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Attachment 1

EPS Technical Memorandum

MEMORANDUM

To: Engie

From: Economic & Planning Systems, Inc.

Subject: Response to CEC October 7, 2024 Data Request concerning Mandatory Opt-In Requirements and demonstration of Net Positive Economic Benefits for the Compass Battery Energy Storage Project; EPS #231063

Date: November 26, 2024

Economic & Planning Systems, Inc. (EPS) appreciates the opportunity to respond to the California Energy Commission (CEC) October 7, 2024 document and data request (CEC Data Request #2) related to the Mandatory Opt-In Requirements and the demonstration of Net Positive Economic Benefits to the Local Government associated with the Compass Battery Energy Storage Project (the project).

This memorandum includes responses to all of the CEC October 7, 2024 data requests. This includes new information provided by the applicant (Engie) associated with its investment decisions, project costs and operations, project interaction with other energy sources and the electricity market, and battery technology. It also includes new, more detailed assessments of potential opportunity costs and negative impacts from the project by EPS to ensure the analysis provides estimates of **net economic benefits**.

Where relevant, this memorandum references prior CEC and EPS documents, including: (1) EPS' November 27th, 2023 Economic and Public Revenue Impact Study (TN 255577-10) as part of the applicant's Opt-In Application and Data Request Response #1 Part I (TN 258090-1) (EPS Technical Memo); (2) the first CEC data request dated May 13, 2024 (CEC Data Request #1), and, (3) the July 17th 2024 EPS response memo as part of the applicant's Data Request Response #1 (EPS Response Memo #1).

Overview of Approach and Response

As noted in the CEC current (October 7th, 2024) data request, *California Code of Regulations title 20, section 1877(f) requires Opt-In Applications to identify preliminary information* ***demonstrating overall net positive economic benefit to the local government*** *that would have had permitting authority over the site and related facility.*

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As also noted by the CEC, the estimation of net economic benefit should include consideration and estimation of the **gross positive economic effects** and the **subtraction of any negative economic effects**. To the extent there are no negative effects, the net benefit will equal the gross benefit.

The EPS Response Memo #1 recognized the CEC request for consideration of potential negative impacts and, after assessment, concluded that there would be no negative local economic impacts or events due to the investment in the project (e.g. shift of resources away from other local energy projects) and no increase in costs of providing services to the City. As a result, EPS concluded that the gross local benefits estimated were equal to net local economic benefits. In its Data Request #2, the CEC requests a re-examination of potential negative impacts/ opportunity costs.

As discussed in the October 24th, 2024 conversation between the Engie Team and CEC staff, one of the most important and complex parts of a net economic benefit analysis is specifying the categories of potential negative effects on the permitting authority and then assessing the impacts of those effects. EPS appreciates that the CEC Data Request #2 specifies the broad range of potential local opportunity costs/ negative impacts that should be considered in assessing potential local negative impacts. EPS also appreciates the additional context provided during the October 24th, 2024 conversation.

As noted above, the Mandatory Opt-In Requirements section of the CEC's Attachment B Revision 1 Data Requests (from CEC Data Request #2) identifies **four categories of potential negative effects** that should be considered in calculating the net economic benefits which were further articulated by CEC staff in the October 17, 2024 conversation. The four categories include:

1. The opportunity cost of investment in the proposed project (**#1**);
2. Projected cost of the city providing services to the project (**#2**);
3. Local economic development losses associated with the displacement of an existing energy source (**#3**); or
4. Potential increases or decreases in electricity rates or fuel prices resulting from project investments in new energy storage infrastructure (**#4**).

In order to ensure this memorandum covers all of the potential negative factors identified by CEC staff, both in its data requests and subsequent conversation, this memorandum includes several potential forms of opportunity cost under **#1**, including:

(a) Potential loss of investments Engie would make in the City if this project opportunity were not available;

(b) Potential delays to other construction projects due to the Compass project's employment of workers;

(c) Potential loss of economic benefits from potential new uses at the site without the Compass project; and

(d) Losses associated with the displacement of any existing site uses.

In addition, in order to help distinguish and estimate potential negative effects that would need to be subtracted off the estimated local property tax and sales and use tax generation, this memorandum includes several potential forms of opportunity cost under **#2**, including:

(a) Potential additional costs to the City of providing ongoing public services;

(b) Potential additional costs to the City in investing in one-time capital improvements; and

(c) Any loss of local property tax and/or sales and use tax revenues that are currently being generated by the site.

The remainder of this memorandum is organized as follows. The next section assesses each of the potential opportunity cost/ negative impact categories identified by the CEC. Based on the results of this assessment and prior EPS analysis, the following section then directly addresses and reports the estimate for the net economic benefits of the project as required by Public Resources Code section 25545.9. California Code of Regulations title 20, section 1879(a)(7). The final section addresses the CEC's request for specific project data and additional information concerning battery storage technology. An **Appendix** is also provided at the end of the memorandum that seeks to provide further information and clarity around the methodological approaches used to estimate different economic benefit categories and the use of IMPLAN.

Assessment of Negative Impacts/ Opportunity Costs

An assessment of each of the four (4) categories of potential negative impact/ opportunity cost is provided below. Specific conclusions as to whether there is a negative impact to net out of the estimation of gross economic benefits are provided. The subsequent section provides calculations of net economic benefits based on these assessments. To the extent CEC staff has a different assessment of any of these items, the specific identification and explanation of the differences would be helpful to allow for a direct response and revised calculations as appropriate.

#1: Opportunity Cost of Investment in the Proposed Project

Based on CEC input, four types of potential opportunity costs are considered, including: (1) alternative investments in City projects by Engie; (2) delays to other constructions project due to project employment; (3) potential alternative uses of the site; and, (4) the loss of any existing site uses.

a. Alternative Investments in City

Engie is in the business of investing in energy storage projects where they add value to the electric grid. Value to the grid is determined by where, electrically, the full power capacity of the facility can be injected into the grid without constraints. That value includes providing local energy production during peak demand periods, avoiding brownouts & blackouts, grid stability and resilience, facilitating more solar and wind, and helping the State meets its greenhouse gas (GHG) and climate change mitigation goals.

Two years of engineering studies by the California Independent System Operator (CAISO) and San Diego Gas & Electric (SDGE) determined that the identified location on the grid was well-suited for an energy storage project and meets the criteria without constraint on the facility's ability to inject power into the grid. If the project does not proceed in this location, there is no

other investment in the local economy by Engie. As a result, there is no investment-related "opportunity cost" to the local economy from the Engie investments in this project.

Conclusion: No local opportunity cost or negative economic effects associated with potential alternative Engie investments.

b. Labor Requirements

As described in the EPS technical memorandum, the project will require and provide jobs for about 127 construction workers. While this is a positive economic metric, there is a question as to whether this need for labor might result in other projects being delayed due to existing labor shortages. A delay in another project could result in a negative, temporal economic impact that could then be evaluated.

As part of its response to the question of availability of skilled workers (see *Appendix B (g) (7) (A) (iv)*, EPS established that there are a total of 69,126 construction workers currently residing in Orange County. Based on an overall average unemployment rate of 3.7 percent, there would be about 2,558 construction workers available for employment. Further, in its transportation analysis, Dudek has established that the project site could also attract workers from parts of San Diego County and Riverside County further expanding the available workforce for the project. Given the scale of workforce availability and the number of workers required (127 workers), the development of the project is not expected to create a labor shortage and is not expected to delay any other projects. As a result, there is no labor-related "opportunity cost" to the local economy from this project.

Conclusion: No local opportunity cost or negative economic effects from Project employment.

C. Alternative Uses of Site

Another potential opportunity cost is that other potential development plans for the site will not occur. To the extent there are other proposed site uses, the economic benefits of those uses could be compared to the proposed uses to determine a differential in economic benefit.

The site is currently zoned "Planned Community District" which allows for a broad range of uses. Proposed new uses are required to prepare a Comprehensive Development Plan (CDP). The site does not have a CDP. It is our understanding that the last development proposal for this site was made approximately a decade ago and was denied by the City. In identifying other potential opportunities for site use it is typical to look to identify realistic site uses that are consistent with current zoning that, based on market and other economic factors, might reasonably be expected to occur in the foreseeable future.

Given the lack of interest in site development over the last decade, it is EPS' conclusion that the most likely use of the site, if the Compass project did not move forward, would be a continuation of current uses; i.e. no new site development. As a result, there is no "opportunity cost" associated with a potential new site use in the foreseeable future.

Conclusion: No opportunity cost or negative economic effects associated with an expected new use of the site.

D. Current Uses of Site

Another potential negative impact of the development of a new project is the loss of existing uses and their associated economic and tax revenue impacts. This site is currently, previously disturbed vacant land. The only current activity on the parcel is a garden which is planned to be relocated to a different parcel not associated with the project. As a result, the baseline of jobs and economic activity on the project parcel is effectively zero. In addition to the jobs and economic activity generated by the project, the current landowner will receive the proceeds from selling the parcel for the project. As a faith-based organization, the current landowner provides many community services to the local residences which will be enhanced by the land sales proceeds.

The current site does pay property taxes on its current assessed value, so as described under "#2: Projected cost of the city providing services" below, the net economic benefits associated from property taxes focus on the net increase in assessed value and property taxes rather than just on the gross property taxes generated by the project.

Conclusion: No opportunity cost or negative economic effects associated with the displacement of existing uses of the site (see **#2** below for how tax revenues are addressed).

#2: Projected Cost of the City providing Services to the Project

The Original EPS Memo provided estimates of new property tax and sales and use tax revenues expected to accrue to the City. In assessing net benefits from these tax revenues it is appropriate to: (a) consider any offsetting new costs to the City due to the need for service provision; (b) consider any offsetting new costs to the City due to the need for investments in capital improvements and, (c) ensure any existing tax revenues generated by the site at present are netted out to ensure a net economic benefit calculation.

(a) New Ongoing City Public Services Costs

In terms of the ongoing provision of public services, Engie expects the need for City service provision and associated costs to be minimal. For example, no new public streets will be built and require maintenance, and no new City water or sewer services will be required. Engie also expects post-construction traffic management and road maintenance to be minimal. Engie recognizes that, while minimal, project operation might periodically require City police services and contribute to the need for road maintenance services. A calculation of the cost of providing such services is difficult due to the limited level of services required. As described below, for illustrative purposes, EPS has used a common methodology for estimating the cost of incremental public service demand to develop illustrative estimates of the potential annual cost of providing these services to the site.

A standard method for public services cost estimation for new development projects is to multiply the estimated current average per capita cost of providing the relevant public services (based on the City's current budget and service population) by the estimated increase in ongoing workers and/or residents associated with a site. This method allows for an estimate of the potential incremental impact of new projects on the City's service provision costs. This method specifically presumes that the service demands of the new project can be sized based on the number of ongoing workers and/or residents tied to the site. This methodology is not always ideal for all project types but is used to provide an illustrative calculation of ongoing annual City public service costs for the project in lieu of just noting that the public service cost impacts are

expected to be minimal. EPS would be pleased to consider alternative methodologies if the CEC recommends one.

Key data and conclusions from the calculations shown in **Table 1** include:

- The City's General Fund currently spends about $14.0 million annually on public safety service provision and $8.1 million annually on public works/ utilities service provision.
- The City's current service population (measured as total residents plus total workers) is about 49,700.
- Applying a 75 percent variable cost assumption to both police and public works expenditures (a portion of department costs are fixed and do not increase with new residents or workers), the estimated annual cost of providing police and public works/ utilities services per service population is $334.
- Applying this to the proposed project, which has an estimated ongoing annual employment of eight (8) workers, the estimated new cost to the City of providing services to the site, under this illustrative approach, is about $2,700 annually.

Table 1: Illustrative Estimate of Annual City Public Service Provision Costs

Item	Current City Demographics	2023/2024 Adopted Budget	Percent Variable [1]	Variable Annual Expenditure	Per service Population Estimate	Project Data [2]
Service Population [3]						
Residents	35,099					0
Employment	14,638					8
Total	49,737					8
Impacted General Fund Expenditures						
Public Safety		$14,038,935	75%	$10,529,201	$212	$1,694
Public Works/Utilities		$8,103,469	75%	$6,077,602	$122	$978
Total Impacted Expenditures		**$22,142,404**		**$16,606,803**	**$334**	**$2,671**

[1] EPS assumption; reflects percentage of costs that are service population-dependent, as opposed to fixed costs.
[2] Estimated number of annual operation workers are provided by Engie.
[3] Total residents based 2022 ACS Five-Year estimates, table DP05. Total employment based on data from U.S. Census (OntheMap 2021).

Source: OntheMap LEHD; U.S. Census; City of San Juan Capistrano Fiscal Year 2023-2024 Budget; Engie; Economic & Planning Systems, Inc.

(b) New City Capital Improvement Costs

The section above addresses potential ongoing public services costs. It is also important to consider the cost of any one-time City investments in improvements that might be required due to the project; for example, that wear-and-tear on roads due to project site construction. Engie will fund all required City improvements supporting the project (e.g. access roads). Any emergency access requirements imposed by the Orange County Fire Authority will also be funded by the project. As a result, no new capital improvement costs are expected to be borne by the City or the Orange County Fire Authority.

(C) Existing Site Tax Revenue Generation and Net Tax Benefits

As detailed in the EPS Original Memo (November 27, 2023) – Appendix Tables: Table A-3 - the total assessed value of the site after project construction is estimated at about $302 million

which includes the existing assessed value of site of about $2 million (assumed to be a very conservative estimate of current land value) and an additional $300 million associated with the expected Capital Expenditures/ Cost of the overall project.

As a result, the gross assessed value of the project is $302 million and the gross property tax estimates would be derived from the application of the 1 percent baseline property tax rate to this assessed value accounting for depreciation over time.

In order to estimate the net new property taxes generated by the project, the existing assessed value of $2 million is subtracted from the gross assessed value of $302 million, to derive the net increase in assessed value associated with the project. The property tax calculations are then applied to this net increase in assessed value to ensure only the net new property tax calculations are estimated. Put another way, the property taxes associated with the existing assessed value of the site (about $20,000 in annual payments associated with the 1% base property tax rate of which $2,300 accrues annually to the City of San Juan Capistrano) are netted out from the new property taxes being reported as accruing to the City.

#3: Local Economic Development Losses associated with the Displacement of an Existing Energy Source

CEC staff has noted that to the extent a new energy project is expected to displace an existing energy source (e.g. a new renewable energy source displacing a fossil fuel energy source), the net economic benefit analysis should account for the positive benefits of the new energy source while also taking account of (subtracting out) the negative effects of the lost economic activity associated with the displacement energy source.

Under the Compass project, there will be no displacement of existing energy sources. Instead, this energy storage project will be additive to the existing electrical grid in the local area delivering broad grid benefits including: providing local energy production during peak demand periods; avoiding brownouts and blackouts; increasing grid stability and resilience; facilitating more low cost zero emissions solar and wind generation; and helping the State of California meets its GHG and climate change mitigation goals. The project will also contribute significantly to helping SDGE meet its projected increase in electricity demand (a two-fold increase) in its service territory by 2045.

Conclusion: No displacement of other energy sources, so no negative local economic impacts/ events to assess.

#4: Potential Increases or Decreases in Electricity Rates or Fuel Prices resulting from Project Investments in new Energy Storage Infrastructure

The project is expected to contribute to decreasing electricity rates or at least contribute to mitigating the current trajectory of steadily rising rates. The project will charge during periods of low demand and high supply (and therefore low prices) (i.e. during afternoons with high solar generation). It will then discharge to the grid during periods of high demand and low supply (and therefore high prices) during the evening peak after solar generation has ended for the day. This additive peak generation will compete with the traditional supply of natural gas-fired peaker plants and energy imports from other states. This additional competitive supply will help to reduce rates.

As energy demand continues to increase, supply must be added to keep up. If demand outpaces supply, prices will rise. This is particularly true during peak demand periods where prices are at their highest. If 'dispatchable' supply (supply available on short notice, traditionally provided by natural gas peaker plants) is insufficient, then prices spike. Battery storage projects are uniquely capable of delivering peak supply instantaneously. This is likely to have a mitigating impact on price increases. The complexity of the electricity market and pricing means it is not possible to quantify the effect of the project on electricity prices over the life of the project.

The project will have no impact to fuel prices as it is not relevant to the technology.

Conclusion: It is not possible to quantify the precise effect on electricity prices. In general, the project would be expected to exert a downward pressure on electricity prices and have no effect on fuel prices. This downward pressure on prices and other project contributions (such as increased grid reliability) would represent additional positive economic benefits locally and regionally though it is not possible to quantify them.

Net Economic Benefits

As noted in the CEC Data Request #2, California Code of Regulations title 20, section 1877(f) requires Opt-In Applications to identify preliminary information demonstrating overall net positive economic benefit to the local government that would have had permitting authority over the site and related facility, consistent with Public Resources Code section 25545.9. California Code of Regulations title 20, section 1879(a)(7) further states that the net positive benefits identified in an Opt-In Application may include, but are not limited to the following:

(a) employment growth (see discussion below)

(b) housing development (not relevant)

(c) infrastructure and environmental improvements,

- The Compass project will provide reliable power generation and resiliency to the local electric grid. This clean energy resource will help replace existing carbon-emitting resources and help further the State of California's Greenhouse Gas Reduction goals. The exact economic effects of these improvements are not readily quantifiable at present (improved grid resiliency, reduced risk of blackouts, additional local supply to meet demand increases, etc.).

(d) assistance to public schools and education,

- Compass is actively negotiating three community benefits donations agreements with local non-profit organizations who provide important educational benefits to San Juan Capistrano and southern Orange County. These include Saddleback College (STEM and Workplace Readiness programs); Boys and Girls Club of the Capistrano Valley, (afterschool education including tutoring, creative writing and STEM programs); and to Unidos of South Orange County (Elementary Homework Help, Youth Study Hour, and affordable housing programs). While the monetary value of these donations are not yet final, each will provide important community benefits as part of our investment in the local community.

(e) assistance to public safety agencies and departments, and

- Compass has met with the Orange County Fire Authority to ensure that the fire safety elements of the project are fully analyzed. In addition, Compass is jointly drafting an Emergency Response Plan to use as guidance in case of any emergency. This will also include coordination with County Public Health officials, the Sheriff's department, as well as other parallel departments in San Juan Capistrano. While the monetary value of these costs are not yet final, any costs associated with the implementation of these plans will be covered by Compass including regular fire and safety training.

(f) property taxes and sales and use tax revenues (see discussion below).

The Compass project is estimated to provide a range of net economic benefits to the City of San Juan Capistrano. The estimated net economic benefits are described below and based on a combination of EPS analysis of the economic benefits and the detailed assessment and discussion of potential opportunity costs and negative economic impacts/ events.

Net economic benefits to the City are reported in two distinct groups including:

(1) net new economic activity associated with the construction and ongoing operations of the project which includes a measure of "**(a) employment growth**" along with other metrics of economic activity; and,

(2) net new tax revenues to the City which includes estimate of gains and losses in property tax and sales and use tax revenue ("**(f) property taxes and sales and use taxes**") as well as increases in public service costs.

Net New Economic Activity: Net Employment Growth and Other Economic Metrics

Gross Economic Benefits

The EPS Technical Memo provides estimates of gross new positive economic activity, associated with construction activity and ongoing project operations as follows:

- Construction Activity: 127 Job-Years; $17.9 million in employee compensation ($140,400 Average Compensation per Job-Year); $51.6 million in Local Economic Output
- Ongoing Operations Activity: 8 Annual Jobs; 280 Job-Years over the lifetime of the Project; $105,000 Average Compensation; $1.5 million in Annual Economic Output; $53.7 million Economic Output over the lifetime of the Project

Opportunity Costs/ Negative Economic Impacts

The CEC has indicated the importance of considering a broad range of potential opportunity costs/ negative economic impacts associated with project development, including:

- Displacement of Engie Investment from Other City Projects:
- Delays in Other Construction Projects due to Use of Labor;
- Loss of other Plans for Site Development;
- Displacement of Existing Site Uses; and
- Displacement of Spending on Other Energy Sources.

As discussed in detail in the previous section, each of these factors was considered and for each no local opportunity cost/ negative economic impact was identified. As a result, the negative effects are zero.

Net New Economic Activity

Because the negative effects/ opportunity costs are zero, the net positive economic benefits are equal to the gross positive benefits. In other words, it is reasonable to classify the following as net new economic benefits to the City:

- **Net Ongoing Operations Economic Benefits**: Eight (8) ongoing annual jobs over the lifetime (about 35 years) of the project and $840,000 in associated annual employee compensation.
- **Net Construction-related Economic Benefits**: 127 construction job-years and $17.9 million in worker compensation during the project construction period.

Net New Tax Revenues: Net Property and Sales and Use Taxes minus Costs

Net New Property Tax Revenues

After project construction, the total new assessed value of the project is estimated at about $302 million. In order to calculate the net new property tax revenues, property tax calculations are based on the total project site assessed value ($302 million) minus the existing site assessed value ($2 million), $300 million. By calculating the property tax estimates from this net increase in site assessed value, all of the property tax calculations represent net new site-related property tax increases.

To the extent other projects were proposed for the site or would be displaced by the proposed project, the potential level of property taxes associated with those projects could be estimated and netted out of these property tax estimates. However, as described in the prior section, there are no plans for other construction projects at the site and no expectation that this project will displace or prevent other projects in the City from moving forward.

As a result, the net new property taxes estimated to accrue to the City of San Juan Capistrano (see calculations in the EPS Technical Memo) are as follows:

- Average of $172,000 annually in net new property taxes over lifetime of project
- Total of about $6.0 million in net new property taxes over the lifetime of project.

Net New Sales and Use Tax Revenues

The total cost of project development is estimated at $300 million. With the developer's intention to record the job site as the location of use for its direct taxable purchases (materials and fixtures), a significant portion of the project investment ($225 million), will be considered by the State of California as being used in the City of San Juan Capistrano. As detailed in the EPS Technical Memorandum, this will result in the payment of $9.3 million in total sales and uses taxes during project construction with $2.3 million accruing to the City of San Juan Capistrano. The current site uses do not generate any sales and use taxes, therefore the new project sales and use taxes represent net new sales and use tax generation at the site.

To the extent other construction projects were proposed for the site or would be displaced by the proposed project, the potential level of sales and use tax associated with those projects could be estimated and netted out of the new sales and use tax generation from the project. However, as

described in the prior section, there are no plans for other construction projects at the site and no expectation that this project will displace prevent other projects in the City from moving forward.

As a result, the net new sales and use taxes estimated to accrue to the City of San Juan Capistrano (see calculations in the EPS Technical Memo) are as follows:

- Total of $2.3 million in net new sales and use tax revenues associated with project construction.

Estimated Costs to City

As noted in the prior section, any new cost to the City of providing services or investing in capital improvements should be netted out from its receipt of tax revenues to provide an estimate of net new taxes/ economic benefits. As also noted in the prior section, the need for capital improvements associated with the project will be covered by the applicant meaning there will no new capital costs to the City. It is recognized that there may be a periodic and modest demand for police and/or public works services due to project operation. There may ultimately be no incremental cost to the City of providing these services, though as described above an illustrative application of a common public service cost calculation methodology suggests a potential annual cost of about $2,700 annually during the project's lifetime.

While it is unclear whether there will be any incremental City public service cost associated with the project, this analysis assumes the illustrative quantification provides a reasonable estimate of new public service costs to the City:

As a result, the net new cost to the City of San Juan Capistrano is estimated at:

- Average of $2,700 in new public service costs to the City during the lifetime of project.

Net New Taxes

Combining the three different tax and service cost components described above, the net new taxes (economic benefits) are as follows:

- **Net Ongoing Taxes/ Revenues to City**: Net New Ongoing Taxes equals $172,000 annually in net new property taxes to the City **minus** $2,700 annually in public service costs to the City = $169,300 annually over lifetime of project (or $5.925 million in total over project lifetime)
- **Net Construction-Related New Taxes/ Revenues to City**: The City is estimated to receive $2.3 million in net new sales and use taxes during project construction.

CEC Project Data Request

In its data request, CEC requests information to support its own analytical work (under REV 1 DR MAND-1) and additional information on the selected battery storage technology (under REV 1 DR MAND-2)**.** These items are addressed in the two subsections below.

Additional Information for Modelling Purposes

In its data request, the CEC notes that *"to obtain accurate estimates, the staff requests the applicant to provide further information on the technology by filling out the data categories in the following table"*. The CEC request includes questions, responded to below, in both table format

and narrative format. The information provided is from the EPS Technical Memo and Engie. There is some overlap in the answers.

Industry Sector	**Value (in Dollars) Local Share (in Dollars)**
Plant Investment Hardware	Of the estimated total project development cost of $300 million there is about $243 million in plant investment hardware. About $18.2 million expected to be local spending/ economic activity.
Plant Installation	Of the estimated total project development cost of $300 million there is about $57 million in plant installation. About $33 million expected to local spending/ economic activity.
Maintenance, Year 1	Annual Year 1 maintenance cost estimated at $2.0 million; about $1.5 million estimated to be local spending/ economic activity
Plant Earnings, Year 1	Difficult to forecast as project will participate in the dynamic California energy market.
Government Permitting	About $1 million paid to CEC.
Government Revenue, Year 1	Property tax revenues in Year 1 are $3.0 million with $1.38 million accruing to local agencies (City, County, local Special Districts) (please let us know if you are looking for other government revenues).
Property Tax	Total property tax payments of $52.2 over project lifetime; about $24.1 million will accrue to local agencies (City, County, local Special Districts).
Sales Tax	Total sales and use tax associated with project construction is $9.3 million; about $4.3 million will accrue to local agencies (City/ County)
TOTAL	Above numbers have not been summed as they represent different types of metrics and time periods.

REV 1 DR MAND-1. *Per California Code of Regulations, title 20, section 1877(f) requirement, please provide responses to the following questions*:

a. What is the total value of the plant hardware and what is the local share allocation? About $243 million on plant hardware; local allocation expected to be about $18 million.

b. Is there a utility interconnect fee for this BESS facility? If so, what is the local share? What is the total maintenance per year for the plant and the local share? There is not a 'fee' per se. However, the project includes the infrastructure to interconnect the project to the existing SDGE transmission line. This includes a Switchyard and Gentie. These costs are included in the cost of

hardware and installation. What is the total dollar value for construction and BESS installation? What is the estimated local share for City of San Juan Capistrano? Total project cost is estimated at $300 million; local economic output is estimated at about $51 million.

c. What is the total maintenance per year for the plant and the local share? Annual maintenance cost estimated at $2.3 million; about $1.5 million estimated to be local spending/ economic activity.

d. What is the expected annual operating revenue of the facility? What share of that benefit is estimated to be allocated to City of San Juan Capistrano? Difficult to forecast as project will participate in the dynamic California energy market.

e. Are there any permitting fees for the construction of this BESS facility in the City of San Juan Capistrano? If so, what are the values in dollars? About $1 million paid to CEC.

f. What is the annual income tax for the proposed BESS facility? What allocation has been made for the local share of taxes for City of San Juan Capistrano? Annual income taxes are not known. The City is expected to receive $2.25 million in sales and use tax revenues associated with project construction and a total of $6.0 million in property tax revenues over the lifetime of the project (an average of about $170,000 annually).

g. What is the estimated property tax for the BESS facility per year? What is the local share allocation for City of San Juan Capistrano? Average annual property tax payments are about $1.5 million with about $170,000 accruing to the City of San Juan Capistrano.

h. What is the estimate for sales tax related to BESS installation? What is the local share for City of San Juan Capistrano? Total sales and use tax associated with project construction is estimated at $9.27 million with $2.25 million accruing to the City of San Juan Capistrano.

Battery Technology Responses

The CEC notes the following in its data request: **REV 1 DR MAND-2.** *Per California Code of Regulations title 20, section 1877(f) requirement related to net economic benefits, please provide responses to the following questions:*

a. What is the estimated round-trip efficiency of the Tesla Megapack 2XL technology system over 35 years? The round-trip efficiency (AC to AC) is 87.3%.

b. What is the estimated degradation factor of the Tesla Megapack 2XL technology system over 35 years? The project degradation was modeled to 20 years. At that point, the project will be re-assessed for potential 're-powering' with the latest technology. Annual degradation is approximately 1.27%. However, the project is planned to be 'augmented' periodically to compensate for degradation to ensure the full capacity of the project can continue to be met.

c. Does the Tesla Megapack 2XL technology system qualify for a federal tax credit? If so, what is the rate of the credit and the total dollar value of the tax credit? Yes. 30% is the standard tax credit rate for this type of project. Plus, there is a 10% adder for Domestic Content which is expected to apply given the domestic sourcing. There is also a 10% Energy Community Adder which is expected to apply per current classification.

The Economics of Land Use

APPENDIX: TECHNICAL DISTINCTIONS AND USE OF IMPLAN

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Technical Distinctions and Use of IMPLAN

This Appendix provides additional context and specificity on the methodologies used for estimating different types of economic benefit as well as the ways in which the IMPLAN input-output model is used in the analysis.

As noted in the CEC data request, California Code of Regulations title 20, section 1877(f) states that "… the net positive benefits identified in an Opt-In Application may include, but are not limited to: (a) employment growth, (b) housing development, (c) infrastructure and environmental improvements, (d) assistance to public schools and education, (e) assistance to public safety agencies and departments, and (f) property taxes and sales and use tax revenues".

These benefit categories represent different forms of economic benefit. For example, employment growth (a) and other measures such as worker compensation and economic output represent measures of changes of economic activity with the local jurisdiction. In contrast, components (d), (e), and (f) for example are measures of direct payments to local jurisdictions/ government agencies. As a result, EPS uses different technical approaches to the calculations of different types of economic benefit.

Impacts on Local Economic Activity

To determine impacts on local economic activity (including *(a) employment growth)*), EPS has taken project data provided by Engie on one-time construction costs and ongoing activities and employment to estimate gross employment growth as well as the associated economic metrics of compensation and economic output. Where project-specific data was only available for one or two of these three metrics, EPS used the IMPLAN input-output model (and its mapping of existing industry relationships) to derive the remaining economic activity metrics. For example, for the direct one-time construction impacts in the City of San Juan Capistrano, EPS took the project estimates of 127 wage and salary employees with a combined employee compensation of $17.8 million to determine the total, local, construction-related direct economic output of $51.5 million.

In addition to helping establish the direct project effects based on specific Engie project information, EPS has used IMPLAN to provide estimates of "multiplier" effects (IMPLAN's indirect and induced effects) of the direct Project economic activity on other businesses in the City.

Consistent with and recognizing the concern raised by the CEC team of the possibility of over-stating the economic impacts of construction projects where a significant portion of the cost is the purchase of, for example, batteries from outside of the local jurisdiction, EPS has significantly downsized the portion of the overall project capital cost that is considered local economic activity (specifically, as shown/ described in the EPS Technical Memo, of the $300 million in total capital expenditures, only $51.5 million is assumed to be local expenditures that are tied to new local jobs and compensation). This is a conservative approach to estimating economic impacts compared to many economic analyses.

Impacts on Local Government Revenues

To estimate the impacts on local government revenues - such as new property taxes and sales and use taxes accruing to the City -_EPS has combined project data with the specific tax formulae that apply in the local jurisdiction. While IMPLAN does provide some estimates of taxes, including federal, State, and local taxes, we find the direct calculation of tax revenues provides a more accurate picture of tax revenues when the focus is on revenues accruing to the local jurisdiction. In theory, EPS could run the estimates of net new taxes through IMPLAN to determine potential

additional/ multiplier economic activity benefits from these revenues, though EPS has selected to take a more conservative approach by only reporting the direct tax revenues.