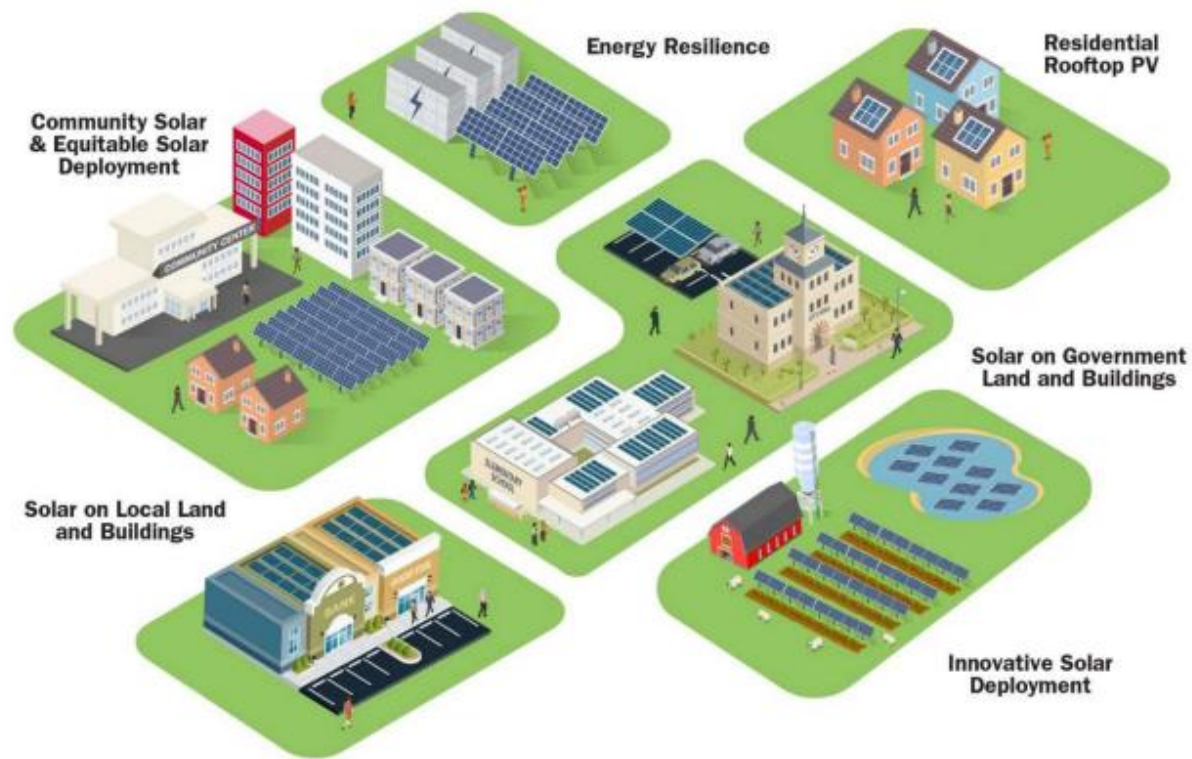


Raymond Community Solar Petitioned Warrant Article #41 for 2023 Town Meeting



132 KW Solar Farm in Brentwood, NH installed and managed by Revision Solar of Brentwood. NH

What is Community Solar?



Most Communities with Community Solar Committees only hire a Power Integrator (a buyer of power from other, large energy producers like hydro, off shore and solar farms primarily located in the south for an entire community).

This program is more ambitious, wanting to also include local Solar Farms and utilize Geo-Thermal for heating/cooling on large buildings and developments.

Timetable for Implementing Raymond Community Solar

Committee Selection

- Deliberative Session
2/11/23-TODAY
- Committee volunteers express interest & sign-up
- **Town Meeting Vote – approval of Raymond Community Solar- 3/14/23**
- Recruit Broker to purchase bulk power
- Select installer
- Integrate Granite State Trade School into committees

Enact Charter

- Select sub-committee members – interest/skill
- 1st Meeting-Overview presentation 3/7/23
- Start writing RSA 53-E compliant plan and program
- Request Community data from Eversource and NHEC
- Draft Charter – Public Comment
- Update Charter and submit to Selectmen, Eversource, NHEC and PUC for approvals

LIHEAP Program

- Initiate LIHEAP public training and registration
- Work with Community Action to qualify and enroll residents
- Having an active LIHEAP Program will also provide an additional \$0.025/KWH on excess Energy exports to Eversource once qualified as having an LIHEAP program in place

1st Solar Project

- Register and begin Grant Writing
- Update charter to determine how excess revenues will be used
- Request bids/RFP for a Solar Installer(s)/ Partner(s)
- Site selection(s)
- Design and permit installation and go live by end of 2023

Above are all parallel activities performed by separate subcommittees to accelerate progress in 2023

Objectives for Community Solar in Raymond

- **Community Buildings**

- **High School**

- Build a 2.0-2.5 MW Solar Farm on 10 acres to offset all electric supply by SAU & Town
 - Produce annual revenue of \$70K-140K/year to offset \$150-300K/Year annual electrical cost.
 - Residual \$80K-\$160K/year would allow payoff of array in 10 years or less. No tax Dollars used!
 - Current Grant Writing would significantly reduce total PPA cost and reduce payoff period.

- **Municipal Facilities**

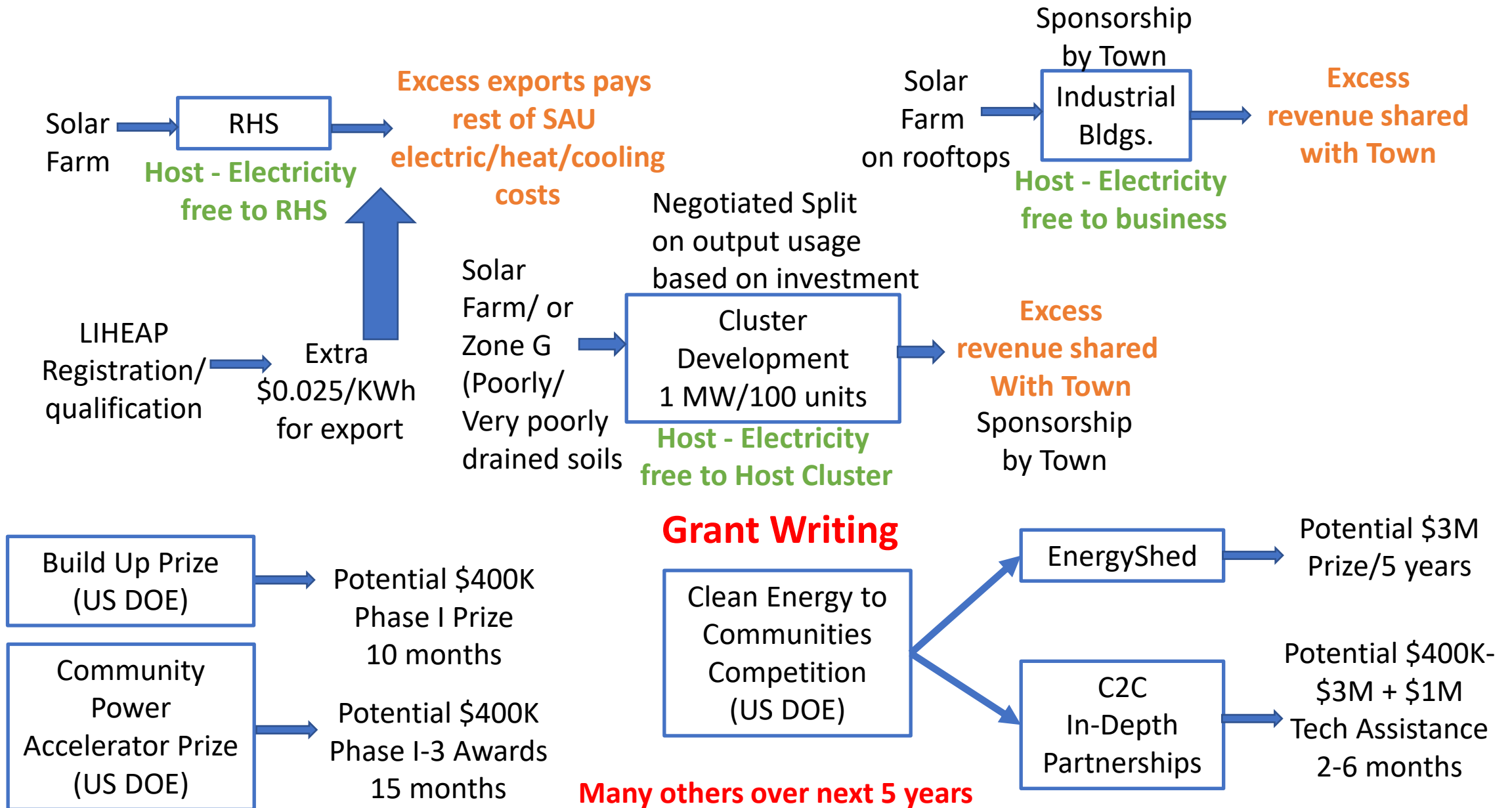
- Possible project on Wight Street brownfield for revenue only selling 1.0 MW/year at \$0.205/KWh for \$205K revenue/Year, offsetting \$50K in Municipal electrical cost/year less and accelerate pay-off of array to 10 years or less. No Tax dollars used! 30 years additional revenue
 - Current Grant Writing will significantly reduce total PPA value

- **Local businesses**

- Large warehouses would build Solar Arrays on roofs with an intentional 1MW excess capacity per location
 - Currently working on Federal DOE grants to significantly reduce costs for arrays
 - Base need for the warehouse would be \$0 Supply cost for the facility and \$205K excess revenue/year for 25 years per installed 1 MW Solar Array due to sales to Eversource for use by the Town.

Win-Win for Community, Business and Eversource (reduced future generation capacity needed)

Vision for Solar and GeoThermal in Raymond



What is the LIHEAP (Low Income Heat Electric Assistance Program) in New Hampshire

Qualification for LIHEAP

Housing	(ACS 2016-2020)
Total Housing Units	4,356
Single-Family Units, Detached or Attached	3,157
Units in Multiple-Family Structures:	
Two to Four Units in Structure	327
Five or More Units in Structure	447
Mobile Homes and Other Housing Units	425

Data from NH Employment Security

2022 EAP Income Eligibility Guidelines by Discount Tier*

Household size	76%	52%	36%	22%	8%
1	≤ \$10,193	> \$10,193 but ≤ \$13,590	> \$13,590 but ≤ \$16,988	> \$16,988 but ≤ \$20,385	> \$20,385 but ≤ \$38,969
2	≤ \$13,733	> \$13,733 but ≤ \$18,310	> \$18,310 but ≤ \$22,888	> \$22,888 but ≤ \$27,465	> \$27,465 but ≤ \$50,959
3	≤ \$17,273	> \$17,273 but ≤ \$23,030	> \$23,030 but ≤ \$28,788	> \$28,788 but ≤ \$34,545	> \$34,545 but ≤ \$62,950
4	≤ \$20,813	> \$20,813 but ≤ \$27,750	> \$27,750 but ≤ \$34,688	> \$34,688 but ≤ \$41,625	> \$41,625 but ≤ \$74,941
5	≤ \$24,353	> \$24,353 but ≤ \$32,470	> \$32,470 but ≤ \$40,588	> \$40,588 but ≤ \$48,705	> \$48,705 but ≤ \$86,931
6	≤ \$27,893	> \$27,893 but ≤ \$37,190	> \$37,190 but ≤ \$46,488	> \$46,488 but ≤ \$55,785	> \$55,785 but ≤ \$98,922
7	≤ \$31,433	> \$31,433 but ≤ \$41,910	> \$41,910 but ≤ \$52,388	> \$52,388 but ≤ \$62,865	> \$62,865 but ≤ \$101,170
8	≤ \$34,973	> \$34,973 but ≤ \$46,630	> \$46,630 but ≤ \$58,288	> \$58,288 but ≤ \$69,945	> \$69,945 but ≤ \$103,418

* The above are meant as guidelines only. To find out if you are eligible, please contact your local Community Action Agency.

<https://www.energy.nh.gov/consumers/help-energy-and-utility-bills/assistance-programs-eligibility>

Application through Community Action (55 Prescott Road in Raymond - (603) 895-2303)

As part of this Community Solar initiative, one of the first actions will be to establish a collaboration with Raymond Community Action, identify eligible housing and occupants and follow up with them and encourage them to apply for benefits, providing assistance where necessary. Immediate cost relief for these households!

Low Income individuals, retirees and single parent households are obvious candidates. Many others may also qualify. As can be seen in the Housing table, 1200 of 4300 (28%) housing units appear to be eligible for some discount. Many others may also qualify based on other circumstances (participation in other State programs)

Estimated Annual Targets for Solar Farms (\$0 cost to Town/SAU)

<u>Year</u>		
	• RHS Power Purchase Agreement (PPA) 2.0 MW =	\$5,000,000
	• Federal Rebate (30%) =	(\$ 750,000)
	• Grant successes in 2023	<u>(\$ 400,000) for 2023</u>

2023	• Net cost for 2 MW PPA @ RHS	\$3,850,000
	• Revenue of 1,000,000 KWh/year @ \$0.18/KWh = (Includes \$0.025 increase/KWh for LIHEAP)	\$ 180,000/year
	• Payoff period (self-funded by revenues buying down PPA)	10 years or less

2024	• Industrial Bldgs. (3.0 MW/yr. @ \$0.205/KWh = (Includes \$0.025 increase/KWh for LIHEAP)	\$600,000/Year
	• Grant successes in 2024- fund new projects	\$200,000

2025+	• Residential Developments 9 MW @ \$0.20/KWh= (Includes \$0.025 increase/KWh for LIHEAP)	\$1,800,000
	• Other Industrial (1 MW/year @ \$0.18/KWh	\$ 180,000
	• Grant Successes in 2025	\$ 200,000

Annual revenue after 2025 will fund accelerated payoff for RHS and surplus to Town

Raymond could have Electricity Independence by 2028 for the entire Town

How much Solar Capacity does Raymond need to become **electricity independent** of World Oil prices

- | | |
|---|-------------------|
| • 4356 residences x 900KW/Month x 12 months = | 47 MW/Year |
| • Municipal and SAU district needs 2 MW = | 2 MW/Year |
| • Less 1219 residences covered by LIHEAP subsidies x 900 KWh/Month x 12 = | (13 MW/Year) |
| • Existing/Future Commercial Need (From Utility Surveys) | ? |
| • Industrial Need (Satisfied by future Solar arrays – after 2023) | <u>0 MW/Year</u> |
| • Total Community need = | 36 MW/Year |
| | |
| • Total Community Investment expected via Community Solar | |
| • 36 MW x \$1.5M/MW for each project | \$54M investment |
| • Excess production expected to offset cost over 6 years | |
| • RHS - 1.0 MW/ year x 6 years | 6 MW |
| • Municipal Brownfield Project (2024) 1 MW x 5 years | 5 MW |
| • Industrial Rooftop installations (2024) 5 MW x 5 years | 25 MW |
| • Residential Cluster Solar (2024-2025) 3 MW x 4 years (5 projects) | <u>12 MW</u> |
| • Total MW Produced(Offset to 36 MW Needed) | 48 MW |

Energy independence in less than 5 years – 2028. All at \$0 cost to taxpayers.

Expect 20 additional years of revenue of 48MW x \$0.10/KWh x 20 years to offset future taxes (covers ½ of current Municipal Budget) -

\$4.8M/Year for 20 years

May be able to eliminate Impact Fee Programs with this approach

What is the LIHEAP Program in New Hampshire

Qualification for LIHEAP

Housing	(ACS 2016-2020)
Total Housing Units	4,356
Single-Family Units, Detached or Attached	3,157
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<https://www.energy.nh.gov/sites/g/files/ehbemt551/files/inline-documents/sonh/electric-assistance-program-brochure.pdf>

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As part of this Community Solar initiative, one of the first actions will be to establish communication with Raymond Community Action, identify eligible housing/income qualified occupants and follow up with them to encourage them to enroll. Immediate cost savings for residents probably well below available Community Power pricing.

This is a State of NH program, funded by the utility's collection of the System Benefit Charge on your utility bill.

Low Income individuals, retirees and single parent households are obvious candidates. Many others may also qualify. As can be seen in the Housing table, 1200 of 4300 (28%) housing units appear to be eligible for some discount.

Skills Needed on the Raymond Community Power Committee

- Town Selectmen and SAU representatives for guidance and coordination
- Community residents interested in Community Solar
 - Specific Skills needed
 - Grant Writing skills (DOD experience invaluable). Every \$ raised via grants reduces costs for a project. 30% goal
 - Solar experience as an electrician, mechanical tech, solar installers (hands-on experience or project lead)
 - Business experience as an accountant, budgeting, etc. to support financial account management for Grants
 - Project leads with experience leading project teams in other Community Power charter-defined initiatives
 - Project Charter writers for drafts and finals of the charter and manage submissions to PUC, Utilities & Selectmen
 - Former Planning/Zoning Board members to aid in drafts/final writing of Zoning updates (samples available)
 - Researchers for new Grant opportunities on various Federal DOE/Homeland Security/State websites and pursue
 - Social workers and low-income agency experience
 - Experience with Electricity Brokers (CPCNH, Standard Power), large Installers (Barrington Power, Revision)
 - Anyone else looking to be involved and willing to receive training in their area of interest
- Organizational experience
 - Will need to develop leadership for specific areas on the committee (long term organizational support)
 - Will be providing recommendations to Planning Board for updates to the Master Plan, Zoning and Site review for 2024 Town Meeting to support solar initiatives (many examples available to use as a guide)
 - Attendance at Planning Board meetings to ask questions of new applicants on Solar/Geothermal inclusion
 - DIY Kit exercise (2024- 1 MW for \$1M) to manage ourselves in construction basics to further reduce overall costs

Grant Projects being Pursued

1. Geothermal Prize - \$3.6M- Collaboration to develop new sensors for Geothermal drilling/engineering. Collaboration with US Dept of Energy National Lab networks.
2. Class Competition Prize (SAU is handling)- \$100K prize. Provides training to enable applying for future projects. Trombe Wall restoration, Solar array, other needs. Education to the educators.
3. Community Power Accelerator- Build an array > 1M and < 5 MW; emphasizes LIHEAP activism. \$50K each for 25 selected teams for planning, potential \$350K more for winners. Access in the Learning lab, sited at UNH by US Dept of Energy.
4. EAS-E – Home Electrification Prize - \$5K planning + \$75K voucher with national labs support for design. Phase 2 demo of \$1M. Multi-family retrofits, energy audits, develop new technologies. Heat Pump/Geothermal projects.
5. BuildingUp - \$5K planning + 10 Hrs. National Lab tech support; 20-60 winners receiving \$400K each for design and implementation. High LMI focus, Heat Pump/Geothermal solutions for heating/cooling, 40% of winners in Low Income communities, such as Raymond. Overall focus is innovative solutions on addressing LMI community with apartment building rehab, electrical upgrades, affordable housing focus.

Copies of all of the rules for each of these Grant Proposals are available to look at next to the sign up sheet

How to Sign Up and become involved with Community Solar

- Sign Up sheet on table. Need contact information
 - Name
 - Address
 - Phone
 - Skills or preferences you would like to be involved in.
- Contact me here after the meeting near the sign up table
- Send me an email at droy8661@gmail.com or text me at 603-793-8022 with your contact info.
- If you want a copy of this presentation, send me an email or download from the RCTV downloads section <https://cloud.castus.tv/vod/rctv?page=HOME>

look under section for recently added. May take a couple days before RCTV can place the slides and video in RCTV On-Demand section

Let's Work Together to Change OUR World

Questions?