environmental issues.

The Renewable Energy Transmission Initiative (“RETI”) was a statewide effort of the CEC, CPUC, utilities, and various stakeholders to identify locations where additional renewable development would be likely to occur. During the RETI development, two categories of lands were identified where renewable resource development should not be encouraged by the addition of new transmission system extensions into those areas.

RETI Category 1 is defined as: Lands where development is prohibited by law or policy;

RETI Category 2 is defined as: Lands which include environmentally sensitive areas where development would be difficult and controversial.

Recommendation

Given the magnitude of land use in Yolo County classified as agricultural, and given the loss of farmlands elsewhere in the state, staff recommends the Board adopt a policy against development of new renewable projects on farmlands classified as prime.

Additionally, staff recommends including in the Solicitation that projects will not pass initial screening if they are proposed for either: prime farmlands; RETI Category 1 (development prohibited) lands; or, RETI Category 2 (potential resource conflicts) lands.

3. Development Status Criteria

Discussion

Projects that are farther into their development cycle are much more likely to achieve commercial operation than projects that are just beginning their development, and will be able to better meet the needed commercial operation date for VCE's portfolio (power needs to be delivered s in 2021).

As such, establishing minimum criteria for development progress will be important.

Recommendation

Staff recommends that the following criteria be placed in the Solicitation as a minimum criteria to pass initial screening:

Project proposers must provide:

Acknowledgment by the relevant land use authority that a permit application has been received.

Evidence of site control.

4. Acceptable Technologies

Discussion

There is no reason to limit acceptable technologies for this solicitation, other than to require that any equipment proposed be a mature listed technology, and that the bidder provide documentation supporting the bankability of the equipment.

Recommendation

Staff recommends that the following acceptable technology criteria be placed in the solicitation document:

Proposers can submit project proposals for any renewable technology and project equipment that is a mature listed technology. Additionally, and the proposer must submit supporting bankability documentation.

5. Energy Storage

Discussion

State law and CPUC rulings require CCA to procure energy storage in a minimum amount equal to 1% of a CCA's forecast 2020 peak load (2.3 MW). Furthermore, each CCA must have this minimum storage capacity online by 2024.

Therefore, inclusion of storage in this renewable solicitation will be important to facilitate VCE's compliance with the legal requirements. Additionally, the most cost-effective storage installations currently are those installations integrated with renewable power projects. Integrated storage systems are eligible for the 30% investment tax credits available for renewable energy projects. Battery systems are the common storage technology used for integration with renewable energy projects.

Recommendation

Staff recommends that the Solicitation include storage, with a limitation of battery storage systems integrated with a renewable project (wind and/or solar).

6. Out-of-State Resources

Discussion

Given that there are ample locations in the state for development of renewable resources, and given that this won't be VCE's only renewable solicitation, there will be opportunity for future consideration of the possible benefits of procuring power from out-of-state projects. There is no reason to seek out-of-state resources for this Solicitation.

Recommendation

Staff recommends that this Solicitation be limited only to proposals from resources located in-state.

7. Interconnection

Discussion

It will be important, for reasons of achieving timely project commercial operation, to require that any project submitted into the Solicitation, have already been enrolled in a generator interconnection process, and that the bidder has requested that the interconnection support deliverability of the full project capacity (called full capacity deliverability status).

Recommendation

Staff recommends that the Board approve a minimum Solicitation criteria requiring that submitted projects already be in an interconnection queue, and that the project has request full capacity deliverability status for its interconnection.

CONCLUSION

Staff is requesting the Community Advisory Committee (CAC) support the recommendations to the Board contained herein.

Attachment 1 – Long Term Solicitation Criteria Discussion

Long Term Renewable Solicitation Criteria Discussion

Definition of Local Resources

It will be necessary to define what “Local” means for resource procurement. If Local resources will be favored, resource providers/developers will want to know the geographic boundaries of the Local area.

Previously we’ve discussed the following three options.

1. Yolo County. Local is limited to within the boundaries of Yolo County.
2. Yolo County Nexus. Local is within Yolo County and outside of the county if there is a nexus back to the county. The Indian Valley Hydro Project is a good example of a project that is Local by nexus. It is owned by Yolo County Flood Control and Water Conservation District, which is another public agency serving Yolo County.
3. Local is within a broader geographic boundary than Yolo County, but still nearby. We’ve discussed possibly including all 6 adjacent counties as Local, which would include Colusa, Sutter, Sacramento, Solano, Napa, and Lake counties, in addition to the Geysers Geothermal Resource Area that spans Lake and Sonoma counties.

Figure 1 shows Yolo County and the adjacent 6 counties. Included are data on existing power plants, provided by the CEC. The Montezuma Hills Wind Resource Area (identified by the light blue wind generator icons) is in Solano County. The Geysers Geothermal Resource Area spans across southwestern Lake County and northeastern Sonoma County.

Limiting “Local” to Options 1 or 2

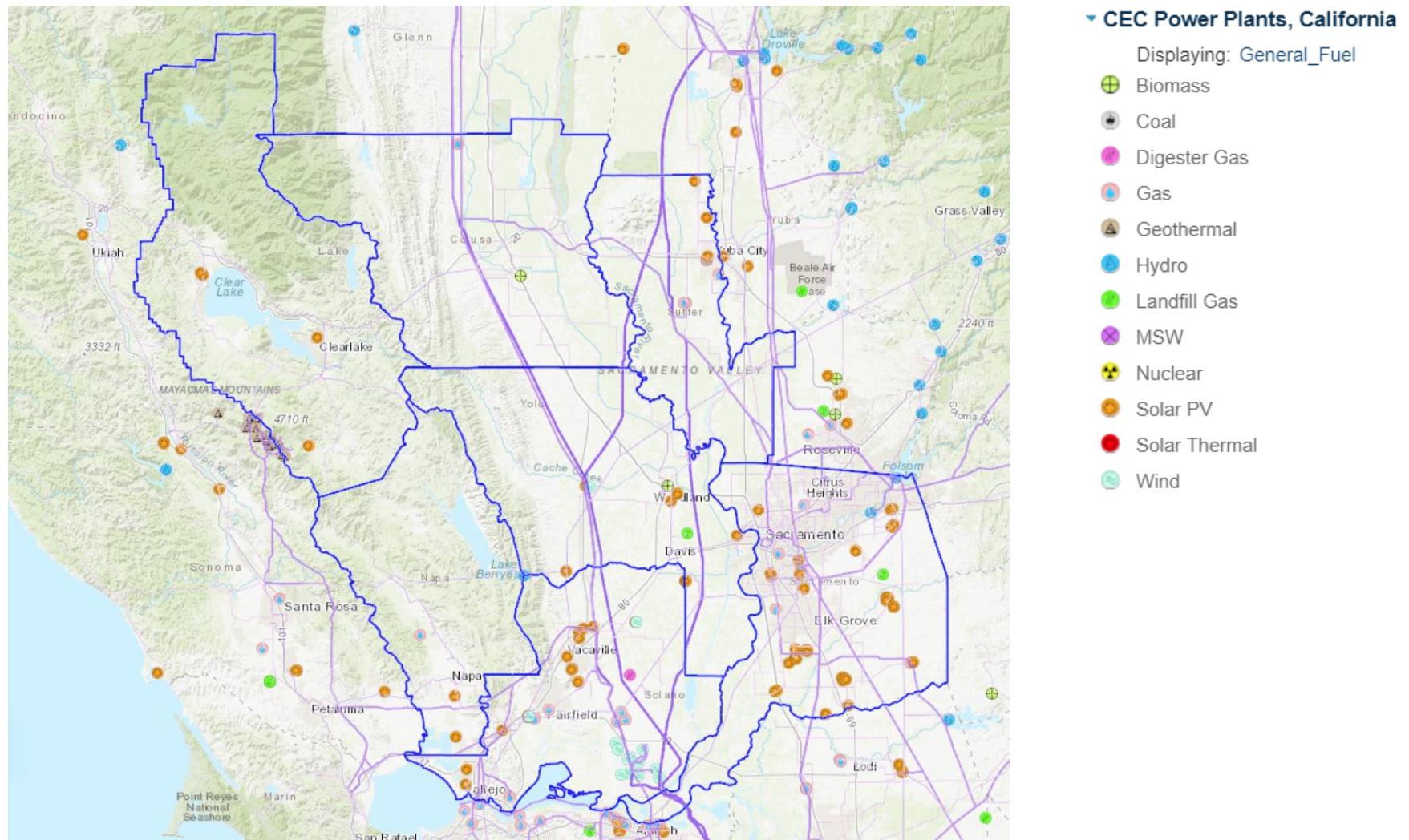
The challenges with defining Local using options 1 or 2, have to do with the land use restrictions that exist in Yolo County.

Figures 2 through 4 show incremental land use restrictions for the following factors:

Prime Farmland
Conservation Easements
Williamson Act

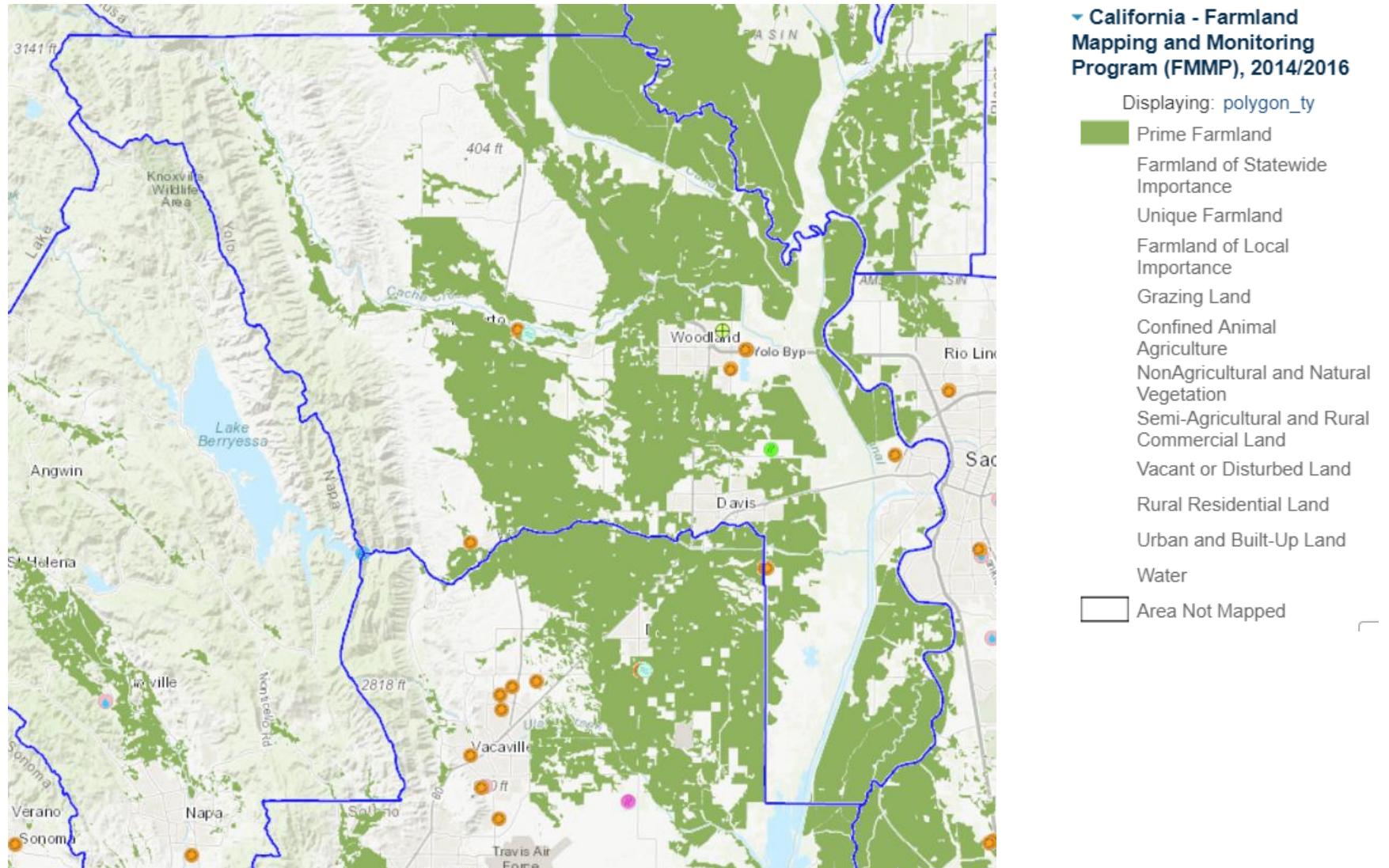
Long Term Renewable Solicitation Criteria Discussion

Figure 1. Yolo and Adjacent Counties with Existing Power Plants



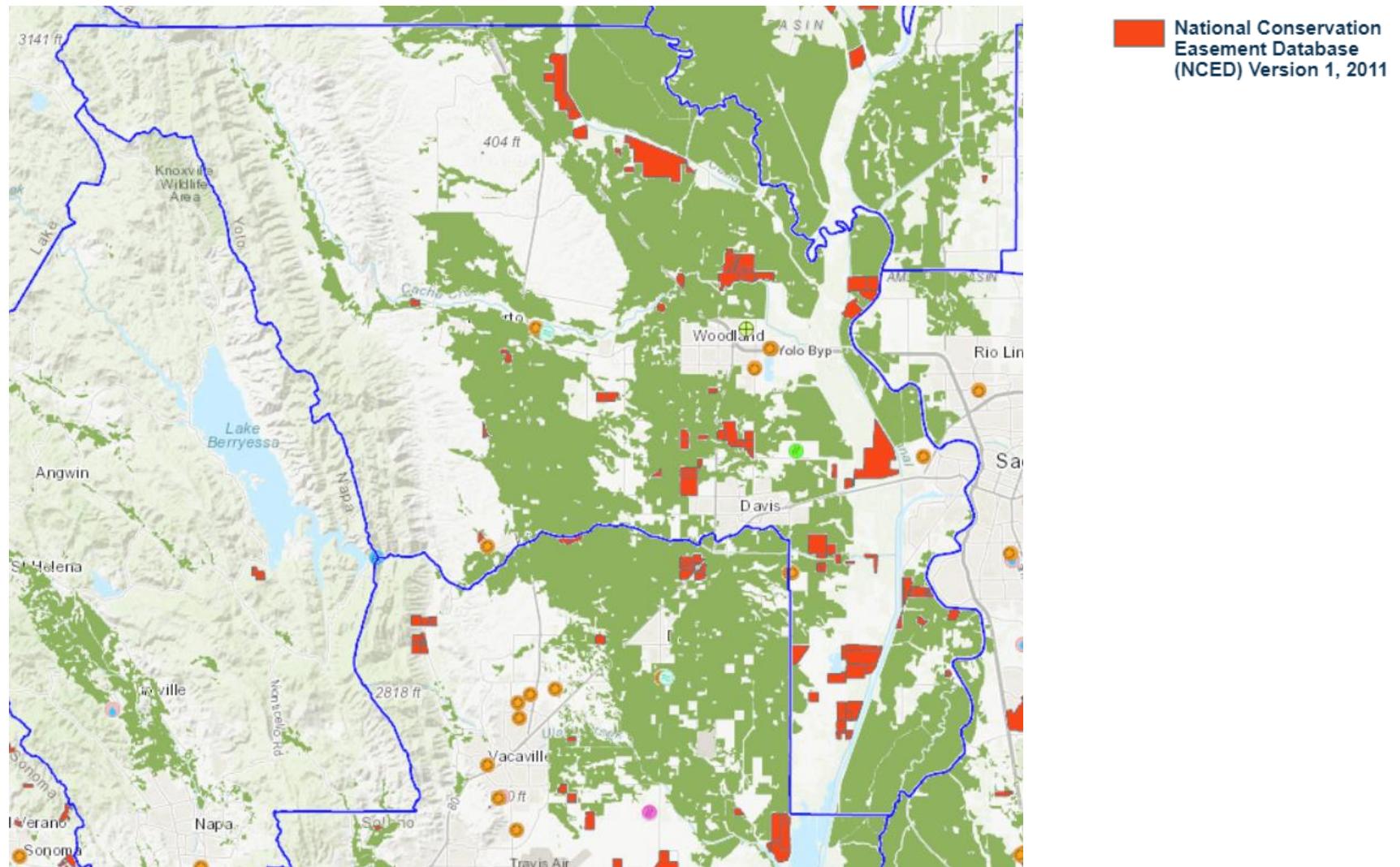
Long Term Renewable Solicitation Criteria Discussion

Figure 2. Yolo County Farmlands Designations



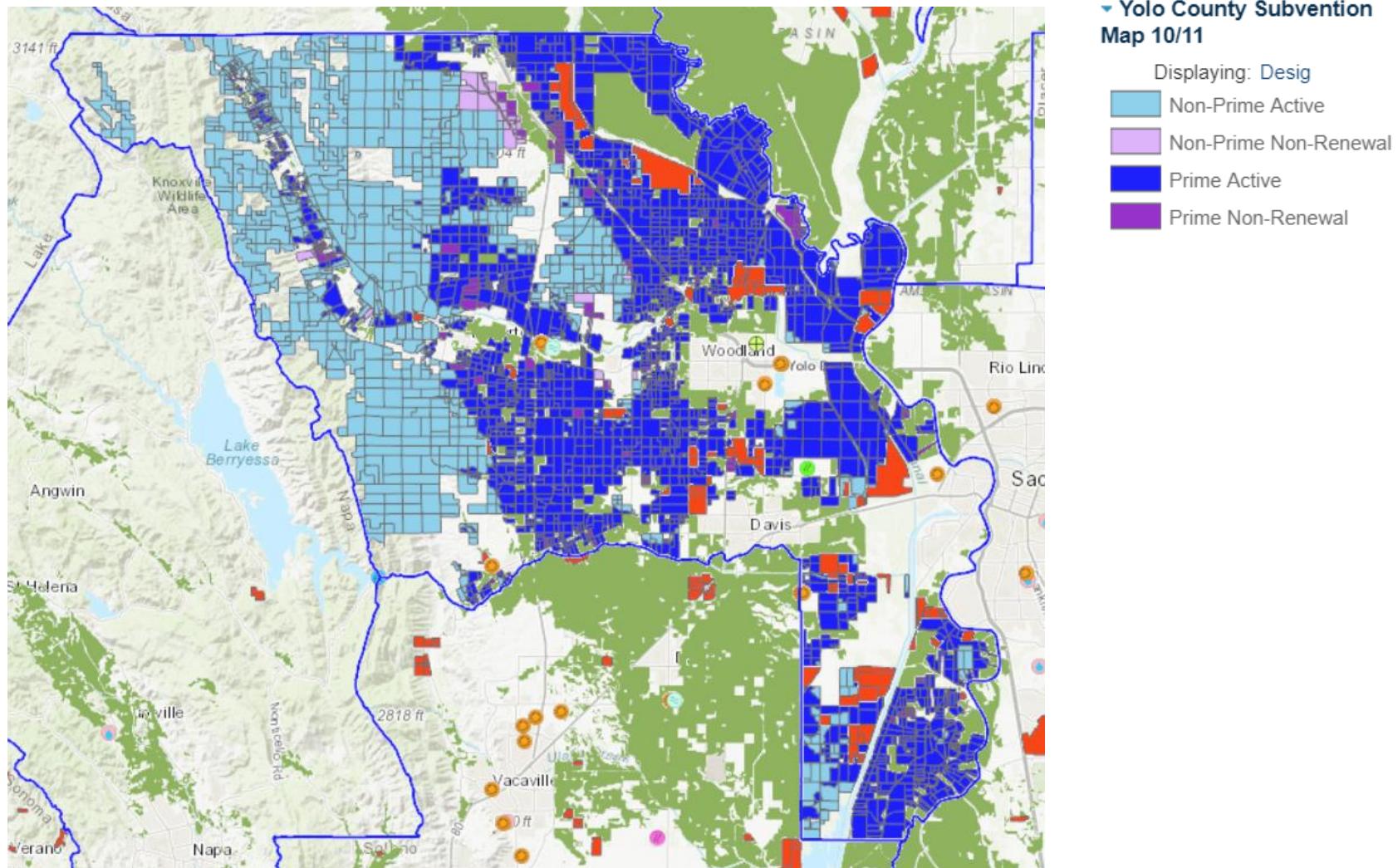
Long Term Renewable Solicitation Criteria Discussion

Figure 3. Yolo County Farmlands and Conservation Easements



Long Term Renewable Solicitation Criteria Discussion

Figure 4. Yolo County Farmlands, Conservation Easements, and Williamson Act Lands

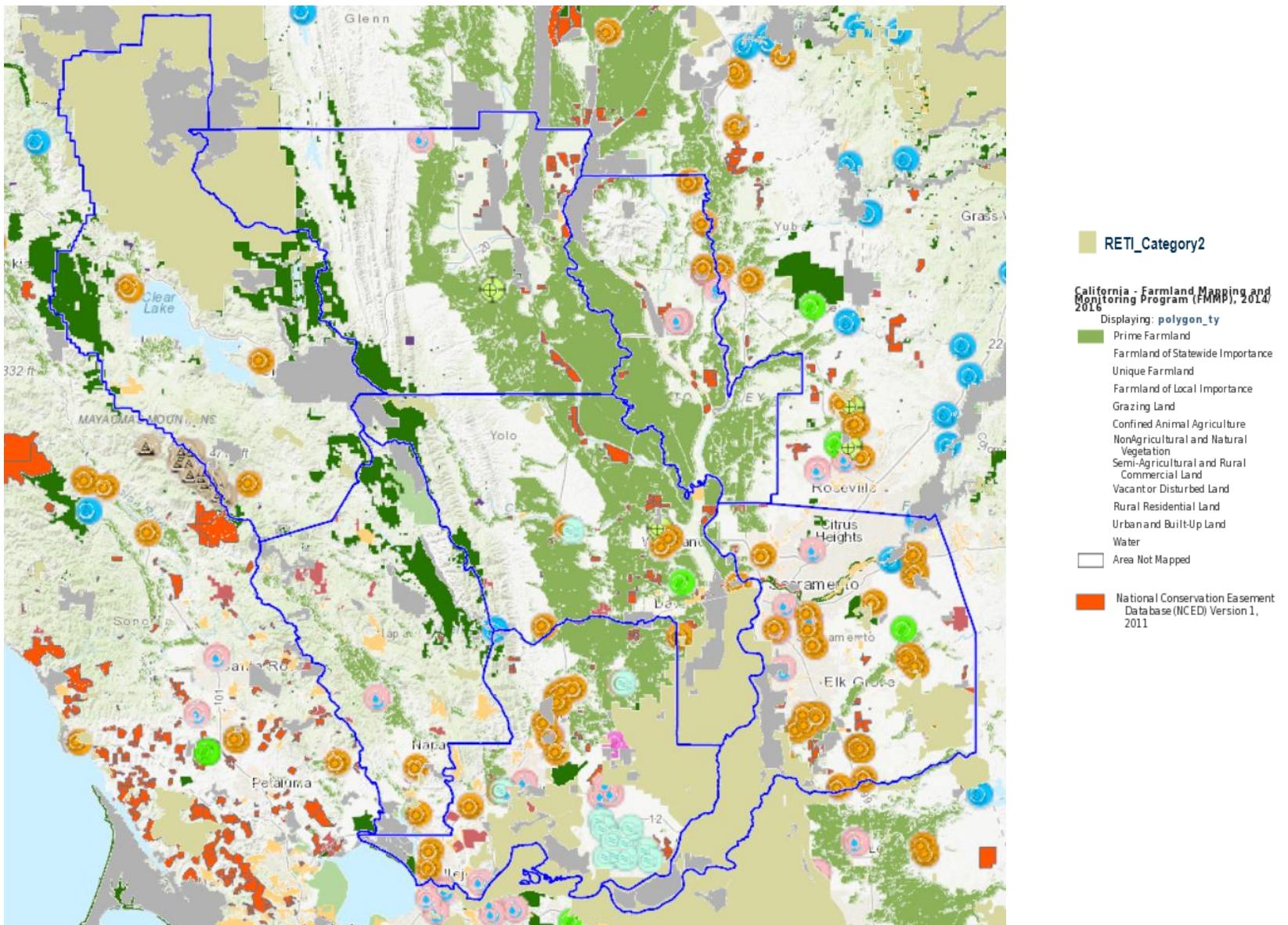


Long Term Renewable Solicitation Criteria Discussion

Figure 5. Option 3 For Local Definition



Long Term Renewable Solicitation Criteria Discussion



Long Term Renewable Solicitation Criteria Discussion

Discussion of Options

Options 1 or 2 - Yolo County Only, or Yolo County w/Nexus back to County (i.e. Indian Valley Hydro Project)

Value

The primary value of limiting “Local” to Yolo County only, or Yolo County with a nexus back to Yolo County, is that any benefits of resource development are focused within the immediate VCEA service area.

Constraints

The big constraint is that there are limited areas within Yolo County for renewable resource development. If Options 1 or 2 are selected for the definition of Local, then the amount of Local resources will necessarily be smaller, and development of those resources will likely be stretched over a longer period of time than if Local had a broader definition. Local wind would not be likely. Local renewable resource options would be solar, the existing Woodland biomass project, and local landfill biogas.

Option 3 - Yolo County, Adjacent Counties and the Geothermal Resource area in Sonoma County

The primary value of expanding Local to Yolo County, adjacent counties and the parts of the Geysers Geothermal Resource Area in Sonoma County is that the pool, and diversity renewable resources available for the Local portfolio is greatly expanded. VCE would be able to incorporate Local wind and geothermal resources in its portfolio.

Figure 5 shows the expanded Yolo County plus 6 adjacent counties of Colusa, Sutter, Sacramento, Solano, Napa, and Lake. Included in the restricted lands are prime farmland, conservation easements, restricted federal lands, RETI (Renewable Energy Transmission Initiative) Category 1 lands and RETI Category 2 lands. RETI Category 1 lands are lands where development is prohibited, and RETI Category 2 lands are lands that are problematic.

Distinguishing Local from Regional and from Elsewhere in the State

During discussion with the Energy Subcommittee of the Community Advisory Committee, a proposal was made to consider adding a geographic area of “Regional” to VCE’s resource preference areas. “Local” would be limited to projects located in Yolo County (Option 1 or 2). Regional would be the geographical area defined generally by the surrounding 6 counties, including the Geysers Geothermal Resource Area.

Resources within Yolo County would be deemed Local, and would get the highest ranking in order of preference. Resources within the area defined as Regional, would get a higher ranking than resources located elsewhere within state. Resources located elsewhere in the state would receive the lowest rank for the location criteria. Adding

Long Term Renewable Solicitation Criteria Discussion

“Regional” then allows VCE to capture the large neighboring resource pool in a preferred category.

Long Term Renewable Solicitation Criteria Discussion

Siting Criteria

Discussion

Siting criteria is important to define so that VCE does not procure from projects that may be under development in areas:

1. VCE determines have important land uses to protect, such as prime farm lands;
2. That increases the likelihood of there being conflicts with sensitive wildlife species, cultural sensitivities, or other environmental issues.

The Renewable Energy Transmission Initiative (RETI) has been a statewide effort of the CEC, CPUC, utilities, and various stakeholders, to identify locations where additional renewable development would be likely to occur. This effort was specifically for the purpose of determining the need for additional transmission investment to make interconnection of renewable energy project to the grid possible.

As part of the exercise of determining transmission needs, the RETI effort identified Category 1 and Category 2 lands which are areas RETI targeted to avoid planned transmission expansions.

RETI Category 1 is defined as: Lands where development is prohibited by law or policy;

RETI Category 2 is defined as: Lands which include environmentally sensitive areas and other sensitive areas where development would be difficult and controversial.

Additional factors will impact developability due to land use restrictions, such as lands under conservation easements and encumbered by Williamson act commitments.

Defenders of Wildlife has developed a set of criteria it recommends for the procurement of renewables that promotes “Smart Green Energy.” Their recommendations are attached.

Conflicts of projects with lands categorized as either prime, RETI 1, or RETI 2 will be screened by determining whether their location is proposed for any of the conflict locations shown in:

<https://databasin.org/datasets/b83ea1952fea44ac9fc62c60dd57fe48;>

<https://databasin.org/maps/new#datasets=5df0a3e83a984b8293728cb690442f81; and,>

<https://databasin.org/maps/new#datasets=92e523f8598f40e99abef3901f5bd46>

Long Term Renewable Solicitation Criteria Discussion

Development Status Criteria

Discussion

The status of a project's development is important for VCE, in that a project that is much farther into its development cycle will generally have lower risk to VCE than the resource does never achieves commercial operation.

Defenders of Wildlife has developed a set of criteria it recommends for the procurement of renewables that promotes "Smart Green Energy."

DOW recommends that a project not pass screening if they have not received a status of "Application deemed complete" by the appropriate land use authority.

A concern is that not all land use authorities may issue status notifications such as that.

An alternative is to have minimum pass/fail screening for the following development aspects:

Acknowledgment by the relevant land use authority that a permit application has been received.

Evidence of site control (meaning the developer has secured commercial terms from the land owner for the land use).

Ranking criteria can be established for the following (this language would not be in the solicitation, but will be used during the evaluation phase).

Permit status (Permit obtained would be best, application deemed complete would rank lower, and application submitted would rank lowest).

Long Term Renewable Solicitation Criteria Discussion

Acceptable Technologies

While different renewable technologies do have differing environmental impacts, in the long run, VCE will likely need a mix of technologies with differing production shapes to create an overall renewable portfolio that attempts to follow VCE's loads as closely as possible.

As an observation, renewable technologies such as biomass and geothermal will generally be more expensive than wind or solar, just taken on a cost per MWh. In the short run, to meet long term renewable contracting requirements, it's most likely that a lower cost renewable portfolio will be more favorable to VCE's financial needs to maintain a least cost generation mix, meaning wind and solar will be the likely least-cost resources, and not likely biomass or geothermal. Over the long-run, more expensive renewable technologies can be brought later into the mix to provide additional support in better matching VCE's load shape.

The only restrictions that should be considered on technologies for this solicitation is that VCE does not want projects proposed with equipment or technologies that are not commercially produced at scale and that are not "bankable." Thus, no technologies or equipment that is in a research and development phase.

Long Term Renewable Solicitation Criteria Discussion

Energy Storage

Storage - Include in Solicitation (or Not)

Assembly Bill 2514, (Skinner, 2010) tasks the CPUC with developing storage procurement requirements for the load serving entities under its jurisdiction.

AB 2514 states specifically:

“This bill would require the CPUC, by March 1, 2012, to open a proceeding to determine appropriate targets, if any, for each load-serving entity to procure viable and cost-effective energy storage systems and, by October 1, 2013, to adopt an energy storage system procurement target, if determined to be appropriate, to be achieved by each load-serving entity by December 31, 2015, and a 2nd target to be achieved by December 31, 2020.”

To implement AB 2514, the CPUC set hearings, and ultimately issued a ruling, Rulemaking 10-12-007 (10/17/13 hearing date). In R.10-12-007, the CPUC includes procurement requirements for CCAs and other load serving entities. Specifically:

“IT IS ORDERED that:

...
5. Community Choice Aggregators and Electric Service Providers shall file a Tier 2 Advice Letter starting January 1, 2016 and every two years thereafter until 2024 to report their progress in procuring 1% of their 2020 annual peak load from energy storage projects under contract by 2020 and describe its methodology for measuring cost-effective projects. Projects are required to be installed and delivering by no later than the end of 2024.”

For VCE, 1% of 2020 peak load is 2.25 MW (forecast peak is 225 MW). This storage capacity must be under contract by 2020, and operating by 2024. It makes sense therefore to include requests for storage in this long-term renewable solicitation.

Storage - Which Technologies

With regard to the intent of AB 2514 regarding storage technologies, while not promoting specific storage technologies, the legislative intent clearly indicates storage technologies directly producing electricity:

“The Legislature finds and declares all of the following:

(a) Expanding the use of energy storage systems can assist electrical corporations, electric service providers, community choice aggregators, and local publicly owned electric utilities in integrating increased amounts of renewable energy resources into the electrical transmission and distribution grid in a manner that minimizes emissions of greenhouse gases.

Long Term Renewable Solicitation Criteria Discussion

- (b) Additional energy storage systems can optimize the use of the significant additional amounts of variable, intermittent, and offpeak electrical generation from wind and solar energy that will be entering the California power mix on an accelerated basis.
- (c) Expanded use of energy storage systems can reduce costs to ratepayers by avoiding or deferring the need for new fossil fuel-powered peaking powerplants and avoiding or deferring distribution and transmission system upgrades and expansion of the grid.
- (d) Expanded use of energy storage systems will reduce the use of electricity generated from fossil fuels to meet peak load requirements on days with high electricity demand and can avoid or reduce the use of electricity generated by high carbon-emitting electrical generating facilities during those high electricity demand periods. This will have substantial cobenefits from reduced emissions of criteria pollutants.
- (e) Use of energy storage systems to provide the ancillary services otherwise provided by fossil-fueled generating facilities will reduce emissions of carbon dioxide and criteria pollutants.”

The CPUC in R.10-12-007 gives CCAs the flexibility to determine where to locate the storage installations.

Currently, battery storage integrated into renewable energy projects is becoming more common, and supports the goal of “integrating increased amounts of renewable energy resources into the electrical transmission and distribution grid.”

Additionally, battery storage integrated with a renewable project is fully eligible for the enhanced investment tax credit (currently at 30%). The only restriction is that for the first 5 years of the project, the battery system can only be charged by the renewable resource (not from the grid).

Consideration for other types of storage can be made later in subsequent solicitations.

Long Term Renewable Solicitation Criteria Discussion

Out-of-State Resources

Discussion

There are pros and cons on accepting (or not) renewable resources located out-of-state.

Reasons for Not Accepting Proposals for Out-of-State Resources

Here are two primary reasons influencing a decision to not accept out-of-state resources in this solicitation:

1. The politics around CCA formation. Labor influences in the state have been trying to minimize the value of out-of-state renewable resources. SB 350 established deliverability criteria for out-of-state resources, that restricted how much out-of-state renewables could be relied upon by California load serving entities. CCAs have been targeted for relying too heavily on out-of-state resources.
2. Resource development in California in general has more rigorous siting and environmental requirements than other states. Limiting proposals to in-state resources eliminates some uncertainty on the siting methodologies enforced by other states.

Reasons for Accepting Proposals for Out-of-State Resources

Wind generation from regions more central to the United States has higher capacity factors, and may have production shapes that better fit VCE's loads than in-state wind resources.

Solar from the desert southwest has higher annual average production than solar in California and the cost of delivered solar to California may be substantially lower than solar located within California, although without integrated storage, desert southwest solar production timing may not best fit VCE's load shape.

Other

This initial solicitation effort will not be VCE's last. As such, limiting proposals to in-state resources now won't overly restrict VCE in the future. It can request out-of-state resources in a later solicitation if it's shown that out-of-state wind and solar have other production characteristics that are attractive and better fit renewable production to VCE load.

Long Term Renewable Solicitation Criteria Discussion

Interconnection Criteria

Discussion

As previously mentioned it will be important for VCE to entertain projects that are further along in their development cycle. This is driven by the need for VCE to begin receiving substantial amounts of long-term procured renewable power in 2021.

One aspect of insuring that a project is further along in its development, is to require as a minimum criteria for consideration that the bidder have the project already in a transmission interconnection queue. This insures that the project is already engaged in the process for determining what will be required to interconnect the project to the electrical system and what the costs will be for that interconnection.

Additionally, to maximize the value of the renewable resource, it will be important for the project bidder to have requested system interconnection that allows for a full capacity deliverability status designation for the project (as opposed to a partial capacity deliverability status or an energy only status).

Information will be collected from each bidders on the progress their proposed projects have with the interconnection process, and this progress will be included as an evaluation criteria during the evaluation phase.