

TOWN OF WOODSTOCK

CLIMATE SMART TASK FORCE

Erin Moran, Coordinator
Kenneth Panza, Secretary

Application for 5 Points

PE4 Action: Renewable Energy Feasibility Studies

3 Points

4 Points

5 Points

Natural Power Group Hydroelectric Power Feasibility Study – 2018

Wallkill Generator

Ulster County Climate Smart Committee, Town of Woodstock Report for, February 26, 2018

Sarah & Harry Terbush, owners/operators of the Natural Power Group, Inc., consisting of Wallkill Hydroelectric, Salisbury Mills Hydroelectric, and Wappingers Falls Hydroelectric generators, announced that their Central Hudson long term power purchase agreement will end this year and they will be offering hydroelectric power under terms for Community Distributed Generation (CDG).

A major advantage of this offering is that the hydroelectric generators are in place, currently operating, and can supply power without issues of financing or construction. For anyone investigating a community solar offering, the availability of hydroelectric power might be considered. They have openings for about 200 customers.

Ulster County Climate Smart Committee, Town of Woodstock Report for, March 26, 2018

Three town government accounts, two retail and one small commercial, were evaluated as candidates as for hydroelectric power. Sarah Terbush explained how to use the NYISO pricing database that provides hourly DA LBMP (Day Ahead Locational Based Marginal Pricing) cost for electricity. With this information, it was possible to recalculate the electric bills for the selected accounts. The analysis shows the town can acquire renewable energy, reduced its carbon footprint, and save a few bucks with hydroelectric power.

Woodstock Town Board Meeting, May 15, 2018

At the May 8, 2018 meeting of the Woodstock Town Board, Sarah Bower-Terbush of the Natural Power Group explained the availability of locally generated, hydroelectric power under the terms of Community Generation for retail and small-commercial accounts. The Natural Power Group, Inc. submitted proposals for the Woodstock Youth Center, the Supervisor's Cottage, and the Rock City Rd Restrooms. A review of the contracts showed the town saving up to 10% on its existing utility bills. The town board approved the hydropower contracts at its May 15, 2018 meeting.

(Resolution 123-2018 from the May 15, 2018 meeting of the Town Board, attached.)

SIGN CONTRACTS WITH NATURAL POWER GROUP, INC.

WHEREAS, in 2007, the Town of Woodstock committed to reduce its carbon footprint and become carbon neutral,

WHEREAS, in January 2008, the Town of Woodstock resolve to support the principles of the Paris Agreement and the participation of the United States of America as a party to the Paris Agreement,

WHEREAS, the Natural Power Group, Inc. submitted a proposal to the Town of Woodstock to provide zero carbon, locally generated, hydroelectric power under the terms of Community Generation for retail and small-commercial accounts for the Woodstock Youth Center, the supervisor's cottage, and the Rock City Rd restrooms,

WHEREAS, a review of Natural Power Group's contracts show the Town of Woodstock saving up to 10% using zero carbon, renewable energy,

THEREFORE BE IT RESOLVED, to authorize the supervisor to sign contracts with Natural Power Group, Inc. to supply hydroelectric power for the Woodstock Youth Center, the supervisor's cottage, and the Rock City Rd restrooms.

Review of 2019 Electrical Usage

In 2018, the Woodstock Town Board signed contracts with the Natural Power Group (NPG) for power sourced from the Wappingers Falls and Wallkill hydroelectric generating facilities under the terms of Community Distributed Generation (CDG).

The Woodstock Town Board and several Woodstock residents enrolled as subscribers to the project. When NPG injects electricity into Central Hudson's distribution system, credits that represent Central Hudson's avoided cost of purchasing electricity are applied to member utility bills. The members then pay the Natural Power Group 90 percent of the credits received, reducing the overall cost of electricity by up to ten percent.

The advantage of this arrangement is that the town obtains zero-carbon, hydroelectric electricity at a cost no higher than grid electricity from Central Hudson. The tables below show the results of membership in the Natural Power Group CDG during 2019 for three residential accounts.

The highlighted line (Central Hudson Monthly Charges) is the total amount that would have been paid to Central Hudson in 2019 without enrolment in the Natural Power Group CDG. The line titled "CDG Credit" is the amount applied to the Central Hudson bill for generation received from the CDG project. This amount, which is calculated using VDER, is the avoided cost by Central Hudson of not having to purchase electricity for CDG members. The CDG credit reduces the amount owed to Central Hudson by 70 to 80 percent. During some months, nothing is owed to Central Hudson.

CDG subscribers are then billed by the Natural Power Group for 90 percent of the credit received from Central Hudson. The amounts paid to Central Hudson and to the Natural Power Group result in a reduction of between 8 to 10 percent in the total cost of electricity.

		Panza Residence		Woodstock Youth Center 3342-0100-00		Supervisor's Cottage 3346-2190-00	
		Quantity	Cost	Quantity	Cost	Quantity	Cost
kWh Used		10,499		10,216		19,705	
Basic Service Charge			\$250.30		\$250.20		\$252.20
CH kWh Delivery Charges	Delivery Service Charge						
	MFC Admin Charge						
	Transition Adj						
	Bill Credit						
	SBC/RPS Charge						
	Misc. Charges						
	RDM Charge						
Sum of Volumetric Delivery Charges ^Σ		0.07915	\$830.95	0.07901	\$807.19	0.07859	\$1,548.54
Total CH Delivery Charges			\$1,081.25		\$1,057.39		\$1,800.74
CH kWh Supply Charges	MFC Supply Charge						
	Market Price						
	Market Price Adj.						
	Sum of Supply Charges ^Σ	0.05753	\$604.02	0.05861	\$598.72	0.05833	\$1,149.34
Total Volumetric Charges		0.13668	\$1,434.97	0.13762	\$1,405.91	0.13691	\$2,697.88
NYS & Local Taxes			\$23.66		\$0.59		\$0.95
Central Hudson Monthly Charges		0.16277	\$1,708.93	0.16217	\$1,656.70	0.14976	\$2,951.03
CDG Credit		-65%	(\$1,102.32)	-84%	(\$1,398.13)	-73%	(\$2,160.80)
Reduced CH Billing			\$606.61		\$258.57		\$790.23
NPG Billing of CDG Credit			\$992.09		\$1,258.32		\$1,944.72
Total Cost of Electricity			\$1,598.69		\$1,516.89		\$2,734.95
Hydroelectric Premium (Benefit)		8%	(\$110.23)	10%	(\$139.81)	8%	(\$216.08)

2019 Year End, Central Hudson Electric Bills
Community Distributed Generation

The results confirm the value of the CDG program. These three residential accounts received zero-carbon, hydroelectric energy at a cost a little less than would have been paid to Central Hudson for grid electricity.

Carbon Emissions from Electricity

In June 2019, the penstock directing water to the Wappinger Falls hydroelectric generator ruptured, causing an interruption in the delivery of hydroelectric power. Although Woodstock continued to receive power from the Wallkill facility, the town received no electric power from Wappingers Falls in 2019. For 2020, we're assuming we will receive our full allocation. With these contracts, Woodstock will receive an estimated 90% of its electric power from zero-carbon, hydroelectric sources.

kWh		2018	2019	2020 (est)
Woodstock Usage		806,055	807,988	810,000
Wallkill Hydro	(Note 1)	18,500	44,000	70,000
Wappinger Falls Hydro	(Note 2)			678,000
Total Hydroelectric		18,500	44,000	748,000
Central Hudson (Grid)	(Note 3)	787,555	763,988	62,000
Metric Tons CO2	(Note 4)	105	102	8

Note 1: Only six months of the contracted 37,000 kWh was delivered in 2018. Credit for the full 44,000 kWh contracted amount was received in 2019. To cover usage by the EV charging station at the Rock City Rd Restrooms in 2020, the town increased its Wallkill subscription to 70,000 kWh.

Note 2: Because of a rupture in the penstock at Wappingers Falls, no power was delivered in

2019.

Note 3: Amount of electricity sourced from the grid after deducting hydroelectric power.

Note 4: Hydroelectric power has zero carbon dioxide content. Power sourced from the grid has a carbon dioxide content of 294.7 lbs./MWh, based on EPA's upstate New York region eGRID2016.

Wappingers Falls Hydroelectric Generator

The Woodstock Town Board considered a contract with the Natural Power Group to obtain renewable energy from the Natural Power Group's Wappingers hydroelectric generating facility for the town's seven demand accounts. With this contract and the previous contract for power from the Wallkill generating facility, Woodstock will be receiving 90% of its electric power from zero-carbon electricity sources.

Woodstock Subscriptions Natural Power Group for Fiscal Year 2020							
Wappinger Falls/ Woodstock							
Account	Name	Usage 2017 (kWh)	Usage 2018 (kWh)	2019 Allocation	Usage 2019 (kWh)	2020 Revised Allocation	Change from 2019
3615-0815-00	Woodstock - Highway Garage	140,760	161,520	160,000	150,000	160,000	0
3615-0070-00	Woodstock - Waste Water	236,360	252,040	236,000	236,360	236,000	0
3615-0685-00	Woodstock - Pump House #1	61,369	63,707	61,000	64,389	63,000	2,000
3615-0688-00	Woodstock - Pump House #2	39,714	40,439	40,000	46,077	45,000	5,000
3615-0445-02	Woodstock - New Community Center	52,800	53,160	53,000	55,200	53,000	0
3615-0540-00	Woodstock - Town Offices-Comeau	26,836	31,208	31,000	30,165	31,000	0
3615-0530-00	Woodstock - Town Hall-Tinker	100,360	85,520	100,000	87,600	90,000	(10,000)
Total		658,199	687,594	681,000	669,791	678,000	(3,000)
Wallkill/ Woodstock							
Account	Name	Usage 2017 (kWh)	Usage 2018 (kWh)	2019 Allocation	Usage 2019 (kWh)	2020 Revised Allocation	Change from 2019
3344-1300-00	Woodstock - Rock City Restrooms (SC)	5,635	12,929	13,000	7,229	0	(13,000)
3615-0958-00	Woodstock - Rock City Restrooms (DEM)	0	0	0	30,221	40,000	40,000
3346-2190-00	Woodstock - Supervisors Cottage	13,246	20,886	20,000	19,705	20,000	0
3342-0100-00	Woodstock - Youth Center	10,928	10,859	11,000	10,216	10,000	(1,000)
Total		29,809	44,674	44,000	67,371	70,000	26,000
Total Woodstock		688,008	732,268	725,000	737,162	748,000	23,000

Attachments

Youth Center Projections with Hydroelectric Power

Supervisor's Cottage Projections with Hydroelectric Power

Minutes of May 15, 2018 Town Board Meeting confirming contract with Natural Power Group

Certified Resolution, Town Board meeting of December 19, 2018 for contracts with Natural Power Group.

Several Articles

Proposed Hydroelectric Service
'Woodstock Youth Center 3342-0100-00'
'2017'

		Jan		Feb		Mar		Apr	
		Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
kWh Used		1013		745		620		749	
Basic Service Charge			\$24.00		\$24.00		\$24.00		\$24.00
CH kWh Delivery Charges	Delivery Service Charge	0.06070	\$61.49	0.06070	\$45.22	0.06070	\$37.63	0.06070	\$45.46
	MFC Admin Charge	0.00164	\$1.66	0.00164	\$1.22	0.00164	\$1.02	0.00164	\$1.23
	Transition Adj	0.00020	\$0.20	0.00020	\$0.15	0.00020	\$0.12	0.00020	\$0.15
	Bill Credit	(0.00438)	(\$4.44)	(0.00438)	(\$3.26)	(0.00438)	(\$2.72)	(0.00438)	(\$3.28)
	SBC/RPS Charge	0.00900	\$9.12	0.00900	\$6.71	0.00900	\$5.58	0.00900	\$6.74
	Misc. Charges	(0.00286)	(\$2.90)	(0.00277)	(\$2.06)	(0.00118)	(\$0.73)	(0.00166)	(\$1.24)
	RDM Charge	0.00299	\$3.03	(0.01329)	(\$9.90)	(0.01329)	(\$8.24)	(0.01329)	(\$9.95)
	Sum of Volumetric Delivery Charges Σ	0.06863	\$69.52	0.05244	\$39.07	0.05403	\$33.50	0.05355	\$40.11
Total CH Delivery Charges			\$93.52		\$63.07		\$57.50		\$64.11
CH kWh Supply Charges	MFC Supply Charge	0.00262	\$2.65	0.00262	\$1.95	0.00262	\$1.62	0.00262	\$1.96
	Market Price	0.05943	\$60.20	0.07322	\$54.55	0.06757	\$41.89	0.07302	\$54.69
	Market Price Adj.	(0.00530)	(\$5.37)	(0.00360)	(\$2.68)	(0.01207)	(\$7.48)	(0.01218)	(\$9.12)
	Sum of Supply Charges Σ	0.05675	\$57.49	0.07224	\$53.82	0.05812	\$36.03	0.06346	\$47.53
Total Volumetric Charges		0.12538	\$127.01	0.12468	\$92.89	0.11215	\$69.53	0.11701	\$87.64
NYS & Local Taxes			\$0.05		\$0.05		\$0.04		\$0.05
Total Central Hudson Bill			\$151.06		\$116.94		\$93.57		\$111.69
Energy (DA LBMP) Price/MWh		\$42.25		\$31.21		\$36.69		\$30.77	
Hydroelectric kWh		990	\$41.83	990	\$30.90	990	\$36.32	990	\$30.46
VDER	Capacity	0.01665	\$16.48	0.01665	\$16.48	0.01665	\$16.48	0.01665	\$16.48
	Environmental	0.02424	\$24.00	0.02424	\$24.00	0.02424	\$24.00	0.02424	\$24.00
	Demand Reduction	0.00069	\$0.68	0.00069	\$0.68	0.00069	\$0.68	0.00069	\$0.68
	MTC	0.05500	\$54.45	0.05500	\$54.45	0.05500	\$54.45	0.05500	\$54.45
	Sum of VDER Credits Σ	0.09658	\$95.61	0.09658	\$95.61	0.09658	\$95.61	0.09658	\$95.61
Central Hudson VDER Credit			\$137.44		\$126.51		\$131.94		\$126.08
Revised Central Hudson Bill			\$13.62		(\$9.57)		(\$38.36)		(\$14.39)
Hydro 90% VDER Billing			\$123.70		\$113.86		\$118.74		\$113.47
Total Cost of Electricity			\$137.32		\$104.29		\$80.38		\$99.08
Monthly Hydroelectric Premium (Benefit)			(\$13.74)		(\$12.65)		(\$13.19)		(\$12.61)

Proposed Hydroelectric Service
'Woodstock Youth Center 3342-0100-00'
'2017'

		May		Jun		Jul		Aug	
		Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
kWh Used		1112		563		1833		1105	
Basic Service Charge			\$24.00		\$24.00		\$24.00		\$24.00
CH kWh Delivery Charges	Delivery Service Charge	0.06070	\$67.50	0.06070	\$34.17	0.06483	\$118.83	0.06586	\$72.78
	MFC Admin Charge	0.00164	\$1.82	0.00164	\$0.92	0.00163	\$2.99	0.00163	\$1.80
	Transition Adj	0.00020	\$0.22	0.00020	\$0.11	0.00018	\$0.33	0.00017	\$0.19
	Bill Credit	(0.00438)	(\$4.87)	(0.00438)	(\$2.47)	(0.00146)	(\$2.68)	(0.00073)	(\$0.81)
	SBC/RPS Charge	0.00900	\$10.01	0.00900	\$5.07	0.00900	\$16.50	0.00900	\$9.95
	Misc. Charges	(0.00312)	(\$3.47)	(0.00234)	(\$1.32)	(0.00241)	(\$4.42)	(0.00114)	(\$1.26)
	RDM Charge	(0.01329)	(\$14.78)	(0.01329)	(\$7.48)	(0.01329)	(\$24.36)	0.00114	\$1.26
	Sum of Volumetric Delivery Charges Σ	0.05209	\$57.92	0.05287	\$29.77	0.05915	\$108.42	0.07660	\$84.64
Total CH Delivery Charges			\$81.92		\$53.77		\$132.42		\$108.64
CH kWh Supply Charges	MFC Supply Charge	0.00262	\$2.91	0.00262	\$1.48	0.00258	\$4.73	0.00257	\$2.84
	Market Price	0.07986	\$88.80	0.06662	\$37.51	0.06305	\$115.57	0.06600	\$72.93
	Market Price Adj.	0.00566	\$6.29	(0.00064)	(\$0.36)	(0.00556)	(\$10.19)	0.00204	\$2.25
	Sum of Supply Charges Σ	0.08814	\$98.01	0.06860	\$38.62	0.06007	\$110.11	0.07061	\$78.02
Total Volumetric Charges		0.14023	\$155.94	0.12147	\$68.39	0.11922	\$218.53	0.14721	\$162.67
NYS & Local Taxes			\$0.09		\$0.03		\$1.10		\$0.09
Total Central Hudson Bill			\$180.03		\$92.42		\$243.63		\$186.76
Energy (DA LBMP) Price/MWh		\$28.48		\$25.78		\$30.28		\$27.54	
Hydroelectric kWh		990	\$28.19	990	\$25.53	990	\$29.97	990	\$27.26
VDER	Capacity	0.01665	\$16.48	0.01665	\$16.48	0.01665	\$16.48	0.01665	\$16.48
	Environmental	0.02424	\$24.00	0.02424	\$24.00	0.02424	\$24.00	0.02424	\$24.00
	Demand Reduction	0.00069	\$0.68	0.00069	\$0.68	0.00069	\$0.68	0.00069	\$0.68
	MTC	0.05500	\$54.45	0.05500	\$54.45	0.05500	\$54.45	0.05500	\$54.45
	Sum of VDER Credits Σ	0.09658	\$95.61	0.09658	\$95.61	0.09658	\$95.61	0.09658	\$95.61
Central Hudson VDER Credit			\$123.81		\$121.14		\$125.59		\$122.87
Revised Central Hudson Bill			\$56.22		(\$28.72)		\$118.04		\$63.88
Hydro 90% VDER Billing			\$111.43		\$109.03		\$113.03		\$110.59
Total Cost of Electricity			\$167.65		\$80.30		\$231.07		\$174.47
Monthly Hydroelectric Premium (Benefit)			(\$12.38)		(\$12.11)		(\$12.56)		(\$12.29)

Proposed Hydroelectric Service
'Woodstock Youth Center 3342-0100-00'
'2017'

		Sep		Oct		Nov		Dec	
		Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
kWh Used		844		752		887		693	
Basic Service Charge			\$24.00		\$24.00		\$24.00		\$24.00
CH kWh Delivery Charges	Delivery Service Charge	0.06586	\$55.59	0.06586	\$49.53	0.06586	\$58.42	0.06586	\$45.64
	MFC Admin Charge	0.00163	\$1.38	0.00163	\$1.23	0.00163	\$1.45	0.00163	\$1.13
	Transition Adj	0.00017	\$0.14	0.00017	\$0.13	0.00017	\$0.15	0.00017	\$0.12
	Bill Credit	(0.00073)	(\$0.62)	(0.00073)	(\$0.55)	(0.00073)	(\$0.65)	(0.00073)	(\$0.51)
	SBC/RPS Charge	0.00900	\$7.60	0.00900	\$6.77	0.00900	\$7.98	0.00900	\$6.24
	Misc. Charges	0.00028	\$0.24	(0.00007)	(\$0.05)	(0.00010)	(\$0.09)	(0.00095)	(\$0.66)
	RDM Charge	0.00114	\$0.96	0.00114	\$0.86	0.00114	\$1.01	0.00114	\$0.79
	Sum of Volumetric Delivery Charges Σ	0.07802	\$65.85	0.07767	\$58.41	0.07764	\$68.87	0.07679	\$53.22
Total CH Delivery Charges			\$89.85		\$82.41		\$92.87		\$77.22
CH kWh Supply Charges	MFC Supply Charge	0.00257	\$2.17	0.00257	\$1.93	0.00257	\$2.28	0.00257	\$1.78
	Market Price	0.06700	\$56.55	0.06666	\$50.13	0.06250	\$55.44	0.06347	\$43.98
	Market Price Adj.	(0.01351)	(\$11.40)	(0.01591)	(\$11.96)	(0.00134)	(\$1.19)	(0.00194)	(\$1.34)
	Sum of Supply Charges Σ	0.05606	\$47.31	0.05332	\$40.10	0.06373	\$56.53	0.06410	\$44.42
Total Volumetric Charges		0.13408	\$113.16	0.13099	\$98.50	0.14137	\$125.40	0.14089	\$97.64
NYS & Local Taxes			\$0.05		\$0.04		\$0.06		\$0.05
Total Central Hudson Bill			\$137.21		\$122.54		\$149.46		\$121.69
Energy (DA LBMP) Price/MWh		\$21.67		\$27.65		\$28.34		\$31.87	
Hydroelectric kWh		990	\$21.45	990	\$27.38	990	\$28.05	990	\$31.55
VDER	Capacity	0.01665	\$16.48	0.01665	\$16.48	0.01665	\$16.48	0.01665	\$16.48
	Environmental	0.02424	\$24.00	0.02424	\$24.00	0.02424	\$24.00	0.02424	\$24.00
	Demand Reduction	0.00069	\$0.68	0.00069	\$0.68	0.00069	\$0.68	0.00069	\$0.68
	MTC	0.05500	\$54.45	0.05500	\$54.45	0.05500	\$54.45	0.05500	\$54.45
	Sum of VDER Credits Σ	0.09658	\$95.61	0.09658	\$95.61	0.09658	\$95.61	0.09658	\$95.61
Central Hudson VDER Credit			\$117.07		\$122.99		\$123.67		\$127.16
Revised Central Hudson Bill			\$20.15		(\$0.45)		\$25.79		(\$5.48)
Hydro 90% VDER Billing			\$105.36		\$110.69		\$111.30		\$114.45
Total Cost of Electricity			\$125.51		\$110.25		\$137.09		\$108.97
Monthly Hydroelectric Premium (Benefit)			(\$11.71)		(\$12.30)		(\$12.37)		(\$12.72)

Proposed Hydroelectric Service
'Woodstock Youth Center 3342-0100-00'
'2017'

		Year Totals	
		Quantity	Cost
kWh Used		10,916	
Basic Service Charge			\$288.00
CH kWh Delivery Charges	Delivery Service Charge		
	MFC Admin Charge		
	Transition Adj		
	Bill Credit		
	SBC/RPS Charge		
	Misc. Charges		
	RDM Charge		
	Sum of Volumetric Delivery Charges Σ	0.06498	\$709.29
Total CH Delivery Charges			\$997.29
CH kWh Supply Charges	MFC Supply Charge		
	Market Price		
	Market Price Adj.		
	Sum of Supply Charges Σ	0.06486	\$708.00
Total Volumetric Charges		0.12984	\$1,417.29
NYS & Local Taxes			\$1.70
Total Central Hudson Bill			\$1,706.99
Energy (DA LBMP) Price/MWh			
Hydroelectric kWh		11,880	
VDER	Capacity	0.01665	
	Environmental	0.02424	
	Demand Reduction	0.00069	
	MTC	0.05500	
	Sum of VDER Credits Σ		
Central Hudson VDER Credit		0.12679	\$1,506.27
Revised Central Hudson Bill			\$200.72
Hydro 90% VDER Billing			\$1,355.64
Total Cost of Electricity			\$1,556.36
Monthly Hydroelectric Premium (Benefit)			(\$150.63)

Proposed Hydroelectric Service
'Supervisor's Cottage 3346-2190-00'
'2017'

		Jan		Feb		Mar		Apr	
		Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
kWh Used		2501		398		1585		1209	
Basic Service Charge			\$24.00		\$24.00		\$24.00		\$24.00
CH kWh Delivery Charges	Delivery Service Charge	0.06070	\$151.81	0.06070	\$24.16	0.06070	\$96.21	0.06070	\$73.39
	MFC Admin Charge	0.00164	\$4.10	0.00164	\$0.65	0.00164	\$2.60	0.00164	\$1.98
	Transition Adj	0.00020	\$0.50	0.00020	\$0.08	0.00020	\$0.32	0.00020	\$0.24
	Bill Credit	(0.00438)	(\$10.95)	(0.00438)	(\$1.74)	(0.00438)	(\$6.94)	(0.00438)	(\$5.30)
	SBC/RPS Charge	0.00900	\$22.51	0.00900	\$3.58	0.00900	\$14.27	0.00900	\$10.88
	Misc. Charges	(0.00305)	(\$7.63)	(0.00269)	(\$1.07)	(0.00106)	(\$1.68)	(0.00206)	(\$2.49)
	RDM Charge	0.00299	\$7.48	(0.01329)	(\$5.29)	(0.01329)	(\$21.06)	(0.01329)	(\$16.07)
	Sum of Volumetric Delivery Charges Σ	0.06844	\$171.17	0.05252	\$20.90	0.05415	\$85.83	0.05315	\$64.26
Total CH Delivery Charges			\$195.17		\$44.90		\$109.83		\$88.26
CH kWh Supply Charges	MFC Supply Charge	0.00262	\$6.55	0.00262	\$1.04	0.00262	\$4.15	0.00262	\$3.17
	Market Price	0.06248	\$156.26	0.07291	\$29.02	0.06715	\$106.43	0.07574	\$91.57
	Market Price Adj.	(0.00495)	(\$12.38)	(0.00362)	(\$1.44)	(0.01381)	(\$21.89)	(0.00883)	(\$10.68)
	Sum of Supply Charges Σ	0.06015	\$150.44	0.07191	\$28.62	0.05596	\$88.70	0.06953	\$84.06
Total Volumetric Charges		0.12859	\$321.60	0.12443	\$49.52	0.11011	\$174.52	0.12268	\$148.32
NYS & Local Taxes			\$0.12				\$0.09		\$0.07
Total Central Hudson Bill			\$345.72		\$73.52		\$198.61		\$172.39
Energy (DA LBMP) Price/MWh		42.25095		31.20723		36.68958		30.77185	
Hydroelectric kWh		1333	\$56.33	1333	\$41.61	1333	\$48.92	1333	\$41.03
VDER	Capacity	0.01665	\$22.20	0.01665	\$22.20	0.01665	\$22.20	0.01665	\$22.20
	Environmental	0.02424	\$32.32	0.02424	\$32.32	0.02424	\$32.32	0.02424	\$32.32
	Demand Reduction	0.00069	\$0.92	0.00069	\$0.92	0.00069	\$0.92	0.00069	\$0.92
	MTC	0.05500	\$73.33	0.05500	\$73.33	0.05500	\$73.33	0.05500	\$73.33
	Sum of VDER Credits Σ	0.09658	\$128.77	0.09658	\$128.77	0.09658	\$128.77	0.09658	\$128.77
Central Hudson VDER Credit			\$185.11		\$170.38		\$177.69		\$169.80
Revised Central Hudson Bill			\$160.62		(\$96.86)		\$20.92		\$2.59
Hydro 90% VDER Billing			\$166.60		\$153.34		\$159.92		\$152.82
Total Cost of Electricity			\$327.21		\$56.48		\$180.85		\$155.41
Monthly Hydroelectric Premium (Benefit)			(\$18.51)		(\$17.04)		(\$17.77)		(\$16.98)

Proposed Hydroelectric Service
'Supervisor's Cottage 3346-2190-00'
'2017'

		May		Jun		Jul		Aug	
		Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
kWh Used		1003		794		1307		342	
Basic Service Charge			\$24.00		\$24.00		\$24.00		\$24.00
CH kWh Delivery Charges	Delivery Service Charge	0.06070	\$60.88	0.06070	\$48.20	0.06483	\$84.73	0.06586	\$22.52
	MFC Admin Charge	0.00164	\$1.64	0.00164	\$1.30	0.00163	\$2.13	0.00163	\$0.56
	Transition Adj	0.00020	\$0.20	0.00020	\$0.16	0.00018	\$0.24	0.00017	\$0.06
	Bill Credit	(0.00438)	(\$4.39)	(0.00438)	(\$3.48)	(0.00146)	(\$1.91)	(0.00073)	(\$0.25)
	SBC/RPS Charge	0.00900	\$9.03	0.00900	\$7.15	0.00900	\$11.76	0.00900	\$3.08
	Misc. Charges	(0.00301)	(\$3.02)	(0.00237)	(\$1.88)	(0.00239)	(\$3.12)	(0.00091)	(\$0.31)
	RDM Charge	(0.01329)	(\$13.33)	(0.01329)	(\$10.55)	(0.01329)	(\$17.37)	0.00114	\$0.39
	Sum of Volumetric Delivery Charges Σ	0.05220	\$52.36	0.05284	\$41.95	0.05917	\$77.34	0.07683	\$26.28
Total CH Delivery Charges			\$76.36		\$65.95		\$101.34		\$50.28
CH kWh Supply Charges	MFC Supply Charge	0.00262	\$2.63	0.00262	\$2.08	0.00258	\$3.37	0.00257	\$0.88
	Market Price	0.07848	\$78.72	0.06603	\$52.43	0.06336	\$82.81	0.06594	\$22.55
	Market Price Adj.	0.00577	\$5.79	(0.00223)	(\$1.77)	(0.00400)	(\$5.23)	0.00036	\$0.12
	Sum of Supply Charges Σ	0.08687	\$87.13	0.06642	\$52.74	0.06194	\$80.96	0.06887	\$23.55
Total Volumetric Charges		0.13907	\$139.49	0.11926	\$94.69	0.12111	\$158.29	0.14570	\$49.83
NYS & Local Taxes			\$0.06		\$0.05		\$0.07		\$0.03
Total Central Hudson Bill			\$163.55		\$118.74		\$182.36		\$73.86
Energy (DA LBMP) Price/MWh		28.47814		25.78445		30.27624		27.53595	
Hydroelectric kWh		1333	\$37.97	1333	\$34.38	1333	\$40.37	1333	\$36.71
VDER	Capacity	0.01665	\$22.20	0.01665	\$22.20	0.01665	\$22.20	0.01665	\$22.20
	Environmental	0.02424	\$32.32	0.02424	\$32.32	0.02424	\$32.32	0.02424	\$32.32
	Demand Reduction	0.00069	\$0.92	0.00069	\$0.92	0.00069	\$0.92	0.00069	\$0.92
	MTC	0.05500	\$73.33	0.05500	\$73.33	0.05500	\$73.33	0.05500	\$73.33
	Sum of VDER Credits Σ	0.09658	\$128.77	0.09658	\$128.77	0.09658	\$128.77	0.09658	\$128.77
Central Hudson VDER Credit			\$166.74		\$163.15		\$169.14		\$165.49
Revised Central Hudson Bill			(\$3.20)		(\$44.41)		\$13.22		(\$91.63)
Hydro 90% VDER Billing			\$150.07		\$146.84		\$152.23		\$148.94
Total Cost of Electricity			\$146.87		\$102.43		\$165.45		\$57.31
Monthly Hydroelectric Premium (Benefit)			(\$16.67)		(\$16.32)		(\$16.91)		(\$16.55)

Proposed Hydroelectric Service
'Supervisor's Cottage 3346-2190-00'
'2017'

		Sep		Oct		Nov		Dec	
		Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
kWh Used		727		988		1411		1985	
Basic Service Charge			\$24.00		\$24.00		\$24.00		\$24.00
CH kWh Delivery Charges	Delivery Service Charge	0.06586	\$47.88	0.06586	\$65.07	0.06586	\$92.93	0.06586	\$130.73
	MFC Admin Charge	0.00163	\$1.19	0.00163	\$1.61	0.00163	\$2.30	0.00163	\$3.24
	Transition Adj	0.00017	\$0.12	0.00017	\$0.17	0.00017	\$0.24	0.00017	\$0.34
	Bill Credit	(0.00073)	(\$0.53)	(0.00073)	(\$0.72)	(0.00073)	(\$1.03)	(0.00073)	(\$1.45)
	SBC/RPS Charge	0.00900	\$6.54	0.00900	\$8.89	0.00900	\$12.70	0.00900	\$17.87
	Misc. Charges	0.00025	\$0.18	(0.00016)	(\$0.16)	(0.00001)	(\$0.01)	(0.00151)	(\$3.00)
	RDM Charge	0.00114	\$0.83	0.00114	\$1.13	0.00114	\$1.61	0.00114	\$2.26
	Sum of Volumetric Delivery Charges Σ	0.07799	\$56.70	0.07758	\$76.65	0.07773	\$109.68	0.07623	\$151.32
Total CH Delivery Charges			\$80.70		\$100.65		\$133.68		\$175.32
CH kWh Supply Charges	MFC Supply Charge	0.00257	\$1.87	0.00257	\$2.54	0.00257	\$3.63	0.00257	\$5.10
	Market Price	0.06748	\$49.06	0.06546	\$64.67	0.06267	\$88.43	0.06347	\$125.99
	Market Price Adj.	(0.01573)	(\$11.44)	(0.01239)	(\$12.24)	(0.00122)	(\$1.72)	(0.00248)	(\$4.92)
	Sum of Supply Charges Σ	0.05432	\$39.49	0.05564	\$54.97	0.06402	\$90.33	0.06356	\$126.17
Total Volumetric Charges		0.13231	\$96.19	0.13322	\$131.62	0.14175	\$200.01	0.13979	\$277.48
NYS & Local Taxes			\$0.05		\$0.06		\$0.09		\$0.11
Total Central Hudson Bill			\$120.24		\$155.68		\$224.10		\$301.59
Energy (DA LBMP) Price/MWh		21.66888		27.65195		28.33763		31.86781	
Hydroelectric kWh		1333	\$28.89	1333	\$36.87	1333	\$37.78	1333	\$42.49
VDER	Capacity	0.01665	\$22.20	0.01665	\$22.20	0.01665	\$22.20	0.01665	\$22.20
	Environmental	0.02424	\$32.32	0.02424	\$32.32	0.02424	\$32.32	0.02424	\$32.32
	Demand Reduction	0.00069	\$0.92	0.00069	\$0.92	0.00069	\$0.92	0.00069	\$0.92
	MTC	0.05500	\$73.33	0.05500	\$73.33	0.05500	\$73.33	0.05500	\$73.33
	Sum of VDER Credits Σ	0.09658	\$128.77	0.09658	\$128.77	0.09658	\$128.77	0.09658	\$128.77
Central Hudson VDER Credit			\$157.67		\$165.64		\$166.56		\$171.26
Revised Central Hudson Bill			(\$37.43)		(\$9.96)		\$57.54		\$130.33
Hydro 90% VDER Billing			\$141.90		\$149.08		\$149.90		\$154.14
Total Cost of Electricity			\$104.47		\$139.12		\$207.44		\$284.47
Monthly Hydroelectric Premium (Benefit)			(\$15.77)		(\$16.56)		(\$16.66)		(\$17.13)

Proposed Hydroelectric Service
'Supervisor's Cottage 3346-2190-00'
'2017'

		Year Totals	
		Quantity	Cost
kWh Used		14250	
Basic Service Charge			\$288.00
CH kWh Delivery Charges	Delivery Service Charge		
	MFC Admin Charge		
	Transition Adj		
	Bill Credit		
	SBC/RPS Charge		
	Misc. Charges		
	RDM Charge		
Sum of Volumetric Delivery Charges Σ		0.06557	\$934.42
Total CH Delivery Charges			\$1,222.42
CH kWh Supply Charges	MFC Supply Charge		
	Market Price		
	Market Price Adj.		
	Sum of Supply Charges Σ	0.06366	\$907.15
Total Volumetric Charges		0.12923	\$1,841.57
NYS & Local Taxes			\$0.80
Total Central Hudson Bill			\$2,130.37
Energy (DA LBMP) Price/MWh			
Hydroelectric kWh		16000	
VDER	Capacity	0.01665	
	Environmental	0.02424	
	Demand Reduction	0.00069	
	MTC	0.05500	
	Sum of VDER Credits Σ		
Central Hudson VDER Credit		0.12679	\$2,028.64
Revised Central Hudson Bill			\$101.73
Hydro 90% VDER Billing			\$1,825.78
Total Cost of Electricity			\$1,927.51
Monthly Hydroelectric Premium (Benefit)			(\$202.86)

held on May 15, 2018 at 7:00pm
45 Comeau Drive, Woodstock, NY

Supervisor Bill McKenna presiding
Council Members present: Councilman Lorin Rose
 Councilman Richard Heppner
 Councilwoman Laura Ricci
Councilman Jay Wenk - absent
Deputy Supervisor - Reggie Earles - absent

At 7:00pm Supervisor McKenna called the meeting to order with the pledge to the flag. Approximately 3 people from the public were present and the press was represented by Nick Henderson.

PUBLIC-BE-HEARD: 7:00-7:10PM:

ANNOUNCEMENTS:

- The noise ordinance is in effect, as it has been filed with the State
- Bears and garbage - Supervisor will put info on line and facebook with DEC contacts
- UC office of the aging will be supplying lunch Tuesdays and Thursdays at the Fire Co #1 station.
- Planning Board - Would like them to look at zoning law and see how the new noise law interacts.
- Highway street sweeper (co-owned with other municipalities) was totaled after being involved in a PDAA. Town has insurance to cover it.
- Recreation Task Force - Looking to do larger projects, the Board agreed they would like to see the "whole picture" before agreeing on any expenditures. Councilwoman Ricci stated the same should be with the trail (s) suggestions. Councilman Heppner said he would like the Task Force to proceed cautiously.

RESOLUTIONS:

- Accepting of minutes
- Accepting Town Clerk's report March 18 to April 13.
- Authorizing transfers and payment of vouchers
- Authorize signing of contract with Girvin & Ferlazzo law firm
- Hire summer help at Highway
- Authorize signing of contract with Natural Power Group, Inc.
- Hire part-time cleaner for Maintenance Department

resolution 117-2018

Accept meeting minutes

Offered by Supervisor McKenna, seconded by Council

BE IT RESOLVED, to accept minutes for meetings held on of 4/17, 4/24, and 5/8.

All voted 4-0: Supervisor McKenna - aye
 Councilman Rose - aye
 Councilman Heppner - aye
 Councilwoman Ricci - aye

resolution 118-2018

Accept Town Clerk's Report

Offered by Supervisor McKenna, seconded by Council

Be it resolved to Accept Town Clerk's report March 18 to April 13.

All voted 4-0: Supervisor McKenna - aye
Councilman Rose - aye
Councilman Heppner - aye
Councilwoman Ricci - aye

resolution 119-2018

Authorize payment of vouchers

Offered by Supervisor McKenna, seconded by Council

BE IT RESOLVED, to authorize payment of audited vouchers in the amount of \$55,825.98

All voted 4-0: Supervisor McKenna - aye
Councilman Rose - aye
Councilman Heppner - aye
Councilwoman Ricci - aye

resolution 120-2018

Authorize Transfers

Offered by Supervisor McKenna, seconded by Council

BE IT RESOLVED, to authorize transfers per Transfer Sheet.

All voted 4-0: Supervisor McKenna - aye
Councilman Rose - aye
Councilman Heppner - aye
Councilwoman Ricci - aye

resolution 121-2018

Engage Attorneys for Highway Union negotiations.

Offered by Supervisor McKenna, seconded by Council

BE IT RESOLVED, to authorize the Supervisor to engage the services of Girvin and Ferlazzo law firm at a rate of \$195 per hour, to assist in negotiations with the UPSEU Highway Union.

All voted 4-0: Supervisor McKenna - aye
Councilman Rose - aye
Councilman Heppner - aye
Councilwoman Ricci - aye

resolution 122-2018

Advertise for summer help for highway department

Offered by Supervisor McKenna, seconded by Council

BE IT RESOLVED, to authorize the Town Clerk to advertise for two summer help positions for the Highway Department, as follows: **SUMMER HELP-** Town of Woodstock Highway is accepting applications thru June 1st, 2018. Must be 18 years old and have a valid Driver's license. \$13.34 hr. Applications are available at Town Clerk & Highway Department. Chosen candidates will be informed about interviews. 845-679-2805

All voted 4-0: Supervisor McKenna - aye
Councilman Rose - aye
Councilman Heppner - aye
Councilwoman Ricci - aye

resolution 123-2018

Sign contract with Natural power group, inc.

Offered by Supervisor McKenna, seconded by Council

BE IT RESOLVED, to authorize the Supervisor to sign the contract with Natural Power Group, Inc., to provide electric for the Youth Center, the public bathrooms on Rock City road, and the Supervisor's Cottage.

All voted 4-0: Supervisor McKenna - aye
Councilman Rose - aye
Councilman Heppner - aye
Councilwoman Ricci - aye

resolution 124-2018

Hire Part time cleaner

Offered by Supervisor McKenna, seconded by Council

BE IT RESOLVED, to hire Angeline Cossano for the Maintenance Department as a part-time grade 1 cleaner at \$16 per hour, effective 5/16/2018.

All voted 4-0: Supervisor McKenna - aye
Councilman Rose - aye
Councilman Heppner - aye
Councilwoman Ricci - aye

At 7:38pm, Supervisor McKenna moved to adjourn, seconded by Councilman Rose.

All voted 4-0: Supervisor McKenna - aye
Councilman Rose - aye
Councilman Heppner - aye
Councilwoman Ricci - aye

Respectfully submitted,

Jacquelyn E. Earley, RMC, Town Clerk

TOWN OF WOODSTOCK . 45 COMEAU DRIVE, WOODSTOCK NY 12498

RESOLUTION 216-2018

AUTHORIZE SUPERVISOR TO SIGN CONTRACTS WITH NATURAL POWER GROUP:

Offered by Supervisor McKenna, seconded by Councilman Rose:

WHEREAS, in 2007, the Town of Woodstock committed to reduce its carbon footprint and become carbon neutral,

WHEREAS, in January 2018, the Town of Woodstock resolved to support the principles of the Paris Agreement and the participation of the United States of America as a party to the Paris Agreement,

WHEREAS, on November 20, 2018, the Woodstock Town Board adopted a Comprehensive Plan that states the town will "expand the use of renewable energy sources that reduce and control the use of fossil fuels,"

WHEREAS, the Natural Power Group, Inc. submitted a proposal to the Town of Woodstock to provide zero carbon, locally generated, hydroelectric power under the terms of Community Generation for Woodstock's demand accounts, which are:

Woodstock - Highway Garage

Woodstock - Waste Water Treatment Facility

Woodstock - Pump House #1

Woodstock - Pump House #2

Woodstock - Mescal Hornbeck Community Center

Woodstock - Woodstock Town Offices (Comeau)

Woodstock - Woodstock Town Hall

WHEREAS, a review of Natural Power Group's contracts show the Town of Woodstock saving 10% on the amount credited for using zero carbon, renewable energy,

THEREFORE BE IT RESOLVED, to authorize the supervisor to sign contracts with Natural Power Group, Inc. to supply hydroelectric power for Woodstock's demand accounts,

BE IT FURTHER RESOLVED, to notify Central Hudson that Net Metering should be terminated at the Highway Garage and the Town Hall.

All voted 3-0: Supervisor McKenna - aye

Councilman Rose - aye

Councilman Earls - aye

STATE OF NEW YORK

:SS:

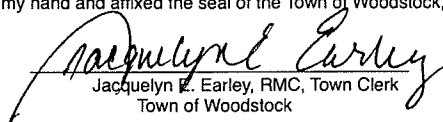
COUNTY OF ULSTER

I, the undersigned Clerk of the Town of Woodstock, Ulster County, New York, **DO HEREBY CERTIFY**:

THAT I have compared the attached proceedings of the Town Board of the Town of Woodstock including the resolution contained therein with the originals thereof on file in my office and that the same is a true and correct copy of the said original as recorded in the minutes of the Town Board meeting dated December 19, 2018 and filed in the Office of the Town Clerk.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Town of Woodstock, New York this 18th day of December 2018.

SEAL


Jacquelyn E. Earley, RMC, Town Clerk
Town of Woodstock



Politics & Government

Woodstock agrees to buy hydro power from small producer

by [Nick Henderson](#) / May 19, 2018 / Comments closed



(Photo by Dion Ogust)

The Woodstock Town Board authorized a five-year contract with a hydroelectric producer for three of its accounts and will study the possibility of adding more.

The town will get electricity for the Youth Center, Rock City Road bathrooms and the Supervisor's Cottage from Hopewell Junction-based Natural Power Group Inc, a company owned by Sarah and Harry Terbush with plants in Wallkill, Wappingers Falls and Salisbury Mills.

Until recently, small electric generation companies were required to sell their power to the utility in that region. The Wallkill plant's contract with Central Hudson has expired, allowing them to sell power to the public. The other plants will be available in June and January.

Advertisement

Natural Power Group is part of a process approved by the Public Service Commission called Community Distributed Generation. The town, or anyone who signs a contract, will get a monthly credit from Central Hudson and a bill from Natural Power Group that is 10 percent less than the credit. Central Hudson still delivers the electricity through its grid. Customers buy capacity from the Community Distributed Generation provider.

The three town locations are immediately available because they are considered residential accounts. It is possible to make the switch for other accounts but it is more complicated and depends on Natural Power Group's capacity.

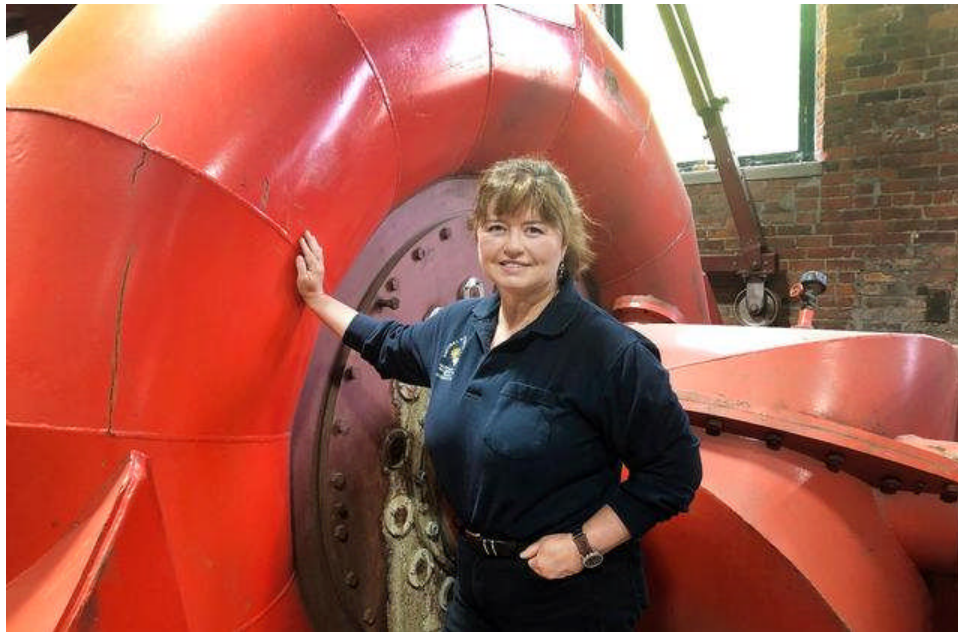
The contract for the three locations is for five years, but the town can opt out after a year if it's not deemed beneficial. Co-owner Sarah Terbush told the town last week that any savings are a yearly average as there are highs and lows in production.

[usnews.com](https://www.usnews.com)

Think Globally, Power Locally: Hydro Plants Serve Neighbors

By Associated Press, Wire Service Content July 8, 2019

5-7 minutes



In this June 5, 2019 photo, Natural Power Group co-owner Sarah Bower-Terbusch stands in front of a power turbine at the company's hydroelectric site in Wappingers Falls, N.Y. She and her husband sell renewable power to local customers from three hydroelectric sites they operate in the Hudson Valley. Customers say they like investing their money locally in clean power. (AP Photo/Michael

Hill)

The Associated Press

By MICHAEL HILL, Associated Press

WALKILL, N.Y. (AP) — Eat locally. Shop locally. Generate locally?

Some electricity customers in [New York](#)'s Hudson Valley support

hydropower harnessed from running water close to home.

The idea is similar to farm-to-table, except for electricity instead of food.: green-minded customers supporting an area renewable resource. And smaller hydro plants like those run by Harry Terbush and Sarah-Bower Terbush have a different way to keep their turbines turning.

"It's community energy, and it allows us to sell directly to customers, and allows them to get a little more benefit of what's in their backyard," said Sarah Bower-Terbush.

The husband-and-wife engineers running Natural Power Group have been maintaining hydro sites north of New York City for three decades. The trio of sites they operate now are "run of the river" that rely on flowing water. The steel-encased turbines are modern, but sites have a long history of producing power.

The Wallkill River site once provided mechanical energy for a hat factory. It now can generate 0.5 megawatts — enough power for around 400 homes — by diverting into a short canal that feeds a pair of turbines inside the rebuilt plant.

A larger 2.5-megawatt site across the Hudson River in Wappingers Falls is in a long brick building beneath a fast-falling stretch of Wappinger Creek. Water flows through a 9-foot diameter pipe that snakes across Wappinger Creek to a site that first produced electricity more than a century ago.

"Why not utilize what we have?" Bower-Terbush asked.

But it can be difficult for smaller hydro sites to compete in the electricity market. In New York, plants that generate less than 1 megawatt are currently unable to participate in wholesale markets because of their size. Older hydro sites can miss out on incentives promoting new construction in solar and wind.

And as Matthew Swindle of the hydro company NLine Energy put it: "The challenge is that you can site wind and solar just about everywhere. I can't put hydro on a rooftop."

Swindle, who is involved with the National Hydropower Association, said hydro operations are starting to sell to customers in their area

by taking advantage of states' differing energy policies.

In states like [California](#), [New Hampshire](#) and New York, it can involve a form of "net metering."

In New York, Gravity Renewables sells its power from its Chittenden Falls Hydro Project on Kinderhook Creek plant to Skidmore College 60 miles away under the state's remote net metering program. Skidmore owns the meter at the site, and it counts toward around 10 percent or more of the campus's electricity use.

"You can produce kilowatt hours more cheaply from a coal plant or from, generally, a gas plant than you can from a small hydro plant," said Ted Rose, CEO of the [Colorado](#)-based company. "But the real question is: Is a small hydro asset that's been around for 100 years inside a community, does that have value to that community above and beyond those kilowatt hours? And I think that answer is yes."

For decades, the Terbushes sold their hydro power to the local utility under a 1978 federal law promoting renewable energy. Those contracts lapsed, and they began selling power last year from Walkill under the state's "community-distributed generation" program.

Bower-Terbush said the transition to marketing directly to customers has been challenging, but they are working toward selling power the same way at their other two sites.

The policy allows electricity customers to collectively invest in renewable projects, mostly solar, in their utility service territory.

It allows Manna Jo Greene to support the Walkill site, 20 miles from her home.

"My thought was to support a local source of generation: clean hydroelectric power," said Greene.

They can't run a power cord from Greene's home. Walkill's hydroelectricity still flows into the grid. Instead, customers essentially reserve a percentage of the power generated by a hydro project. The local utility still sends a monthly bill, but with credits based on hydropower the customer signed up to buy. Natural

Power Group sends a separate bill, with a 10 percent discount on the credits.

New York ratepayers help fund renewable programs like this through a monthly charge on their bills, though regulators say costs are mitigated by investments in local generation.

Greene and other customers say cheaper electricity bills are nice, but the choice is philosophical. Greene is a veteran environmental activist who already relied on rooftop solar panels for most of her electricity. Officials in nearby Woodstock purchased hydro to help keep the famously left-of-center town meet its carbon-neutral goals.

"They decided that they really wanted to have something local, where you could actually understand that the renewable power was being generated," said Kenneth Panza, a resident who helped choose hydro, "rather than buying renewable energy credits from windmills in [Texas](#) or [Oklahoma](#)."

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Hudson Valley

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Power Through History: How a Local Hydroelectric Plant Brings Energy to the People

Following a long history in the Hudson Valley, a historic Dutchess County property channels the power of water at Wappingers Falls Hydroelectric.

Published: 01/25/2019
BY SABRINA SUCATO

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PHOTOS BY DAVE COPPOLA AT DAVE COPPOLA PHOTOGRAPHY

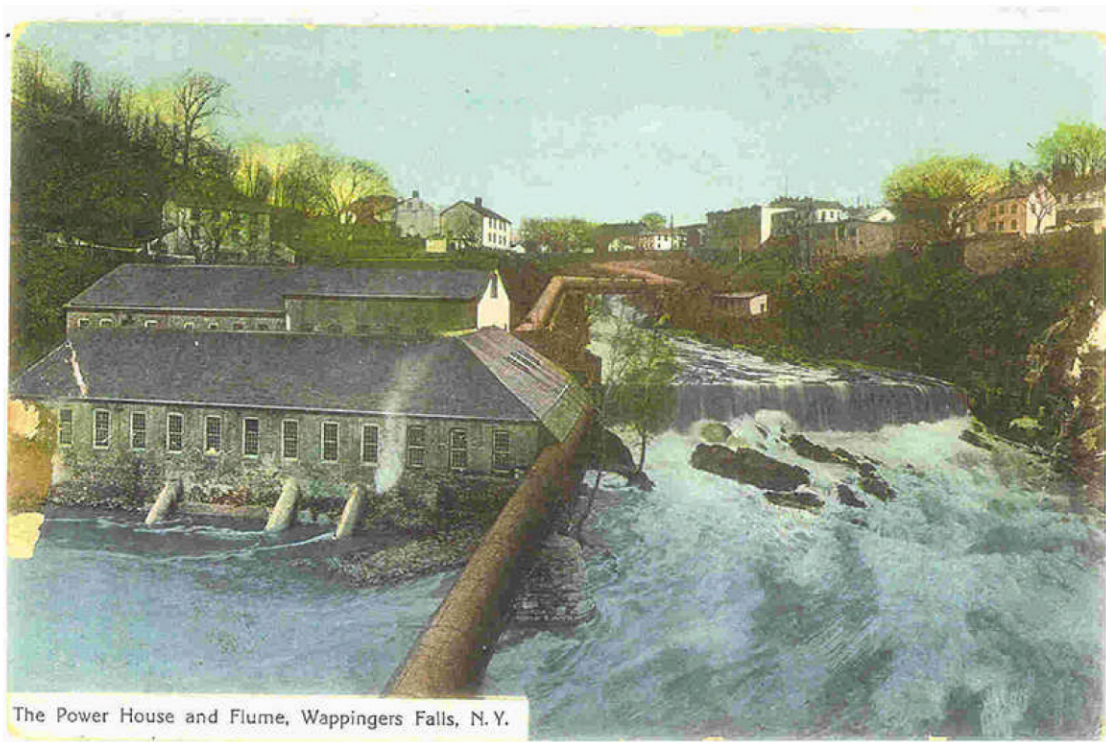
Water. It's the stuff that flows through our rivers, cleans our planet, and fuels us all. Often, it's an underappreciated resource, or something that's just there in the tap, waiting for us to turn on the faucet. Quite literally, it's a drop in the bucket with the potential to change the world.

At **Wappingers Falls Hydroelectric**, water is the tool that powers it all. Since 1988, the hydroelectric site has operated under husband-and-wife team Harry Terbush and Sarah Bower-Terbush. Terbush, who also owns and operates another hydroelectric site in Wallkill, has been with the Wappingers site from day one. Over the course of the

past 30 years, he and Bower-Terbush were able to purchase the property and the building in Dutchess County, which operated exclusively under contract with Central Hudson until very recently. Along the way, they picked up more than a few fascinating tidbits about the site's longstanding history in the Hudson Valley.

History at Work

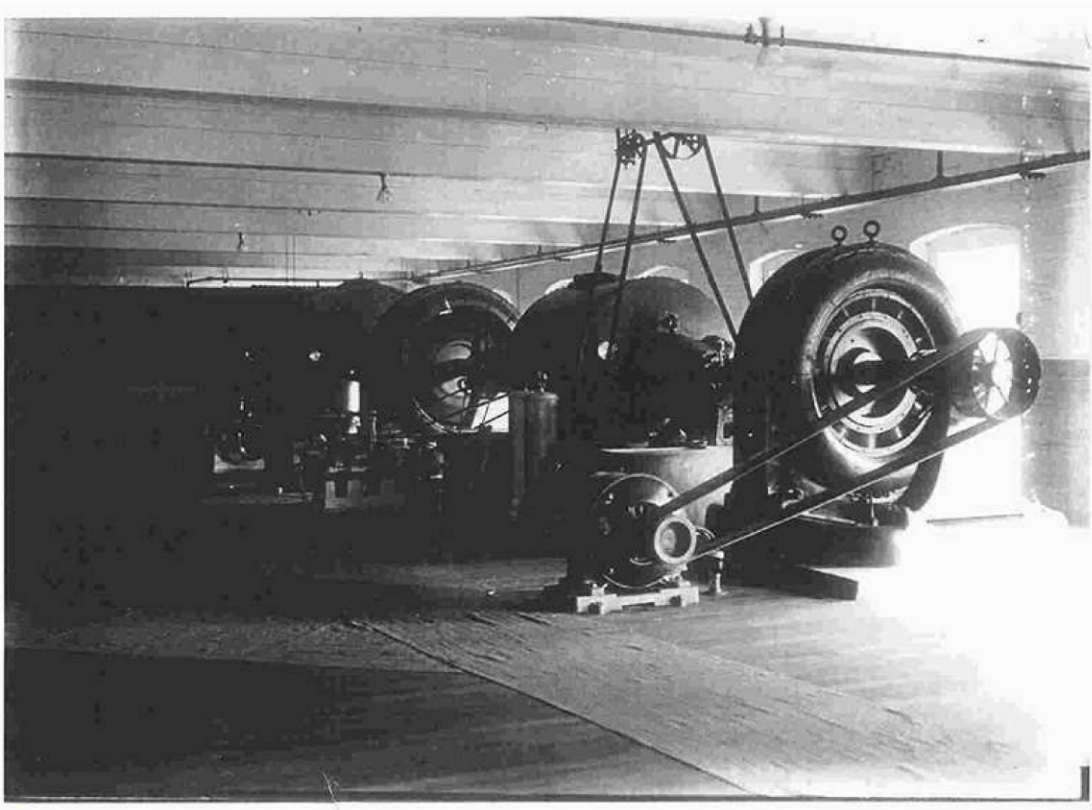
"The site really is not only a great source of renewable energy, but a historic monument to what helped build this area," explains Bower-Terbush. Indeed, although she and her husband took over the site in 1988, the property itself dates back to the early 1800s, when it played a role in the local industrial revolution in the Hudson Valley.



"The building dates back to 1830 when it was part of the industrial park known commonly as 'The Bleachery,'" says Bower-Terbush. "We believe it was originally a warehouse." Called the Dutchess Bleachery or the Garner Bleachery, the edifice functioned as a bleachery and dye plant until it closed in 1954. Prior to that, in 1909, the addition of the penstock, the massive pipe that controls water flow, paired with the consolidation of water rights for the Wappinger Creek turned the space into the region's primary source of electric power.

"The site became the electric company for 50 square miles," Bower-Terbush notes, adding that such a move was game-changing for residents in the area. "Bear in mind that most houses only had a couple of light bulbs if they were lucky!"

After the Bleachery closed, many of the properties in the complex remained vacant until the early 1980s, when the energy crisis of 1979 combined with the enactment of the Public Utility Regulatory Policies Act (PURPA), a law that guaranteed a minimum payment to independent power producers, allowed the property to be rebuilt. In 1988, the Terbushes took over and have been running it ever since.



Old equipment at the plant

While much of operations have remained consistent since the 1980s, 2019 signals a new chapter for the hydroelectric plant's status in the Hudson Valley. No longer an exclusive supplier to Central Hudson, the site will now operate as an energy source for the Hudson Valley public as well.

"The laws recently changed and, through a program called **Community Distributed Generation**, consumers can benefit by getting credit on their Central Hudson bill for a percentage of our production," enthuses Bower-Terbush. "The average household will not only be supporting green energy but also saving up to hundreds a year."

How It Works

Following a launch party at **Cousin's Ale Works** in Wappingers on January 16, Wappingers Falls Hydroelectric opened sign-ups for Community Distributed Generation. A year before, the Terbushes launched the program at their Walkill site with immediate success.



"[The Wallkill site] almost immediately sold out, but it is one-tenth the size of Wappingers," says Bower-Terbush. Currently, the Wappingers location can accommodate about 600 customers. "We are encouraging the local community to sign up first, but anyone in Central Hudson's territory is eligible."

Through the program, locals will receive a credit on their Central Hudson bill for a portion of the hydroelectric plant's production. The following month, Wappingers Falls Hydroelectric bills for the credit less 10 percent.

"I want to stress that the credit from Central Hudson will cover more than the energy supply but not the entire bill," Bower-Terbush notes.

Tour Through Time

Whether or not Wappingers Falls Hydroelectric's energy program is of interest, the history of the property at large holds an undeniable appeal for Hudson Valley residents at large. Recognizing this, the Terbushes plan to host tours for the community that take them behind the scenes at the storied institution.

Visitors can check out everything from the 1919 turbine to the 1930s turbine that came from a gold mine in Yukon. There is also an abundance of knickknacks and even a slate control panel from the 1932 Winter Olympics in Lake Placid.



Of course, one of the best parts of the tour is not (just) the history, but the view that comes with it.

"As always, the best thing is the view from our back deck of the falls themselves," Bower-Terbush enthuses. Stay tuned to the plant's [Facebook page](#) in spring, when group tours return.



