The Future of Energy

Prospective Municipal Partnership For Shutesbury Solar Initiative

March 1, 2021

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For those of you viewing this material after March 1st, 2021, please be aware that the information may have changed since. We would advise that the development process is fluid one, particularly when crafting something new. And while we do not expect seismic shifts in what is proposed, we naturally expect the discussion & details to evolve as we work with State officials, Shutesbury, local boards, local interest groups, and local residents.

Please also be aware that this presentation is from Amp Energy. When the terms "I, we," "us," or similar are used in this brief, it refers to Amp Energy and Evan Turner only and not W.D. Cowls, who is the owner of the properties prospectively hosting the arrays.

Please reach out to any of the Amp contacts or your town officials to ensure you have the latest information.

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1. INTRODUCTION

Who is Amp?

We Power Change

Amp is a global developer of flexible clean energy infrastructure.

We build, own and operate clean energy assets both behind and in-front of the meter. Our solutions, managed by proprietary, technology-enables risk management tools, allow us to provide dispatchable, affordable, and resilient clean power to enhance system reliability and security for our customers and the grid

Amp Japan - Fukushima

1.3 GW
DEVELOPMENTED, BUILT AND FINANCED

300 MW+
US DEVELOPMENT PIPELINE

Top 5
GLOBAL PPA PROVIDER

$ 2+ BN
FINANCED

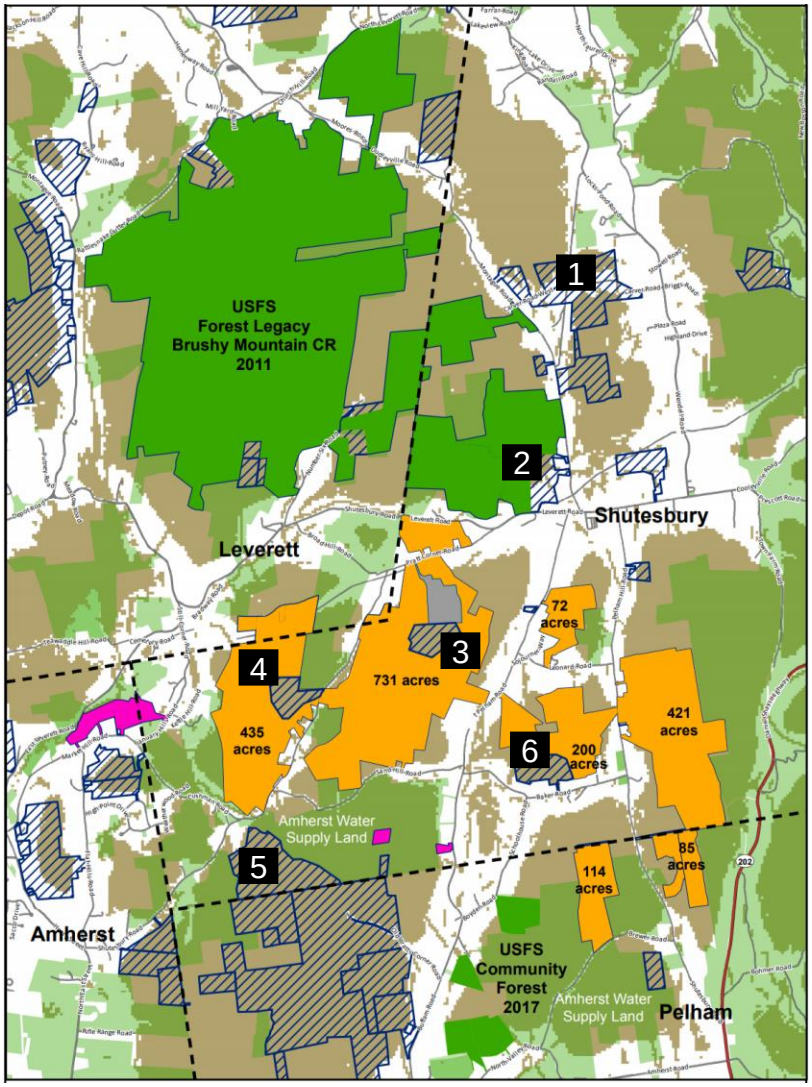
Background

1. Five Projects in Shutesbury
2. Amp proposes to work *with* Shutesbury
3. Public Entity and SMART Program
4. Memorandum of Understanding (MOU)
5. Operations Contract and Renewable Manager

2. Proposed Solar Installations

Relation to Forest Conservation

Proposed Walter Cowls Working Forest



1. **Montague**
   - Around Carver Road
   - Access South of Site
2. **Leverett West**
   - Gold level Pollinator Meadow
   - Increased Landscaping
3. **Pratt East**
   - South of Existing Array
   - Shares Driveway
4. **Pratt West**
   - Potential New Substation
5. **Pratt South**
   - Along Fales Road
   - Functionally Replaces Baker
6. **Baker**
   - Discontinued

- Proposed USFS Forest Legacy 2018 (WCJWF CR)
- Proposed Town of Amherst fee land (Cowls)
- Previous USFS grant conserved land
- Unconserved Cowls Land (Ch. 61)
- Solar Development (Cowls)
- Other Protected in Perpetuity
- CAPS IEI Top 40%*

Proposed Solar Installations

(Presumes Public Partnership, Community Solar arrays would be smaller)

Project	Lot ID	Project Acreage approximate	MWdc baseline	MWdc Possible but aggressive	MWac
Montague	ZD-37	60	12	14	5
Leverett West	ZF-15	10	4	4	2
Pratt East	ZG-2	40	12	13	5
Pratt West	ZW-6	20	5	6	3
Pratt South	ZU-2	60	12	15	5
Total:		190	45	52	20

Note: These sizes are current estimates subject to change as developments mature.
All MWs are not linearly valuable or directly comparable.

3. Direct and Indirect Benefits

Direct Benefits based on 45 MWdc

ENVIRONMENTAL PROTECTION: Climate benefits, ecological conservation and diversification

- 10+ Parts Forest, 1 Part Solar is an enviable ratio and above 4:1 guidance in bylaws.
- Array is 10-20x more carbon reducing than the trees would be over a 30 years.
- Mixed Ecology Conservation with Pollinator Meadows!

IMPROVED REVENUES: Quite possibly can exceed $20,000,000 in new value over first 20 years

PILOT	Operations Contract Management Fee	Operations Contract
$10,000/MWdc/year	$5,500/MWdc/year	~$9,000/MWdc/year
$450,000 in year 1	$247,500 in year 1	$405,000 in year 1

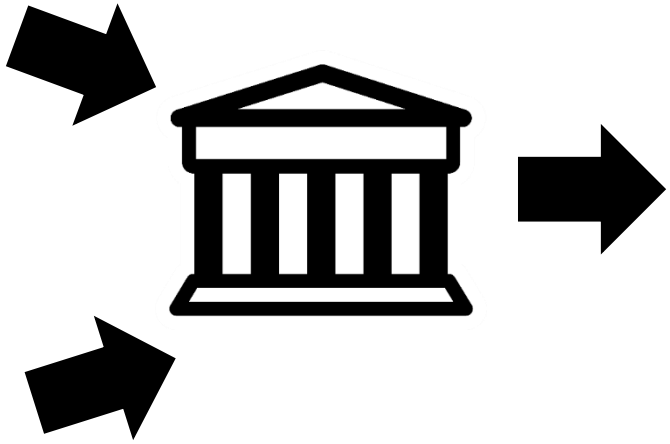
ELECTRIFIED ECONOMY: Shutesbury becomes leading exporter of clean power to MA

- >60,000 MWh of clean electricity per year for up to 50 years.
- Annual electrical needs of ~5,000 houses in Massachusetts.
- Upgrade (or Replacement) of Shutesbury's substation.

Direct Benefits and Operations Costs

PILOT ($)
$10,000/MWdc/year

Operations Management Fees ($)
$5,500/MWdc/year



Town of Shutesbury

$15,500/MWdc = $697,500 Year 1
(@ 45 MWdc)

Operations Costs ($)
Property Work (snow, vegetation, security, access dispatch)
Solar Work (preventative maintenance, emergency maintenance, repair)
Third Party Coordination

Town Employees and Specialized Subcontractors

~$400,000/year

Operations Contract Information

- Revised regulation in April of 2020 provided added financial incentives for solar projects that are "operated by" the Municipality in which the project is sited. The regulation is intended to promote greater municipal participation in solar projects in their communities.
- DOER's strong preference is for solar operations to be conducted by municipal employees to the greatest extent possible.
- Given technical skills required for solar related tasks, existing employees will need to be trained or solar technicians hired as municipal employees. Amp can help with this.
- We forecast that the 5 sites may support 2 **Renewables Managers** as employees, possibly both full time, although that determination and structure is ultimately up to Shutesbury (always considering DOER approval) and Amp will support in whatever way is requested.
- Amp proposes Operations Management Fee of **$5,500/MWdc** or $247,500 ($5,500*45) per year.
- Contract wise, Amp that ~$9,000/MWdc pays all direct costs of solar operations (employees, specialized 3rd party subcontractors, replacement equipment, etc.)

Operations consist of

- **Property Work**
  - Security and Site Access
  - Snow Removal
  - Vegetation Maintenance
  - Pollinator Meadow maintenance, plantings, and monitoring ecological health
- **Solar Work**
  - Emergency Service/Dispatch
  - Periodic Preventative Maintenance
  - Corrective Maintenance and Repair
  - Reporting
- **Third Party Coordination**
  - Escorting and scheduling technicians for battery and inverter systems
  - Coordinating with UMass Amherst on regular pollinator inspections/repair

Shutesbury's Operations scope is LOCAL, DOES NOT have them directly performing power sales, day to day battery operations, or the arrays' qualifying for and performing in utility ancillary services such as the capacity and frequency markets. These are scopes that any array owner would contract to subject matter experts.

Project Benefits - Indirect

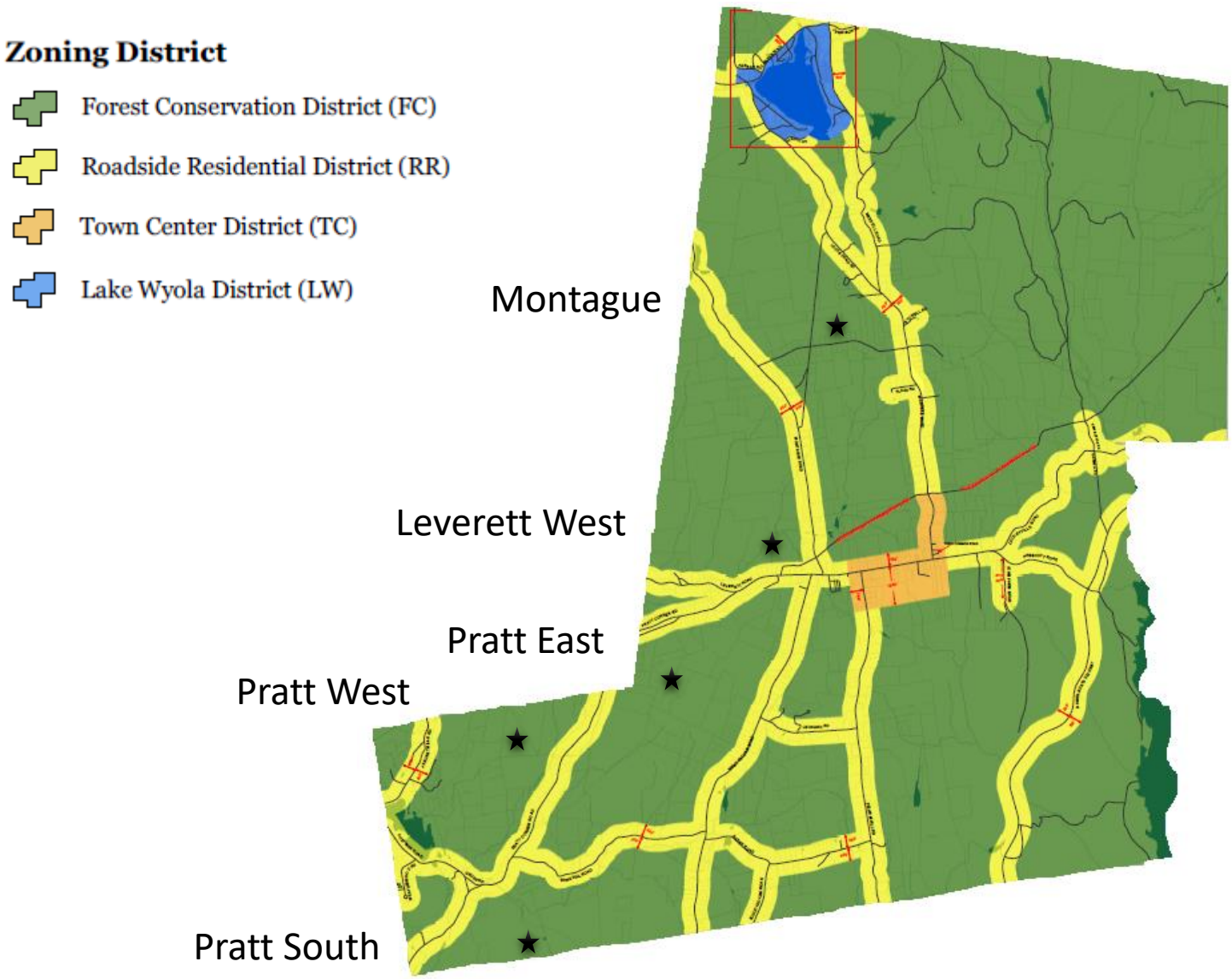
ENVIORNMENTAL

- >60,750 MWh of clean electricity per year for up to 40 years (this amount doesn't even consider module upgrades)
  - Enough electricity to meet annual electric needs of ~5,000 homes (assuming ~$200/month average electricity bill just for comparison's sake)
- Net reduction of ~504,000 tons of CO2 over project life (includes losing tree mass)
  - Arrays are CO2 equivalent to preserving 2,500+ acres of US forests
    - Depends how dirty the basket of power grid energy is, this number roughly assumes 100% clean by 2050.
    - There are of course other ecological benefits to forest ecologie…but also to pollinator meadow ecologies.
  - Carbon equivalent of converting ~108,000 cars to electric & then

by clean energy.

4. Zoning and Bylaws

RR Zone and Array Access



Bylaw Discussion

Section 8.6 – Curb Cuts

§8.6-2: Driveways and Access Road length

Section 8.10 - Solar

§8.10-3.B: Mitigation for Loss of Carbon Sequestration and Forest Habitat

§8.10-7.C: Habitat Impacts

§8.10-3.J: Facilities Limited by the Solar Map

Proposed Next Steps

March and April 2021:

- Continue discussing PILOT framework and $ values in PILOT Agreement.
- Continue discussing and perhaps finalize Operations Management Fee and $ values in MOU.
- Finalize language of MOU Amp and Shutesbury will jointly send to DOER.
- Submit language to a town meeting process for necessary changes?

May and June 2021:

- Submit project statement of qualification (SOQ) to DOER.
- Special town meeting or regularly scheduled one in this vicinity? Maybe Q3?
- Apply for permits for the five projects.

July-Oct 2021:

- Negotiate Operations Contract informed by DOER input.