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**BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH**

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In the Matter of PacifiCorp's 2021 Integrated Resource Plan	Docket No. 21-035-09
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**THE RENEWABLE ENERGY COALITION COMMENTS**

**I. INTRODUCTION**

The Renewable Energy Coalition (the "Coalition") respectfully submit these Comments for consideration by the Utah Public Service Commission (the "Commission" or "UPSC") in the matter of PacifiCorp's 2021 Integrated Resource Plan ("IRP"). PacifiCorp's 2021 IRP assumes that no qualifying facilities ("QFs") will renew their contracts. Further, it does not appear PacifiCorp produced a sensitivity analysis nor provided an adequate explanation of the impact of renewing QF contracts on its load resource balance, or if it did it is not clearly articulated.

The Commission should acknowledge that the majority of QFs renew their contracts, and that these renewing QFs provide value to PacifiCorp and ratepayers, and request PacifiCorp to assume in its IRP that all or a reasonable number of existing QFs will renew their contracts. If the Commission requests PacifiCorp to determine an estimate of the number of existing QFs that will renew their contracts (rather than directing PacifiCorp to assume that QFs renew their

contracts), then that should be completed prior to PacifiCorp's next avoided cost update. Further, the Commission should request PacifiCorp to produce a sensitivity analysis regarding QF renewal.

QFs provide value to the system when they renew their power purchase agreements ("PPAs"). PacifiCorp has modeled the impact of renewing QFs on its resource acquisition decisions, which demonstrate that QFs provide significant capacity value to PacifiCorp's system. The modeling from the 2019 IRP revealed that by assuming that all existing QFs will renew their contracts at the end of their current PPAs, PacifiCorp would defer the acquisition of a simple-cycle combustion turbine ("SCCT") by three years. PacifiCorp should recognize the value QFs provide in its IRP and should appropriately compensate them for this value when they renew their PPAs.

PacifiCorp's assumption that no QFs renew their contracts feeds into PacifiCorp's avoided cost pricing for renewing QFs. When existing QFs renew their contracts, they suddenly go from being paid for their capacity for years at the end of their prior PPAs, to being paid nothing for their capacity for years at the beginning of their new PPA. Nothing, practically speaking, has changed. The QF is still providing the same value to PacifiCorp's system, it is just no longer being paid for it. This result must be remedied, especially in light of PacifiCorp's analysis confirming this conclusion.

## **II. COMMENTS**

### **A. PacifiCorp's QF Assumptions Are Not Consistent with Prudent and Reasonable Planning**

The Commission should not acknowledge PacifiCorp's QF renewal assumptions because they are unreasonable and not consistent with least cost and least risk planning. In addition, PacifiCorp's assumptions should be rejected because they are not the type of reasonable and

accurate assumptions that the Commission would allow a utility to make when setting fair, just, and reasonable retail rates. The IRP process is designed to demonstrate the “electrical utility’s options for meeting the requirements shown in its load and resource forecast in an economic and reliable manner.”<sup>1</sup>

QF contracts, even more than other contracts without a mandatory purchase obligation, should be appropriately and reasonably forecasted like other resources and costs that are included in rates. QFs that entered into a contract, but are not yet commercially operational, are generally expected to come on line, but they have a much lower chance of reaching their commercial operation date than existing QFs that are already operating. The Coalition is not aware of any other input or assumption in PacifiCorp’s IRP in which it is known for certain that the cost or benefit will be incurred (here the renewal of most existing QF contracts), but that PacifiCorp simply ignores the costs. QF renewals are one option PacifiCorp has to help meet its load and resource forecast and should be addressed in its IRP.

## **B. PacifiCorp’s Inaccurate Assumptions Are an Outlier**

### **1. Idaho Power Assumes the Majority of Its QFs Renew Their Contracts and the Idaho Public Utilities Commission Requires Idaho Power to Compensate QFs for the Capacity Value the Renewing QFs Provided**

Idaho Power uses reasonable assumptions regarding QF renewals and the Idaho Public Utilities Commission (“IPUC”) has recognized that renewing QFs provide capacity value to utilities. It is unreasonable to assume a zero percent QF renewal rate and unreasonable not to compensate the QFs for the capacity they provide to the utility. The Commission should require PacifiCorp to use reasonable assumptions like Idaho Power and fairly compensate QFs for the capacity they provide such as IPUC has required.

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<sup>1</sup> UTAH CODE § 54-17-102(3)(b).

Idaho Power in its 2019 IRP assumes all non-wind QFs such as hydroelectric and solar will renew after contract expiration.<sup>2</sup> In the 2021 IRP, Idaho Power assumes 25 percent of wind QFs will renew and performed sensitivities for low QF wind renewal (0 percent) and high QF wind renewal (100 percent).<sup>3</sup> Idaho Power bases its decision to assume 25 percent of wind QFs will renew from “ongoing discussion with wind developers.”<sup>4</sup>

The IPUC also requires utilities to appropriately compensate QFs for the capacity they provide to the utility when the QF renews. The IPUC

[found] it reasonable for utilities to establish capacity deficiency at the time the initial. . . contract is signed. As long as the QF renews its contract and continuously sells power to the utility, the QF is entitled to capacity based on the capacity deficiency date established at the time of its initial contract.<sup>5</sup>

The IPUC reasoned that “[t]his adjustment recognizes that in ensuing contract periods, the QF is considered part of the utility’s resource stack and will be contributing to reducing the utility’s need for capacity.”<sup>6</sup>

## **2. The Oregon Public Utility Commission Is Beginning to Require Oregon Utilities to Conduct Reasonable Forecasts of QF Renewals**

The Oregon Public Utility Commission (“OPUC”) has provided guidance to utilities such as PacifiCorp to provide reasonable renewal assumptions in IRPs. The OPUC has acknowledged that “non-renewal may not be the best planning assumption when many (or most) QFs do, in

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<sup>2</sup> *In re Idaho Power Company IRP*, OPUC Docket No. LC 74, Renewable Energy Coalitions’ Final Comments at 5, fn. 9 & Attachment A (Jan. 8, 2021).

<sup>3</sup> *In re Idaho Power 2021 IRP*, IPUC Docket No. IPC-E-21-43, Idaho Power 2021 IRP at 122 (Dec. 30, 2021).

<sup>4</sup> IPUC Docket No. IPC-E-21-43, Idaho Power 2021 IRP at 122.

<sup>5</sup> *In re Idaho Power Company’s, Avista Corporation’s, and Rocky Mountain Power Company’s Petitions to Modify Terms and Conditions of PURPA Purchase Agreements*, IPUC Docket Nos. IPC-E-15-01, AVU-E-15-01, PAC-E-15-03, Order No. 33357 at 25-26 (Aug. 20, 2015).

<sup>6</sup> IPUC Docket Nos. IPC-E-15-01, AVU-E-15-01, PAC-E-15-03, Order No. 33357 at 26.

fact, renew.”<sup>7</sup> The Commission then, directed “PacifiCorp, Staff and parties [to] discuss a potential study of the capacity value of renewing QFs, and Staff shall bring this issue to a public meeting before the 2017 IRP Update.”<sup>8</sup> PacifiCorp did provide that analysis as discussed below.

In the OPUC’s Order acknowledging PacifiCorp’s 2019 IRP, the OPUC stated:

Regarding the QF issues, we accept PacifiCorp's commitment to produce a sensitivity or other explanation of the impact of renewing QFs on its load resource balance and direct PacifiCorp to include this in its 2021 IRP. We appreciate Staff and REC showing us a process for linking the quantification of QF capacity with the valuation of that capacity in avoided cost rates. We expect that QF renewals provide some capacity value and will consider this issue further in other proceedings.<sup>9</sup>

Thus, the OPUC acknowledged that QF renewals provide some capacity value and directed PacifiCorp to complete a sensitivity analysis regarding QF renewals on its load resource balance or provide another explanation of the impact of renewing QFs.<sup>10</sup>

In Idaho Power’s 2019 IRP, the OPUC concluded that Idaho Power was not accurately estimating whether certain wind QFs were renewing their contracts ordering Idaho Power to develop “reasonable assumptions through a sensitivity analysis” and “explain how the sensitivities resulting from the study would affect the IRP’s preferred portfolio and action plan if incorporated” for its next IRP.<sup>11</sup> The OPUC acknowledged Idaho Power’s assumption that all non-wind QFs will renew their contracts.

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<sup>7</sup> *In re PacifiCorp 2017 Integrated Resource Plan*, OPUC Docket No. LC 67, Order No. 18-138 at 12 (Apr. 27, 2018).

<sup>8</sup> OPUC Docket No. LC 67, Order No. 18-138, Appendix A at 22.

<sup>9</sup> *In re PacifiCorp 2019 IRP*, OPUC Docket No. LC 70, Order No. 20-186 at 13 (June 8, 2020).

<sup>10</sup> PacifiCorp has stated it elected to provide an “other explanation” in lieu of a sensitivity analysis. The Coalition does not believe this “other explanation” is adequate and the issue is being addressed in OPUC Docket No. LC 77.

<sup>11</sup> *In re Idaho Power Company 2019 Integrated Resource Plan*, OPUC Docket No. LC 74, Order No. 21-184 at 19-20 (June 4, 2021).

Further, in Portland General Electric Company’s (“PGE’s”) 2019 IRP, the Commission ordered PGE to “refresh the same inputs that it updated in November 2019 in this proceeding, with...updated QF levels and sensitivities[.]”<sup>12</sup> All of these IRP directives to produce QF sensitivity analyses suggest the Commission’s intent in PacifiCorp’s 2019 IRP acknowledgement was for PacifiCorp to produce a similar sensitivity analysis or equivalent explanation. PacifiCorp’s explanation in its 2021 IRP is not adequate or equivalent to a sensitivity analysis.

In OPUC Docket No. UM 1728, PGE also committed to develop “QF online and renewal sensitivity analyses” in advance of its next IRP.<sup>13</sup> Specifically, PGE stated

For QFs with contracts that are executed but that are not yet operational at the time of the snapshot, PGE will examine factors including but not be limited to: the historic percentage of PGE’s QFs having reached commercial operations, the opportunities to sell power to other utilities, sophistication and experience of project developers, contractual provisions, technology, and interconnection risks. At least one analysis will start with PGE’s historic percentage of PGE’s QFs that have reached commercial operations. For QF renewals, PGE will examine factors including but not limited to: the historic percentage of PGE’s QFs that have renewed their contracts, the sophistication and experience of project developers, contractual provisions, technology, the opportunity to sell power to other utilities, and interconnection risks. At least one analysis will start with PGE’s historic percentage of PGE’s QFs that have renewed their contracts. PGE will also review the historic percentage of QFs reaching completion and renewals for other utilities.<sup>14</sup>

**C. PacifiCorp Should Assume that All or the Vast Majority of Operating QFs Will Renew and Enter into New PPAs**

It is not reasonable to assume that no QFs will continue operating and delivering power to PacifiCorp beyond their current PPA. Utilities should consider any resource that could help

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<sup>12</sup> *In re Portland General Electric Company 2019 Integrated Resource Plan*, OPUC Docket No. LC 73, Order No. 20-152 at 12 (May 6, 2020).

<sup>13</sup> *In re PGE Updates to Schedule 201 QF (10 MW or less) Avoided Cost*, OPUC Docket No. UM 1728, Order No. 21-215, Appendix A at 12 (July 6, 2021).

<sup>14</sup> OPUC Docket No. UM 1728, Order No. 21-215, Appendix A at 12.

meet its “load and resource forecast in an economic and reliable manner.”<sup>15</sup> In PacifiCorp’s 2021 IRP, PacifiCorp assumes no QFs will renew their contracts.<sup>16</sup> The Commission should request PacifiCorp to assume that all or a reasonable amount of QFs will renew their PPAs.

It is more likely than not that a QF will renew or seek to enter a new contract with PacifiCorp at the conclusion of its current contract. A new QF can often decide in which utility’s service territory it wants to locate to achieve the best outcome. However, once operational, the QF has fewer options to sell its electricity, because it will likely incur significant transmission charges if it wants to sell to a more distant utility. While some QFs are able to sell to a more distant utility, the vast majority continue to sell to their currently interconnected utility. Therefore, existing QFs are more likely to renew or enter a new contract with the utility to which they are already directly interconnected.

PacifiCorp’s own records show that virtually all QFs will continue operating and renew their contracts. At the time of PacifiCorp’s last IRP, of the thirty-six QFs that have had a PPA with PacifiCorp expire, only one has shut down.<sup>17</sup> The vast majority have renewed or executed a new contract with PacifiCorp and will continue to operate and provide significant value to PacifiCorp’s system for years to come. For example, Cottonwood Hydro in Utah, a 1.1 MW hydro facility, initially executed a PPA with PacifiCorp in 2003, which expired in 2008, and is

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<sup>15</sup> UTAH CODE § 54-17-102(3)(b).

<sup>16</sup> PacifiCorp’s 2021 IRP, Figure 6.2 – Contract Capacity in the 2021 IRP Summer Load and Resource Balance at 148 (depicting a decline of QF contracts from 2021 to virtually none in 2040); *See* Tables 6.11, 6.12, 9.17, 9.18, and 9.19 at 154-57, 307-12 (similar trends as in Figure 6.2).

<sup>17</sup> *See* Docket No. LC 70, Renewable Energy Coalition Opening Comments, Attachment B (PacifiCorp’s Response to Coalition Data Request 1 and Attachment REC 1 dated Nov. 26, 2019) (Jan. 10, 2020). Note: one other QF appears to have renewed at the expiration of its initial PPA, but then apparently “self-terminated.” It is not clear whether this QF has shut down completely or chose to sell to someone else.

currently operating under a renewed contract that does not expire until 2025.<sup>18</sup> Another example in Utah is Draper Irrigation Company, a 0.51 MW hydro facility, initially executed a PPA with PacifiCorp in 2004, which expired in 2006, and is currently operating under a renewed contract that does not expire until 2032.<sup>19</sup> PacifiCorp has been renewing QF contracts for longer than early 2000. For example, Biomass One, L.P., an approximately 30 MW biomass facility, initially executed a PPA with PacifiCorp in 1987, which expired in 2011, and is currently operating under a renewed contract that does not expire until 2036.<sup>20</sup> Farmers Irrigation District, which operates a 4.15 MW hydro facility, initially executed a PPA in 1983, which expired in 2010, and continues to operate under a renewed PPA expiring in 2025.<sup>21</sup> These QFs are examples of the types of businesses that have been providing PacifiCorp with power for decades yet are not fully compensated for the capacity value they provide.

These QFs show that a QF's lifespan significantly outlasts that of a single PPA. Many of these facilities are built to last 100 years, and a single PPA entered into now is only a maximum of 15-20 years long depending on the state policies regarding contract term length. It is rare for one of these plants to shut down after the initial PPA. This is especially true because many QFs likely acquire their up-front capital financing based only on the initial PPA, so continuing to operate beyond that first PPA, could theoretically be under much more favorable economics.

Thus, it is more likely that all QFs will renew or that nearly all will renew, and at a minimum, PacifiCorp's default assumption that no QFs renew is not correct. If the Commission

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<sup>18</sup> Attachment A (PacifiCorp Data Response to Renewable Energy Coalition Data Request 5 in OPUC Docket No. LC 77).

<sup>19</sup> Attachment A.

<sup>20</sup> OPUC Docket No. LC 70, Renewable Energy Coalition Opening Comments, Attachment B.

<sup>21</sup> OPUC Docket No. LC 70, Renewable Energy Coalition Opening Comments, Attachment B.



does not request PacifiCorp to assume that all QFs renew their contracts, then it should request PacifiCorp to develop QF online and renewal sensitivity analyses similar to a stipulation in OPUC Docket No. UM 1728.

**D. QFs Provide Significant Capacity Value to PacifiCorp**

QFs provide significant value to PacifiCorp. PacifiCorp ultimately provided a study in response to the OPUC’s Order in Docket No. LC 67, which models QF renewals.<sup>22</sup> The results appear significant.<sup>23</sup> Assuming that all QF PPAs continued through the end of the study period, an SCCT that would have been constructed in 2026 is pushed out to 2029, and an additional SCCT replaces some battery storage in 2029.<sup>24</sup>

This analysis reveals that assuming QF renewals can have a major impact on PacifiCorp’s forecasted capacity needs and the more fundamental point: existing QFs already provide significant capacity value and should be compensated for it when they renew.

**E. The Commission Can Acknowledge the Value of Existing QF Capacity in Two Possible Ways**

In the IRP process, the Commission should acknowledge that QFs provide significant capacity value to PacifiCorp and request that PacifiCorp recognize such value as well. While the Commission does not address QF avoided cost pricing in the IRP process, the assumptions made in the IRP often flow directly into the avoided costs. Here, the Commission can request

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<sup>22</sup> See OPUC Docket No. LC 70, Renewable Energy Coalition Opening Comments, Attachment B (PacifiCorp’s 1st Supplemental Response to Coalition Data Request 4 dated Dec. 18, 2019).

<sup>23</sup> The Coalition has not independently verified the accuracy of PacifiCorp’s methodology in that study.

<sup>24</sup> See OPUC Docket No. LC 70, Renewable Energy Coalition Opening Comments, Attachment B (PacifiCorp’s 1st Supplemental Response to Coalition Data Request 4 dated Dec. 18, 2019).

PacifiCorp to implement two possible solutions to compensate existing QFs for the significant capacity value they provide.

First, the Commission could request that PacifiCorp simply continue paying a QF the capacity payment at the beginning of their renewed PPA, i.e., there would be no “sufficiency period” at the beginning of the new contract. As explained above, this is how the IPUC has addressed this issue.

Second, the Commission could request PacifiCorp to determine exactly what capacity value the QFs provide, and simply compensate them for that value. The deferral of the construction of a gas plant and the avoidance of battery storage is of significant value to PacifiCorp and its ratepayers. The Commission should not determine the specific amount of value at this time but should allow Staff and stakeholders to review and vet PacifiCorp’s analysis when the rates are actually calculated.

However, it is far more difficult to determine this appropriate value with the analysis that PacifiCorp has performed in this proceeding. Therefore, the Commission should request that PacifiCorp to reasonable assumptions of QF contract renewals and provide this estimate prior to its next avoided cost update.

### **III. CONCLUSION**

For the reasons articulated herein, the Commission should not acknowledge PacifiCorp’s 2021 IRP assumptions, request that PacifiCorp assume that QFs will renew or enter new contracts with PacifiCorp at the end of their current contracts, request PacifiCorp to complete a sensitivity analysis, and request PacifiCorp to develop a reasonable estimate of the capacity value that renewing QFs provide.

Dated this 4th day of March 2022.

Respectfully submitted,

Sanger Law, PC



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## **CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing was served on this 4th day of March 2022 upon the following as indicated below:

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**Attachment A**

**PacifiCorp Data Response to Renewable Energy Coalition Data Request 5 in  
OPUC Docket No. LC 77 (PacifiCorp 2021 IRP)**

LC 77 / PacifiCorp  
February 3, 2022  
REC Data Request Set 2 (5)

### **REC Data Request 5**

Please refer to REC Data Request 1.1 and PacifiCorp's Response to REC Data Request 1.1 including Attachment REC 1.1. For each qualifying facility, please indicate the state where the facility is located. Please provide this information in an updated version of Attachment REC 1.1.

### **Response to REC Data Request 5**

The Company continues to object to REC Data Request 1 and now REC Data Request 5 on grounds that it seeks information that is not relevant and the request is not reasonably calculated to lead to information relevant to the discovery of admissible evidence. The 2021 Integrated Resource Plan (IRP) is forward looking, covering the period 2021 through 2040. Qualifying facilities (QF) included in the IRP are existing / executed QF power purchase agreements (PPA). The IRP does not make any assumptions for QF PPAs based on historical information. Subject to and without waiving the foregoing objection and based on the foregoing clarification, the Company responds as follows:

Please refer to the Company's 1<sup>st</sup> Supplemental response to REC Data Request 1.

REC Data Request 1										Additional Column
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	
Plant Name	PPA Execution Date	Resource Type	Nameplate Capacity (MW)	Commercial Operation Date (COD)	Original COD	Type of PPA (Standard / Non-standard)	Current PPA Expiration Date	Vintage of PPA	Facility / PPA Status	State
Adams Solar Center, LLC	August 7, 2014	Solar	10.0	July 27, 2018	November 27, 2017	Standard	October 30, 2036	Original	Operating	Oregon
Bear Creek Solar Center, LLC	August 7, 2015	Solar	10.0	September 28, 2018	December 8, 2017	Standard	October 30, 2036	Original	Operating	Oregon
Bell Mountain Hydro LLC (Ted Sorenson)	February 4, 2010	Hydro	0.28	February 4, 2010	December 1, 2009	Standard	August 31, 2029	Original	Operating	Idaho
Bell Mountain Power (Jake Amy)	January 3, 1985	Hydro	0.45	December 1, 1986	January 3, 1985	Standard	December 31, 2021	Original	Operating	Idaho
Bell Mountain Power (Jake Amy)	November 18, 2020	Hydro	0.60	December 1, 1986	January 3, 1985	Standard	December 31, 2022	Amended	Amendment executed	Idaho
Beryl Solar	June 4, 2013	Solar	3.0	August 24, 2015	July 31, 2015	Standard	July 30, 2035	Original	Operating	Utah
Big Top LLC (QF)	December 19, 2008	Wind	1.65	August 1, 2009	March 24, 2009	Standard	January 29, 2029	Original	Operating	Oregon
Birch Creek Hydro	August 21, 1984	Hydro	2.65	August 21, 1994	August 21, 1994	Standard	December 31, 2040	Original	Operating	Idaho
Bly Solar Center, LLC	July 24, 2014	Solar	8.5	December 21, 2018	January 24, 2018	Standard	October 30, 2036	Original	Operating	Oregon
Bogus Creek	March 11, 1983	Hydro	0.16	March 11, 1983	March 11, 1983	Unknown	December 31, 1997	Original	PPA Expired	California
Bogus Creek	Amended	Hydro	0.16	Existing	Existing	Unknown	December 31, 2040	Amended	Operating	California
Buckhorn	June 4, 2013	Solar	3.0	December 23, 2015	July 31, 2015	Standard	July 30, 2035	Original	Operating	Utah
Bureau of Land Management - Rawlins Office	August 13, 2012	Wind	0.10	March 12, 2013	August 13, 2012	Standard	August 31, 2022	Original	Operating	Wyoming
Butter Creek Power LLC	December 19, 2008	Wind	4.95	August 1, 2009	March 12, 2009	Standard	January 29, 2029	Original	Operating	Oregon
BYU Idaho	January 23, 2015	Natural Gas	5.60	September 30, 2015	August 1, 2015	Standard	July 31, 2017	Original	PPA Expired	Idaho
BYU Idaho	Renewal	Natural Gas	5.60	Existing	Existing	Standard	September 28, 2037	Renewal	Operating	Idaho
C Drop	October 18, 2011	Hydro	1.10	May 3, 2012	March 15, 2012	Standard	May 02, 2032	Original	Operating	Oregon
Captain Jack Solar	June 8, 2020	Solar	2.70	Not COD yet	December 31, 2021	Standard	December 30, 2041	Original	Construction	Oregon
Cargill, Q3 (Kettle Butte Dairy)	February 8, 2011	Biogas	1.70	June 14, 2011	February 26, 2011	Standard	February 28, 2021	Original	PPA Expired	Idaho
CDM Hydro	December 4, 1984	Hydro	6.00	March 1, 1986	December 4, 1984	Standard	March 31, 2021	Original	PPA Expired	Idaho
CDM Hydro	March 29, 2020	Hydro	7.45	Existing	Existing	Standard	March 31, 2041	Renewal	Operating	Idaho
Cedar Valley	June 4, 2013	Solar	3.0	December 7, 2015	September 12, 2015	Standard	July 30, 2035	Original	Operating	Utah
Central Oregon Irrigation District	April 12, 1983	Hydro	6.00	September 1, 1989	September 1, 1989	Standard	December 30, 2020	Original	PPA Expired	Oregon
Central Oregon Irrigation District	Renewal	Hydro	6.00	Existing	Existing	Standard	December 31, 2024	Renewal	Operating	Oregon
Central Oregon Irrigation District - Juniper Ridge	August 17, 2009	Hydro	5.00	October 4, 2010	October 4, 2010	Standard	August 01, 2030	Original	Operating	Oregon
Chiloquin Solar	October 12, 2015	Solar	9.90	January 26, 2018	October 30, 2017	Standard	December 15, 2036	Original	Operating	Oregon
City of Albany, Dept of Public Works	April 4, 2008	Hydro	0.50	January 20, 2009	April 7, 2008	Standard	October 09, 2023	Original	Operating	Oregon
City of Astoria	January 5, 2015	Hydro	0.03	April 8, 2015	February 10, 2015	Standard	December 18, 2029	Original	Operating	Oregon
City of Buffalo	October 26, 1995	Hydro	0.20	August 1, 1997	August 1, 1997	Standard	December 31, 2015	Original	PPA Expired	Wyoming
City of Buffalo	Renewal	Hydro	0.20	Existing	Existing	Standard	December 31, 2021	Renewal	Operating	Wyoming
City of Portland, Portland Hydro Bureau	April 4, 2008	Hydro	0.03	November 1, 2012	December 1, 2011	Standard	February 28, 2027	Original	Operating	Oregon
Commercial Energy Management	November 21, 1991	Hydro	0.90	May 1, 1993	January 1, 1992	Unknown	May 31, 2020	Original	PPA Expired	Idaho
Commercial Energy Management	March 20, 2020	Hydro	0.90	May 1, 1993	January 1, 1992	Unknown	February 28, 2021	Amended	PPA Expired	Idaho
Commercial Energy Management	February 26, 2021	Hydro	0.90	May 1, 1993	January 1, 1992	Unknown	November 30, 2036	Renewal	Operating	Idaho
Consolidated Irrigation Company	September 11, 2015	Hydro	0.48	September 16, 2015	September 16, 2015	Standard	October 26, 2035	Original	Operating	Idaho
Cottonwood Hydro (FKA Alta Energy)	October 23, 2003	Hydro	1.10	January 1, 2005	January 1, 2005	Standard	December 31, 2008	Original	PPA Expired	Utah
Cottonwood Hydro (FKA Alta Energy)	Renewal	Hydro	1.10	Existing	Existing	Standard	December 31, 2009	Renewal	PPA Expired	Utah
Cottonwood Hydro (FKA Alta Energy)	Renewal	Hydro	1.10	Existing	Existing	Standard	December 31, 2011	Renewal	PPA Expired	Utah
Cottonwood Hydro (FKA Alta Energy)	Renewal	Hydro	1.10	Existing	Existing	Standard	December 31, 2025	Renewal	Operating	Utah
Deschutes Valley Hydro District	June 29, 1982	Hydro	4.30	January 1, 1985	November 15, 1982	Unknown	December 31, 2020	Original	PPA Expired	Oregon
Deschutes Valley Hydro District	Renewal	Hydro	4.30	Existing	Existing	Standard	December 31, 2035	Renewal	Operating	Oregon
Dorena Hydro	April 28, 2011	Hydro	6.10	December 11, 2014	December 1, 2012	Standard	November 30, 2032	Original	Operating	Oregon
Draper Irrigation Company	October 14, 2004	Hydro	0.51	October 14, 2004	September 1, 2004	Standard	October 13, 2006	Original	PPA Expired	Utah
Draper Irrigation Company	Renewal	Hydro	0.51	Existing	Existing	Standard	October 13, 2009	Renewal	PPA Expired	Utah
Draper Irrigation Company	Renewal	Hydro	0.51	Existing	Existing	Standard	October 13, 2012	Renewal	PPA Expired	Utah
Draper Irrigation Company	Renewal	Hydro	0.51	Existing	Existing	Standard	February 29, 2032	Renewal	Operating	Utah
Dry Creek	May 2, 1986	Hydro	4.00	April 1, 1987	May 2, 1986	Unknown	April 30, 2022	Original	Operating	Idaho
Dry Creek	April 20, 2021	Hydro	4.00	April 1, 1987	May 2, 1986	Standard	April 30, 2042	Renewal	Renewal executed	Idaho
Eagle Point Irrigation District (Nichols Gap)	September 28, 1983	Hydro	0.72	March 1, 1987	September 28, 1983	Unknown	December 31, 2021	Original	Operating	Oregon
EBD Hydro (Apple)	April 6, 2012	Hydro	2.99	June 11, 2015	April 15, 2013	Standard	April 14, 2028	Original	Operating	Oregon
Elbe Solar Center, LLC	August 7, 2014	Solar	10.0	August 10, 2018	December 5, 2017	Standard	October 30, 2036	Original	Operating	Oregon
Enterprise Solar LLC	June 12, 2014	Solar	80.0	July 29, 2016	October 31, 2016	Non standard	July 21, 2036	Original	Operating	Utah
Escalante Solar I LLC	June 12, 2014	Solar	80.0	August 31, 2016	October 31, 2016	Non standard	August 30, 2036	Original	Operating	Utah
Escalante Solar II LLC	June 12, 2014	Solar	80.0	August 31, 2016	October 31, 2016	Non standard	August 30, 2036	Original	Operating	Utah
Escalante Solar III LLC	June 12, 2014	Solar	80.0	August 31, 2016	October 31, 2016	Non standard	August 30, 2036	Original	Operating	Utah
Farm Power Misty Meadow	March 29, 2012	Biogas	0.75	May 6, 2013	March 29, 2012	Standard	September 30, 2027	Original	Operating	Oregon
Farmers Irrigation	June 29, 1983	Hydro	4.15	June 29, 1987	June 29, 1983	Unknown	December 31, 2010	Original	PPA Expired	Oregon
Farmers Irrigation	Renewal	Hydro	4.15	Existing	Existing	Standard	December 31, 2025	Renewal	Operating	Oregon



Plant Name	PPA Execution Date	Resource Type	Nameplate Capacity (MW)	Commercial Operation Date (COD)	Original COD	Type of PPA (Standard / Non-standard)	Current PPA Expiration Date	Vintage of PPA	Facility / PPA Status	State
Fiddler's Canyon 1	May 29, 2013	Solar	3.0	September 22, 2015	May 30, 2015	Standard	May 29, 2035	Original	Operating	Utah
Fiddler's Canyon 2	May 29, 2013	Solar	3.0	September 22, 2015	May 30, 2015	Standard	May 29, 2035	Original	Operating	Utah
Fiddler's Canyon 3	October 29, 2013	Solar	3.0	December 21, 2015	October 15, 2015	Standard	October 14, 2035	Original	Operating	Utah
Finley Bioenergy	October 24, 2007	Biogas	4.80	December 25, 2007	October 24, 2007	Standard	November 15, 2022	Original	Operating	Oregon
Four Corners Windfarm LLC	June 16, 2009	Wind	10.00	September 11, 2009	September 11, 2009	Standard	June 30, 2029	Original	Operating	Oregon
Four Mile Canyon Windfarm LLC	June 16, 2009	Wind	10.00	September 11, 2009	September 11, 2009	Standard	June 30, 2029	Original	Operating	Oregon
Galesville Dam (Douglas County)	September 1, 1982	Hydro	1.80	February 1, 1987	September 1, 1982	Unknown	December 31, 2021	Original	Operating	Oregon
Georgetown Irrigation	July 2, 1984	Hydro	0.33	December 1, 1985	December 15, 1984	Unknown	March 31, 2021	Original	PPA Expired	Idaho
Georgetown Irrigation	March 30, 2021	Hydro	0.33	December 1, 1985	December 15, 1984	Unknown	March 31, 2022	Amended	Operating	Idaho
Granite Mountain East	April 6, 2015	Solar	80.0	September 21, 2016	October 31, 2016	Non standard	August 11, 2036	Original	Operating	Utah
Granite Mountain West	April 6, 2015	Solar	50.4	September 30, 2016	October 31, 2016	Non standard	September 07, 2036	Original	Operating	Utah
Granite Peak	October 18, 2013	Solar	3.0	August 21, 2015	July 31, 2015	Standard	July 30, 2035	Original	Operating	Utah
Greenville	June 4, 2013	Solar	2.2	October 29, 2015	July 31, 2015	Standard	July 30, 2035	Original	Operating	Utah
Hill Air Force Base	January 10, 2005	Biogas	2.46	January 10, 2005	January 10, 2005	Standard	January 09, 2025	Original	Operating	Utah
Iron Springs Solar	April 6, 2015	Solar	80.0	August 15, 2016	October 31, 2016	Non standard	August 14, 2036	Original	Operating	Utah
J Bar 9 Ranch	August 15, 2011	Wind	0.10	November 17, 2011	October 31, 2011	Standard	October 31, 2016	Original	PPA Expired	Wyoming
J Bar 9 Ranch	Renewal	Wind	0.10	Existing	Existing	Standard	October 31, 2018	Renewal	PPA Expired	Wyoming
J Bar 9 Ranch	Renewal	Wind	0.10	Existing	Existing	Standard	December 31, 2020	Renewal	PPA Expired	Wyoming
J Bar 9 Ranch	October 12, 2020	Wind	0.10	Existing	Existing	Standard	October 31, 2025	Amended	Operating	Wyoming
Klamath Falls Solar 1 (FKA Ewauna Solar LLC)	August 8, 2014	Solar	0.8	July 12, 2016	September 30, 2015	Standard	September 29, 2035	Original	Operating	Oregon
Klamath Falls Solar 2 (FKA Ewauna Solar 2 LLC)	June 5, 2015	Solar	2.9	December 16, 2017	November 30, 2017	Standard	November 29, 2037	Original	Operating	Oregon
Lacomb Irrigation (CHI)	October 28, 1982	Hydro	0.96	January 1, 1984	January 1, 1984	Unknown	Original	Original	PPA Expired	Oregon
Lacomb Irrigation (Lacomb PPA Renegotiated)	June 19, 1998	Hydro	0.96	July 1, 1987	Existing	Unknown	December 31, 2022	Amended	Operating	Oregon
Laho #1	October 18, 2013	Solar	3.0	July 14, 2015	July 31, 2015	Standard	July 30, 2035	Original	Operating	Utah
Lake Siskiyou (Box Canyon)	March 14, 1983	Hydro	5.00	August 1, 1986	March 14, 1983	Unknown	December 31, 2020	Original	Operating	California
Latigo Wind	July 3, 2013	Wind	60.0	March 11, 2016	May 1, 2015	Non standard	April 30, 2035	Original	Operating	Utah
Loyd Fery	June 28, 1985	Hydro	0.04	June 28, 1985	June 28, 1985	Unknown	June 30, 2003	Original	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2004	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2005	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2006	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2007	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2008	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2009	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2010	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2011	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2012	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2013	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2014	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2015	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2016	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2017	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2018	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2019	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2020	Renewal	PPA Expired	Oregon
Loyd Fery	Renewal	Hydro	0.04	Existing	Existing	Standard	June 30, 2024	Renewal	Operating	Oregon
Luckey, Paul	April 27, 1983	Hydro	0.05	January 1, 1987	April 27, 1983	Unknown	December 31, 2018	Original	Shutdown	California
Luckey, Paul	Renewal	Hydro	0.05	Existing	Existing	Non standard	December 31, 2020	Renewal	Shutdown	California
Luckey, Paul	Renewal	Hydro	0.05	Existing	Existing	Non standard	December 31, 2035	Renewal	Operating	California
Mariah Wind	April 1, 2014	Wind	10.0	Terminated	December 1, 2018	Standard	August 31, 2030	Original	Not built/terminated	Oregon
Marsh Valley Hydro & Electric Company	November 21, 1986	Hydro	1.70	November 21, 1986	November 21, 1986	Standard	March 28, 2028	Original	Operating	Idaho
Meadow Creek Project Company - Five Pine	January 4, 2012	Wind	40.00	December 22, 2012	December 22, 2012	Standard	December 30, 2032	Original	Operating	Idaho
Meadow Creek Project Company - North Point	January 4, 2012	Wind	80.00	December 11, 2012	December 11, 2012	Standard	December 30, 2032	Original	Operating	Idaho
Middlefork Irrigation District	June 29, 1983	Hydro	3.70	September 29, 1983	September 29, 1983	Unknown	December 31, 2005	Original	PPA Expired	Oregon
Middlefork Irrigation District	Renewal	Hydro	3.70	Existing	Existing	Standard	December 31, 2006	Renewal	PPA Expired	Oregon
Middlefork Irrigation District	Renewal	Hydro	3.70	Existing	Existing	Standard	December 31, 2021	Renewal	Operating	Oregon
Middlefork Irrigation District	Renewal	Hydro	0.98	Existing	Existing	Standard	December 31, 2021	Renewal	In effect January 1, 2022	Oregon
Milford 2	April 4, 2014	Solar	3.0	December 21, 2015	October 15, 2015	Standard	October 14, 2035	Original	Operating	Utah
Milford Flat	October 18, 2013	Solar	3.0	July 23, 2015	July 31, 2015	Standard	July 30, 2035	Original	Operating	Utah
Mink Creek Hydro	May 21, 1985	Hydro	2.70	December 1, 1986	May 21, 1985	Unknown	March 31, 2022	Original	Operating	Idaho
Mink Creek Hydro	May 25, 2021	Hydro	2.95	December 1, 1986	May 21, 1985	Standard	March 31, 2042	Renewal	Renewal Executed	Idaho
Monroe Hydro (Apple)	April 9, 2012	Hydro	0.3	June 9, 2016	April 1, 2015	Standard	August 31, 2028	Original	Operating	Oregon

Plant Name	PPA Execution Date	Resource Type	Nameplate Capacity (MW)	Commercial Operation Date (COD)	Original COD	Type of PPA (Standard / Non-standard)	Current PPA Expiration Date	Vintage of PPA	Facility / PPA Status	State
Mountain Energy	June 17, 1985	Hydro	0.05	January 1, 1986	June 17, 1985	Unknown	December 31, 2004	Original	PPA Expired	Oregon
Mountain Energy	Renewal	Hydro	0.05	Existing	Existing	Standard	December 31, 2005	Renewal	PPA Expired	Oregon
Mountain Energy	Renewal	Hydro	0.05	Existing	Existing	Standard	December 31, 2006	Renewal	PPA Expired	Oregon
Mountain Energy	Renewal	Hydro	0.05	Existing	Existing	Standard	December 31, 2007	Renewal	PPA Expired	Oregon
Mountain Energy	Renewal	Hydro	0.05	Existing	Existing	Standard	December 31, 2022	Renewal	Operating	Oregon
Mountain Wind 1	July 14, 2006	Wind	60.90	July 2, 2008	July 2, 2008	Non standard	July 01, 2033	Original	Operating	Wyoming
Mountain Wind 2	July 23, 2006	Wind	79.80	September 29, 2008	September 29, 2008	Non standard	September 29, 2033	Original	Operating	Wyoming
Nicholson Sunnybar Ranch	June 27, 1985	Hydro	0.35	April 1, 1986	June 27, 1985	Unknown	April 30, 2021	Original	PPA Expired	Idaho
Sunny Bar Ranch (formerly Nicholson Sunnybar Ranch)	March 29, 2021	Hydro	0.45	Existing	Existing	Standard	April 30, 2041	Renewal	Operating	Idaho
Norwest Energy 2 LLC (Neff)	May 29, 2015	Solar	9.9	December 31, 2016	December 31, 2016	Standard	November 17, 2031	Original	Operating	Oregon
Norwest Energy 4 LLC (Bonanza)	May 29, 2015	Solar	6.0	February 27, 2019	July 31, 2018	Standard	November 17, 2031	Original	Operating	Oregon
Norwest Energy 7 LLC (Eagle Point)	May 29, 2015	Solar	9.9	12/30/2017	September 9, 2017	Standard	November 17, 2031	Original	Operating	Oregon
Norwest Energy 9 LLC (Pendleton)	June 29, 2015	Solar	6.6	11/30/2018	September 9, 2017	Standard	November 17, 2031	Original	Operating	Oregon
O.J. Power Company	March 4, 1986	Hydro	0.26	January 1, 1987	March 4, 1986	Unknown	January 31, 2022	Original	Operating	Idaho
Obsidian Renewables LLC - Black Cap Solar II	July 30, 2014	Solar	8.0	November 30, 2016	December 31, 2016	Standard	November 30, 2036	Original	Operating	Oregon
Obsidian Renewables LLC - Ivory Pine Solar	July 30, 2014	Solar	10.0	Terminated	December 31, 2016	Standard		Original	Not built/terminated	Oregon
Obsidian Renewables LLC - Sprague River Solar	July 30, 2015	Solar	7.0	Terminated	December 31, 2016	Standard		Original	Not built/terminated	Oregon
OR Solar 1 (Sprague River Solar)	June 11, 2015	Solar	10.0	Terminated	November 1, 2016	Standard		Original	Not built/terminated	Oregon
OR Solar 2 (Agate Bay Solar)	June 11, 2015	Solar	10.0	October 22, 2020	October 31, 2017	Standard	October 31, 2036	Original	Operating	Oregon
OR Solar 3 (Turkey Hill Solar)	June 11, 2015	Solar	10.0	December 30, 2017	December 15, 2017	Standard	October 31, 2036	Original	Operating	Oregon
OR Solar 5 (Merrill)	June 17, 2015	Solar	8.0	January 12, 2018	December 15, 2017	Standard	October 31, 2036	Original	Operating	Oregon
OR Solar 6 (Lakeview)	June 17, 2015	Solar	10.0	December 18, 2017	December 15, 2017	Standard	October 31, 2036	Original	Operating	Oregon
OR Solar 8 (Dairy)	June 11, 2015	Solar	10.0	March 14, 2018	December 15, 2017	Standard	October 31, 2036	Original	Operating	Oregon
Orchard Wind Farm 1, LLC	June 30, 2016	Wind	10.0	December 28, 2020	October 1, 2020	Standard	September 30, 2040	Original	Operating	Oregon
Orchard Wind Farm 2, LLC	June 30, 2016	Wind	10.0	December 28, 2020	October 1, 2020	Standard	September 30, 2040	Original	Operating	Oregon
Orchard Wind Farm 3, LLC	June 30, 2016	Wind	10.0	December 28, 2020	October 1, 2020	Standard	September 30, 2040	Original	Operating	Oregon
Orchard Wind Farm 4, LLC	June 30, 2016	Wind	10.0	December 28, 2020	October 1, 2020	Standard	September 30, 2040	Original	Operating	Oregon
Oregon Environmental Industries	August 16, 2006	Biogas	3.20	January 17, 2007	September 7, 2007	Standard	July 31, 2022	Original	Operating	Oregon
Oregon Institute of Technology	April 9, 2010	Geothermal	0.28	April 9, 2010	April 15, 2010	Standard	March 17, 2030	Original	Operating	Oregon
Oregon State University	November 23, 2010	Natural Gas	6.50	November 12, 2010	January 15, 2011	Standard	June 30, 2020	Original	PPA Expired	Oregon
Oregon State University	Renewal	Natural Gas	6.50	Existing	Existing	Standard	March 31, 2022	Original	Operating	Oregon
Oregon Trail Windfarm LLC	December 19, 2008	Wind	9.90	August 1, 2009	March 31, 2009	Standard	January 15, 2029	Original	Operating	Oregon
OSLH - Collier Solar	June 29, 2015	Solar	9.9	February 1, 2017	November 18, 2016	Standard	November 17, 2031	Original	Operating	Oregon
Pacific Canyon Windfarm LLC	December 19, 2008	Wind	8.25	August 1, 2009	March 31, 2009	Standard	January 22, 2029	Original	Operating	Oregon
Pavant Solar	April 11, 2014	Solar	50.0	December 30, 2015	December 31, 2015	Non standard	December 30, 2035	Original	Operating	Utah
Pavant Solar II LLC	March 25, 2015	Solar	50.0	November 22, 2016	December 1, 2016	Non standard	November 30, 2036	Original	Operating	Utah
Pioneer Wind Park I LLC	April 11, 2014	Wind	80.00	October 27, 2016	June 30, 2016	Non standard	October 26, 2036	Original	Operating	Wyoming
Power County Wind Park North	August 18, 2010	Wind	22.50	December 23, 2011	December 23, 2011	Standard	December 22, 2031	Original	Operating	Idaho
Power County Wind Park South	August 18, 2010	Wind	22.50	December 23, 2011	December 23, 2011	Standard	December 22, 2031	Original	Operating	Idaho
Preston City Hydro	February 24, 1982	Hydro	0.40	December 1, 1982	February 24, 1982	Unknown	December 31, 2017	Original	PPA Expired	Idaho
Preston City Hydro	Renewal	Hydro	0.40	Existing	Existing	Standard	December 31, 2032	Original	Operating	Idaho
Quichapa 1	October 29, 2013	Solar	3.0	December 13, 2016	May 30, 2016	Standard	May 29, 2036	Original	Operating	Utah
Quichapa 2	October 29, 2013	Solar	3.0	December 23, 2016	June 30, 2016	Standard	June 29, 2036	Original	Operating	Utah
Quichapa 3	October 29, 2013	Solar	3.0	December 23, 2016	July 29, 2016	Standard	July 28, 2036	Original	Operating	Utah
RES Ag- Oak Lea	November 29, 2009	Biogas	0.17	December 5, 2011	December 5, 2011	Standard	November 30, 2026	Original	Operating	Oregon
Roseburg Forest Products - Weed	November 15, 2010	Biomass	10.00	November 18, 2010	November 18, 2010	Standard	June 30, 2011	Original	PPA Expired	California
Roseburg Forest Products - Weed	Renewal	Biomass	10.00	Existing	Existing	Standard	June 30, 2012	Renewal	PPA Expired	California
Roseburg Forest Products - Weed	Renewal	Biomass	10.00	Existing	Existing	Standard	June 30, 2018	Renewal	PPA Expired	California
Roseburg Forest Products - Weed	Renewal	Biomass	10.00	Existing	Existing	Standard	June 30, 2028	Renewal	Operating	California
Roseburg LFG	February 18, 2011	Biogas	1.60	December 20, 2011	June 20, 2011	Standard	April 30, 2032	Original	Operating	Oregon
Sage Solar I	July 3, 2017	Solar	20.00	September 30, 2019	October 1, 2019	Non standard	September 30, 1939	Original	Operating	Utah/Wyoming
Sage Solar II	July 3, 2017	Solar	20.00	September 13, 2019	October 1, 2019	Non standard	September 30, 1939	Original	Operating	Utah/Wyoming
Sage Solar III	July 3, 2017	Solar	20.00	September 13, 2019	October 1, 2019	Non standard	September 30, 1939	Original	Operating	Utah/Wyoming
Sand Ranch Windfarm LLC	January 19, 2008	Wind	9.90	August 1, 2009	March 31, 2009	Standard	January 15, 2029	Original	Operating	Oregon
Shiloh Ingram Warm Springs Ranch	March 5, 1986	Hydro	0.95	March 14, 1986	March 14, 1986	Unknown	March 31, 2021	Original	PPA Expired	Idaho
Slate Creek	January 1, 1982	Hydro	4.20	January 1, 1985	January 21, 1982	Unknown	December 31, 2018	Original	PPA Expired	California
Slate Creek	January 1, 1982	Hydro	4.20	January 1, 1985	January 21, 1982	Non standard	December 31, 2033	Renewal	Operating	California
South Milford	May 29, 2013	Solar	3.0	April 1, 2015	May 30, 2015	Standard	January 14, 2035	Original	Operating	Utah
Spanish Fork Wind Park 2	June 30, 2006	Wind	18.90	July 31, 2008	July 31, 2008	Non standard	July 30, 2028	Original	Operating	Utah
Sprague Hydro (North Fork Sprague)	September 26, 1980	Hydro	0.75	September 1, 1989	September 28, 1983	Unknown	December 31, 2021	Original	Alternate buyer 1/1/2022	Oregon
St. Anthony	December 20, 2012	Hydro	0.50	October 11, 2014	November 30, 2013	Standard	November 29, 2033	Original	Operating	Idaho

Plant Name	PPA Execution Date	Resource Type	Nameplate Capacity (MW)	Commercial Operation Date (COD)	Original COD	Type of PPA (Standard / Non-standard)	Current PPA Expiration Date	Vintage of PPA	Facility / PPA Status	State
Stahlbush Island Farms	March 19, 2009	Biogas	1.60	June 24, 2009	April 17, 2009	Standard	5/31/2011	Original	PPA Expired	Oregon
Stahlbush Island Farms	Renewal	Biogas	1.60	Existing	Existing	Standard	May 31, 2014	Renewal	PPA Expired	Oregon
Stahlbush Island Farms	Renewal	Biogas	1.60	Existing	Existing	Standard	September 30, 2014	Renewal	PPA Expired	Oregon
Stahlbush Island Farms	Renewal	Biogas	1.60	Existing	Existing	Standard	May 31, 2017	Renewal	PPA Expired	Oregon
Stahlbush Island Farms	Renewal	Biogas	1.60	Existing	Existing	Standard	May 31, 2019	Renewal	PPA Expired	Oregon
Stahlbush Island Farms	Renewal	Biogas	1.60	Existing	Existing	Standard	May 31, 2021	Renewal	PPA Expired	Oregon
Stahlbush Island Farms	Renewal	Biogas	1.60	Existing	Existing	Standard	May 31, 2022	Renewal	Operating	Oregon
Swalley Irrigation District	September 4, 2009	Hydro	0.75	April 23, 2010	November 10, 2009	Standard	January 03, 2030	Original	Operating	Oregon
Sweetwater Solar, LLC	February 23, 2016	Solar	80.00	December 28, 2018	November 1, 2018	Non standard	December 27, 2038	Original	Operating	Wyoming
Tata Chemical (FKA General Chemical)	September 15, 1989	CHP	16.00	September 15, 1989	September 15, 1989	Unknown	December 31, 2013	Original	PPA Expired	Wyoming
Tata Chemical (FKA General Chemical)	Renewal	CHP	32.00	Existing	Existing	Non standard	December 31, 2018	Renewal	PPA Expired	Wyoming
Tata Chemical (FKA General Chemical)	Renewal	CHP	32.00	Existing	Existing	Non standard	December 31, 2038	Renewal	Operating	Wyoming
Thayn Ranch Hydro	April 1, 1992	Hydro	0.48	April 1, 1992	April 1, 1992	Unknown	December 31, 2035	Original	Operating	Utah
Three Peaks Power	August 15, 2015	Solar	80.0	December 9, 2016	October 31, 2016	Non standard	December 14, 2036	Original	Operating	Utah
Three Sisters Irrigation District (Watson Hydro) (200 kW)	May 8, 2018	Hydro	0.20	November 5, 2018	September 1, 2018	Standard	August 31, 2038	Original	Operating	Oregon
Three Sisters Irrigation District (Watson Hydro) (700 kW)	February 18, 2014	Hydro	0.70	August 22, 2014	May 1, 2014	Standard	August 31, 2038	Original	Operating	Oregon
TMF Biofuels	February 16, 2012	Biogas	4.80	December 31, 2012	February 21, 2012	Standard	April 30, 2023	Original	Operating	Oregon
Tooele Army Depot (Wind 1)	May 10, 2016	Wind	1.70	11/7/2016	November 7, 2016	Standard	May 9, 2026	Original	Operating	Utah
Tooele Army Depot (Wind 2)	May 10, 2016	Wind	1.90	11/7/2016	November 7, 2016	Standard	May 9, 2026	Original	Operating	Utah
Tumbleweed Solar, LLC (Saturn Power Corporation)	October 12, 2015	Solar	9.90	12/28/2017	November 6, 2017	Standard	December 15, 2036	Original	Operating	Oregon
Utah Red Hills Renewable Park	September 27, 2013	Solar	80.0	December 16, 2015	January 1, 2017	Non standard	December 30, 2036	Original	Operating	Utah
Wagon Trail LLC	December 19, 2008	Wind	3.30	September 1, 2009	March 31, 2009	Standard	August 31, 2029	Original	Operating	Oregon
Ward Butte Windfarm LLC	December 19, 2008	Wind	6.60	September 1, 2009	March 31, 2009	Standard	August 31, 2029	Original	Operating	Oregon
Weber County, State of Utah	December 16, 2004	Biogas	0.95	July 26, 2008	December 16, 2004	Standard	December 26, 2023	Original	Operating	Utah
Woodline Solar LLC	June 5, 2015	Solar	8.0	December 31, 2017	November 30, 2017	Standard	November 29, 2037	Original	PPA Expired	Oregon
Yakima Tieton (Coviche)	June 12, 1985	Hydro	1.47	June 12, 1985	June 12, 1985	Unknown	December 31, 2005	Original	PPA Expired	Washington
Yakima Tieton (Coviche)	Renewal	Hydro	1.47	Existing	Existing	Standard	December 31, 2008	Renewal	PPA Expired	Washington
Yakima Tieton (Coviche)	Renewal	Hydro	1.47	Existing	Existing	Standard	December 31, 2011	Renewal	PPA Expired	Washington
Yakima Tieton (Coviche)	Renewal	Hydro	1.47	Existing	Existing	Standard	December 31, 2015	Renewal	PPA Expired	Washington
Yakima Tieton (Coviche)	Renewal	Hydro	1.47	Existing	Existing	Standard	December 31, 2020	Renewal	PPA Expired	Washington
Yakima Tieton (Coviche)	Renewal	Hydro	1.47	Existing	Existing	Standard	December 31, 2030	Renewal	Operating	Washington
Yakima Tieton (Orchards)	June 12, 1985	Hydro	1.47	June 13, 1985	June 12, 1985	Unknown	December 31, 2005	Original	PPA Expired	Washington
Yakima Tieton (Orchards)	Renewal	Hydro	1.47	Existing	Existing	Standard	December 31, 2008	Renewal	PPA Expired	Washington
Yakima Tieton (Orchards)	Renewal	Hydro	1.47	Existing	Existing	Standard	December 31, 2011	Renewal	PPA Expired	Washington
Yakima Tieton (Orchards)	Renewal	Hydro	1.47	Existing	Existing	Standard	December 31, 2020	Renewal	PPA Expired	Washington
Yakima Tieton (Orchards)	Renewal	Hydro	1.47	Existing	Existing	Standard	December 31, 2030	Renewal	Operating	Washington