

## Stakeholder Comments Template

Submitted by	Company	Date Submitted
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Please use this template to provide written comments on the Clean Energy and Pollution Reduction Act Senate Bill 350 Study initiative posted on February 4, 2016.

Please submit comments to [regionalintegration@caiso.com](mailto:regionalintegration@caiso.com) by close of business  
February 19, 2016

Materials related to this study are available on the ISO website at:

<http://www.caiso.com/informed/Pages/RegionalEnergyMarket/BenefitsofaRegionalEnergyMarket.aspx>

Please use the following template to comment on the key topics addressed in the initiative proposal.

**1. Do you think the proposed study framework meets the intent of the studies required by SB350? If no, what additional study areas do you believe need to be included and why?**

SB 350 amended Public Utilities Code section 359.5(e)(1) to require that the ISO conduct one or more studies of the impact of a regional market enabled by proposed changes to ISO governance, including, among many other factors, the impacts to the “reliability and integration of renewable energy resources.”

To meet the legislature’s broad intent for these studies, TransWest recommends that the ISO broaden the framework of the RPS study to include an additional scenario (i.e. Scenario 4) which would examine how renewable energy resources would be integrated in California if major new transmission lines were developed into the state but there was no regionalization of the ISO. As further described below, TransWest believes that the ISO can leverage similar analyses currently being conducted by the CPUC to efficiently include this additional scenario in the scope of the SB350 studies.

**2. Five separate 50% renewable portfolios are being proposed for 2030 as plausible scenarios for the purpose of assessing the potential benefits of a regional market. Are these portfolios reasonable for that purpose, and if no, why?**

TransWest refers to the five portfolios described in this question as they are named in E3's presentation: Scenarios 1a, 1b, 1c, 2, and 3.

In order to properly assess the potential benefits of the ISO's transformation into a regional organization, TransWest proposes a sixth portfolio that could be named "Scenario 4." In addition, TransWest recommends that the ISO examine some of the assumptions underlying Scenario 2.

TransWest's Proposal for an Additional Scenario 4

TransWest proposes a "Scenario 4" that would analyze the benefits and impacts of accessing regional renewable resources through new transmission, except without the transformation of the ISO into a regional organization. This is an entirely plausible scenario, and including it within the scope will help the ISO and stakeholders better understand the costs and benefits of each of the existing five scenarios.

TransWest proposes that this new Scenario 4 utilize the same portfolio as proposed for Scenario 3, including the new transmission solutions that would allow the ISO system to access Wyoming and New Mexico wind resources. Analysis of this scenario would also include benefits associated with the expanded capacity between the ISO system and the balancing areas participating in the Energy Imbalance Market ("EIM").

Scenario 4 will allow for important comparisons among the business as usual scenarios (Scenarios 1a-1c), the scenario in which regional renewable resources are accessed with new transmission and the ISO is transformed into a regional organization (Scenario 3), and a scenario in which regional renewable resources are accessed with new transmission and the ISO is not transformed into a regional organization (TransWest's proposed Scenario 4). Such comparisons will give the ISO and stakeholders the opportunity to identify the specific benefits and impacts associated with accessing regional renewable resources with new transmission (specifically wind in Wyoming and New Mexico) both with and without the transformation of the ISO into a regional organization.

TransWest's proposal will not require significant incremental work because the ISO can rely on the results of similar analysis the CPUC is already conducting to implement SB 350. As discussed at the February 8, 2016 stakeholder meeting, the ISO takes

direction from the CPUC with respect to the scenarios with which the ISO conducts its transmission analysis. Specifically, the ISO will rely on the Assumptions and Scenarios the CPUC is developing in Rulemaking 13-12-010 for use in the ISO's 2016-2017 transmission planning process, including a scenario that analyzes the impacts to the ISO's system associated with adding 3,000 MW of Wyoming wind resources without modeling any integration between the ISO and neighboring balancing areas. In addition, the ISO intends to incorporate the results of the CPUC's revision to the RPS Calculator, including the potential scenario of access to out-of-state Portfolio Content Category 1 resources through transmission expansion.

#### TransWest's Comments on Scenario 2

The Scenario 2 portfolio relies on the assumption that existing transmission capacity will enable California utilities to access 1,000 MW of Wyoming wind resources. TransWest questions whether the Scenario 2 portfolio is realistic. Additional information is needed regarding the methodology and assumptions used to determine this level of transmission capacity for Scenario 2 and to determine if a revision is necessary to Scenario 2.

**3. To develop the five renewable portfolios the RESOLVE model makes a number of assumptions resulting in a mix of renewable and integration resources for the scenario analysis (rooftop solar, storage, retirements, out of state resources etc.) Do you think the assumptions associated with developing the renewable portfolios are plausible? If no, why not?**

Yes, the assumptions associated with developing the renewable portfolios appear to be plausible. However, as described immediately above, more information is needed on the assumption with respect to Wyoming wind resources in Scenario 2 to determine if that scenario is plausible.

**4. The renewable portfolio analysis assumes certain costs and locations for the various renewable technologies. Do you think the assumptions are reasonable? If no, why not?**

TransWest understands that these cost assumptions are based on the assumptions included in version 6.1 of the CPUC's RPS Calculator, which include the unreasonable assumption that there was a 25% decrease in the cost of solar PV between 2014 and 2015. Given historical and projected trends, TransWest believes that it is more realistic to assume closer to a 12.5% decrease in solar PV technology costs between

2014 and 2015. With respect to the ISO’s study, the ISO should treat the yearly percentage cost reductions associated with PV solar and other renewable technologies the same.

**5. The renewable portfolio analysis makes assumptions about the availability and quantity of out-of-state renewable energy credits (“RECs”) to California. Do you think the assumptions are plausible? If no, why not?**

No comment at this time.

**6. The renewable portfolio analysis makes assumptions about the ability to export surplus generation out of California (i.e., net-export assumptions). Do you think these assumptions are reasonable? If no, why not?**

Yes. Although the additional new transmission -would serve to increase the net-export assumption from the ISO system to the PacifiCorp - East balancing area for the EIM analysis in the proposed Scenario 4.

**7. Does Brattle’s approach for analysis of potential impact on California ratepayers omit any category of potential impact that should be included? If so, what else should be included?**

E3 and Brattle provided very little information about the new transmission cost assumptions in Scenario 3. During discussion at the stakeholder meeting, it was suggested that some \$1.6B of new transmission was or will be included in the ratepayer calculation. While this assumption could be reasonable, E3 and Brattle need to provide stakeholders with more detail regarding how the \$1.6B figure was calculated before it can be properly vetted. For instance, it is not clear what transmission solution and associated California rate impact is assumed to access the Wyoming and New Mexico resources. TransWest greatly appreciates the ISO and its consultants’ efforts to provide transparency into the assumptions and methodology planned for the study. However, the lack of specificity around these key transmission-related assumptions relative to all the other assumptions does not allow for stakeholders to fully answer Question 7.

With respect to deliverability, TransWest understands that Scenarios 2 and 3 will use a “deliverability to regional load” criteria. In the past, the CPUC and ISO have used a “full deliverability” load criteria to meet the 33% RPS. The CPUC and ISO are currently considering an “energy-only deliverability to California utility” load criteria. To the extent the CPUC may require one of these alternative deliverability requirements, Brattle’s

approach may omit its potential impacts to California ratepayers.

**8. Are the methodology and assumptions to estimate the potential impact on California ratepayers reasonable? If not, please explain.**

TransWest is unable to determine whether the new transmission cost assumptions used for Scenario 3 are reasonable. The written materials do not provide sufficient information on the new transmission cost assumptions or on what portion of new transmission investment would be included in the California ratepayer impact analysis.

**9. The regional market benefits will be assessed based assuming a regional market footprint comprised of the U.S. portion of the Western Interconnection. Do you believe this is a reasonable assumption for the purpose of this study? If not, please explain.**

While TransWest does not believe it is likely that all publicly owned entities in the WECC would join a regional market, it is a reasonable assumption for purposes of this study. TransWest assumes that the difference in the analysis between including all or only some of these entities is small.

**10. For the purpose of the production cost simulations, Brattle proposes to use CEC carbon price forecasts for California and TEPPC policy cases to reflect carbon policy implementation in rest of WECC. Is this a reasonable approach? If not, please explain.**

Yes.

**11. BEAR will be using existing economic data, and generation and transmission data from E3, the CAISO, and Brattle. These data are currently being developed. Are there specific topics that you want to be sure to be addressed regarding these data?**

Not at this time.

<p><b>12. The economic analysis will focus on the electricity, transportation, and technology sectors to develop the economic estimates of employment, gross state product, personal income, enterprise income, and state tax revenue. These results will be further disaggregated by sector, occupation, and household income decile. Do you think these sectors are the appropriate ones on which to focus the job and economic impact analysis? If no, why?</b></p>
<p>No comment at this time.</p>
<p><b>13. Under the proposed study framework, both economic and environmental impacts of disadvantaged communities will be studied. Based on the study overview do you think this satisfies the requirements of SB350?</b></p>
<p>No comment at this time.</p>
<p><b>14. The BEAR model will evaluate direct, indirect, and induced impacts to income and jobs, including those in disadvantaged communities. Do you think additional economic analysis is required? If yes, what additional analysis is needed and why?</b></p>
<p>No comment at this time.</p>
<p><b>15. The environmental analysis will evaluate impacts to California and the west in five areas – air quality, GHG, land, biological, and water supply. Do you think additional environmental analysis is required? If yes, what additional analysis is needed and why?</b></p>
<p>The presentation did not make clear whether the environmental impacts associated with overbuilding California resources would be factored into the analysis. These impacts should be included.</p>
<p><b>16. The environmental analysis presentation identified a number of potential indicators for the various impacts. Are the indicators sufficient? If no, what additional indicators would you suggest?</b></p>

Yes.