Helping Massachusetts Municipalities Create a Cleaner Energy Future

Massachusetts Department of Energy Resources

COMMONWEALTH OF MASSACHUSETTS

Charles Baker, Governor
Kathleen Theoharides, Secretary
Patrick Woodcock, Commissioner

Overview of 2021 Competitive Grants

Green Communities Division Webinar

February 11, 2021

Brian Sullivan – Director, Green Communities Division
Joanne Bissetta- Deputy Director, Green Communities Division
Mark Rabinsky – Western Regional Coordinator

Green Communities Division

The energy hub for ***all*** Massachusetts cities and towns, not just designated Green Communities.

Helping Massachusetts Municipalities Create a Clean, Affordable, and Resilient Energy Future

Green Communities Division - Programs & Resources for Municipalities

- Green Communities Designation and Grant Program
- MassEnergyInsight energy tracking and analysis tool
- Municipal Energy Technical Assistance
- Website filled with tools & resources www.mass.gov/orgs/green-communities-division
- Email updates via e-blasts – Sign up by sending an email to: join-ene-greencommunities@listserv.state.ma.us

Green Communities Regional Coordinators

- Regional Coordinators act as direct liaisons with cities and towns on energy efficiency and renewable energy activities
- Located at each of the DEP Regional Offices:

WERO – SPRINGFIELD: Mark Rabinsky
Mark.Rabinsky@mass.gov
413-755-2232
617-823-4588 - cell

NERO – WILMINGTON: Neal Duffy
Neal.Duffy@mass.gov
978-694-3315
857-276-8654 - cell

CERO – WORCESTER: Kelly Brown
Kelly.Brown@mass.gov
508-767-2703
617-780-8144 - cell

SERO – LAKEVILLE: Lisa Sullivan
Lisa.M.Sullivan@mass.gov
508-946-2822
617-312-4018 - cell

GREEN COMMUNITIES
Massachusetts
DEPARTMENT OF ENERGY RESOURCES

Helping Massachusetts Municipalities Create A Greener Energy Future

DOER
Massachusetts Department of Energy Resources

Upcoming Webinars

- March 11: ***"Opportunities to Reduce Vehicular Emissions"***
- April 15:
  - ***"Working with Utilities' New Construction Programs"***

Recording & Presentation

- The webinar is being recorded and will be available on our website in approximately 48 hours at: www.mass.gov/orgs/green-communities-division-massdoer
- Click on the camera icon top right of your screen to save any slides for future reference
- Use the Q & A icon on your screen to type in questions

Poll Question #1

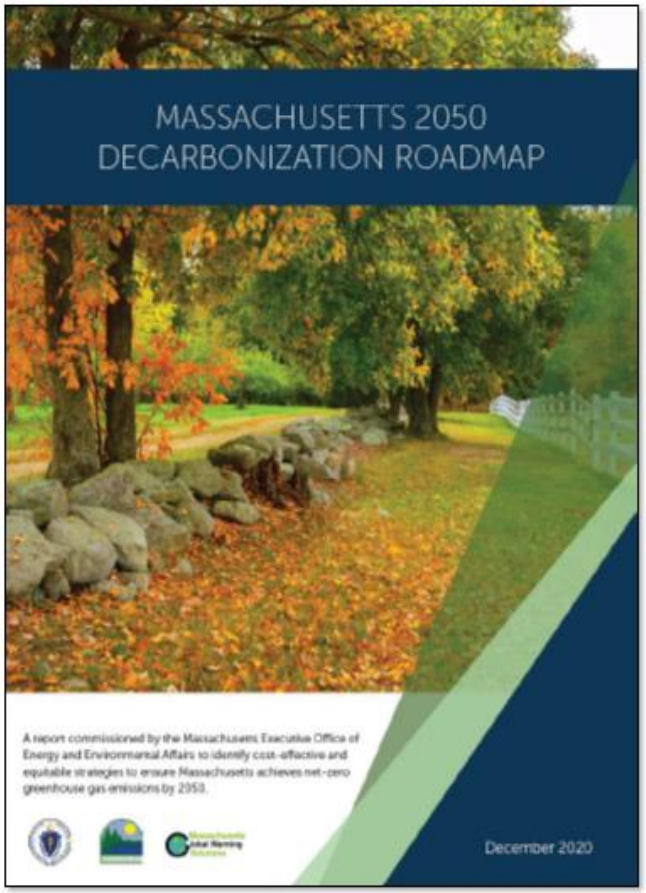
We would like to get a sense of our audience today. Please indicate the option that best reflects your role:

- **Municipal/school staff**
- **Elected official**
- **Energy efficiency contractor/consultant**
- **Utility representative**
- **Volunteer/Other**

Today's Presentation

- State climate and energy policy
- Description of new and revised components
- Grant schedule
- Overview of eligible projects
- Application evaluation
- Q and A

State Policy Goals



- Two Year Research Effort
- Comprehensive Understanding of 30-year Transition to Net Zero
- Focused on Implementation
- Inform Near-Term Decision-Making
- Results Published Dec. 30, 2020

For More Information: www.mass.gov/2050Roadmap

Strategies to Achieve Net Zero

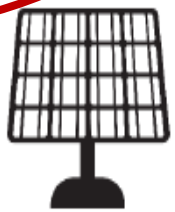
4 key components of deep decarbonization guided development of implementation strategies:

Figure 5. Four key "pillars of decarbonization" for the Commonwealth

End Use Energy	Energy Efficiency and Flexibility	Decarbonizing Energy Supply	Carbon Sequestration
Transitioning buildings, vehicles, and other end uses away from consuming fossil fuels	Aggressively pursuing energy efficiency and flexibility to enable cost-effective decarbonization	Producing zero and low-carbon energy supplies to power our energy system	Balancing remaining emissions by facilitating carbon dioxide removal from the atmosphere

To reduce emissions from energy demand in end uses through electrification, fuel switching, efficiency, and flexibility.

To reliably supply low-to-zero carbon energy resources to Massachusetts residents.



To minimize residual emissions and maximize cost-effective carbon dioxide removal and storage.

For More Information: www.mass.gov/2050Roadmap

Clean Energy & Climate Plan 2030

Long-Term Analysis Informing Near-Term Action

Economic & Health Impacts Report

Buildings Sector Report

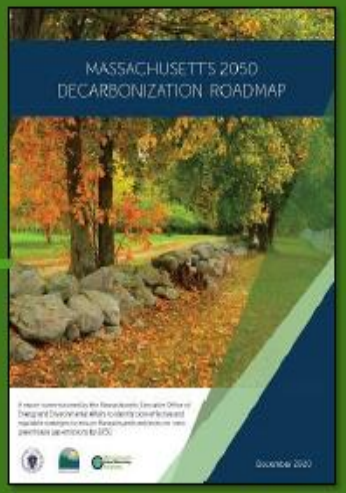
Land Sector Report

Energy Pathways to Deep Decarbonization

Transportation Sector Report

Non-Energy Sector Report

MA 2050 Roadmap



Long-range, comprehensive analysis of cost effective and equitable pathways to reduce greenhouse gas emissions by at least 85% and achieve Net Zero in 2050.

2030 Emissions Limit:

45% below 1990 level

Clean Energy & Climate Plan for 2030

Implementation plan outlining strategies, policies, and actions for how the Commonwealth can achieve the 2030 emissions limit affordably and equitably.

Released Dec. 30
Open for public comment through Feb 22

https://www.mass.gov/info-details/massachusetts-clean-energy-and-climate-plan-for-2030

For More Information: www.mass.gov/2050Roadmap

Fall 2020 Request For Information

- Topic 1 – Two open periods to accept grants
- Topic 2 – Address under-performance
- Topic 3 – Regional School Districts
- Topic 4 – Ch.25A Sec. 14 procurement
- Topic 5 – LED lighting projects
- Topic 6 – Incentives for high-performance

RFI Recommendations/Next Steps

- Two deadlines
- Prescriptive & custom grants
- Address underperformance with Progress Reviews
- Combine LED lighting with other more-intensive ECMs (balancing ROI)
- Determine “leadership tier” grant opptys

- ***Two opportunities*** to submit applications
- **Prescriptive projects** = streamlined application requirements and evaluation
- **Special Eligibility projects** = expanded offerings
- **Custom projects** = support for larger, more complicated projects

Grant Facts At-A-Glance

- Only eligible Green Communities can apply
- Full or partial funding of clean energy projects at municipal/school facilities
- ***Two opportunities*** to submit applications
  - Block 1 deadline is **5 pm, April 9**
  - Block 2 deadline is **5 pm, October 8**
- Applications accepted ***online only*** via DOER's grant portal
- Max award $200k/$100k
  - Custom grant exception

$750k Club *(max award $100k)*

Acton	Hanover	Newton
Acushnet	Hopkinton	Northampton
Amesbury	Kingston	Salem
Andover	Lexington	Scituate
Arlington	Littleton	Somerville
Auburn	Lowell	Sudbury
Bedford	Maynard	Swampscott
Beverly	Medford	Tewksbury
Bridgewater	Medway	Wenham
Brookline	Melrose	Westford
Cambridge	Millbury	Westwood
Chelmsford	Milton	Weymouth
Framingham	Natick	Winchester
Gloucester	Newburyport	Woburn

Facts con't

- Check "measure-life" of project
  - DOER will not fund costs beyond measure-life
  - Municipal cost share expected
- DOER support for new oil-fired heating equipment limited
  - Any requests for new oil-fired heating equipment must include explanation why alternatives are not feasible

Eligibility

- ☑ Must be a Green Community "in good standing"
  - Submitted FY 2020 Annual Report by Nov 6th deadline and addressed outstanding issues by Feb 12 (Block 1); April 30 (Block 2)
  - Demonstrates still meet "5 Criteria"
  - No violations last 3 years for "Specially-Eligible"
- ☑ Previous grants expended and closed out
  - Block 1: Final Grant Report due **5 pm, Feb.12** and addressed outstanding issues by March 19
  - Block 2: Final Grant Report due **5 pm, Sept. 3** and addressed outstanding issues by Oct. 1

New!

Prescriptive Projects

Prescriptive Measure	Description	Grant Funding Methodology	Required Documentation	Grant Funding CAP	Savings Methodology (If Applicable)	Remarks / Notes
VFD - 10HP or less Motor	Installation of VFD for 3 phase 10HP or less motors	$2,400 for up to 1HP and then additional $200/HP above 1HP up to 10HP	(1) Quantity and Horsepower for each motor (2) Briefly describe current motor application - example toilet exhaust fan, hot water recirc pump etc. (3) Identify utility incentives if available	Maximum of $4,400 for 10HP or not to exceed total project cost, including incentives	MA eTRM - Annual Energy Savings Factors for C&I VFDs (kWh/HP). Demand savings not required to be calculated	**Source for savings:** https://etrm.anbetrack.com/#/workarea/trm/MADPU/COM-MAD-VFD/2019-2021%20Plan%20TRM/version/1?measureName=Motor%20-%20Variable%20Frequency%20Drive
Walk-in Refrigeration Controls	Walk-in refrigerator and freezer evaporator fan EC Motor, fan and compressor controls	$1,650 per evaporator fan motor	(1) Total number of Walk-in refrigerator and freezers along with the number of evaporator fans per unit (2) Identify utility incentives if available	Not to exceed $9,900 per walk-in unit. Not to exceed total project cost, including incentives	1,800 kWh per evaporator fan motor	Includes funding for new EC Motor, controls, electronic defrost, anti-sweat door
Weather-stripping	Door and window weather-stripping	Up to $24 per linear feet	(1) Total number of single and double doors (2) Number of operable windows with approximate size per window OR total linear feet of window openings proposed for weather-stripping (3) Identify utility incentives if available.	Not to exceed $24,000 per facility (1,000 linear feet). Not to exceed total project cost, including incentives	Vendor provided energy savings are acceptable	Excludes attic and wall insulation projects. Energy cost savings estimated to be approximately $2.40 per linear feet of weather-stripping installed

Prescriptive Projects

Prescriptive Measure	Description	Grant Funding Methodology	Required Documentation	Grant Funding CAP	Savings Methodology (If Applicable)
Building Operator Certification	Building operator certification for a member of town facilities maintenance department	$2,180 for one employee, $4,060 total for two employees, and $5,940 for three employees max. If requesting training for three (3) personnel, one must be on school facilities staff	Identify the position/duties of the employees being selected for BOC. Provide a narrative that specifies how the training will enhance and facilitate existing and proposed new energy conservation measures	Not to exceed the total cost	Town to calculate 1% of total annual building energy consumption in annual energy and cost savings from BOC
Hybrid and Plug-in Hybrid Vehicles	Purchase or lease to replace 'exempt' gas or diesel vehicles or SUVs (hybrid) or gas or diesel vehicles (plug-in hybrid) in the municipal fleet	Maximum $5,000 towards purchase OR maximum of $3,000 towards lease per vehicle **Specially eligible communities maximum is $10,000 (purchase) and $6,000 (lease)**	Provide type and model of vehicle being replaced, its average annual mileage and fuel costs, as well as the make/model of the proposed vehicle, and the mpg for both vehicles. See VEH 98 for the state vehicle contract	Not to exceed vehicle purchase/lease cost	Town can use their own calculations or refer to any one of the following sites: https://www.fueleconomy.gov/feg/saveMoney.jsp' and/or https://afdc.energy.gov/calc/
Battery Electric Vehicle	Purchase or lease to replace gas or diesel-powered vehicles in a municipal fleet	Maximum $7,500 towards purchase OR maximum of $5,000 towards lease per electric vehicle **Specially eligible maximum is $15,000 (purchase) and $10,000 (lease)**			
EV Charging Station	Installation of publicly accessible Type 2 dual head EV charging station	Maximum of $7,500 per charging station	Location and type of charging station. See VEH 102 for state contract with EV charging stations	Not to exceed implementation cost	N/A

Special Eligibility

- **Additional projects** - Applicants that are a Green Community in good standing for **six (6) or more years** AND have also achieved and maintained a minimum of fifteen percent (15%) energy reduction of their Energy Reduction Plan target **for three (3) or more years** are eligible to apply for additional qualified projects

Additional Projects – Special Eligibility

- **Double the maximum award amounts**
  - for hybrid and battery-electric vehicles as indicated in Section 2 – *Prescriptive Projects*
- **Behavior-based energy efficiency programs**
  - that focus on energy savings resulting from changes in individual or organizational behavior and decision-making, such as programs that employ goal setting, rewards, and other tactics to encourage efficient energy use.
- **Community outreach programs**
  - to promote existing residential and/or commercial energy efficiency programs, such as MassSave, including supplemental grant programs; and/or to promote other clean energy initiatives such as community-shared solar, Solarize, or HeatSmart
- **Energy efficiency projects**
  - at a facility not included in the municipality's baseline but in a district associated with the municipality, such as a regional school district, a water district, or a wastewater district.

Custom Projects

Municipalities considering applying for custom projects are ***highly encouraged*** to contact their Regional Coordinator to discuss potential proposals with DOER staff

Planning/design grants

- Up to $25K for support to perform engineering studies and/or design services
- Municipalities applying for custom project engineering grants ARE eligible to apply for other projects in this PON

Implementation grants

- $500K cap
- At least 10% local match
- Up to 3 years to complete
- Cannot apply for other projects in PON

Custom Projects *(the fine print)*

- Grant awards in this category are highly competitive and will be limited
- Funding of pre-implementation support does not guarantee approval of project implementation funding
- Custom project implementation awardees under this PON will be ineligible to apply for competitive grants for two (2) years subsequent to award

Weatherization Requirement

- For new HVAC projects, the building must have at least ***one of the following***:
  - An audit that confirms the building is properly weatherized and insulated
  - Documentation that the building has been properly weatherized and insulated within the last five years
  - An audit stating that the building cannot be further insulated without major renovation

Interior LED must be either:

1) whole fixture replacements of existing lamps and ballasts,

2) retrofit kits with internal drivers for non-linear and specialty lighting fixtures,

or 3) Type C TLED lamp replacements with compatible external LED drivers

Barkits OK

Vehicle Efficiency Measures

- Idle-reduction technologies
- Hybrid add-on/retrofits
- Hybrid “exempt” vehicles
- Plug-in hybrid vehicles
- Battery-electric vehicles
- Charging stations - publicly accessible dual-port Level 2 charging stations

2021 Ford Interceptor Hybrid

Hybrid vehicles - Funding for hybrid vehicles to replace “exempt” vehicles in the municipal fleet

Poll Question #2

Which Grant Round is your city/town likely to submit an application?

Spring – April 9

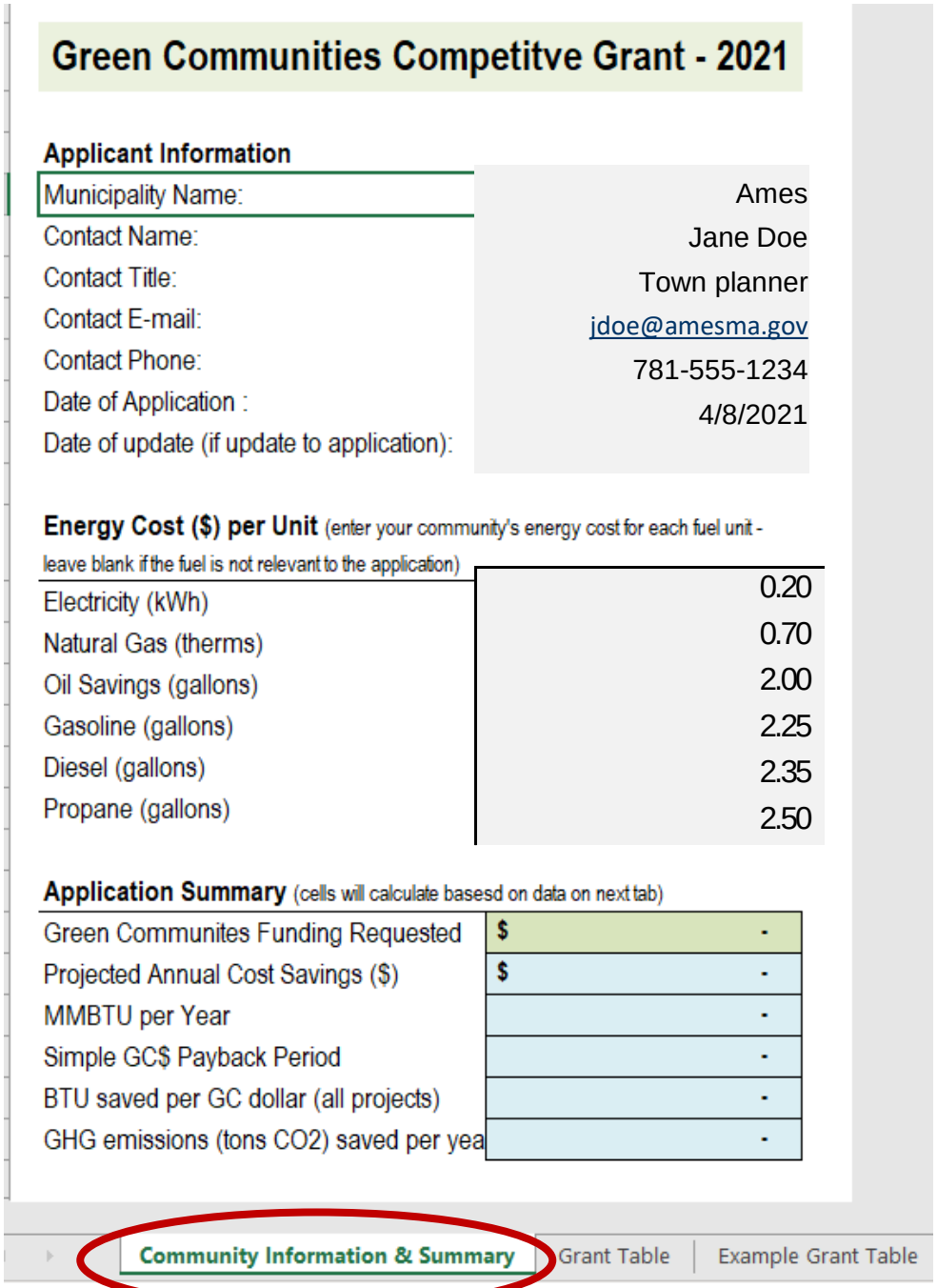
Fall – Oct. 8

Not applying in 2021

Not sure

Revised Grant Workbook

- Two worksheets to complete
  - Community Information & Summary - input municipal information and energy prices per unit
  - Automatically calculates summary of funding request and project savings
  - Grant table - input project information and grant request
- Applications must use this format
  - DOER reserves the right to reject applications that don't



Green Communities Competitve Grant - 2021

Applicant Information

Municipality Name:	Ames
Contact Name:	Jane Doe
Contact Title:	Town planner
Contact E-mail:	jdoe@amesma.gov
Contact Phone:	781-555-1234
Date of Application :	4/8/2021
Date of update (if update to application):	

Energy Cost ($) per Unit (enter your community's energy cost for each fuel unit - leave blank if the fuel is not relevant to the application)

Electricity (kWh)	0.20
Natural Gas (therms)	0.70
Oil Savings (gallons)	2.00
Gasoline (gallons)	2.25
Diesel (gallons)	2.35
Propane (gallons)	2.50

Application Summary (cells will calculate basesd on data on next tab)

Green Communites Funding Requested	$ -
Projected Annual Cost Savings ($)	$ -
MMBTU per Year	-
Simple GC$ Payback Period	-
BTU saved per GC dollar (all projects)	-
GHG emissions (tons CO2) saved per yea	-

Community Information & Summary | Grant Table | Example Grant Table

New Grant Table

Project Annual Energy Savings										Project Cost Information					Reference and Supporting Information						Data Summary				
Building Name and/or Location (as noted in MEI)	Traditional, Administrative, OR Prescriptive Project (select from dropdown list)	Project Name (description for Traditional Projects) [1]	Projected Completion (month/year) [2]	Electricity (kWh)[3]	Natural Gas (therms)[3]	Oil (gallons)[3]	Gasoline (gallons)[3]	Diesel (gallons)[3]	Propane (gallons)[3]	Total Project Cost ($) [4]	GC Grant Funding ($)	Utility Incentives ($)	Other Grants ($) (please list source in column N)	Community Contribution ($)	Funding Source(s) for Other Grants and Town Contribution	Source of Community Contribution (if applicable)	Audit or Study Reference	Audit or Study Page Reference(s) [5]	Other Supporting Document(s) and Page References [5]	Part of Performance Contract? (yes or no)	Projected Annual Energy Cost Savings ($)	MMBTU saved per Year	Simple GC Payback Period (years)	BTU saved per GC dollar *	GHG emissions (tons CO2) saved per year
																					$ -	-	-	-	-
																					$ -	-	-	-	-
																					$ -	-	-	-	-
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Green Community:				0	0	0	0	0	0	$0.00	$0.00	$0.00	$0.00	$0.00	N/A		N/A	N/A	N/A	N/A					

* 2020 Competitive Grant median BTU saved per dollar = **3,747**

- Same level of detail as previous years'
- Additional calculations and grant categories

	Building Name and/or Location (as noted in MEI)	Traditional, Administrative, OR Prescriptive Project (select from dropdown list)	Project Name (description for Traditional Projects) [1]	Projected Completion (month/year) [2]	Project Annual Energy Savings					
					Electricity (kWh)[3]	Natural Gas (therms)[3]	Oil (gallons)[3]	Gasoline (gallons)[3]	Diesel (gallons)[3]	Propane (gallons)[3]
4	Town Hall	Prescriptive: EV Charging Station	-	12/2021						
5	Fire Station	Traditional Energy Project	Air Source Heat Pump	12/2021						1,786
6	Fire Station	Traditional Energy Project	Insulation	12/2021			675			
7	High School	Traditional Energy Project	LED Lighting	12/2021	140,206					
8	Admin	Administrative Costs	-	12/2021						
19	**Green Community:**				0	0	0	0	0	0

Notes:

[1] A municipality may submit proposals for as many projects as it wishes as long as the projects comply with all requirements specified in the program opportunity notice. Contact your regional coordinator if you need additional rows in the spreadsheet.

[2] Proposed projects should be completed within approximately one year from contract execution.

[3] Please estimate only the projected direct annual cost and energy savings. Please be sure to complete the energy costs per unit table in the first worksheet. For fuels not listed in this table, please contact your regional coordinator. DOER will perform the calculations for MMBtu and GHGs.

[4] Total project cost = sum of all funding sources (columns M-P)

[5] Please provide a specific page number/range from the audit or study that provides funding request and project details.

Community Information & Summary | **Grant Table** | Example Grant Table

Project cost info

Project Cost Information					Reference and Supporting Information				
Total Project Cost ($) [4]	GC Grant Funding ($) [5]	Utility Incentives ($)	Other Grants ($) (please list source in column N)	Community Contribution ($)	Funding Source(s) for Other Grants and Town Contribution	Source if Community Contribution	Audit or Study Reference	Audit or Study Page Reference(s) [6]	Other Supporting Document(s) and Page References [6]
$55,000.00	$7,500.00	$47,500.00	$0.00	$0.00	n/a	N/A	N/A	N/A	Ames_Town_ERP.pdf
$34,700.00	$32,000.00	$1,200.00	$0.00	$1,500.00	n/a	General Fund	Ames_Town_Audit.pdf	page 1	Ames_Town_ERP.pdf
$28,400.00	$15,000.00	$8,400.00	$0.00	$5,000.00	n/a	General Fund	Ames_Town_Audit.pdf	page 2	Ames_Town_ERP.pdf
$106,200.00	$75,000.00	$25,000.00	$1,200.00	$5,000.00	US DOE	General Fund	Ames_Town_Audit.pdf	page 2	Ames_Town_ERP.pdf
$2,000.00	$2,000.00	$0.00	$0.00	$0.00	N/A	N/A	N/A	N/A	N/A
$226,300.00	**$131,500.00**	**$82,100.00**	**$1,200.00**	**$11,500.00**	N/A		N/A	N/A	N/A

Helping Massachusetts Municipalities Create A Greener Energy Future

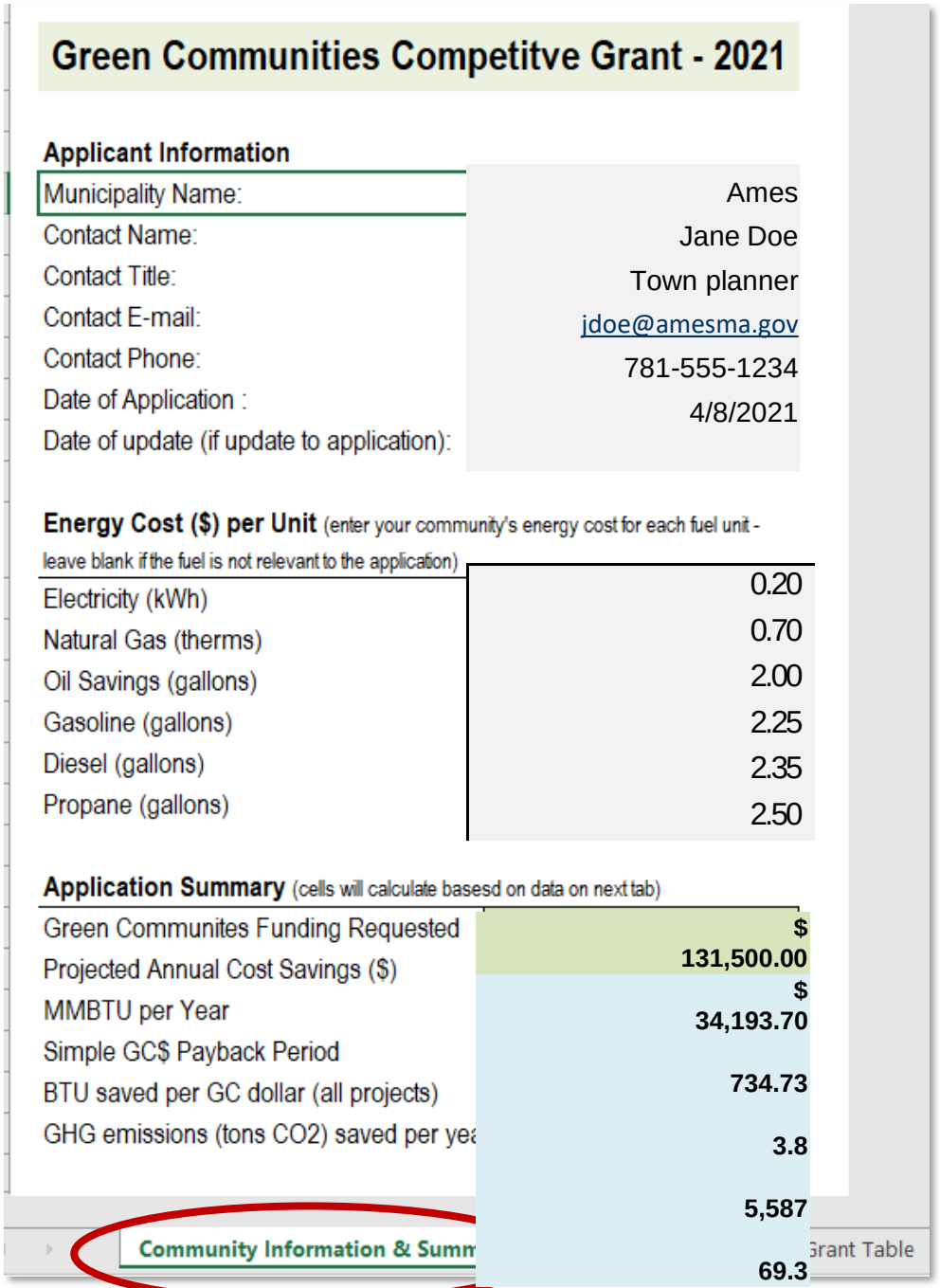
Summary

Building Name and/or Location (as noted in MEI)	Traditional, Administrative, or Prescriptive Projects (select from dropdown list)	Project Name (description for Traditional Projects)	Data Summary: Projected Annual Cost Savings ($)	MMBTU per Year	Simple GC$ Payback Period	BTU saved per GC dollar *	GHG emissions (tons CO2) saved per year
Town Hall	Prescriptive: EV Charging Station	-	$ -	-	-	-	-
Fire Station	Traditional Energy Project	Air Source Heat Pump	$ 4,465.00	162.5	7.17	5,078.94	11.34
Fire Station	Traditional Energy Project	Insulation	$ 1,350.00	93.8	11.11	6,255.00	7.52
High School	Traditional Energy Project	LED Lighting	$ 28,041.20	478.4	2.67	6,378.44	50.40
Admin	Administrative Costs	-	$ -	-	-	-	-
			$ -	-	-	-	-
			$ -	-	-	-	-
			$ -	-	-	-	-
			$ -	-	-	-	-
			$ -	-	-	-	-
			$ -	-	-	-	-
(Insert new rows here)			$ -	-	-	-	-

Green Community: Ames

* 2020 Competitive Grant median BTU saved per dollar = **3,747**

Helping Massachusetts Municipalities Create A Greener Energy Future



Green Communities Competitve Grant - 2021

Applicant Information

Municipality Name:	Ames
Contact Name:	Jane Doe
Contact Title:	Town planner
Contact E-mail:	jdoe@amesma.gov
Contact Phone:	781-555-1234
Date of Application :	4/8/2021
Date of update (if update to application):	

Energy Cost ($) per Unit (enter your community's energy cost for each fuel unit - leave blank if the fuel is not relevant to the application)

Electricity (kWh)	0.20
Natural Gas (therms)	0.70
Oil Savings (gallons)	2.00
Gasoline (gallons)	2.25
Diesel (gallons)	2.35
Propane (gallons)	2.50

Application Summary (cells will calculate basesd on data on next tab)

Green Communites Funding Requested	**$ 131,500.00**
Projected Annual Cost Savings ($)	**$ 34,193.70**
MMBTU per Year	**734.73**
Simple GC$ Payback Period	**3.8**
BTU saved per GC dollar (all projects)	**5,587**
GHG emissions (tons CO2) saved per yea	**69.3**

Community Information & Summ

Grant Table

Tips for a Successful Application

- Include ***all*** the required information
  - DOER reserves the right to reject incomplete applications
- Verify utility incentives
- EMS project descriptions should include energy savings strategies to be employed
- Weatherization first – then upgrade HVAC equipment
- Bidding out projects over $100k
- Discuss with your Regional Coordinator

More Tips…

- Applicants are encouraged to seek qualified, independent project managers or clerk of the works to coordinate the day-to-day activities.
  - Grant administration funds can be used for this purpose

- <u>EMS/BMS systems</u>: Insist on personnel training *(grant app requires staff identified for training)*

Evaluation Criteria

- Energy impacts, including reductions in energy consumption and greenhouse gas emissions
- DOER will evaluate applications comprehensively, with ***project costs and savings aggregated***
- Effective use of funds as determined by energy savings achieved per DOER dollar invested
  - For reference, a median of 3,747 BTUs were saved per grant $ award in 2020
  - The Excel grant table will provide this calculation for applicants
- Shovel readiness, including viability, and appropriateness of project
- Matching funds will be factored into the evaluation

Non-Qualified Projects

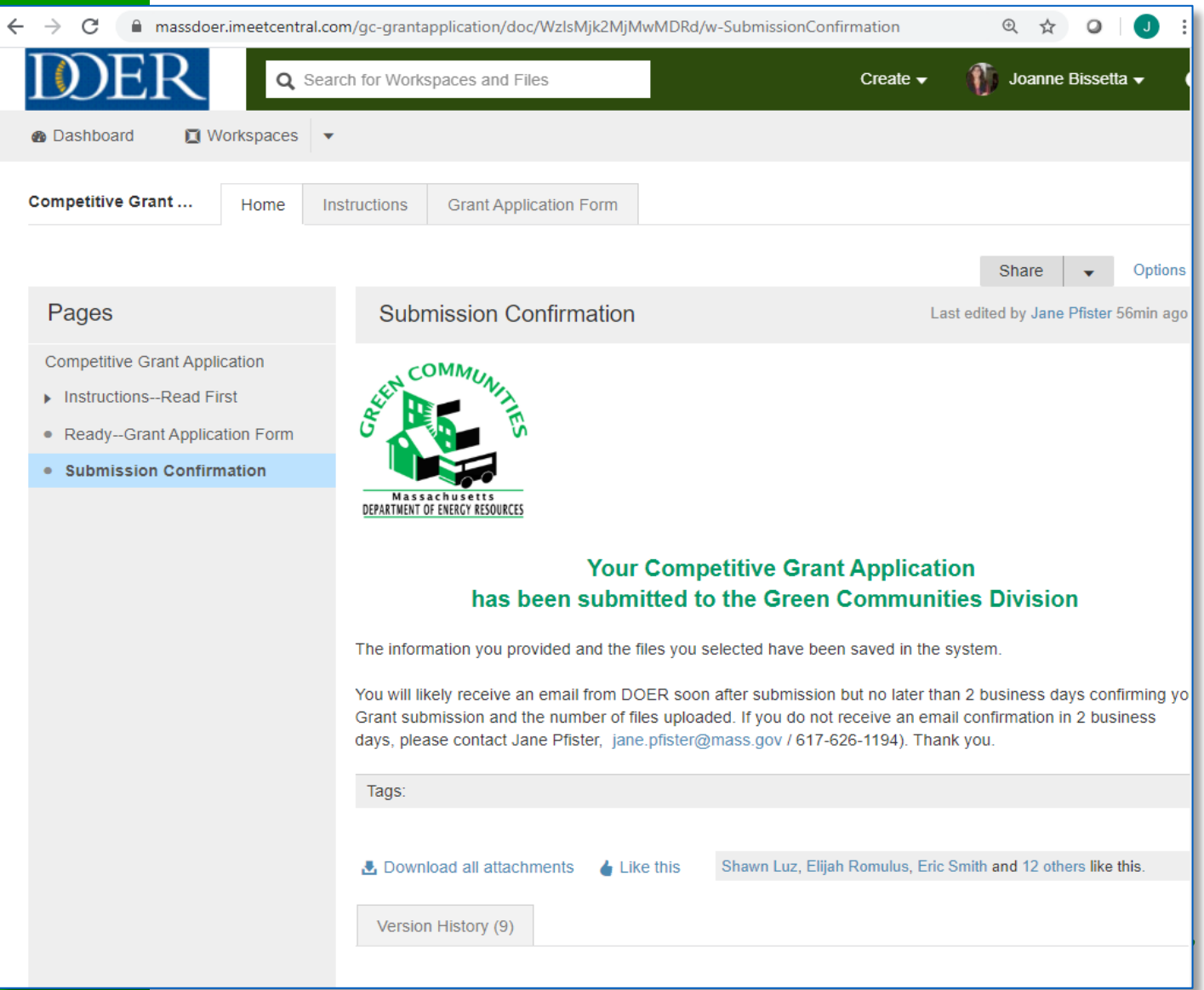
- Program admin costs exceeding 10% of grant or $10,000
- Feasibility studies
- Solar PV
- Revolving loan funds
- Air or water-source heat pumps for space cooling only
- Projects for buildings/facilities not included in the municipality's baseline and therefore not in the municipality's Energy Reduction Plan
  - except for specially eligible communities

Application Logistics

- Must use DOER's ***online application portal***
  - Not CommBuys
- Follow instructions
- Only apply for $200k/$100k (unless custom grant)
- Use CommBuys Q&A function for grant-related questions

Confirmation of Submittal

Make sure you receive a confirmation of submittal



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Massachusetts Department of Energy Resources

Thank you!

Questions??