

# New York State Clean Energy Standard: Results of Renewable Energy Standard, Offshore Wind Standard, and Renewable Portfolio Standard Solicitations for Long-Term Contracts through December 31, 2019

Final Report | March 2020



## **NYSERDA's Promise to New Yorkers:**

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

### **Mission Statement:**

Advance innovative energy solutions in ways that improve New York's economy and environment.

### **Vision Statement:**

Serve as a catalyst – advancing energy innovation, technology, and investment; transforming New York's economy; and empowering people to choose clean and efficient energy as part of their everyday lives.

**New York State Clean Energy Standard:  
Results of Renewable Energy Standard, Offshore Wind Standard,  
and Renewable Portfolio Standard Solicitations for Long-Term  
Contracts through December 31, 2019**

*Final Report*

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**New York State Energy Research and Development Authority**

Albany, NY

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# Keywords

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Renewable electricity, clean energy, large-scale renewables, energy programs, procurements

# Table of Contents

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<b>Keywords</b> .....	<b>ii</b>
<b>List of Tables</b> .....	<b>ii</b>
<b>1 Summary and Background</b> .....	<b>1</b>
1.1 Solicitation Results .....	2
<b>2 Renewable Portfolio Standard Solicitations</b> .....	<b>11</b>
<b>3 Offshore Wind Solicitations</b> .....	<b>16</b>
3.1 Solicitation Results .....	16
<b>4 Project Development Status</b> .....	<b>17</b>
<b>5 Maintenance Resources</b> .....	<b>19</b>
<b>6 Key References and Links</b> .....	<b>20</b>
<b>Endnotes</b> .....	<b>EN-1</b>

# List of Tables

---

Table 1. Current Status—Renewable Energy Standard Awarded Tier 1 Projects.....	3
Table 2. Current Status—Renewable Portfolio Standard Awarded Tier 1 Projects .....	9
Table 3. Summary of Tier 1 Projects—Renewable Energy Standard and Renewable Portfolio Standard Solicitations .....	10
Table 4. Previous Renewable Portfolio Solicitations—Non-Tier 1 Projects.....	11
Table 5. Summary of Non-Tier 1 Projects—Renewable Portfolio Standard Solicitations .....	15
Table 6. Current Status—Offshore Wind Renewable Energy Certificates Awarded Projects .....	16
Table 7. Resource Development Status for Active NYSERDA Renewable Energy Standard, Renewable Portfolio Standard, and Offshore Wind Projects.....	17
Table 8. Maintenance Resources.....	19

# 1 Summary and Background

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This report summarizes procurement activities by the New York State Energy Research and Development Authority (NYSERDA) in implementing the Renewable Energy Standard (RES), a component of the Clean Energy Standard (CES) adopted by the Public Service Commission.<sup>1</sup> The RES is the successor program to the Renewable Portfolio Standard (RPS) and is the commission's primary mechanism for the New York State Energy Plan's goal to provide 50% renewable energy resources for the State's electricity requirements by 2030. This report further describes NYSERDA's procurement activities under the Offshore Wind Standard, the results of which also contribute to the overall objective of the CES as the quantity of electricity supplied by renewable resources and consumed in New York State includes the output of new offshore wind generation.<sup>2</sup>

The CES Order, along with additional orders issued in the CES proceeding (collectively, the Orders), both established and addressed certain implementation issues regarding the RES. The RES creates a Tier 1 obligation, wherein load serving entities (LSEs) are required to procure Renewable Energy Credits (REC) associated with eligible renewable energy resources in increasing quantities toward the State's 2030 goal. The Orders set the annual Tier 1 RES obligations for all LSEs, represented as the percentage of the load that must be met with RES Tier 1 RECs.<sup>3</sup>

The Orders authorize NYSERDA, as central procurement administrator, to award long-term contracts to Tier 1 eligible generators through annual competitive solicitations for the purchase of Tier 1 eligible RECs. These RECs can then be sold to LSEs for use in satisfying their Tier 1 compliance obligations. RECs are issued and exchanged in the form of Tier 1 New York Generation Attribute Tracking System (NYGATS) certificates.<sup>4</sup>

Based on a commitment to transparency and growing public interest in NYSERDA's activities and the resultant contracts, NYSERDA now makes the details of each agreement, including its price,<sup>5</sup> available to the public on the Open NY website,<sup>6</sup> and updates this information at least quarterly.

The Commission issued its Order Establishing Offshore Wind Standard and Framework for Phase 1 Procurement<sup>7</sup> on July 12, 2018 to further the achievement of the CES.

NYSERDA will purchase offshore wind renewable energy certificates (OREC) from awarded projects once they become operational and resell them to the LSEs for compliance with their OREC obligations. Each year, LSEs will be obligated to purchase the pro rata percentage of ORECs that represents the portion of the electric energy load served by the LSE in relation to the total electric energy load served by all LSEs.

In July 2019, Governor Andrew M. Cuomo signed the Climate Leadership and Community Protection Act (CLCPA).<sup>8</sup> The CLCPA codifies Governor Cuomo's nation-leading goals as called for under his Green New Deal, mandating that at least 70% of New York's electricity come from renewable energy sources such as wind and solar by 2030, and the State's power system be 100% carbon free by 2040.

RES Tier 1 Solicitations

Per the Public Service Commission's February 22, 2017 Order,<sup>9</sup> NYSERDA conducts competitive solicitations, at least annually, for the purchase of Tier 1 eligible RECs from qualifying generation.

## **1.1 Solicitation Results**

Solicitation results can be found by visiting NYSERDA's Clean Energy Standard website.<sup>10</sup> The projects shown in Table 1 represent projects awarded under RES solicitations and the project's current status. Table 2 presents the current status of RES Tier 1 eligible projects awarded under the RPS.

**Table 1. Current Status—Renewable Energy Standard Awarded Tier 1 Projects**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)*	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
RESRFP17-1	Alle-Catt Wind Farm	\$19.90	Wind	NY	Under Development	2021	20	339.78	339.78	977,474	1,172,968
RESRFP17-1	Baron Winds	\$22.75	Wind	NY	Under Development	2021	20	272	272	748,174	897,808
RESRFP17-1	Blue Stone Solar	\$25.00	Solar	NY	Under Development	2021	20	19.99	19.99	27,493	32,991
RESRFP17-1	Bluestone Wind	\$18.50	Wind	NY	Under Development	2021	20	121.8	121.8	392,644	471,172
RESRFP17-1	Branscomb Solar	\$24.00	Solar	NY	Under Development	2021	20	19.99	19.99	33,271	39,925
RESRFP17-1	Darby Solar	\$25.00	Solar	NY	Under Development	2021	20	19.99	19.99	36,774	44,128
RESRFP17-1	Daybreak Solar	\$22.50	Solar	NY	Under Development	2021	20	25	25	42,267	50,720
RESRFP17-1	Double Lock Solar	\$25.50	Solar	NY	Cancelled	2021					
RESRFP17-1	East Point Energy Center	\$29.90	Solar	NY	Under Development	2021	20	50	50	109,631	131,557
RESRFP17-1	Flint Mine Solar	\$25.33	Solar	NY	Under Development	2023	20	100	100	174,412	209,294
RESRFP17-1	Greene County Energy Properties	\$21.15	Solar	NY	Under Development	2022	20	19.9	19.9	26,149	31,378
RESRFP17-1	Grissom Solar	\$27.00	Solar	NY	Under Development	2021	20	19.99	19.99	33,972	40,766
RESRFP17-1	High River Energy Center	\$18.61	Solar	NY	Under Development	2021	20	90	90	167,141	200,569
RESRFP17-1	Janis Solar	\$25.00	Solar	NY	Under Development	2021	20	19.99	19.99	35,898	43,077

**Table 1 continued**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)*	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
RESRFP17-1	Java Solar Energy Center	\$19.50	Solar	NY	Under Development	2021	20	1.53	1.53	2,039	2,446
RESRFP17-1	Little Pond Solar	\$19.95	Solar	NY	Under Development	2021	20	19.99	19.99	37,649	45,178
RESRFP17-2	Lyons Falls Mill Redevelopment	\$17.90	Hydroelectric	NY	Cancelled	2021					
RESRFP17-1	Magruder Solar	\$23.00	Solar	NY	Under Development	2021	20	19.99	19.99	35,022	42,026
RESRFP17-1	Pattersonville	\$21.50	Solar	NY	Under Development	2020	20	19.99	19.99	40,503	48,603
RESRFP17-1	Puckett Solar	\$26.50	Solar	NY	Under Development	2021	20	19.99	19.99	33,271	39,925
RESRFP17-1	Regan Solar	\$25.50	Solar	NY	Under Development	2021	20	19.99	19.99	35,548	42,657
RESRFP17-1	Rock District Solar	\$26.00	Solar	NY	Under Development	2021	20	19.99	19.39	32,867	39,440
RESRFP17-1	Shepherd's Run Solar (formerly Columbia Solar 1)	\$19.84	Solar	NY	Under Development	2024	20	60	57	105,606	126,727
RESRFP17-1	Sky High Solar	\$26.50	Solar	NY	Under Development	2021	20	19.99	19.39	35,161	42,193
RESRFP17-1	Sunny Knoll Solar	\$27.00	Solar	NY	Cancelled	2021					
RESRFP17-1	Tayandenega Solar	\$23.00	Solar	NY	Under Development	2021	20	19.99	19.39	35,993	43,191
RESRFP18-1	Bakerstand Solar 1	\$21.65	Solar	NY	Under Development	2022	20	19.99	19.99	27,703	33,243



**Table 1 continued**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)*	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
RESRFP18-1	ELP Stillwater Solar	\$21.49	Solar	NY	Under Development	2020	20	19.99	19.99	32,396	38,875
RESRFP18-1	Excelsior Energy Center - Solar + Storage 2	\$16.90	Solar	NY	Under Development	2022	20	280	280	591,615	709,938
RESRFP18-1	Hannacroix Solar Facility	\$22.00	Solar	NY	Under Development	2020	20	4.99	4.99	10,342	12,410
RESRFP18-1	Heritage Wind, LLC	\$20.97	Wind	NY	Under Development	2023	20	147	147	393,100	471,720
RESRFP18-1	High Bridge Wind and Battery	\$18.50	Wind	NY	Under Development	2022	20	99	99	308,737	370,484
RESRFP18-1	Horseshoe Solar	\$19.70	Solar	NY	Under Development	2022	20	180	180	368,971	442,765
RESRFP18-1	Mohawk Solar	\$19.99	Solar	NY	Under Development	2021	20	90.5	90.5	204,963	245,955
RESRFP18-1	Morris Ridge Solar	\$15.61	Solar	NY	Under Development	2023	20	170	170	265,227	318,272
RESRFP18-1	Roaring Brook Wind	\$19.83	Wind	NY	Under Development	2020	20	77.7	77.7	249,935	299,922
RESRFP18-1	SED Clay Solar	\$18.45	Solar	NY	Under Development	2021	20	19.99	19.99	35,022	42,026
RESRFP18-1	SED Dog Corners Solar		Solar	NY	Under Development	2021	20	19.99	19.99	37,999	45,598
RESRFP18-1	SED Hills Solar	\$16.85	Solar	NY	Under Development	2021	20	19.99	19.99	37,999	45,598

**Table 1 continued**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)*	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
RESRFP18-1	SED Manchester Solar		Solar	NY	Under Development	2021	20	19.99	19.99	40,223	48,267
RESRFP18-1	SED Skyline Solar		Solar	NY	Under Development	2021	20	19.99	19.99	35,022	42,026
RESRFP18-1	SED Watkins Road Solar I		Solar	NY	Under Development	2021	20	19.99	19.99	37,999	45,598
RESRFP18-1	Silver Lake Solar Project		Solar	NY	Under Development	2021	20	24.99	24.99	38,200	45,840
RESRFP18-1	Trelina Solar Energy Center	\$16.96	Solar	NY	Under Development	2022	20	80	80	156,629	187,954
RESRFP18-1	Watkins Glen Solar Energy Center	\$16.94	Solar	NY	Under Development	2022	20	50	50	106,784	128,140
RESRFP19-1	Bald Mountain Solar		Solar	NY	Under Development	2023	20	19.99	19.99	33,446	40,135
RESRFP19-1	Cohocton Wind Project		Wind	NY	Under Development	2021	20	35.75	35.75	97,083	116,499
RESRFP19-1	ELP Ticonderoga Solar		Solar	NY	Under Development	2021	20	19.99	19.99	32,571	39,085
RESRFP19-1	Garnet Energy Center Storage 1		Solar	NY	Under Development	2023	20	200	200	453,768	544,521
RESRFP19-1	Greens Corners Solar		Solar	NY	Under Development	2023	20	120	120	194,472	233,366
RESRFP19-1	Martin Rd Solar		Solar	NY	Under Development	2021	20	19.99	19.99	33,096	39,715

**Table 1 continued**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)*	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
RESRFP19-1	North Side Energy Center		Solar	NY	Under Development	2023	20	180	180	367,394	440,872
RESRFP19-1	Prattsburgh Wind Farm		Wind	NY	Under Development	2023	20	145	145	449,651	539,581
RESRFP19-1	Sandy Creek Solar		Solar	NY	Under Development	2023	20	19.99	19.99	37,649	45,178
RESRFP19-1	South Ripley Solar and Storage		Solar	NY	Under Development	2022	20	270	270	404,449	485,338
RESRFP19-1	Steel Winds Wind Farm		Wind	NY	Under Development	2021	20	4.78	4.78	14,362	17,234
RESRFP19-1	Steel Winds Wind Farm 2		Wind	NY	Under Development	2021	20	2.57	2.57	7,707	9,248
RESRFP19-1	SunEast Fairway Solar		Solar	NY	Under Development	2021	20	19.99	19.99	36,248	43,497
RESRFP19-1	SunEast Flat Hill Solar		Solar	NY	Under Development	2021	20	19.99	19.99	36,423	43,707
RESRFP19-1	SunEast Grassy Knoll Solar		Solar	NY	Under Development	2021	20	19.99	19.99	36,949	44,338
RESRFP19-1	SunEast Highview Solar		Solar	NY	Under Development	2023	20	20	20	31,361	37,633
RESRFP19-1	SunEast Hilltop Solar		Solar	NY	Under Development	2021	20	19.99	19.99	38,175	45,810
RESRFP19-1	SunEast Limestone Solar		Solar	NY	Under Development	2021	20	19.99	19.99	36,073	43,287

**Table 1 continued**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)*	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
RESRFP19-1	SunEast Tabletop Solar		Solar	NY	Under Development	2022	20	80	80	145,066	174,079
RESRFP19-1	SunEast Valley Solar		Solar	NY	Under Development	2021	20	19.99	19.99	37,124	44,548
RESRFP19-1	West River Solar		Solar	NY	Under Development	2023	20	19.99	19.99	33,446	40,135
<b>Total</b>								<b>3,981.97</b>	<b>3,977.17</b>	<b>8,734,338</b>	<b>10,481,176</b>

\* Contract Bid Price is reported for those Projects with executed NYSERDA agreements.

**Table 2. Current Status—Renewable Portfolio Standard Awarded Tier 1 Projects**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
2985	Arkwright Summit	\$21.75	Wind	NY	Operational	2020	20	78.4	75.58	229,873	229,873
3084	Ball Hill	\$24.98	Wind	NY	Under Development	2022	20	100	83.18	245,928	245,928
3257	Belfort Unit 3	\$14.84	Hydroelectric	NY	Operational	2016	19	0.36	0.34	1,975	1,975
2554	Buffalo BioEnergy	\$30.00	Biogas - ADG	NY	Operational	2017	10	1.24	1.24	4,750	4,750
3257	Eight Point Wind	\$22.60	Wind	NY	Under Development	2022	20	101.2	96.14	298,134	298,134
3257	Fulton Unit 1	\$15.08	Hydroelectric	NY	Operational	2018	20	0.87	0.87	6,968	6,968
3084	Fulton Unit 2	\$14.55	Hydroelectric	NY	Operational	2018	20	0.45	0.45	3,819	3,819
3257	Glen Park	\$15.00	Hydroelectric	NY	Operational	2016	20	7.18	6.82	32,166	32,166
3257	Hecate Energy Greene County 1	\$26.91	Solar	NY	Under Development	2022	20	49.99	47.49	85,699	85,699
2985	Jericho Rise	\$24.50	Wind	NY	Operational	2019	20	77.7	73.81	206,272	206,272
3084	Morgan Stanley Headquarters	\$20.00	Fuel Cell	NY	Operational	2016	20	0.79	0.75	6,324	6,324
3257	North Division Street Dam Hydroelectric Facility	\$22.50	Hydroelectric	NY	Operational	2018	20	0.58	0.55	1,959	1,959
3257	Number Three Wind Farm	\$26.90	Wind	NY	Under Development	2021	20	105.8	100.51	304,025	304,025
3257	Regen DG Project	\$6.40	Fuel Cell	NY	Operational	2018	20	1.58	1	8,432	8,432
3257	Swinging Bridge	\$25.00	Hydroelectric	NY	Under Development	2020	20	2.18	2.07	4,794	4,794
3257	Tannery Island Hydro	\$9.50	Hydroelectric	NY	Operational	2016	20	0.17	0.16	827	827
Total								528.49	490.96	1,441,945	1,441,945

Collectively through RES and RPS solicitations, a total of more than 4,500 megawatts (MW) through 79 Tier 1 eligible projects are contributing to the goals of the CES. Their status and capacity are detailed in Table 3.

**Table 3. Summary of Tier 1 Projects—Renewable Energy Standard and Renewable Portfolio Standard Solicitations**

	MW Capacity by Status			Number of Projects		
	MW Operational	MW Under Development	Total MW	Operational	Under Development	Total Projects
Biogas - ADG	1.24	0.00	1.24	1	0	1
Fuel Cell	2.37	0.00	2.37	2	0	2
Hydroelectric	9.61	2.18	11.79	6	1	7
Solar	0.00	2,786.58	2,786.58	0	54	54
Wind	156.10	1,552.38	1,708.48	2	13	15
<b>Total</b>	<b>169.32</b>	<b>4,341.14</b>	<b>4,510.46</b>	<b>11</b>	<b>68</b>	<b>79</b>

## 2 Renewable Portfolio Standard Solicitations

In addition, NYSEDA has existing and previous long-term RPS-funded contracts that are not Tier 1 eligible. The projects are listed in Table 4 and their development status is summarized in Table 5.<sup>11</sup>

**Table 4. Previous Renewable Portfolio Solicitations—Non-Tier 1 Projects**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
916	Bear Creek <sup>b</sup>	\$19.20	Wind	PA	Other	2006	4				
916	Browns Falls <sup>a</sup>	\$1.60	Hydroelectric	NY	Other	2006	1				
916	Higley Falls <sup>a</sup>	\$2.49	Hydroelectric	NY	Other	2006	1				
916	Maple Ridge <sup>c</sup>	\$22.95	Wind	NY	Other	2006	10				
916	Spier Falls <sup>c</sup>	\$2.74	Hydroelectric	NY	Other	2006	10				
1037	Allens Falls <sup>h</sup>	\$8.50	Hydroelectric	NY	Other	2008	10				
1037	Altona <sup>i</sup>	\$17.55	Wind	NY	Other	2009	10				
1037	Bliss <sup>h</sup>	\$14.85	Wind	NY	Other	2008	10				
1037	Browns Falls <sup>h</sup>	\$8.00	Hydroelectric	NY	Other	2008	10				
1037	Chateaugay Wind Farm <sup>i</sup>	\$17.75	Wind	NY	Other	2009	10				
1037	Clinton Wind <sup>h</sup>	\$14.85	Wind	NY	Other	2008	10				
1037	Cohocton <sup>d,i</sup>	\$19.94	Wind	NY	Other	2009	10				
1037	Colton <sup>h</sup>	\$8.25	Hydroelectric	NY	Other	2008	10				
1037	Dutch Hill <sup>d,i</sup>	\$13.86	Wind	NY	Other	2009	10				
1037	Eagle <sup>h</sup>	\$9.00	Hydroelectric	NY	Other	2008	10				
1037	East Norfolk <sup>h</sup>	\$9.97	Hydroelectric	NY	Other	2008	10				
1037	Ellenburg <sup>h</sup>	\$14.85	Wind	NY	Other	2008	10				

Table 4 continued

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
1037	Higley Falls <sup>h</sup>	\$9.95	Hydroelectric	NY	Other	2008	10				
1037	Niagara Generating Facility <sup>h</sup>	\$11.99	Biomass	NY	Other	2008	10				
1037	Norfolk <sup>h</sup>	\$9.96	Hydroelectric	NY	Other	2008	10				
1037	Norwood <sup>i</sup>	\$9.99	Hydroelectric	NY	Other	2008	10				
1037	Oswego Falls <sup>i</sup>	\$8.75	Hydroelectric	NY	Other	2008	10				
1037	Raymondville <sup>i</sup>	\$9.98	Hydroelectric	NY	Other	2008	10				
1168	AES Greenidge <sup>e</sup>	\$19.25	Biomass	NY	Other	2009	3				
1168	Cohocton <sup>d,i</sup>	\$16.50	Wind	NY	Other	2009	10				
1168	Dutch Hill <sup>d,i</sup>	\$16.50	Wind	NY	Other	2009	10				
1168	Effley <sup>i</sup>	\$9.99	Hydroelectric	NY	Other	2009	10				
1168	High Falls <sup>i</sup>	\$20.00	Hydroelectric	QC	Other	2009	10				
1168	Piercefield <sup>i</sup>	\$9.98	Hydroelectric	NY	Other	2009	10				
1168	Sherman Island <sup>d</sup>	\$13.99	Hydroelectric	NY	Other	2009	10				
1168	Wethersfield <sup>i</sup>	\$15.25	Wind	NY	Other	2009	10				
1681	Hardscrabble	\$15.50	Wind	NY	Operational	2011	10	74	43.7	121,508	121,508
1681	School Street	\$9.49	Hydroelectric	NY	Operational	2011	10	5.2	4.9	21,885	21,885
1681	Stewarts Bridge Hydro (Upgrade)	\$9.24	Hydroelectric	NY	Operational	2011	10	2.9	2.76	11,609	11,609
1851	Albany 1	\$13.85	Biogas - LFG	NY	Operational	2011	10	0.9	0.86	5,625	5,625
1851	Hardscrabble Wind Energy Project	\$21.50	Wind	NY	Operational	2011	10	0	26.64	74,141	74,141
1851	High Sheldon	\$18.50	Wind	NY	Operational	2012	10	112.5	106.9	228,200	228,200
1851	Mechanicville	\$17.50	Hydroelectric	NY	Operational	2011	10	4.5	4.28	19,000	19,000
1851	Steel Winds II	\$20.00	Wind	NY	Operational	2012	10	15	14	37,430	37,430



**Table 4 continued**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
1851	Stuyvesant Falls	\$19.50	Hydroelectric	NY	Operational	2013	10	6	5.7	11,677	11,677
1851	Taylorville Hydro	\$14.62	Hydroelectric	NY	Operational	2011	10	0.1	0.1	684	684
1851	Wappingers Falls	\$20.00	Hydroelectric	NY	Operational	2011	10	0.12	0.11	474	474
2226	Albany 2	\$14.95	Biogas - LFG	NY	Operational	2012	10	3.2	3	22,340	22,340
2226	Black Brook	\$25.00	Hydroelectric	NY	Operational	2011	10	0.64	0.61	1,900	1,900
2226	Chautauqua LFGE	\$25.00	Biogas - LFG	NY	Operational	2011	10	8	2.11	11,209	11,209
2226	DANC	\$26.00	Biogas - LFG	NY	Operational	2011	10	4.8	4	19,178	19,178
2226	Howard	\$17.50	Wind	NY	Operational	2012	10	51.25	46.13	115,184	115,184
2226	Hyland LFGE	\$20.49	Biogas - LFG	NY	Operational	2011	10	4.8	2.2	15,396	15,396
2226	Marble River <sup>f</sup>	\$20.44	Wind	NY	Operational	2012	10	215.25	204.49	581,510	581,510
2226	Modern <sup>g</sup>	\$26.00	Biogas - LFG	NY	Other	2011	10				
2226	Ontario	\$26.00	Biogas - LFG	NY	Operational	2011	10	6.4	3	17,232	17,232
2226	Orangeville	\$20.89	Wind	NY	Operational	2014	10	92.8	88.16	279,103	279,103
2226	Seneca	\$26.00	Biogas - LFG	NY	Operational	2011	10	12.8	5.85	46,664	46,664
2226	Stewarts Bridge	\$19.75	Hydroelectric	NY	Operational	2013	10	2.6	2.49	10,491	10,491
2389	Black River	\$33.00	Biomass	NY	Operational	2013	10	43.26	41.1	324,045	324,045
2389	Clinton Co.	\$24.99	Biogas - LFG	NY	Operational	2012	10	6.4	1.28	6,275	6,275
2389	Community Refuse LFG	\$14.98	Biogas - LFG	PA	Operational	2012	10	6.4	6.08	47,402	47,402
2389	Howard (Expansion)	\$28.50	Wind	NY	Operational	2013	10	4.1	3.9	9,849	9,849
2389	Locust Ridge	\$16.98	Wind	PA	Operational	2012	10	26	24.7	54,093	54,093
2389	Mill Street Dam	\$20.25	Hydroelectric	NY	Operational	2014	10	0.22	0.23	986	986
2554	401 Fieldcrest Dr. Elmsford, NY 10523	\$32.22	Fuel Cell	NY	Operational	2015	10	0.8	0.76	6,325	6,325

**Table 4 continued**

Solicitation Name	Project Name	Contract Bid Price (\$/MWh)	Technology	State/ Province	Project Status	Year of Delivery Start Date	Contract Duration	New Renewable Capacity (MW)	Bid Capacity (MW)	Bid Quantity (MWh)	Max Annual Contract Quantity (MWh)
2554	ATT Clean Energy Project - Rego Park	\$29.95	Fuel Cell	NY	Operational	2015	10	0.2	0.19	1,686	1,686
2554	Howard	\$37.00	Wind	NY	Operational	2013	10		2.55	6,359	6,359
2554	Marsh Hill	\$36.95	Wind	NY	Operational	2014	10	16.2	15.39	52,526	52,526
2554	Niagara BioEnergy	\$30.00	Biogas - ADG	NY	Operational	2018	10	0.85	0.81	4,750	4,750
2554	Rio	\$25.00	Hydroelectric	NY	Operational	2014	10	0.8	0.76	4,199	4,199
2554	Stop and Shop Clean Energy Project - Mt. Vernon	\$30.00	Fuel Cell	NY	Operational	2015	10	0.26	0.25	2,112	2,112
2554	Zotos International	\$24.00	Wind	NY	Operational	2013	10	3.3	3.14	3,847	3,847
3257	Burt Dam Incremental Hydro	\$10.00	Hydroelectric	NY	Operational	2016	19	0.09	0.08	324	324
Total								732.64	673.21	2,177,218	2,177,218

- <sup>a</sup> Higley and Browns Falls had one-year agreements, thus enabling participation in RFP 1037.
- <sup>b</sup> Bear Creek windfarm had a four-year contract that expired on January 31, 2010.
- <sup>c</sup> Maple Ridge and Spier Falls had 10-year contracts that expired on December 31, 2015.
- <sup>d</sup> These facilities were awarded contracts for a percentage of output under multiple RFPs. The total new facility capacity is listed once.
- <sup>e</sup> AES Greenidge had a three-year contract that expired on July 31, 2012.
- <sup>f</sup> An agreement was awarded as a result of the fifth solicitation for the Marble River Wind Farm was combined with an agreement awarded under the sixth solicitation to reflect an increase in the size of the facility.
- <sup>g</sup> Modern LFGE had a 10-year contract that was terminated effective January 1, 2016.
- <sup>h</sup> These facilities had 10-year contracts which expired in 2018: Allen Falls, Bliss, Brown Falls, Clinton Wind, Colton, Eagle, East Norfolk, Ellenburg, Higley Falls Niagara Generating Facility, and Norfolk.
- <sup>i</sup> These facilities had 10-year contracts that expired in 2019: Norwood, Oswego Falls, Raymondville, Piercefield, Effley, Sherman Island, High Falls, Wethersfield, Altona, Chateauguay Wind Farm, Cohocton, and Dutch Hill.

**Table 5. Summary of Non-Tier 1 Projects—Renewable Portfolio Standard Solicitations**

Table 5 reflects only projects with Development Status of Operational

	MW Operational	Number of Projects
Biogas - ADG	0.85	1
Biogas - LFG	53.7	9
Biomass	43.26	1
Fuel Cell	1.26	3
Hydroelectric	23.17	11
Wind	610.4	12
<b>Total</b>	<b>732.64</b>	<b>37</b>

### 3 Offshore Wind Solicitations

The Public Service Commission’s July 12, 2018 Order authorized a Phase 1 offshore wind solicitation by NYSERDA that was issued in the fall of 2018. NYSERDA’s first statewide offshore solicitation, ORECRFP18-1, resulted in two contract awards for which contracts were finalized in 2019.

#### 3.1 Solicitation Results

In October 2019, NYSERDA finalized contracts for its first two offshore wind projects, Empire Wind (816 MW, Equinor US Holdings, Inc.) and Sunrise Wind (880 MW, Sunrise Wind LLC, a joint venture of Ørsted A/S and Eversource Energy) as the largest procurement for offshore wind in the nation. These projects are a first step in advancing the State’s offshore wind goals under the CES. Detailed solicitation results can be found by visiting NYSERDA’s offshore wind website. The projects shown in Table 6 represent active projects awarded under the first OREC solicitation and the project’s current status. Pricing information is detailed in the Launching New York’s Offshore Windy Industry: Phase 1 Report.<sup>12</sup>

**Table 6. Current Status—Offshore Wind Renewable Energy Certificates Awarded Projects**

Solicitation Name	Project Name	Average Expected OREC cost (\$2018)	New Renewable Capacity (MW)	Expected Annual OREC Quantity
ORECRFP18-1	Empire Wind	\$25.14*	816	4,550,000
ORECRFP18-1	Sunrise Wind		880	4,419,800
<b>Total</b>			<b>1,696</b>	<b>8,969,800</b>

\* Weighted Average price across both projects.

## 4 Project Development Status

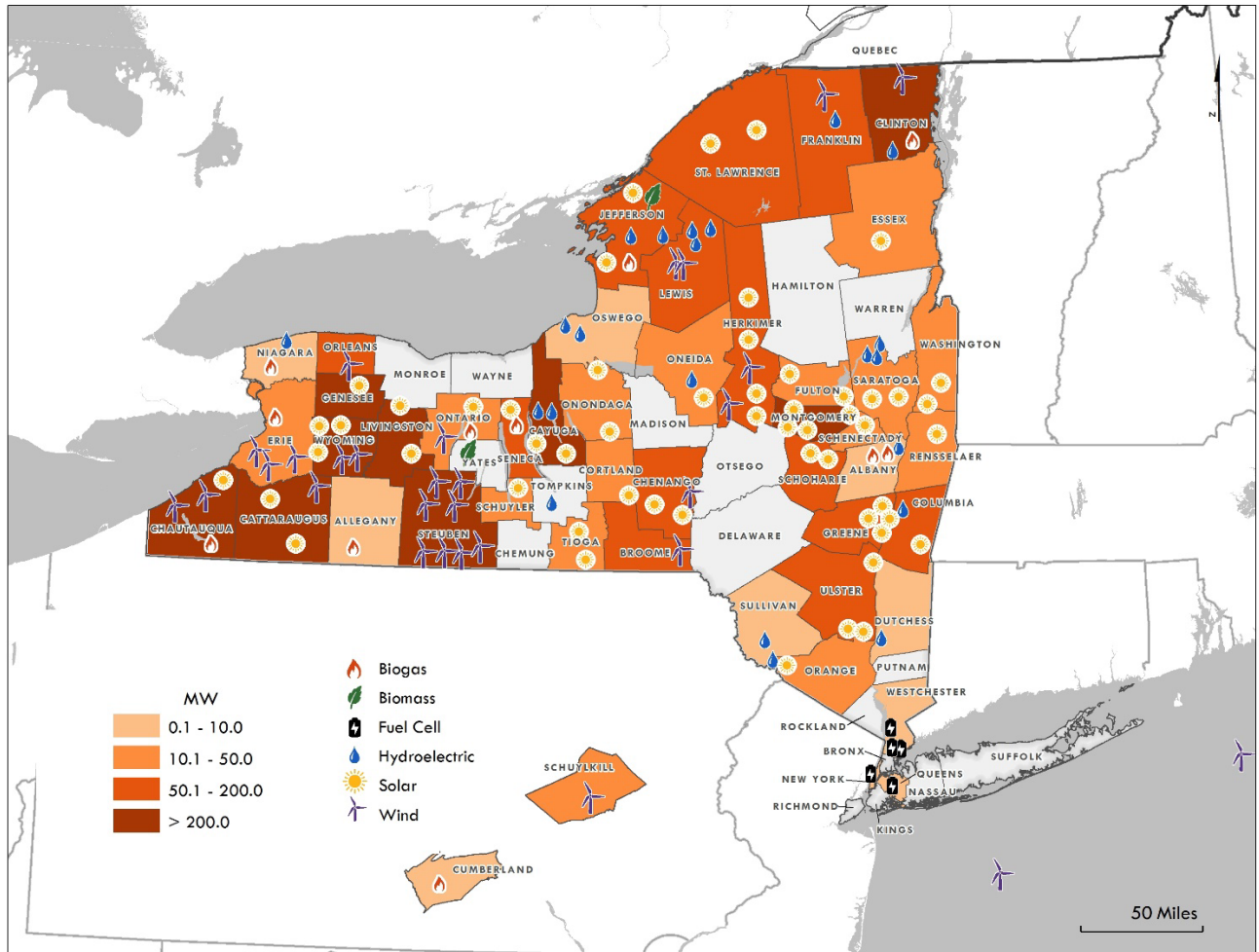
Through NYSERDA’s RES, RPS, and offshore wind solicitations, a total of more than 6,900 MW via 118 projects are under contract and will contribute to the overall renewable electric capacity in New York State. The associated status and capacity are detailed in Table 7.

**Table 7. Resource Development Status for Active NYSERDA Renewable Energy Standard, Renewable Portfolio Standard, and Offshore Wind Projects<sup>13</sup>**

	MW Capacity by Status			Number of Projects by Status		
	MW Operational	MW Under Development	Total MW	Operational	Under Development	Total Projects
Biogas - ADG	2.09	0	2.09	2	0	2
Biogas - LFG	53.7	0	53.7	9	0	9
Biomass	43.26	0	43.26	1	0	1
Fuel Cell	3.63	0	3.63	5	0	5
Hydroelectric	32.78	2.18	34.96	17	1	18
Solar	0	2,786.54	2,786.54	0	54	54
Land Based Wind	766.5	1,552.38	2,318.88	14	13	27
Offshore Wind	0	1,696.00	1,696.00	0	2	2
<b>Total</b>	<b>901.96</b>	<b>6,037.10</b>	<b>6,939.06</b>	<b>48</b>	<b>70</b>	<b>118</b>

The location of each facility either under contract or with a pending NYSERDA contract is shown in Figure 1.

**Figure 1. Renewable Energy Standard, Renewable Portfolio Standard, Maintenance, and Offshore Wind Resources**



## 5 Maintenance Resources

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Per the Orders, Maintenance Resources are defined as run-of-the-river hydroelectric facilities 10 MW or less or wind turbine and direct combustion biomass facilities that have been in operation prior to January 1, 2015 and can comply with delivery requirements consistent with those for Tier 1. Additionally, Maintenance Resources must demonstrate financial hardship and show through a formal request to the commission that, without a maintenance resource contract, the facility would cease commercial operations. The commission approves funding levels to support designated Maintenance Resources. The status for each active Maintenance Resource is detailed in Table 8.

**Table 8. Maintenance Resources**

Solicitation Name	Project Name	State	Project Status	Technology	Year of Delivery Start Date	Project Duration (Years)	Bid Capacity (MW)	Bid Quantity (MWh)
RPS Maintenance	Azure Mountain	NY	Operational	Maintenance Hydroelectric	2013	10	0.8	2,500
Tier 2 Maintenance	Finger Lakes	NY	Operational	Maintenance Hydroelectric	2019	3	0.15	625
Tier 2 Maintenance	Kayuta Lake Hydro	NY	Operational	Maintenance Hydroelectric	2018	3	0.46	1,897
Tier 2 Maintenance	Lyons Falls Hydro	NY	Operational	Maintenance Hydroelectric	2019	3	8.59	42,590
<b>Total</b>							<b>10</b>	<b>47,612</b>

## 6 Key References and Links

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The Clean Energy Standard Orders, reports, and filings can be found on NYSERDA's website:

- [nyseda.ny.gov/All-Programs/Programs/Clean-Energy-Standard/Important-Orders-Reports-and-Filings](https://nyseda.ny.gov/All-Programs/Programs/Clean-Energy-Standard/Important-Orders-Reports-and-Filings)
- The Offshore Wind Orders, reports can be found on NYSERDA's website:
  - [nyseda.ny.gov/All-Programs/Programs/Offshore-Wind](https://nyseda.ny.gov/All-Programs/Programs/Offshore-Wind)

RPS financials and Customer-Sited Tier (CST) progress information are filed separately from this NYSERDA report.

Information on the Renewable Portfolio Standard, the precursor to the CES, and previous Main Tier solicitations can be found on the following NYSERDA websites:

- [nyseda.ny.gov/All-Programs/Programs/Clean-Energy-Standard/Renewable-Portfolio-Standard/RPS-Documents](https://nyseda.ny.gov/All-Programs/Programs/Clean-Energy-Standard/Renewable-Portfolio-Standard/RPS-Documents)
- [nyseda.ny.gov/All-Programs/Programs/Clean-Energy-Standard/Renewable-Portfolio-Standard/Past-Main-Tier-Solicitations](https://nyseda.ny.gov/All-Programs/Programs/Clean-Energy-Standard/Renewable-Portfolio-Standard/Past-Main-Tier-Solicitations)

The Open NY data set includes information from several NYSERDA-implemented programs, including the Main Tier and Maintenance Resource Program under RPS, and the Tier 1/Tier 2 Maintenance and OREC under the CES, which can be found on the following website:

- <https://data.ny.gov/Energy-Environment/Large-scale-Renewable-Projects-Reported-by-NYSERDA/dprp-55ye>



# Endnotes

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- <sup>1</sup> Case 15-E-0302, Proceeding to Implement a Large-Scale Renewable Program and a Clean Energy Standard, Order Adopting a Clean Energy Standard (issued August 1, 2016) (CES Order).
- <sup>2</sup> Case 18-E-0071, Order Establishing Offshore Wind Standard and Framework for Phase 1 Procurement (issued July 12, 2018).
- <sup>3</sup> Tier 1-eligible generators are new renewable energy facilities that entered commercial operation on or after January 1, 2015 and have been certified as eligible per the terms of the Orders.
- <sup>4</sup> Renewable Energy Certificates (RECs) represent the environmental attributes, including but not limited to estimated avoided carbon dioxide emissions, of electricity generated by facilities that meet the Tier 1 eligibility criteria established by the Commission in the CES Order.
- <sup>5</sup> Contract Bid Price is reported for those Projects with executed NYSERDA agreements.
- <sup>6</sup> <https://data.ny.gov/Energy-Environment/Large-scale-Renewable-Projects-Reported-by-NYSERDA/dprp-55ye>
- <sup>7</sup> Case 18-E-0071, In the Matter of Offshore Wind Energy, Order Establishing Offshore Wind Standard and Framework for Phase 1 Procurement (issued and effective July 12, 2018).
- <sup>8</sup> <https://legislation.nysenate.gov/pdf/bills/2019/S6599>
- <sup>9</sup> See Case 15-E-0302, Proceeding to Implement a Large-Scale Renewable Program and a Clean Energy Standard, Order Approving Phase I Implementation Plan (issued February 22, 2017), and the Final Phase I Implementation Plan filed by NYSERDA on March 24, 2017. Also see Case 15-E-0751 et al, In the Matter of the Value of Distributed Energy Resources, issued on March 9, 2017, which further clarifies the treatment of certain distributed energy resources under the CES and their eligibility to participate in NYSERDA's long-term procurements for Tier 1-eligible RECs.
- <sup>10</sup> [nyserdera.ny.gov/All-Programs/Programs/Clean-Energy-Standard/Renewable-Generators-and-Developers/RES-Tier-One-Eligibility/Solicitations-for-Long-term-Contracts](https://nyserdera.ny.gov/All-Programs/Programs/Clean-Energy-Standard/Renewable-Generators-and-Developers/RES-Tier-One-Eligibility/Solicitations-for-Long-term-Contracts)
- <sup>11</sup> The Delivery Start Date is the date of contractual delivery by Seller to NYSERDA and may differ from the Commercial Operation date of the project.  
Per the CES Order, Tier 1 eligibility is determined by the Commercial Operation date.
- <sup>12</sup> <https://www.nyserdera.ny.gov/-/media/Files/Programs/offshore-wind/osw-phase-1-procurement-report.pdf>
- <sup>13</sup> This table includes only active contracts.



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