

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

UM 1751

In the Matter of

PUBLIC UTILITY COMMISSION OF  
OREGON,

Implementing Energy Storage Program  
Guidelines Pursuant to House Bill 2193.

COMMENTS OF THE ENERGY  
FREEDOM COALITION OF AMERICA

**INTRODUCTION**

The Energy Freedom Coalition of America is pleased to submit these comments responding the questions posed in the Commission Ruling issued on June 1, 2016 in Proceeding UM 1751. This proceeding was established pursuant to HB 2193, which requires the utilities to procure specified amounts of energy storage and further requires the Commission to provide guidance to the utilities regarding various aspects of their effort to fulfill their storage procurement obligations. Although the amount of energy storage the utilities are required to procure is relatively modest, we believe it represents a tremendous opportunity for the State of Oregon and the utilities to gain significant real-world experience with storage technologies and the role these technologies can play in supporting key state initiatives, including increased reliance on renewable energy and enhanced grid resiliency, while also providing the utilities new tools to address system needs. Such experience can help “pressure test” both the technologies and business models in real world conditions, as well as unearth barriers or limitations of existing processes that may impede the ability of the utilities to fully take advantage of storage in its various forms.

**Overview of the Energy Freedom Coalition of America**

EFCA is a national advocacy group that promotes the use of Distributed Energy Resources (DERs). EFCA members provide DERs such as distributed generation, battery energy storage and micro grid products. EFCA’s current members include 1 Sun Solar Electric, LLC, Ecological Energy Systems, LLC, Go Solar, LLC, Silevo, LLC, SolarCity Corporation and Zep Solar, LLC.. Members also provide solar generation, including products for residential, commercial, government, community solar, and utility-scale applications. EFCA member companies serve thousands of customers in Oregon with on-site solar electricity.

## RESPONSES TO QUESTIONS

Below, EFCA provides responses to a subset of the questions posed in the Commission’s June 1 Ruling.

### What guidance should the Commission provide on the storage potential analyses?

1.) *Should the evaluations of storage potential be filed separately?*

Yes. EFCA believes the utilities should undertake an evaluation of opportunities to deploy storage to be filed separately. In EFCA’s view the best way of accomplishing this would involve the utilities first identifying the investments or initiatives they anticipate undertaking to address key system constraints<sup>1</sup>, the nature of those constraints, as well as underlying drivers<sup>2</sup>, and the costs associated with those investments or initiatives. Additionally, to allow these investments or initiatives to be more readily reviewed with an eye toward opportunities to deploy storage, EFCA believes it would also be helpful to map each investment or initiative to a “use-case” category. Examples of use-case categories were identified by the Rocky Mountain Institute in their recent report, the “The Economics of Battery Energy Storage”. These use cases are described in the Figure 1 below.<sup>3</sup> EFCA believes these use cases are generally consistent with many of the anticipated potential uses or applications of battery solutions articulated in Section 3.1.a of HB 2193.

**Figure 1. Battery Storage Use Cases<sup>4</sup>**

ISO/RTO Services	Energy Arbitrage
	Frequency Regulation
	Spin/Non-Spin Reserves
	Voltage Support
	Black Start
Utility Services	Resource Adequacy
	Distribution Deferral

<sup>1</sup> System constraints include any circumstances where the existing set of resources, in the form of generation, transmission or distribution assets, are anticipated to be insufficient to provide energy services given expected loads and resources available to serve those loads.

<sup>2</sup> Clear information detailing the drivers of a given system constraint is of critical importance to ensure the potential solution set is not confined to supply-side solutions. For example, to the degree increased peak load is anticipated to cause a substation to become overloaded, the utilities should not only consider utility side of the meter solutions, but also load modifying solutions that can be deployed on the customer side of the meter that mitigate the rise in peak loads.

<sup>3</sup> We would not anticipate the utilities mapping planned investment or initiatives to “use cases” that fall under the umbrella of “Customer Services”, however we could see the utilities pursuing programs that encourage customers to utilize storage systems for these applications to the degree doing so can address an underlying system need.

<sup>4</sup> “The Economics of Battery Energy Storage”; Rocky Mountain Institute, October 2015; pg. 5, available at: [http://www.rmi.org/electricity\\_battery\\_value](http://www.rmi.org/electricity_battery_value)

	Transmission Congestion Relief
	Transmission Deferral
Customer Services	Time of Use Bill Management
	Increased PV Self Consumption
	Demand Charge Reduction
	Back-Up Power

The information contained in these evaluations would then serve as the basis to explore and ultimately source storage solutions that should be considered alongside, or in lieu, of the investments the utility would otherwise undertake to address those needs. This approach can help migrate utility planning processes by allowing a more systematic and deliberative consideration of options beyond status quo utility practices that typically focus on a fairly narrow set of infrastructure solutions. EFCA anticipates that in many circumstances storage will be among the solutions that are technically capable of addressing a given system need. EFCA is concerned that if the utilities are tasked with identifying opportunities where storage can be deployed, as opposed to describing system constraints and drivers, many opportunities may be left on the table. HB 2193 implementation offers a real opportunity to more fully tap into the creativity of the market to identify additional solutions beyond the status quo based on identified system needs.

These system-wide evaluations should be filed in draft form separately and subject to stakeholder review in advance of any specific efforts to move forward with sourcing storage to address identified system needs. EFCA believes that subsequent to the development of these evaluations, a workshop should be convened to discuss the evaluation reports to ensure that the information being provided is sufficiently granular and comprehensive for solution providers to come forward with robust proposals. Feedback provided by stakeholders, whether at the workshop directly or provided via comments responding to the draft system evaluations should be used to further refine the evaluation reports before the utilities undertake efforts to source storage or other solutions to address those needs.

2.) *What guidance, if any, should we provide about the analyses to be conducted?*

EFCA has no response at this time.

3.) *Should utilities systematically identify and rank order the areas of opportunity?*

Yes, as described above, the utilities should pursue a systematic evaluation of their systems and provide detailed information that describes the investments or initiatives the utilities plan to undertake, the cost of those investments or initiatives, the system constraints these investments are intended to address, and the drivers of those constraints. EFCA agrees that some ranking of these would be appropriate, perhaps based on the costs or urgency of the investment or the initiative that the utility currently envisions undertaking to address those needs. This would help

focus storage solution providers on the highest value opportunities while not foreclosing the option to suggest solutions that can address other system needs that perhaps offer lower value, but nonetheless could be addressed through the deployment of storage assets consistent with the goal of HB 2193. As part of these evaluations, the utilities should also proactively identify those system needs or constraints they believe could be addressed via a storage solution, but again, EFCA emphasizes the importance of soliciting proposals and ideas from the development community to ensure the state is fully benefitting from the creativity of the market as opposed to limiting its consideration of storage to a narrow set of pre-determined options.

4.) *What guidance, if any, should we provide about the details of the evaluation report filed with the Commission?*

Rather than offering specific suggestions at this time in terms of the details of the evaluation report, EFCA recommends that as an initial step that staff develop a template that can then be vetted by stakeholders. This template should lay out how the utilities should describe their system needs, consistent with the use cases and applications identified in section 3.1.a of HB 2193, and the constraints as well as the presumptive solution and associated costs the utility intends to pursue to address those constraints. Stakeholders should be provided the opportunity to provide feedback to staff on this template, which would then be refined accordingly and then populated with the relevant information by the utilities.

5.) *What should the evaluation report include and in what detail?*

The evaluation report should identify a given planned investment or procurement need, the key drivers that are creating the investment need (e.g. load growth, aging equipment, power quality issues, etc.), the specific attributes that define the need to be fulfilled, and the cost of the presumptive solution the utility believes it would otherwise pursue absent a storage or other alternative. This information should be provided in a way that is standardized across utilities and ideally be provided in machine-readable format.

6.) *What process, if any, should we use for review and comment on the analysis results? For example, should the utilities prepare a draft report for stakeholder and Commission review and comment?*

Yes. There should be an opportunity for stakeholder review and comment. See EFCA response to question 1 above.

7.) *Should the utilities report on the outcome of these RFIs? Should the results of such RFIs be included in the evaluation report?*

Before addressing the specific questions posed, EFCA wishes to express its support for the utilities issuing RFI as the appropriate step to follow the issuance of the evaluation report detailing system needs, drivers, and presumptive costs to address those system needs. This will

provide the specific opportunity for solution providers to put forward conceptual proposals that address identified system needs and/or underlying drivers.

EFCA also encourages the Commission to direct the utilities to not only solicit information regarding the specific solutions that might be deployed, but to also solicit input on the sourcing approaches that should be used to drive that deployment. For example, while in some instances, solicitations, like Requests for Proposals (RFPs), may be appropriate, in other instances, the Commission and the utilities may instead wish to pursue programmatic or tariff-based approaches through which customers would be encouraged to deploy and dispatch storage solutions to address a given need based on price-signals defined by a given tariff or incentive. HB 2193 represents an opportunity not only to demonstrate the ability of storage assets to address system needs but also on the mechanisms used to drive their deployment.

EFCA supports some level of public reporting on the responses to the RFIs, but also notes that any such public reporting will need to be balanced with the need to ensure that developers are able to submit pertinent confidential information that will be maintained as such. The utilities can and should provide an overview of general lessons learned or key observations emerging from the RFIs. However, in providing this overview, it will be critical that they do not compromise confidentiality. EFCA would anticipate a report providing an overview of the technology solutions being proposed to address what system needs, as well as the vendors offering those solutions, while keeping specific details regarding project financials, business terms and specific performance specifications confidential.

8.) *If yes, what action, if any, should we take on the report?*

EFCA believes the RFI should be used by the utilities to inform how they ultimately move forward with sourcing projects. The information gleaned from the RFI should prove helpful in identifying potential procurement approaches (including RFPs, as well as tariffs or incentive programs) as well as the specific needs that the utilities intend to procure or source storage to address. EFCA believes that before any sourcing is actually undertaken, the utilities should provide detail on how they intend to proceed with sourcing storage solutions, in terms of the specific materials that would be issued for any planned solicitations, as well as the nature of any tariff or programmatic approach they wish to pursue. As with other steps in this process, there should be a meaningful opportunity for stakeholders to provide feedback on these materials before the utilities move forward.

### **Should the Commission consider setting guidelines for competitive bidding?**

9.) *Should we establish guidelines for competitive bidding for storage projects?*

As EFCA is envisioning this process, once the utilities have conducted their RFI and developed and refined any solicitation materials based on stakeholder feedback, they would move forward with issuing solicitations to address those system needs that appear to offer, based on responses

to the RFI, meaningful opportunities to consider and deploy storage solutions. As noted above, however, we believe that in addition to competitive solicitations, the utilities and the Commission should not foreclose the opportunity to use tariff or programmatic based approaches in addition to RFP-based means of promoting storage or other alternatives. EFCA believes that to the degree the utilities and the Commission plan on systematizing consideration of alternatives to more conventional solutions to addressing system needs, ultimately a combination of RFP-style procurement as well as more organic, tariff or programmatic-based sourcing approaches should be considered.

In its “Integrated Distribution Planning” white paper, SolarCity discusses the idea of a distribution system loading order, in which the utilities first consider distributed resources and their ability to address system needs before considering more conventional utility infrastructure investments. In looking to distributed solutions, the paper describes varying degrees of certainty that can be ascribed to given resources in terms of the extent to which they will deliver the services needed based on the contractual obligations or ownership arrangement associated with the resource.<sup>5</sup> The important takeaway from this conceptual framework is that tariff-based approaches, in which customers voluntarily respond to price signals, while perhaps less certain than a firm contract or utility-owned infrastructure in terms of service delivery, should be recognized as contributing toward system needs. While their expected contribution may be less than full nameplate capacity, tariff based approaches can and should be considered. Indeed, HB 2193 provides an opportunity to assess the extent to which customers predictably respond to price signals provided via tariffs by deploying and dispatching storage systems to address system needs.

With respect to the RFP-based sourcing, the Commission should ensure that utilities solicit proposals that can address a specific problem rather than sourcing a specific solution. In other words, in their solicitation materials, and consistent with the evaluation reports described above, the utilities should describe the system constraint and key drivers of that constraint or system need and leave it to solution providers to come forward with the range of potential approaches that might be deployed to solve that problem in lieu of the presumptive utility alternative. In short, the need against which resources are being solicited should avoid prejudging the nature of the solution to be provided.

EFCA is particularly concerned that the utilities will tend to favor utility-side-of-the-meter solutions given their greater familiarity with deploying and managing these types of assets. Solicitations should be structured to ensure they do not inadvertently prevent viable, behind-the-meter solutions from being considered. Given this likely utility bias, EFCA submits that in the interest of ensuring project diversity, it would be preferable for the utilities, in meeting their HB

---

<sup>5</sup> “Integrated Distribution Planning”, SolarCity, September 2015, pgs. 8-10; available at [http://www.solarcity.com/sites/default/files/SolarCity%20White%20Paper%20-%20Integrated%20Distribution%20Planning\\_final.pdf](http://www.solarcity.com/sites/default/files/SolarCity%20White%20Paper%20-%20Integrated%20Distribution%20Planning_final.pdf)

2193 procurement obligations, to include some minimum number of behind-the-meter projects. We will discuss this in more detail in our response to question 12 below.

10.) *If yes, what guidelines should we prescribe? To what extent should the existing competitive bidding guidelines serve as the model?*

EFCA does not have any specific prescriptions for how competitive bidding should be pursued. That said, recognizing that this is a relatively new type of procurement for the utilities, and consistent with our response to question eight above, we do think it will be important for the utilities to provide stakeholders an opportunity to review and provide feedback on solicitation materials and the overall approach in advance of an RFP or RFO being issued.

11.) *What role, if any, should we have in reviewing bid results?*

EFCA believes it is important for the utilities to engage with Commission staff and solicit their feedback and reaction to the projects the utilities select via the competitive bidding process as one, albeit informal, means of ensuring that the rationale for selecting specific projects is equitable and reflects the overall objectives that the Commission and the State hope to achieve.

### **How should the Commission encourage diversity among projects?**

12.) *How should we encourage investment in different systems?*

To ensure that a diversity of projects is considered, it is important that different ownership structures be expressly allowed if not explicitly encouraged. As noted above, EFCA is concerned that in pursuing HB 2193 procurement, there will be an institutional preference by the utilities for front-of-the-meter projects. Similarly, we are concerned that there may be a preference for utility ownership of these assets. Were that bias to result in the exclusion of third-party owned, behind-the-meter storage assets from being pursued as part of HB 2193 sourcing efforts, EFCA believes a significant opportunity to gain experience would be lost. As has been observed by Rocky Mountain Institute, in the same paper cited above, behind-the-meter storage assets can potentially address the broadest range of potential applications and use cases by virtue of their location on the grid.<sup>6</sup> By virtue of being located behind the meter, these assets can provide retail services to end-use host customers, as well as provide a range of grid-facing services to both the ISO/RTO as well as the utility. However, despite this potential, behind-the-meter assets also face the most barriers because they require the utilities to engage with customer located resources in new ways. This may require both institutional changes as well as more practical changes, for example, the development of energy management systems that can communicate with and dispatch a fleet of behind-the-meter storage systems. We would also anticipate that accessing behind-the-meter storage assets could require changes to existing utility interconnection rules and practices. Given these considerations, EFCA believes it would be

---

<sup>6</sup> “The Economics of Battery Energy Storage; Rocky Mountain Institute, October 2015; pg. 6

appropriate for the Commission to expressly require some minimum number of behind-the-meter, third-party owned projects be pursued as part of the utilities' HB 2193 procurement. EFCA suggests that as part of their HB 2193 procurement, each utility be required to include at least two behind-the-meter, third party owned projects representing no less than 15% of the capacity they are required to procure pursuant to HB 2193. This would be consistent with the amount of behind-the-meter storage that the California Public Utilities Commission requires the investor owned utilities to procure in fulfilling the storage procurement targets established pursuant to Assembly Bill 2514.<sup>7</sup> These projects should assess not only the capabilities of individual projects to address system needs, but also the ability to aggregate and dispatch a collection of behind-the-meter systems to address those needs.

13.) *Should we require utilities to submit proposals for multiple storage projects that test the use of storage in different applications, test different ownership structures, demonstrate promising new uses and technologies, or test some other critical differentiating factor among projects?*

Some level of project diversification is desirable to maximize learning and experience with various technologies, business models, and approaches. At the same time, EFCA supports a competitive process to ensure that selected projects offer the greatest value to ratepayers and to the State. In general, we are relatively confident that, done correctly, a competitive process combined with our proposed requirement that the utilities pursue some minimum number of behind-the-meter, third party owned projects, will yield sufficient diversification. However, given the small scale of the procurement mandate, EFCA would support some discretion by the utilities and Commission staff in pursuing projects with an eye toward ensuring some level of diversification either in terms of which system needs the utilities are aiming to address, or in the selection process for projects submitted to any RFOs or RFPs that are issued to ensure some level of project diversification.

14.) *What differences in storage projects should be promoted (e.g., different use cases, different technologies, different ownership structures)?*

Given EFCA's membership, we are keenly interested in ensuring that behind-the-meter, third party owned systems are pursued as part of the HB 2193 procurement. As noted above, we believe that given the significant potential of behind-the-meter storage resources coupled with relatively limited experience the utilities have with utilizing these kind of resources, it is reasonable for the Commission to direct some minimum level of participation by these types of projects as the utilities pursue HB 2193 procurement to ensure they gain experience with this emerging approach. More generally, and assuming the process and requirements EFCA has proposed are implemented, we believe that a competitive process will yield a diversity of

---

<sup>7</sup> See Decision 13-10-040, Appendix A, pg. 2. The Decision requires the utilities to procure a minimum of 200 MW of "Customer Domain" projects, defined as projects behind the customer meter. This represents slightly more than 15% of the total procurement target of 1,325 MW.



projects. As also described, we believe that it would be reasonable to seek some level of diversification by allowing some discretion to be exercised by the utilities and with guidance from staff to ensure the projects being pursued do not focus exclusively on addressing a single category of system needs or use cases.

15.) *To what extent should the goal be to test and prove new and innovative applications or technologies?*

With regard to project diversification, please refer to our responses to questions 13 and 14 above. EFCA supports innovative applications, including utilization of aggregated behind-the-meter, third party owned storage assets. However, to the degree this question is asking whether HB 2193 should be used to prove out the capabilities of pre-commercial technologies, EFCA does not support utilizing HB 2193 procurement to do so. HB 2193 should be limited to those technologies that are commercially available, i.e. have been successfully deployed and operated, and prove out the ability to utilize those technologies to address system needs. There is a range of existing commercially available storage technologies today and EFCA believes HB 2193 procurement will yield the most value by demonstrating how these existing, already proven technologies can be leveraged to provide grid benefits.<sup>8</sup> Attempting to use HB 2193 to prove out pre-commercial technologies could, in many instances, result in foregone opportunities to assess the ability for the utilities to effectively integrate storage into their planning and operations to the extent these pre-commercial technologies simply fail to perform at all. Proving out the technical capabilities of pre-commercial technologies will subject HB 2193 projects to undue risk. Additionally, determining what pre-commercial technologies to pursue adds an additional layer of complexity and risk to the extent the utilities would need to establish some process by which to assess whether a given technology is sufficiently promising to merit pursuing.

#### **What information should utilities include with a proposal?**

16.) *What, if anything, should the guidelines add, clarify, or otherwise address as to these requirements?*

EFCA has no response at this time.

17.) *What additional information should utilities provide with their proposals, and why?*

EFCA has no response at this time.

18.) *How should we calculate cost-effectiveness?*

---

<sup>8</sup> The Department of Energy maintains a database that catalogs energy storage projects worldwide. See <http://www.energystorageexchange.org/projects>. Using data from this database, as of June 20, 2016, and excluding pumped hydro and compressed or liquefied air technologies, which tend to be larger scale projects, we find there are over 7.2 GW of projects that have either been announced, are under contract, under construction, or are operational. Just looking at operational projects, there are almost 3 GW of capacity deployed representing 35 different technologies globally.

EFCA supports project selection based on an evaluation of cost effectiveness. A cost effectiveness methodology can be applied to individual projects that developers submit in response to an RFP issued to address a given system need as well as to a tariff or programmatic approach the utilities may wish to consider as an alternative means of sourcing storage resources. In all cases, the cost effectiveness analysis should consider a comprehensive set of avoided costs (i.e. benefits) in addition to specifics about the need to be met by the selected resource. If the utility has evaluated a need and determined what it would typically deploy to meet that need, the cost of that “conventional” approach could be used as a baseline for storage proposals to be compared against. Below is an overview of the avoided cost categories that EFCA believes should be included in any cost-effectiveness analysis. These are pulled from a white paper developed by SolarCity entitled “A Pathway to the Distributed Grid”.

**Figure 2: Avoided Cost Categories<sup>9</sup>**

AVOIDED COST	DESCRIPTION
<b>Energy + Losses</b>	The value of wholesale energy that would otherwise be generated in the absence of DERs, adjusted for losses that would occur. In CA, the cost of carbon allowances from the Cap and Trade program is embedded in the wholesale energy value
<b>Generation Capacity</b>	The value of avoiding the need for system generation capacity resources to meet peak load and planning reserve requirements
<b>Transmission Capacity</b>	The value of avoiding the need to expand transmission capacity to meet peak loads
<b>Distribution Capacity</b>	The value of avoiding the need to expand distribution capacity to meet peak loads
<b>Ancillary Services</b>	The value of a reduced need for operational reserves based on load reduction through DERs
<b>Renewable Energy Compliance</b>	The value of reducing procurement requirements for renewable energy credits, due to reduced delivery of retail energy on which RPS compliance levels are based
<b>Societal Benefits</b>	The value of benefits that accrue to society, and are not costs directly avoided by the utility
<b>Voltage and Power Quality</b>	The value of avoiding or reducing the cost required to maintain voltage and frequency within acceptable ranges for customer service
<b>Conservation Voltage Reduction</b>	The value of enabling conservation voltage reduction benefits by providing localized voltage support
<b>Equipment Life Extension</b>	The value of extending the useful life and improving the efficiency of distribution infrastructure by reducing load and thermal stress equipment
<b>Reliability &amp; Resiliency</b>	The value of avoiding or reducing the impact outages have on customers
<b>Market Price Suppression</b>	The value of reducing the electric demand in the market, hence reducing market clearing prices for all consumers of electricity

19.) *How should the cost effectiveness of a proposal be compared to other proposals and to traditional non-storage solutions?*

As EFCA is envisioning this process, the utilities would issue individual solicitations to address specific system needs identified in their evaluation reports. To the degree there are multiple

<sup>9</sup> “A Pathway to the Distributed Grid”; SolarCity; February 2016; pg. 8; available at [http://www.solarcity.com/sites/default/files/SolarCity\\_Distributed\\_Grid-021016.pdf](http://www.solarcity.com/sites/default/files/SolarCity_Distributed_Grid-021016.pdf)

system needs identified, as we would expect, the utilities would issue separate solicitations for each. Bids submitted in response to these solicitations should simply be rank-ordered based on their relative cost effectiveness and selected accordingly. Collectively, project selection would also need to meet project diversification requirements or goals, including some minimum number of projects selected that involve behind-the-meter, third party owned assets.

At this time EFCA does not believe storage projects should be compared against other “non-traditional non-storage solutions”. While bids should be able to include other technologies, all bids submitted and evaluated should involve energy storage as a core component of what is being proposed. While this is necessarily a subjective standard, in order to fulfill the objectives of HB 2193, it is clear that participating solutions need to be storage-centric. Additionally, attempting to pursue an all-source procurement approach will dramatically expand the scope of what is submitted and considered by the utilities, complicating the selection process and perhaps crowding out storage projects that would otherwise be pursued, at cross purposes with the intent of the legislation.

20.) *What information and assessments should we require with a proposal to demonstrate the utility has conducted a full quantitative and qualitative assessment?*

The utilities should include the underlying analyses they used to assess and rank projects submitted in response to individual solicitations. Similarly, should the utilities choose to propose a tariff or programmatic based approach to source storage projects, they should provide details regarding nature of the proposed tariff or program and an assessment of the cost effectiveness of that program in addressing a given system need relative to the status quo alternative. To the degree the utility elects to pursue a proposed project to address a given system need in lieu of another proposal that offers greater cost effectiveness, the utility should provide an explanation regarding its rationale for doing so. For example, a utility may wish to select a lower ranked project as a means to ensure reasonable project diversification or to meet any required minimum procurement of behind-the-meter, third party owned solutions.

### **How should the Commission evaluate proposals?**

21.) *What criteria should we use to evaluate and compare projects? Should different criteria be used for different types of projects (e.g., should the criteria for evaluating and ranking a transmission investment deferral project be different than the criteria for evaluating a project that tests an emerging use or technology)?*

If we assume that the utilities issue RFOs to address specified system needs, we believe that projects should be compared and selected based on their relative cost effectiveness and subject to any behind-the-meter minimum procurement requirements. Additionally, as noted above, EFCA supports the utilities and the Commission being able to exercise some discretion to more generally ensure that some level of project diversification is achieved.

Should the utilities also propose tariff or programmatic based approaches, the Commission should evaluate such proposals based on their individual merits, considering their cost effectiveness as compared to the conventional alternative that would otherwise be pursued given reasonable assumptions regarding program or tariff participation, participating system costs, and the degree to which these proposals would support efforts to ensure HB 2193 supports a diversity of storage project types and business models.

22.) *Should we prioritize projects with immediate impacts, stress projects that hold promise of substantial benefits over the long-term, or seek a balance between projects serving different ends?*

As described in EFCA's responses above, we generally support cost effectiveness being the primary criterion used to rank and select projects, provided that the cost-effectiveness analysis considers the totality of benefits and that there is some minimum requirement for the number of behind-the-meter, third party owned projects that must be pursued.

23.) *Should we give greater weight to certain kinds of projects (say projects with a higher benefit-cost ratio) than to others?*

See EFCA's prior responses.

24.) *For a given use case, should we require utilities to evaluate alternatives to the use of storage?*

EFCA believes requiring the utilities to consider the universe of potential alternatives that could be used to address a given use case or system need is beyond the scope of this effort. In general, the utilities should be tasked with describing the solution they would ordinarily pursue under business-as-usual practices to address a given system need for which storage is being sourced and factor this business-as-usual solution into the assessments of storage project proposal cost effectiveness.

25.) *How should we weigh non-quantifiable benefits?*

In response to question 18, EFCA provided a list of avoided costs that we believe should be factored into any analysis of cost-effectiveness. We believe this list embodies the comprehensive set of benefits that should be factored in to any cost effectiveness assessment for purposes of ranking project proposals. EFCA believes that all of these avoided costs can be quantified.

Beyond cost effectiveness, project diversification is a non-quantifiable benefit that should be factored into what projects are collectively pursued. In the responses above, EFCA indicated the view that there should be some discretion afforded to the utilities and the Commission to ensure that HB 2193 results in some level of project diversification. This will be a subjective determination, but nonetheless, is an important consideration. Similarly, EFCA reiterates its

position that the Commission should require the utilities to pursue some minimum amount of behind-the-meter, third party owned storage solutions as part of their HB 2193 procurement efforts also with the intent of supporting project and business model diversification.

DATED this 22nd day of June, 2016

Respectfully Submitted,

KEYES, FOX & WIEDMAN, LLP

*/s/ Kevin T. Fox*

Kevin T. Fox, OSB# 052551

1580 Lincoln St., Suite 880

Denver, CO 80203

Phone: 510-314-8201

E-mail: [kfox@kfwlaw.com](mailto:kfox@kfwlaw.com)

*Counsel to the Energy Freedom  
Coalition of America*