2017

TOWN OF DARTMOUTH SUSTAINABILITY REPORT

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LETTER FROM THE TOWN ADMINISTRATOR

WE ARE PLEASED TO SHARE OUR 2017 SUSTAINABILITY REPORT, WHICH REPRESENTS OUR COMMITMENT TO SUSTAINABILITY AND EVALUATES OUR PROGRESS OVER SIX YEARS."

David G. Cressman
Town Administrator

DEAR STAKEHOLDERS,

The Town of Dartmouth recognizes that sustainability must be a major focus of its policies, programs, and services. In 2017, we continued to make significant progress in our sustainability journey. Dartmouth's connection to renewable energy has strengthened in the last year, maintaining the Town's position as the leading producer of solar energy in Massachusetts. Alongside our efforts to offset municipal energy use through renewable forms of energy, the Town has searched for opportunities to improve the energy efficiency of its facilities and vehicles.

The Town has continued its successful recycling program, SMART (Save Money and Reduce Trash), in hopes of making recycling easier for all residents and business owners while further improving the beauty of our Town. This program has resulted in an approximately 114% increase in the curbside recycling collection of glass, cans, and plastics, as well as a significant improvement in program participation rates since 2007.

The Town of Dartmouth has positively impacted the economy, environment, and society by measuring and implementing change. Highlights include the permitting of the second local oyster farm, the energy conservation measures completed under the Green Community Program, the Town's designation by the SolSmart Program, as well as the success of the Community Electricity Aggregation Program.

We have been working toward being more financially independent; cash reserves have more than doubled since 2008 pre-recession totals while the Town has maintained its AAA rating from Standard and Poor's. We continue to hire and procure locally whenever possible, further encouraging our community to work collaboratively towards our goal.

I am pleased to bring you our 2017 Sustainability Report, highlighting many of our achievements during the past year. I look forward to your feedback and working together to further improve our community.

Sincerely,

David G. Cressman

INTRODUCTION

The 2017 Town of Dartmouth Sustainability Report is the sixth report of its kind, representing the municipality's commitment to sustainability. While this report is not in strict accordance with the GRI Standards: Core Option, it follows the GRI Standards framework and includes complete and partial information where available on numerous disclosures. External assurance was not provided for this report. More information about the Town's sustainability reports can be found on the GRI Database or on the Select Board landing page of the Town website.

ACKNOWLEDGEMENTS

This report was authored by the Town Energy Manager, Shawn Luz, in cooperation with other Town personnel, and reviewed by Town Administrator, David Cressman.

SPECIAL THANKS

The Town would like to thank the Net Impact Organization and the University of Massachusetts Dartmouth for their assistance in preparing prior reports. The author would also like to extend special thanks to Town employees and representatives involved in making this report possible:

- Members of the Dartmouth Select Board
- Donna Fernandes, Town Accountant
- Christine Amaral, Confidential Administrative Clerk
- Susan Dorschied, Administrative Clerk
- Gregory Barnes, Treasurer and Director of Finance
- Randall Kay, Payroll Administrator
- Joe Roche, Administrative Analyst
- Michael Arnold, Water Pollution Control Manager
- David Cressman, Town Administrator
- David Hickox, Director of the Department of Public Works
- Michael Courville, MIS Director
- Shannon Lyonnais, Executive Secretary to Police Chief
- Melissa Medeiros, Personnel Administrator
- Michael O'Reilly, Environmental Affairs Coordinator
- Steven Sullivan, Superintendent of the Water and Sewer Division
- Linda Torres, Confidential Licensing Aide
- Deborah Melino-Wender, Director of Development
- Scott Alfonse, Executive Director of the GNBRRMD

ABOUT THIS REPORT

The Town of Dartmouth has been reporting on economic, environmental, and societal impacts since 2012. Through our annual GRI Sustainability Reports we are committed to transparent reporting to increase awareness of our efforts and impacts.

WHY WE REPORT

As a municipal government, the Town of Dartmouth plays a key role in the local community. At the core of our institution, municipal employees and their associated departments are responsible for fulfilling the Town's commitments to residents, local businesses, as well as state and federal government bodies. The numerous departments that comprise the Town of Dartmouth engage with different and often intersecting groups of stakeholders regarding a variety of topics and concerns. The mission statements and goals of each department can be found on the Town's website.

We believe that transparency in economic, environmental, and social factors is integral to the health of the community as well as our institution. To this end, annual sustainability reporting assists the Town in maintaining its platform for measuring and evaluating plan implementation and performance. While the Town also produces general annual reports, sustainability reporting allows the Town a better opportunity to identify and monitor comprehensive goals for improving sustainability across the whole organization.

The 2012 Town of Dartmouth Sustainability Report was recognized as one of the first produced by a municipality in the United States and uploaded to the GRI Sustainability Database with the highest level of accordance (A level) with the then current GRI (Global Reporting Initiative) G3.1 Reporting Standard. One of the goals of the initial report was to enhance municipal involvement regarding the triple bottom line approach and to set goals to increase the value of municipal operations. In order to continue to measure our progress, set goals, and improve our organizational sustainability, we created four following reports in 2013, 2014, 2015, and 2016. The most recent prior report was published on August 8, 2017.

A successful sustainability report considers the GRI Reporting Guidelines as well as the material issues that matter most to our stakeholders, including those related to economic, environmental, and social topics. Our goal is to utilize the new GRI Standards as a transformative tool to improve and grow our relationship with our stakeholders.

To summarize, annual sustainability reporting enables the Town to:

- Communicate to stakeholders what Dartmouth is doing to be more sustainable.
- Measure, identify, and plan municipal progress in sustainability initiatives.
- Inspire residences and businesses to adopt sustainable practices.
- Shape local sustainability education curriculum.

SELECTION OF REPORTING PERIOD

The Town of Dartmouth has selected a hybrid annual reporting period due to the many ways that data is collected across municipal departments. When possible, data utilized in this report is for the 2017 calendar year period, however, there are instances where 2017 fiscal year data is provided instead. A prime example of this is any data taken from the Town's annual budget reports which are structured by fiscal year. With calendar year data on other subjects made available through annual town reporting, the selection of a hybrid reporting period reduces the need for Town departments to restructure data and tables for multiple reports. Thus, while reporting periods may not be consistent between different topics, efforts have been made to ensure that topics are consistent between reporting periods. This concession in the selection of reporting periods makes it easier for Dartmouth to complete the sustainability reporting process in-house given the significant time investment involved while still allowing readers to follow the progress that that Town has made with its sustainability commitments over the years. Unless otherwise noted, data included in this report is from the 2017 calendar year.

DETERMINATION OF MATERIAL ASPECTS

In coordination with the Town's sustainability context and the GRI Reporting Principles, this year's sustainability report has been constructed to focus on the most significant economic, environmental, and social impacts that have affected our stakeholders.

As with any municipality, the Town of Dartmouth relies on regular interaction with its key stakeholders to function effectively and efficiently. Prior sustainability reports completed by the Net Impact Program of the University of Massachusetts Dartmouth established a framework for the determination of the Town of Dartmouth's key stakeholders and the material topics that impact them.

This year's sustainability report builds upon this framework by revisiting the materiality assessment process, allowing the Town to update its understanding of its sustainability context while ensuring that chosen topics are those that are relevant and important to municipal decision-makers and other key stakeholders.

Based upon a 2012 stakeholder engagement survey and last year's determination of material aspects, we have identified our stakeholders as our employees, partners, residents, businesses, and other organizations within the physical boundaries of the Town of Dartmouth as well as partners, businesses, visitors, government agencies, and other organizations that work in coordination with the

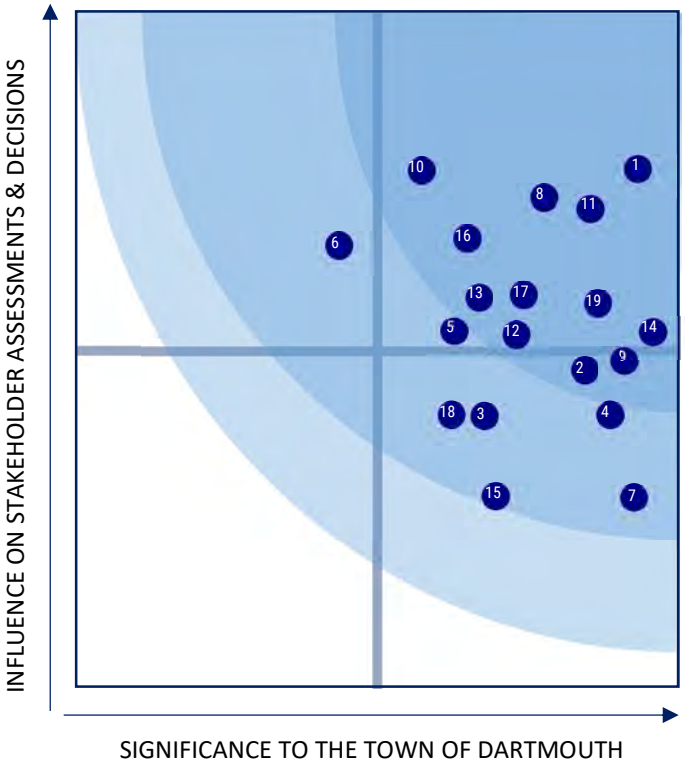
Town outside of its borders. Input from residents and businesses is regularly communicated to Town officials via email, social media, news media, letters, phone calls, meetings, and other forms of public participation. To summarize, these intersecting groups of stakeholders include:

- Businesses
- Citizens
- Customers
- Employees
- Students
- Taxpayers
- Tourists
- Trade Unions
- Local Communities
- Shareholders and Capital Providers
- Suppliers

In evaluation of local news media, stakeholder involvement, and internal experience with municipal impacts over the course of the current and past reporting periods, the Town has identified the most relevant and important material topics in the Materiality Matrix below:

Materiality Matrix

1. Financial Wellness
2. Waste & Recycling
3. Renewable Energy
4. Responsible Procurement
5. Human Rights
6. Data Privacy
7. Employee Satisfaction
8. Clean Water
9. Municipal Efficiency
10. Community Engagement
11. Public Safety
12. Economic Development
13. Education
14. Energy Efficiency
15. Municipal Employment
16. Environmental Protection
17. Historical Preservation
18. Training & Education
19. Transparency & Ethics



ETHICS, DISCLOSURES, AND MANAGEMENT APPROACH

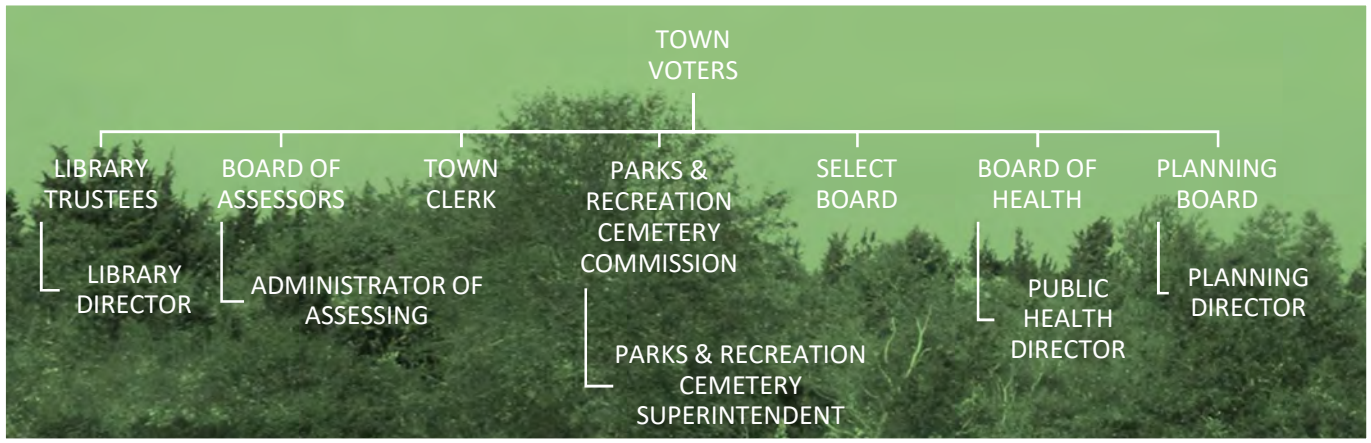
The predominant mission of the Town of Dartmouth is to provide the infrastructure, resources, and services to support the economic, societal, and environmental prosperity of its citizens. To achieve this goal, municipal departments operate according to specific mission statements and responsibilities. The municipal leadership, comprised of the Town Voters, the Select Board, the Town Administrator, and other high-level managers and administrators, collectively define municipal strategies, principles, and policies that address sustainability issues. Through this municipal leadership, considerations of economic, environmental, and social sustainability have become important cornerstones of municipal operation. Ultimately, the Town's commitment to sustainability is fostered by its strong leadership and put into practice by municipal employees every day.

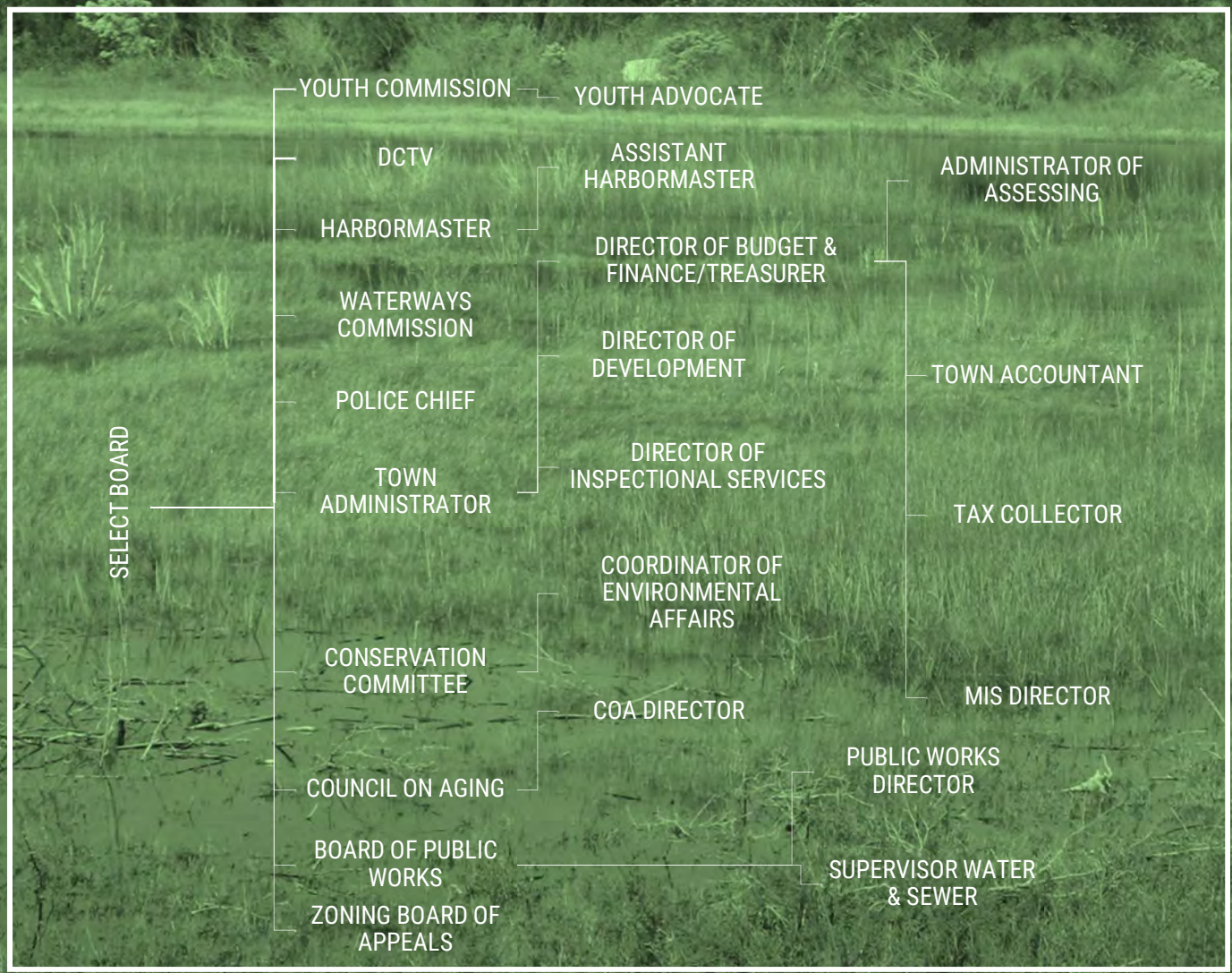
The management approach taken by the Town of Dartmouth follows the laws, regulations, and policies established by the Commonwealth of Massachusetts and the by-laws of the Town of Dartmouth. Management topics include Goals and Performance, Municipal Responsibility, Training and Awareness, as well as Monitoring and Follow-up and are established by key municipal leaders, elected officials, and other top officials employed by the Town of Dartmouth.

Under this framework, the Town utilizes many important tools to manage and further develop the sustainability of its operations. These tools include Standard & Poor's rating services, financial service reviews, data sourced from state and federal agencies, independent auditors, internal DartSTAT evaluations, in addition to GRI sustainability reporting. Information from these tools is utilized to evaluate past performance in working towards sustainability goals as well as to plan for future sustainability goals. This information also supplements the day-to-day work and responsibilities of departments throughout Town to plan, measure, and assess their direct sustainability impacts. Where data is unavailable to inform the decision-making process, Town officials traditionally employ a precautionary approach that considers the social, environmental, and economic impacts of various outcomes to determine what is best for the community.

Hierarchical organization charts of the Town of Dartmouth's municipal government can be found below. In addition, more information about departments, boards, and committees responsible for decision-making on economic, environmental, and social topics can be found on the official Town of Dartmouth website or in the annual reports produced by the Town.

HIERARCHICAL STRUCTURE OF THE TOWN OF DARTMOUTH





INTRODUCTION TO DARTMOUTH, MASSACHUSETTS

Settled in 1650 and incorporated in the Commonwealth of Massachusetts in 1664, the Town of Dartmouth is situated on the state's southern tip roughly 60 miles south of Boston. Covering over 63 square miles, Dartmouth is the third-largest community in the state based on land area. In addition to its scenic coastline and historically-rich agricultural community, Dartmouth is home to the University of Massachusetts Dartmouth, a prestigious institution with numerous colleges including the UMass Dartmouth School of Law. The Town is comprised of a variety of five historic villages: the Hixville, Bliss Corner, Padanaram, Smith Mills, and Russells Mills Historic Villages.

The Town takes pride in its expansive parks, trails, nature reserves, beaches, and other recreational opportunities that it maintains for its residents and visitors. Combined with its verdant landscape and rich local history, Dartmouth contains an expansive commercial district that serves as a regional shopping center for neighboring towns and cities. Connecting it to these communities, the Town of Dartmouth is traversed by Massachusetts State Highway Route 6 through its interior and by U.S. Interstate I-95 to the North.

LOCAL LEADERS IN SUSTAINABILITY

As fundamental as sustainability is to the Town of Dartmouth's municipal operations, it has become a cornerstone of the local community's character, as well. Numerous institutions, organizations, groups, and individuals have contributed to the growth of sustainability within Dartmouth. Featured below are just a few examples demonstrating the community's shared commitment to sustainability:

UMASS DARTMOUTH

UMASS DARTMOUTH | UMASSD.EDU

Sustainability is interwoven into the fabric of the University of Massachusetts Dartmouth (UMass Dartmouth), a prestigious four-year educational institution situated at 285 Old Westport Road roughly two miles west of the Dartmouth Town Hall. As an innovative public research university, UMass Dartmouth's commitment to sustainability is visible throughout its variety of degree programs, affiliated clubs and organizations, as well as its innovative approach to renewable energy.

A 600-kW wind turbine, a 265-kW solar photovoltaic (PV) array, as well as a 1.7 MW combined heat and power system located on the institution's main campus provide a local source of clean energy to offset annual electricity use. Alongside important research conducted at the university to further sustainability efforts, UMass Dartmouth's Campus Sustainability and Residential Initiatives Program has worked tirelessly to improve the sustainability of institutional operations across the campus and the surrounding community.

CRAPO HILL LANDFILL

CRAPO LANDFILL | GNBRRMDISTRICT.ORG

Under the management of the Greater New Bedford Regional Refuse Management District, the Crapo Landfill has undergone an extensive set of upgrades that have improved the sustainability of its operations. For instance, the Refuse District's state-of-the-art anaerobic digestion facility processes deposited food, fats, oils, grease, and sewage sludge waste to produce biogas for its gas-fired power plant. By utilizing the decomposition process as an opportunity to produce renewable energy, the Crapo Landfill generates enough natural gas to light 3,500 homes every day.

PADANARAM OYSTER FARM

COURTESY OF DARTMOUTH WEEK | PHOTO BY SETH THOMAS

The Padanaram Oyster Farm initiated the planting of thousands of oyster seed stock along the outer Padanaram Harbor in 2015 that help to improve the ecosystem and clean the water of impurities. A second oyster farm was permitted by the Town in 2017.

ROUND THE BEND FARM

ROUND THE BEND FARM | ROUNDTHEBENDFARM.ORG

A local treasure, the Round the Bend (RTB) Farm of South Dartmouth epitomizes sustainable practices as a working farm and non-profit organization. Its 40 acres of farmland are utilized for the education of visitors regarding sustainable living and environmentally-friendly agricultural practices. In addition to hosting informational events for the local community, RTB has become a local pioneer in sustainability through various initiatives such as its highly-efficient composting toilets in its facilities.

EVA'S GARDEN

EVA'S GARDEN | EVASGREENGARDEN.COM

A 3-acre organic farm located in South Dartmouth, Eva's Garden serves as another prime example of sustainable agriculture in the community and has earned its reputation by supplying some of the freshest organic herbs to upscale restaurants from New York to Maine. In addition, Eva's Garden also inspires and educates young workers at the farm to play an active role in sustainable agriculture.

DARTMOUTH NATURAL RESOURCES TRUST

The Dartmouth Natural Resources Trust (DNRT) is a non-profit organization committed to the preservation of Dartmouth's natural resources. The DNRT now owns over 1,700 acres of protected land and has worked to protect over 5,100 acres of land in Dartmouth.

THE MUNICIPAL GOVERNMENT

Headquartered at 400 Slocum Road in Dartmouth, Massachusetts, the Town of Dartmouth provides an array of integral services to the local community in addition to the supply of clean water to residents and businesses. Along with the provision of security, emergency, and recreational services, the Town owns and operates numerous facilities that are accessible to the public.

Due to its central role in the community, officials in the Town of Dartmouth work to support many intersecting groups of beneficiaries. To provide quality service to its citizens, the Town relies on the work of departments, boards, and offices such as these:

- Accounting Department
- Animal Control
- Assessor
- Board of Health
- Building
- Town Collector
- Council on Aging
- Public Works
- Community/Grants
- Community Television (DCTV)
- Conservation Commission
- Libraries
- Planning Board
- Parks and Recreation
- Police
- Select Board

The input of local citizens helps Dartmouth thrive by informing municipal operations. Dartmouth's residents contribute to the functioning of the local government through their involvement in the many boards and committees available for residents to join, participation in semi-annual Town Meetings, as well as through opportunities to vote for local elected officials. For instance, there are currently 193 members of 31 municipal boards and committees whose work contributes every day to the proper functioning of the Town government.

Under the direction of departments and boards, the Town of Dartmouth supports its local economy by utilizing local suppliers in and around the community for municipal procurement whenever feasible. For example, local technicians and experts are often relied upon for the maintenance of important equipment across municipal facilities.

With the assistance of Voters, local suppliers, as well as other organizations, the Town of Dartmouth made significant progress during 2017 in the relocation of the Dartmouth Police Department and the North Dartmouth Library. The construction of new facilities will allow the Town to better serve residents and businesses in the community while supporting economic growth.

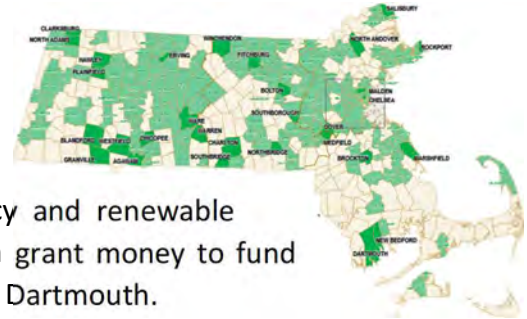
To further integrate the Town into the local, national, and international governing framework, the Town of Dartmouth is a member of associations and organizations

that work to benefit intersecting groups of stakeholder. For example, Dartmouth has been a longtime member of the Southeastern Regional Planning & Economic Development District (SRPEDD) that works to plan for "the region's land use, transportation, economy, and environment while assisting member cities and towns to operate more efficiently".

HIGHLIGHTS IN MUNICIPAL SUSTAINABILITY

The Town has made significant progress in its sustainability journey, benefitting from energy efficiency, renewable energy, economic, and environmental achievements made in 2017.

ENERGY EFFICIENCY



The Town of Dartmouth was designated as a Green Community in February of 2017. Alongside the recognition of being one of Massachusetts' leaders in energy efficiency and renewable energy, the Town earned over $223,750 in grant money to fund energy efficiency improvements throughout Dartmouth.

Since its designation, the Town has made significant progress in tackling its Energy Reduction Plan (ERP) that was assembled to help Dartmouth achieve a 20% reduction in total energy consumption. Utilizing its $223,750 Green Communities Designation Grant, the Town completed a major HVAC renovation project at the Dartmouth High School. Completed on September 13, 2017, the project has resulted in the replacement of outdated oil-fired boilers and an inefficient water heater with four natural gas-fired boilers and three indirect water heaters. The new equipment is expected to provide improved facility comfort, reduced greenhouse gas emissions, as well as significant energy savings. The Town is expected to complete an additional project with the remainder of its Green Communities Designation Grant in 2018.

In October of 2017, the Town also applied for a major grant from the Department of Environmental Protection (DEP) that if awarded, will help The Town to fund a

variety of energy conservation measures directly impacting water and wastewater operations.

Despite a significant increase in energy usage, the Town has identified strategies to reduce municipal energy consumption in 2018. Utilizing programs described above, the Town intends to tackle rising energy consumption and costs at the School Department, the Council on Aging, and the Department of Public Works.

RENEWABLE ENERGY

The Town saw significant growth in renewable energy development over 2017 as it strove to improve municipal policies regarding solar development in the community. Over the course of 2017, an additional 2.173 MW of solar capacity was brought online in Dartmouth, reinforcing the Town's role as the state leader in solar energy production.

The Town was also honored with the Bronze Designation from the national SolSmart Program for its efforts to reduce barriers to solar development in the community.

ECONOMY

Although it did not receive a rating in 2016, the Town of Dartmouth was awarded the AAA rating from Standard and Poor's in 2017. In addition to noting the strong management practices of Dartmouth's local government, this year's credit rating report highlights the financial sustainability of municipal operations.

To provide financial assistance to residents and local businesses in Dartmouth, the Town partnered with Eversource to pioneer the organization's Clean Energy Communities (CEC) Program in Massachusetts. As part of the program, the Town hosted a light bulb swap that led to 527 households signing up for an energy audit.

ENVIRONMENT

In coordination with local partners and organizations such as the Buzzards Bay Coalition (BBC) and the Dartmouth Natural Resources Trust (DNRT), the Town completed the permanent conservation of the Ocean View Farm, an approximately 115-acre property that extends along the shoreline of Allens Pond in Dartmouth.

The Town also partnered with UMass Dartmouth to develop a Climate Vulnerability Analysis that is expected to be completed in early 2018. This information will ultimately help the Town plan for the future.

ECONOMY

The Town of Dartmouth strives to have a positive economic impact on its stakeholders through its procurement of goods and services, its interactions with businesses and the workforce, as well as its commitment to sound fiscal policy.

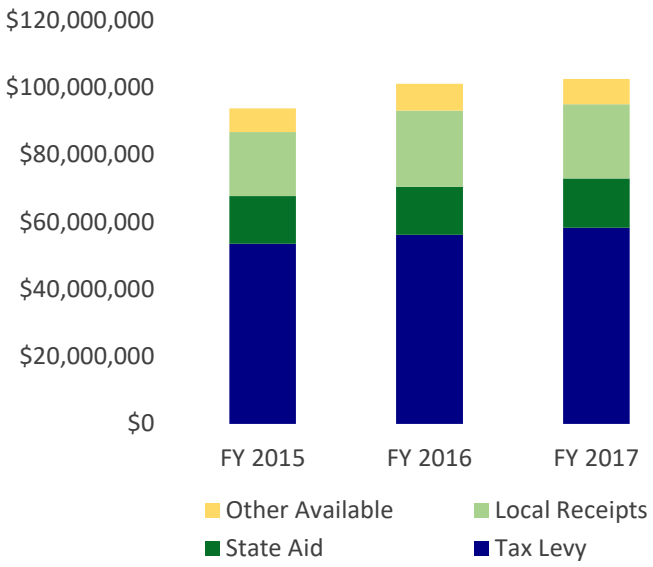
MUNICIPAL HIGHLIGHTS

The Town of Dartmouth experienced healthy growth in annual total revenues during FY 2017. While state aid that the Town received accounted for 14.3% of total revenue, the remaining 85.7% of the total revenue is accounted for by tax levies, local receipts, and other available sources. As a result of continued financial performance and stability, the Town was awarded an AAA rating from S&P for 2017.

TOTAL REVENUE

With increases in revenue collected from the state, through taxes, local receipts and other available sources, the Town's total revenue increased by 1.35% compared to FY 2016.

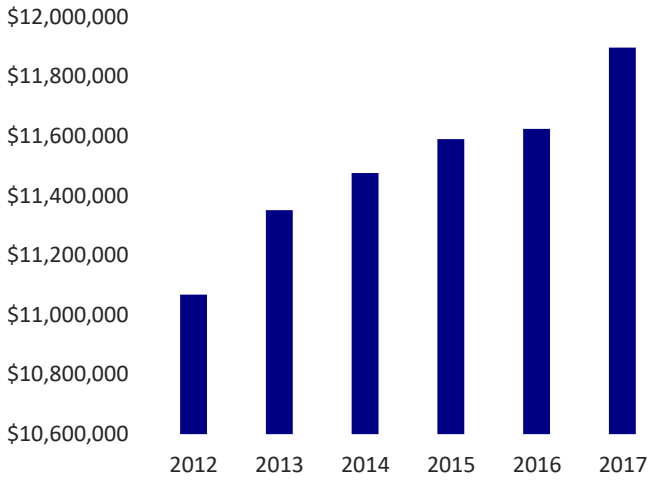
REVENUE SOURCE	AMOUNT
TAX LEVY	$58,265,189
STATE AID	$14,665,864
LOCAL RECEIPTS	$22,122,816
OTHER AVAILABLE	$7,443,443
TOTAL	$102,497,311



NET STATE AID

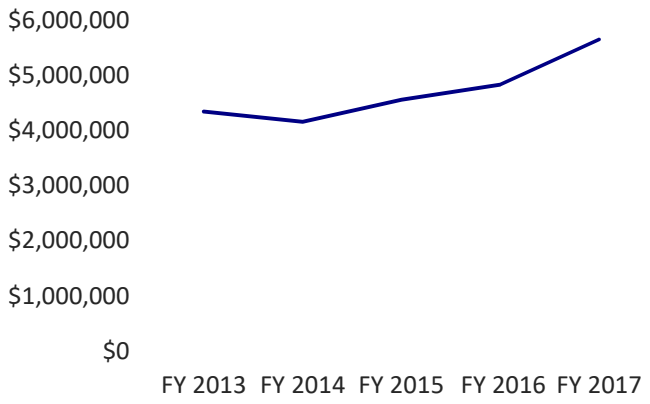
Cherry sheet aid is an important source of funding for the general government as well as the school department. In FY 2017, net state aid increased by 2.35% compared to FY 2016.

TOTAL RECEIPTS	$12,915,772
TOTAL ASSESSMENTS	$1,016,658
NET STATE AID	$11,899,114



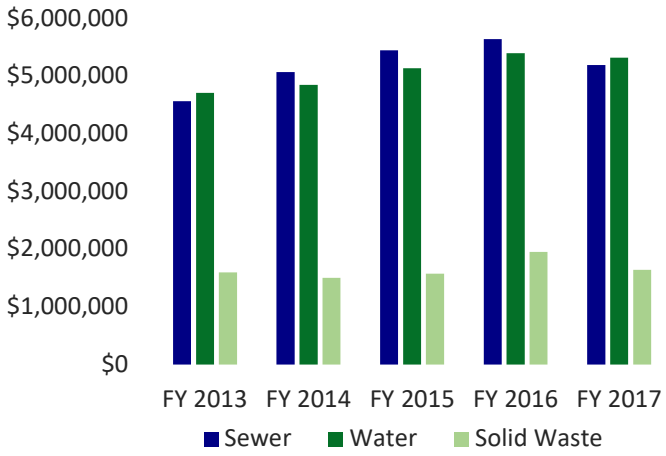
CERTIFIED FREE CASH

In the last fiscal year, the Town continued to increase its free cash reserves. According to the Massachusetts Division of Local Services (DLS), Dartmouth's free cash reserves have increased by 30% from $4,348,132 in FY 2013 to $5,658,602 in FY 2017. Annual free cash is utilized by the Town to support capital equipment, facilities, and roads and is an important source of municipal funding.



ENTERPRISE FUNDS

The enterprise funds for water, sewer, and solid waste have performed similarly to previous years. The Water Enterprise Fund (WEF) experienced its second-best year in the past five fiscal years with $5,315,957 in total revenue.

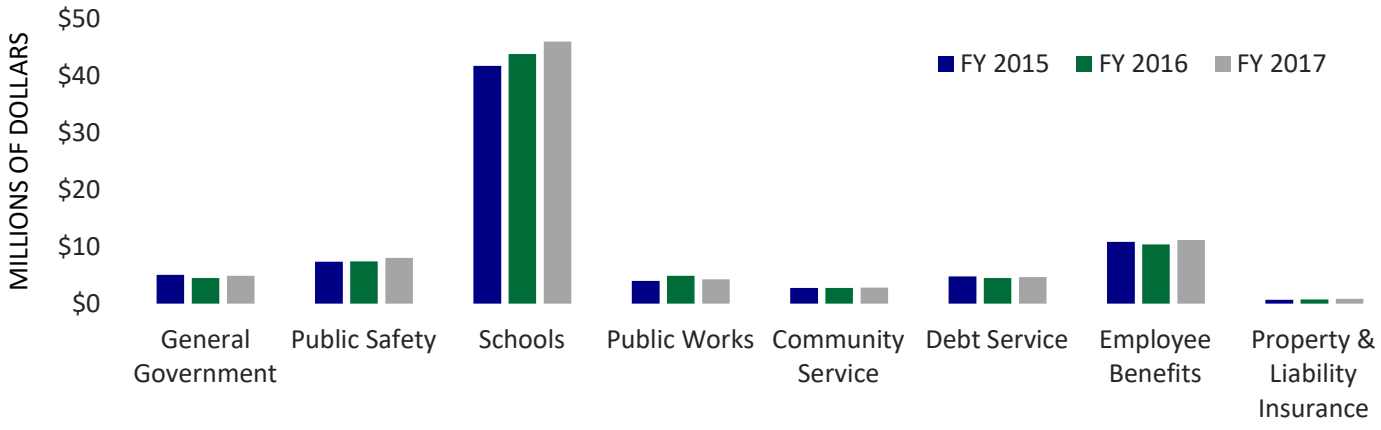


FISCAL YEAR BUDGET

Dartmouth's FY 2017 budget increased from the previous fiscal year, reflecting expanding operational needs and new opportunities.

For example, while net expenditures for Public Works decreased by 12% compared to the last fiscal year, net expenditures of Employee Benefits increased by 8% in FY 2017.

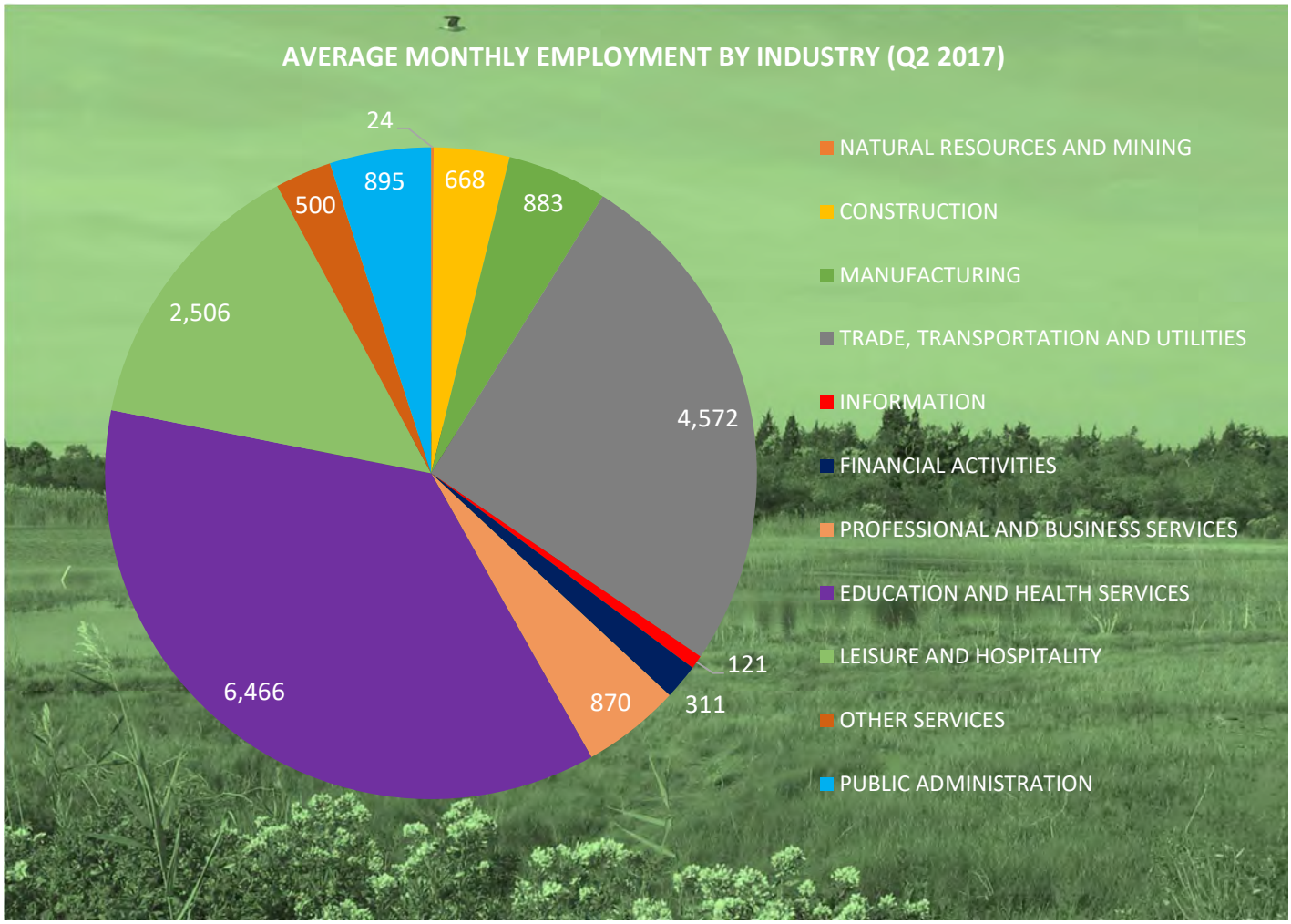
GENERAL GOVERNMENT	$4,884,308.25
PUBLIC SAFETY	$8,041,080.50
SCHOOLS	$46,044,593.02
PUBLIC WORKS	$4,298,143.66
COMMUNITY SERVICE	$2,817,440.64
DEBT SERVICE	$4,686,238.07
EMPLOYEE BENEFITS	$11,224,260.55
PROPERTY & LIABILITY INSURANCE	$835,822.55



LOCAL ECONOMY

Dartmouth is home to a variety of businesses and organizations from both the private and public sectors. According to the Massachusetts' Department of Labor and Workforce Development, Dartmouth was home to over 1,100 establishments in the second quarter of the 2017 calendar year.

Many of Dartmouth's workers are employed by industries involved with trade, transportation, utilities, education and health services, as well as leisure and hospitality. The average individual working for one of Dartmouth's establishments received weekly wages of $881 during the second quarter of FY 2017, up 6.9% compared to the same period of 2016. Whereas the annual average monthly employment over the course of 2016 was 17,164, the latest data available shows that average monthly employment was up 3.8% at 17,815.



MUNICIPAL SUPPORT OF THE LOCAL ECONOMY

In addition to utilizing local suppliers for municipal procurement when feasible, the Town of Dartmouth supports its businesses and residents through a variety of programs, policies, events, and other opportunities.

SUPPORTING RENEWABLE ENERGY

In addition to achieving municipal energy savings, the Town worked on encouraging the growth of local renewable energy through a campaign to improve access to solar energy systems throughout Dartmouth.

Beginning in April, extensive research was completed regarding the existing municipal policies that impacted local solar development and how they could be improved to encourage further growth in accessory use solar development. In May, the Town was honored with the Bronze Designation under SolSmart, a national program that recognizes the efforts of cities, towns, and communities for their efforts to reduce barriers to solar energy development. Utilizing the technical assistance provided through the SolSmart Program, the Town also began working on reviewing its municipal zoning bylaw and other policies.

The Town has also sought to provide even greater support of renewable energy through the investigation of its municipal property for the potential to put up solar canopies. At the 2017 Fall Town Meeting, the municipality received approval from Town Meeting members to lease property at the Council on Aging and the site of the future Dartmouth Police Station for solar canopy systems. The Town expects to utilize this approval to explore this exciting opportunity in 2018.

AFFORDABLE HOUSING PROGRAMS

EQUAL HOUSING OPPORTUNITY

Through its Housing Rehabilitation Program, the Town continues to assist low and moderate-income residents by financing various improvements in residential buildings. This program is particularly important for income-eligible elderly residents who can significantly benefit from heating system, roofing, plumbing, and energy efficiency repairs or upgrades. The Housing Rehabilitation Program is funded through the Affordable

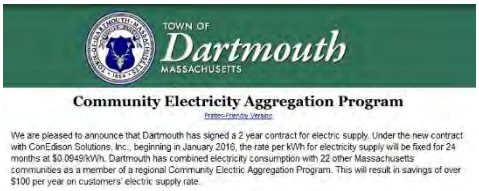
Housing component of the Community Preservation Act (CPA). One project was started in late 2017 and expected to be completed in early 2018.

COURTESY OF DARTMOUTH WEEK | PHOTO BY NICK WALECKA

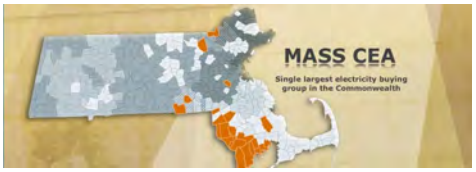
In addition to implementation of the Housing Rehabilitation Program, the Director of Community Development continues to investigate opportunities for increasing the affordable housing stock in Dartmouth. The Director has been working work closely with the developers of Lincoln Park who opened a 36-unit affordable apartment building in January 2016 and have also completed a 48-unit "over 55" affordable complex and a 36 market rate building.

The Department of Community Development/Grants has also worked with a consultant to implement the Homebuyer Assistance Plan which makes grant funding available to assist qualified buyers with the purchase of a home. One lottery was held and a grant was awarded to a qualified buyer who has since purchased a home under the program. The next grant lottery will be held in June 2018.

COMMUNITY ELECTRICITY AGGREGATION



Assembled by municipal officials and managers to mitigate the impact of rising private electricity costs in the region, the SRPEDD Electric Aggregation Group is currently the third-largest electric aggregation group in the United States, representing 164,000 residents and businesses across 23 Massachusetts communities. Without needing to implement any costly infrastructure, the program has already saved residential participants $115,688 on their monthly utility bills over the electric supply rate offered by their utility provider alongside the benefits of greater price stability and quality customer service. The SRPEDD Electric Aggregation Group was made possible through the close collaboration of representatives from a diverse set of municipalities including Carver, Dartmouth, Dedham, Dracut, Douglas, Fairhaven, Marion, Northbridge, and Somerset, with the Southeastern Regional Planning &



Economic Development District and program consultant, Good Energy. In addition to tackling challenges imposed by the state of the utility industry as well as administrative procedures of the town meeting form of government, constant communication between group members and proper marketing of the program enabled its success with over 90% of residents voting to accept the program. From January 2016 to the early summer of 2018, projected savings for the program are expected to total over $23 million for all communities involved.

In 2017, a new three-year supply contracted was brokered by Good Energy with Public Power, LLC that has locked electricity supply rates for the community from January 2018 until January 2021, lowering the total expected cost of power on residents' utility bills compared to the default supply option provided by Eversource.

FINANCIAL IMPLICATIONS DUE TO CLIMATE CHANGE

In 2013, Dartmouth launched its solar production project on the town landfill by working with Borrego Solar Systems. Municipal administrators concluded that solar panels would be less intrusive than wind turbines and could generate more revenue for the town. Dartmouth Town Administrator, David G. Cressman, noted; "...we project [the landfill solar farm and Energy Park solar farm] will generate us about $13 million in savings over 20 years."

Dartmouth currently has eight solar farms that collectively share 28.75 MW of solar PV capacity, maintaining Dartmouth's status as a leading solar power-generating municipality in Massachusetts. A ninth solar farm is currently expected to come online that will add an additional 2.85 MW of solar capacity to the Town's total. Alongside renewable energy, Dartmouth became the first in the Southeast to convert all municipal street lights to light emitting diode bulbs – commonly known as LEDs –at one time with more than 1,600 Town streetlights retrofitted, resulting in an expected 66% reduction in street lighting costs. The municipal streetlights have proven to be cost-effective and reliable.

Dartmouth continues to offset roughly 90% of its electricity usage through its PPAs with local solar farms with the goal of reducing energy use to have electricity completely offset by its solar agreements. The Town continues to search for ways to improve its support of clean renewable energy.

ENERGY

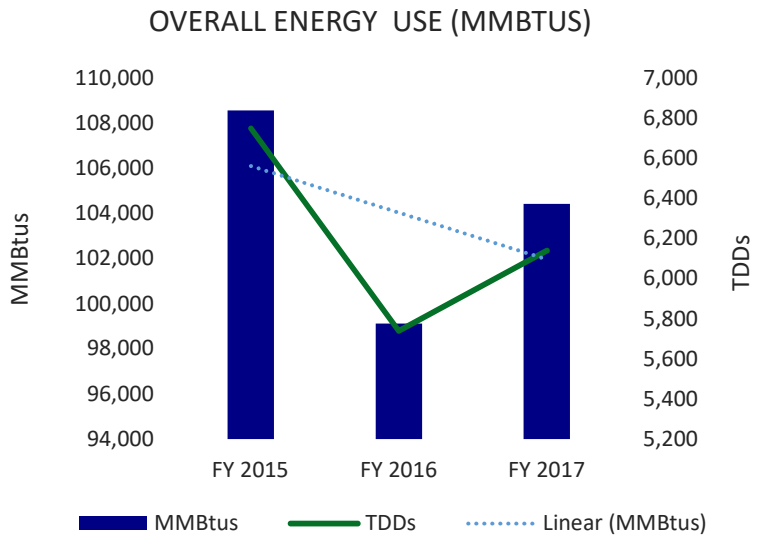
Rising energy usage and costs in FY 2017 highlights the importance of continued energy conservation projects across municipal facilities. As a Green Community, the Town of Dartmouth continues planning for further reductions in MMBtu usage over the next fiscal year.

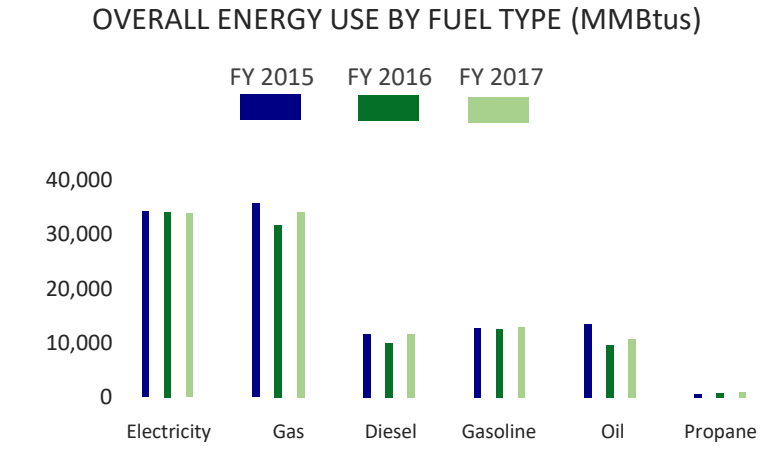
THE BIG PICTURE

Motivated by rising energy costs and a growing global awareness of climate change, investments in energy efficiency and renewable energy have become increasingly important to public and private organizations alike.

From FY 2016 to FY 2017, municipal energy usage increased by roughly 5,310 MMBtus. In combination with the significant impact of changes in annual weather patterns, the data reveals that the greater utilization of energy by school facilities (43%), vehicles (32%), the renovated and expanded Highway Division Complex (12%), and other municipal facilities (13%) accounted for this major increase in consumption.

Total degree day (TDD) data identifies FY 2016 as being a more moderate year in terms of annual weather conditions, theoretically requiring



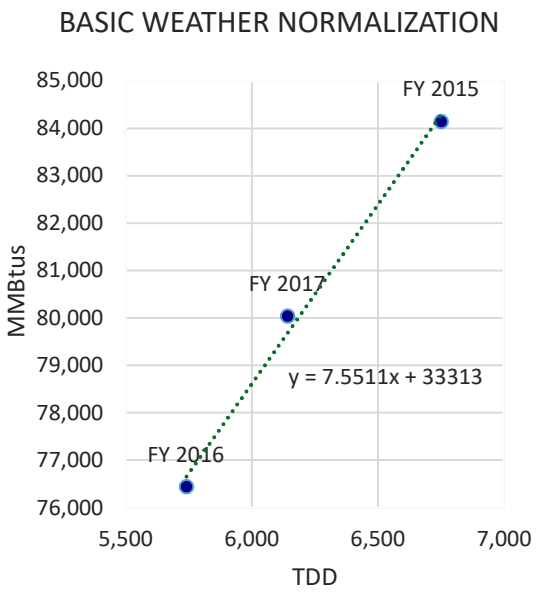


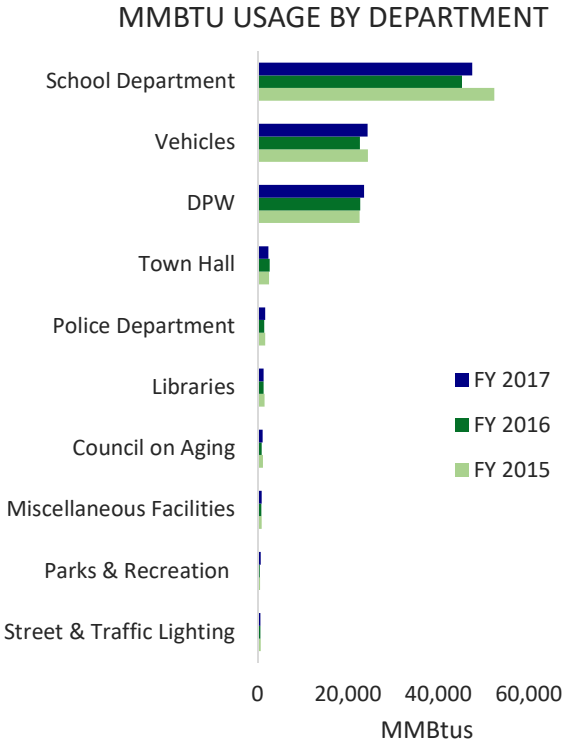
	Electricity	Gas	Diesel	Gasoline	Oil	Propane
FY 2015	10,040,903	357,624	83,595	103,304	97,334	6,596
FY 2016	10,004,454	317,870	72,517	102,124	69,640	8,630
FY 2017	9,930,816	341,255	84,287	104,951	77,797	9,756

comparatively less energy to heat or cool facilities to a given temperature than other fiscal years. In fact, there were approximately 15% fewer TDD in FY 2016 compared to FY 2015 and approximately 7% less TDD than in FY 2017. Isolating vehicle gasoline and diesel usage from other municipal energy data, basic weather normalization of the data suggests that the changes in TDDs across years could account for a significant portion of changes in energy use.

Historically comprising the largest portion of the Town's total energy usage, municipal buildings (excluding water/wastewater operations) were responsible for 57,597 MMBtus or 55.15% of the Town's energy consumption. From FY 2016 to FY 2017, building energy use increased by 6.23%. In general, numerous changes to facilities including the expansion of the Highway Division Complex, additions of pumps to the Panelli Wells, and now-corrected issues with facility HVAC systems were a primary component of this energy increase.

Ultimately, there is significant progress that the Town needs to make to curb rising energy usage and achieve sustainable annual reductions. In 2017, the Town completed the renovation and conversion of Dartmouth High School's HVAC system. The implementation of four new natural gas condensing boilers and three indirect water heaters is projected to save 1,275.88 MMBtus annually. In addition, the Town has also investigated energy savings measures at other municipal buildings, including weatherization and insulation measures, and has completed steam trap repairs at four school buildings. The Town also applied for a MASS DEP Gap Grant that, if awarded, could provide the Town with up to $200,000 to complete energy efficiency projects at the Department of Public Works.





VEHICLE ENERGY USE

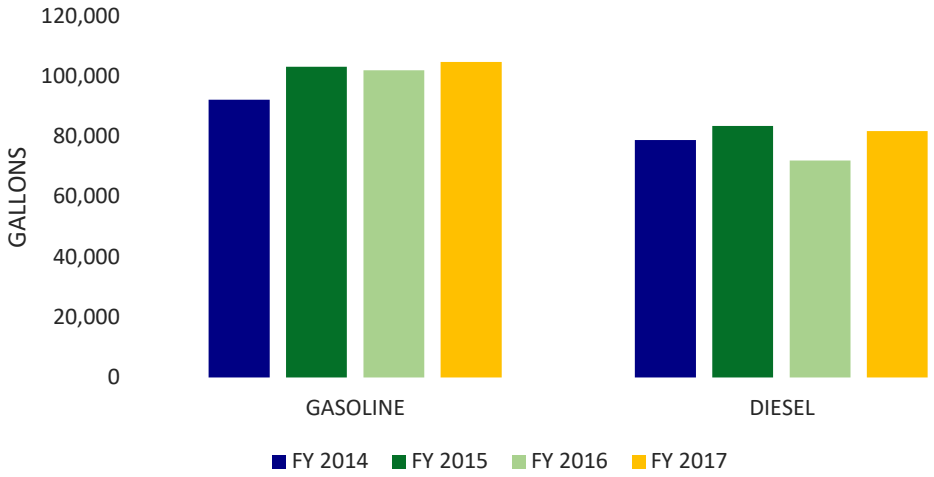
Aside from its facilities, the Town of Dartmouth recognizes the significant amount of resources that its fleet of municipal vehicles uses to operate.

As part of our commitment to sustainability, the Town utilizes six electric vehicles in total to supplement its existing vehicle stock. Electric charging stations are available at municipal facilities such as the Town Hall, the Water and Sewer Division Office, and the Department of Public Works Main Office Building for public usage.

Outside of our electric vehicles, the Town's numerous cars, trucks, and utility vehicles rely on either gasoline or diesel oil. While less significant than building energy usage, vehicle fuel usage experienced a major increase in FY 2017, up 7.5% from the previous fiscal year. This rise can be attributed to the general increase in vehicle diesel consumption – both at the Town's fueling stations and new fuel deliveries to the Parks and Recreation Department.

It is expected that improved vehicle maintenance made possible by the Highway Division's new maintenance facility will result in greater vehicle fuel efficiency and less gasoline and diesel consumption over time.

ANNUAL FUEL USE BY TYPE



RENEWABLE ENERGY

Guided by a strong commitment to sustainability, cooperation between the municipal government and the local community has made Dartmouth a leader in solar energy. In 2015, Dartmouth produced 58,924.74 MWh of electricity, enough electricity to power roughly 7,984 homes in Massachusetts annually. In 2017, Dartmouth persisted as the state leader in solar capacity adding 2.2 MW with almost 38 MW of installed solar capacity spread across 952 projects. In fact, Dartmouth had 1,115.42 watts of installed solar capacity per capita in 2017.

With aims to remain a state leader in the development of renewable energy moving into the future, Dartmouth seeks to further improve the local adoption of solar energy. As part of the 952 solar energy projects in Dartmouth, there are 8 major solar energy farms that currently provide energy to the community as well as to neighboring towns and cities:

DEVELOPER, SOLAR FARM	OUTPUT CAPACITY (MW)
BORREGO, LANDFILL SOLAR FARM	1.3 MW
BORREGO, HAWES SOLAR FARM	1.288 MW
BORREGO, HIGH HILL SOLAR FARM	3.494 MW
CON. EDISON, BUSINESS PARK SOLAR FARM	2 MW
CON. EDISON, DARTMOUTH II SOLAR FARM	2.66 MW
EMI, ENERGY PARK SOLAR FIELD	7.82 MW
NFF, NO FOSSIL FUELS SOLAR FARM,	6 MW
SUN EDISON, THOMAS G. DAVIS SOLAR PARK	4.19 MW
TOTAL	28.752 MW

BORREGO, LANDFILL SOLAR FARM

The Borrego Landfill Solar Farm has been in operation since 2013. Comprised of 5,369 Yingli modules, each with a 240-watt capacity, this solar system is designed to produce approximately 1,670 megawatt-hours (MWH) every year.

The solar farm is located on municipal property and is one of two local solar projects that the Town has a power purchase agreement (PPA) with. More information can be found online on their website.

BORREGO, HAWES SOLAR FARM

Borrego is operating and managing this solar project located on Reed Road. Consisting of 5,416 solar panels situated on 5 acres of land, the solar farm has an output capacity of 1.288 megawatts. Production of this solar farm began in October of 2011 and completed in mid-2015.

BORREGO, HIGH HILL SOLAR FARM

The Borrego High Hill Solar Farm was constructed as one of three solar developments supplying a Massachusetts manufacturer with cheaper electricity through virtual net metering. The solar farm has a 3.494 MW capacity.

CON. EDISON, BUSINESS PARK SOLAR FARM

The Dartmouth Business Park Solar Farm, located on Samuel Barnet Boulevard, became operational in early 2011. Situated on 10 acres of land, this solar project is comprised of 8,000 photovoltaic panels that collectively have a 2 MW capacity. In a year, this solar farm can produce 2,200 MWH of electricity. More information about this solar farm can be found online on their website.

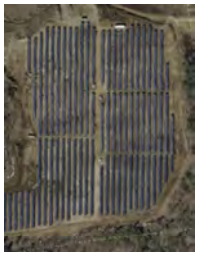
CON. EDISON, DARTMOUTH II SOLAR FARM

The Dartmouth II Solar Farm at Hixville Road is a major development housing 9,500 photovoltaic panels that has been in operation since the second quarter of 2012.

NFF, NO FOSSIL FUELS SOLAR FARM

The No Fossil Fuels Solar Farm on Fisher Road was built over an existing cranberry farm and currently has an active power purchase agreement (PPA) with the Town of Carver and the Silver Lake Regional School District. It has a significant 6 MW capacity and is comprised of 21,000 photovoltaic panels.

SUN EDISON, THOMAS G. DAVIS SOLAR PARK



Located in the New Bedford Industrial Park, the Thomas G. Davis Solar Park became operational in July of 2015 and has a 4.1 MW capacity. Through virtual net metering, the City of New Bedford entered into a power purchase agreement (PPA) with the owners to offset its energy costs.

UMASS DARTMOUTH WIND RENEWABLE ENERGY PROJECTS

A 600 KW wind turbine was installed on the UMass Dartmouth campus located at 285 Old Westport Road at the far end of the road surrounding the university's educational facilities. The turbine was installed by JK Scanlon Company Inc. The university has also installed a 265-kW solar PV array and a 1.7MW CHP system. More information about UMass Dartmouth's recent sustainability efforts can be found on the school's website.

MUNICIPAL SOLAR DEVELOPMENTS

It is estimated that the Borrego Landfill Solar Farm and the Energy Park Solar Field alone will bring the Town over $13 million in savings over the 20 year period of the PPAs that Dartmouth has entered into. The increasing competitiveness of renewable energy technology coupled with the closing of nearby power stations, due to both economic and environmental pressures, places further importance in solar and wind technologies. In order to mitigate the risks posed by the changing energy environment, the Town of Dartmouth is constantly investing in new technologies and services to offset its energy costs, improve its energy efficiency, and adopt more renewable energy.

As identified above, the Town has received recognition for its efforts to reduce barriers to local solar development. In May, the Town of Dartmouth was honored with the Bronze Designation under SolSmart. It is continuing to investigate additional measures it can take to earn higher designations and improve access to renewable energy development.

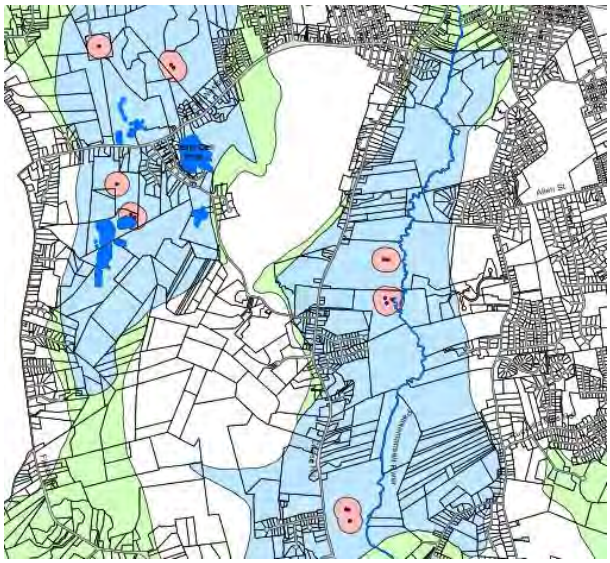
In terms of its direct support of renewable energy, the Town also received approval from Town Meeting members to lease property at the Council on Aging and the site of the future Dartmouth Police Station for solar canopy systems. As mentioned above, the Town will be looking into this opportunity in 2018.

WATER

As is the case with all communities, water is one of Dartmouth's most important natural resources. Under the supervision of the Superintendent of the Water and Sewer Division of the Department of Public Works, Steven Sullivan, our Town strives to provide a clean, reliable, and high-quality supply of water to the residents and businesses of Dartmouth. As a necessity to ensure the efficiency and dependability of the division's operations, sustainability is integral to the Town's management of its water supply.

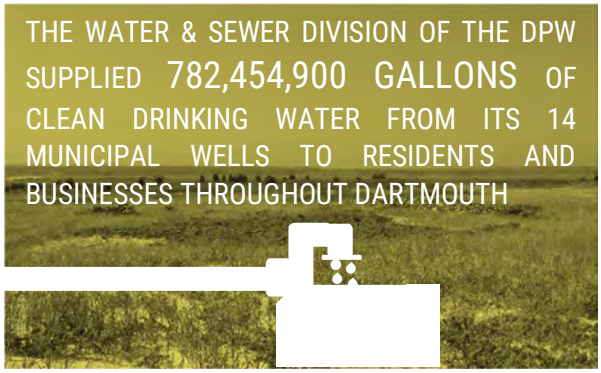
The Town of Dartmouth currently owns and operates 14 groundwater wells located on aquifers that supply the bulk of Dartmouth's annual water usage. The primary source of water that is impacted by the Town's withdrawal of water is the Paskamansett River. Of the 14 municipal groundwater wells, four located at 299 Chase Road have a combined capacity of 1,555 GPM (gallons per minute), three wells located at 687 Chase Road have a combined capacity of 1,550 GPM, and five additional wells located at several other pumping stations have a combined capacity of 1,370 GPM. Water pumped from Dartmouth's wells is treated through means of conventional filtration, disinfection, corrosion control, and fluoridation.

In conjunction with its adherence to state and federal regulations, the Water & Sewer Division will not pump water from adjacent wells once the depth of their water source falls below a certain threshold, ensuring the sustainable and responsible consumption of municipal water. There are four municipal wells affected by withdrawal restrictions from June 1 to September 15: wells E-1, E-2, F-1, and F-2. If the flow of the Paskamansett River falls to 5.0 cubic feet per second (CFS) or below, these four wells must be shut off until the flow exceeds 5.0 CFS. Wells and the aquifers that they draw from are also protected by state and local zoning laws that determine the distances that private property must be located away from wells along with restrictions on well drawdown in the event of a long drought.



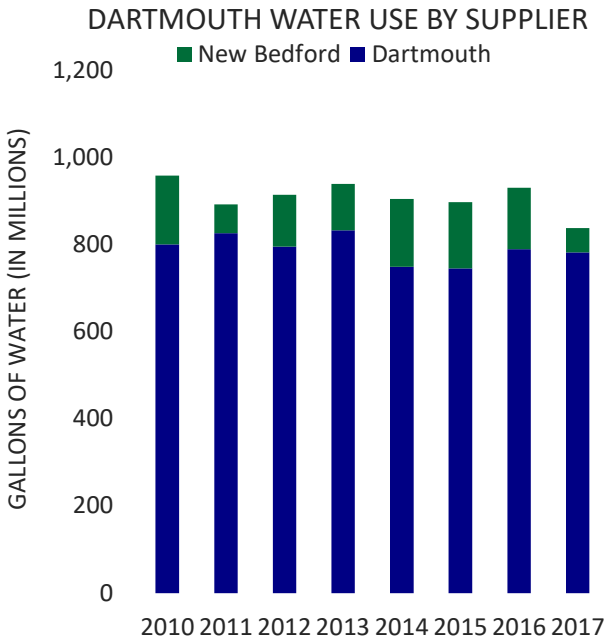
In addition to water supplied directly by the municipality, the Town also purchases part of its water supply from the City of New Bedford which is derived from five ponds located in Lakeville, Rochester, Freetown, and Middleboro, Massachusetts, and treated at the Quittacas Water Treatment Plant.

The Town's water supply is essential for the wellbeing of our residents and the day-to-day operations of businesses throughout Dartmouth. In 2017, the Water & Sewer Division supplied 782,454,900 gallons of water from municipal wells and purchased an additional 55,454,900 gallons from the City of New Bedford.



One violation occurred regarding water quality in November of 2016 because of a high level of Trihalomethanes (TTHMs), a disinfection by-product, present in the water supply. It is believed that this violation was due to the Town not flushing water hydrants during the 2016 drought. To solve this issue, the Town committed to flushing the hydrants in the spring and fall of 2017 as well as investigating other opportunities to reduce the level of TTHMs in the water supply. More information regarding the quality of municipal water can be found in the 2016 Water Quality Report and upcoming 2017 Water Quality Report presented by the Water & Sewer Division.

Several important projects are planned contingent on grant funding from the Mass DEP that would result in new well pump equipment as well as a block heater for the backup generator of the 687 Chase Road Water Treatment Facility.



WASTE AND RECYCLING

WATER POLLUTION CONTROL | GOOGLE.COM

EFFLUENTS

Under the expert staff at the Water Pollution Control Division of the DPW, wastewater originating throughout Dartmouth is sent to the state-of-the-art sewage treatment plant located the Water Pollution Control Complex at 759 Russells Mills Road. In addition to its 10.3 MGD (million gallons per day) peak capacity sludge plant, the Treatment Plant has an onsite laboratory, composting site, as well as the 22 remote pumping stations that bring the sewage flow to the main facility.

WATER POLLUTION CONTROL HQ | FSTINC.COM

In 2017, the treatment plant cleaned and pumped over 1,029,140,000 gallons of water to Salter's Point in Buzzard's Bay, Massachusetts. This represents an increase of about 106,490,000 gallons over the prior year.

The Dartmouth Water Pollution Control Facility uses an in-vessel aerated, high temperature composting process to stabilize the dewatered bio-solids produced at the plant. These bio-solids contain on average 20-22% solids and are mixed with amendment (wood mulch) on a volumetric ratio of one-part bio-solids to two-parts amendment. This amendment is also produced at the facility in the brush grinding operation alongside brush brought in by residents and contractors. The duration of the composting process is approximately 20 days to provide aerobic decomposition, stabilization, and disinfection of the bio-solids. In 2017, a total of 2,325 cubic yards of finished, screened compost was sold in the compost market.

CONSTRUCTION OF THE NEW $2.6 MILLION ULTRAVIOLET DISINFECTION SYSTEM WILL BEGIN IN 2018. ONCE IN PLACE, THE NEW UV DISINFECTION SYSTEM WILL ALLOW THE TOWN TO PROCESS SEWAGE MORE EFFICIENTLY AND SUSTAINABLY BY SAVING ENERGY WHILE REDUCING THE USAGE OF TOXIC CHEMICALS.

SOLID WASTE AND RECYCLING

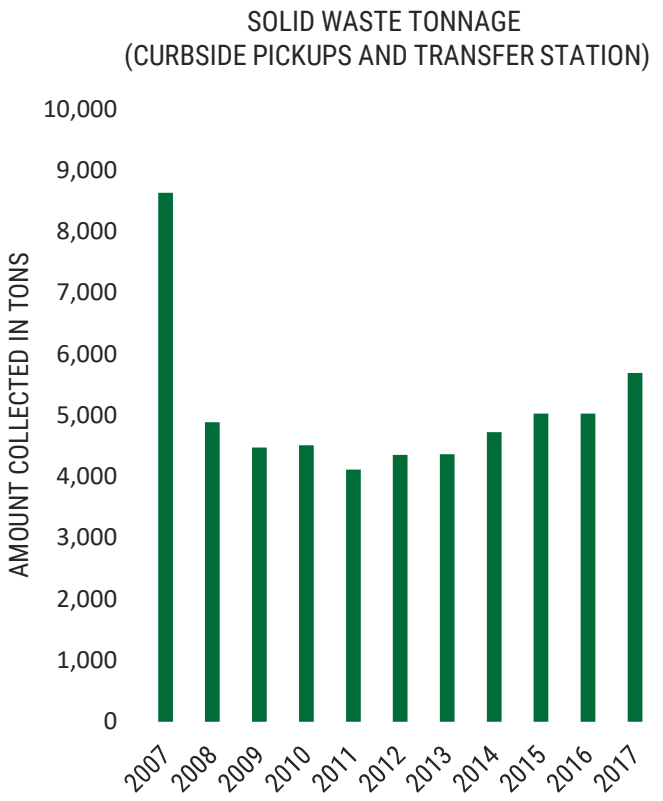
The Department of Public Works' landfill and recycling program, the Pay-As-You-Throw (PAYT) Program, was created to save money and improve the environment. Renamed at the start of the summer of 2012 to the Save-Money-and-Reduce-Trash (SMART) Program, it has continued as a major municipal success and example to towns and cities throughout the nation. Implemented in 2007, the SMART program marked 10 years in operation as of October of 2017.

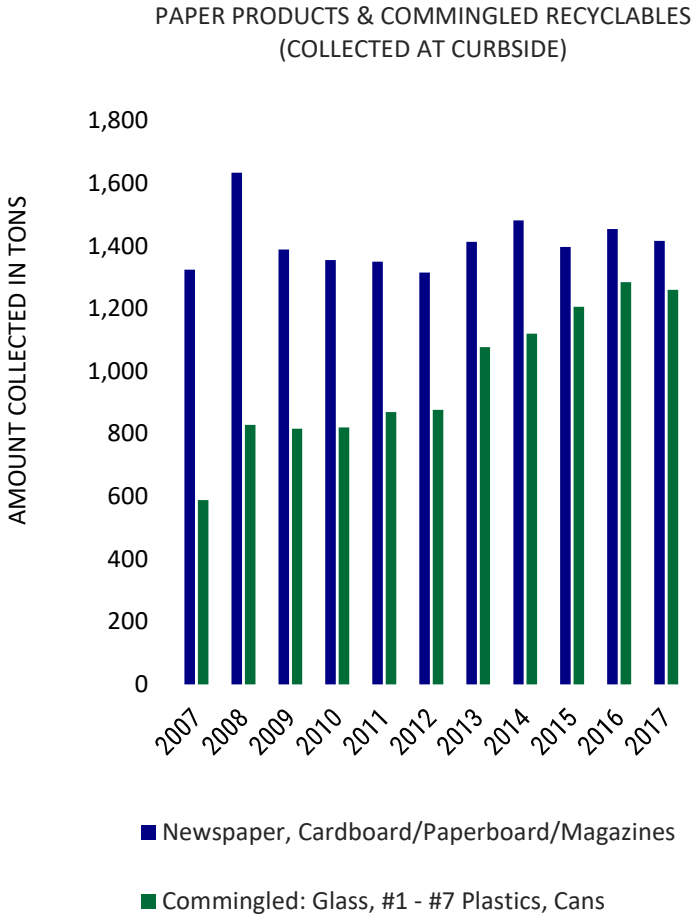
Through the SMART Program, automated trash trucks equipped with robotic arms automatically lift and empty special recycling containers without the driver ever having to leave the cab of the vehicle. Along with making the task of waste collection of the Sanitation & Recycling Division safer for division workers, this program makes task of recycling easier, improves the appearance of the Town, and has so far enabled a considerable improvement in the curbside collection of recyclable materials.

Each resident participating in the SMART Solid Waste Management Plan is provided with two containers: one 65-gallon wheeled recycling cart for bottles and cans, and one 65-gallon wheeled recycling cart for paper and cardboard. As of 2014, the Town had 32,881 residents across 10,124 households. It was reported that 9,806 of those households participated (97%) in Dartmouth's trash and curbside pick-ups that year. This was an eight point increase (97-89%) for the 12-month period. For FY 2015, the SMART program was projected to earn the Town revenue of $555,943.

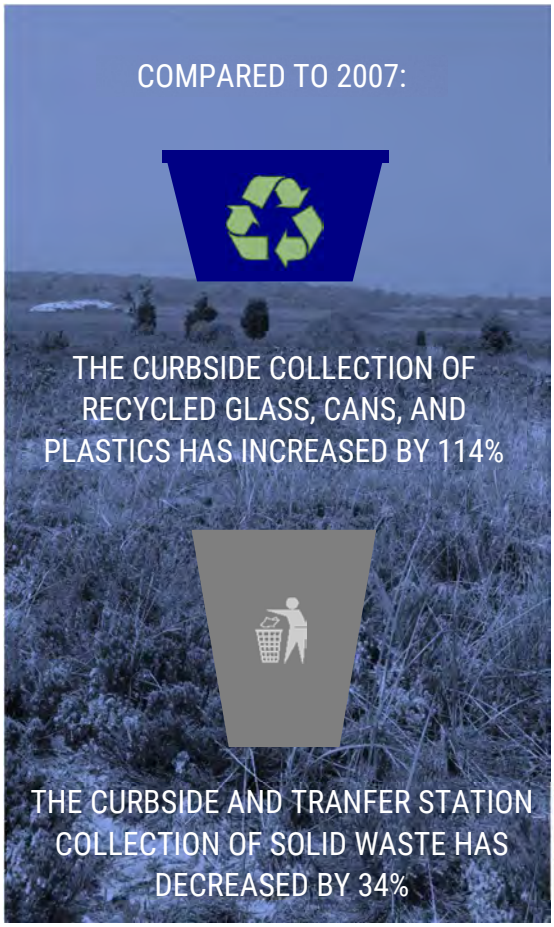
In FY 2007, the first full year before the program began, Dartmouth residents sent 10,946 tons of garbage to the town's Crapo Hill Landfill. In fiscal year 2015, that figure dropped to 4,819.42 tons – a 56% reduction compared to FY 2007. Curbside recycling volume saw a corresponding increase, from 1,913 tons in FY 2007 to 2,603.23 tons in FY 2015 – a 36% increase in annual recycling compared to FY 2007 and even slightly higher than total recycling collected curbside in FY 2014.

Dartmouth is committed to improving the sustainability of waste operations, relying on the tracking of annual data to inform decisions regarding the collection of recycled materials and mitigation of solid waste increases. In 2017, municipal packer trucks collected 1,415.99 tons of newspaper, cardboard, paperboard, and magazines as well as 1,260.42 tons of co-mingled glass, #1 - #7 plastics, and cans at curbside. The Town collected 5,690.58 tons of waste at the transfer station and curbside in 2017, not including the collection of bulky items and roadside debris.





"SINCE THE INCEPTION OF THE PROGRAM, THE TOWN HAS REDUCED WASTE, MANPOWER, AND OPERATING COSTS, WHICH HAS BEEN BENEFICIAL FOR THE TOWN BOTH ENVIRONMENTALLY AND FINANCIALLY" - DPW DIRECTOR DAVID HICKOX



Since 2015, the curbside collection of newspaper, cardboard, paperboard, and magazines has increased by 1.36% while the collection of commingled glass, #1 - #7 plastics, and cans has increased by 4.49%. Compared to the collection of recyclables in 2007, the curbside collection of assorted paper products has increased by roughly 6.9% while the curbside collection of commingled glass, plastics, and cans increased by about 114%. While the amount of solid waste disposed of by Dartmouth at the Crapo Hill Landfill increased slightly over FY 2015 at 5,591.22 tons compared to 4,819.42 tons, this level is still 48.9% lower than the 10,937 tons of materials disposed in FY 2007.

The Town utilizes a significant amount of resources to provide services to the community. In addition to the municipal supply of groundwater, other materials are important to the Town's ability to provide these services. Many departments, such as the Town Hall and the School Department, rely on a variety of office materials including paper products, writing utensils, and organizational supplies. Departments such as the Department of Public Works rely heavily on fuels such as gasoline and diesel to power vehicles in the municipal fleet.

Along with other municipal departments, the Dartmouth School Department continues to do its part to improve the collections of recyclables. In 2017, the School Department recycled 75.09 tons of office paper and 11.18 tons of co-mingled recycled products. To contribute to these sustainability efforts, the Town of Dartmouth implemented a recycled paper product procurement policy on June 14, 2016.

The School Department has also made significant contributions through its textile recycling program. In 2017, the schools contributed 96,610 tons of textiles to Bay State Textile that would otherwise be sent to the landfill.

ENVIRONMENT & BIODIVERSITY

Ensuring the wellbeing of the local environment and supporting biodiversity are important goals for the Town of Dartmouth. As a coastal community with a longstanding appreciation of local biodiversity and agricultural traditions, public and private organizations have coordinated to protect swathes of land throughout Dartmouth.

MUNICIPAL FACILITIES AND LOCAL BIODIVERSITY

As numerous municipal facilities are located next to areas of open space, a significant portion of Dartmouth's building stock borders protected areas of high biodiversity value. The Natural Heritage & Endangered Species Program (NHESP) operated by the Massachusetts Executive Office of Energy and Environmental Affairs has identified these locations of critical natural landscapes and core habitat areas, enabling the Town to make informed decisions about land management that comply with federal, state, and local regulations as well as municipal preservation goals.

Of Dartmouth's municipal facilities, there are many buildings that lie within or are located nearby areas of high biodiversity value:

- Adjacent to each other at the eastern part of Town, the Dartmouth Town Hall, the Dartmouth Middle School, and the Quinn Elementary School are bordered by NHESP Priority Habitats of Rare Species as well as NHESP Estimated Habitats of Rare Wildlife.
- The Department of Public Works Complex at 759 Russells Mills Road is partly encompassed and bordered by NHESP Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife.
- The Dartmouth High School is bordered mostly by municipal open space comprised partly of NHESP Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife.
- Along with areas of municipal open space, the municipal wells located along Chase Road share land with NHESP Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife.
- The Dartmouth Community Television (DCTV) facility and the old Dartmouth Police Station also share borders with NHESP Priority Habitats of Rare Species and Estimated Habitats of Wildlife.

Besides the Department of Public Works Complex at 759 Russells Mills Road, most municipal facilities bordering or inhabiting spaces of high biodiversity value are

utilized as school buildings or office buildings that provide minimal interference with the neighboring wildlife.

IMPACT OF MUNICIPAL OPERATIONS

As a municipal entity, the Town of Dartmouth's provision of a variety of services to residents and businesses ultimately impacts the local environment. A prime example of the Town's impact to the environment is evident in its treatment of hundreds of millions of gallons of wastewater per year. A necessary process, the Town of Dartmouth and the Department of Public Works have taken significant strides to increase the energy efficiency and minimize the environmental impact of their operations. A recent $8.5 million series of investments have improved air quality control as well as treatment capability of this complex. Investment in a $2.6 million Ultraviolet Disinfection System that will be constructed in 2018 will further allow the Town to comply with enhanced environmental regulations and requirements. Much in the same way, the Town of Dartmouth continually invests in its other facilities to maintain and improve them to mitigate adverse impacts to the environment caused by municipal operations.

Alongside mitigating the negative impact of municipal operations as part of its commitment to sustainability, the Town has made significant efforts to actively improve the environment, as well. As a recent example, the Town's implementation of a licensing process for oyster farming has led to the development of a local industry that not only benefits the economy but improves the quality of local waters. Perhaps most significantly, the Town of Dartmouth is also heavily involved in the protection of land of high biodiversity value. There were four instances of wetlands violations on private property in 2017 that have gone through the proper remediation processes. To achieve remediation, three of these violations were subject to property enforcement orders by the Conservation Commission.

MASSACHUSETTS ENDANGERED SPECIES ACT

As part of the Massachusetts Endangered Species Act, the Town of Dartmouth continues to monitor native species that are scarce or potentially at risk of extinction. Currently, there are 10 endangered species that are present in Dartmouth:

- Tiny-fruited Spike-sedge
- Purple Cudweed
- Least Bittern
- Weak Rush
- Gypsy wort
- Lion's Foot
- Violet Wood-sorrel
- Sea Pink
- Tall Nut-sedge
- Roseate Tern

There are 43 other species in Dartmouth that are threatened or are of special concern according to the Massachusetts Executive Office of Energy and Environmental Affairs. More information about these species can be found on the Massachusetts Online Town Species Viewer.

PROTECTING THE ENVIRONMENT

Through its active Conservation Commission, the Town of Dartmouth plays an integral role in protecting the local environment, one of Dartmouth's most crucial community assets. Under the direction of the Conservation Commission, the Town owns approximately 2,300 acres of land as permanently protected open space. Alongside the state government, non-governmental institutions, and private individuals, the Conservation Commission has contributed part of the 17.5 square miles of permanently protected land in Dartmouth, roughly 28% of Dartmouth's total landmass. In 2017, the Conservation Commission continued working with partners to complete the permanent conservation of the Ocean View Farm, a 115-acre plot of land situated next to Allens Pond.

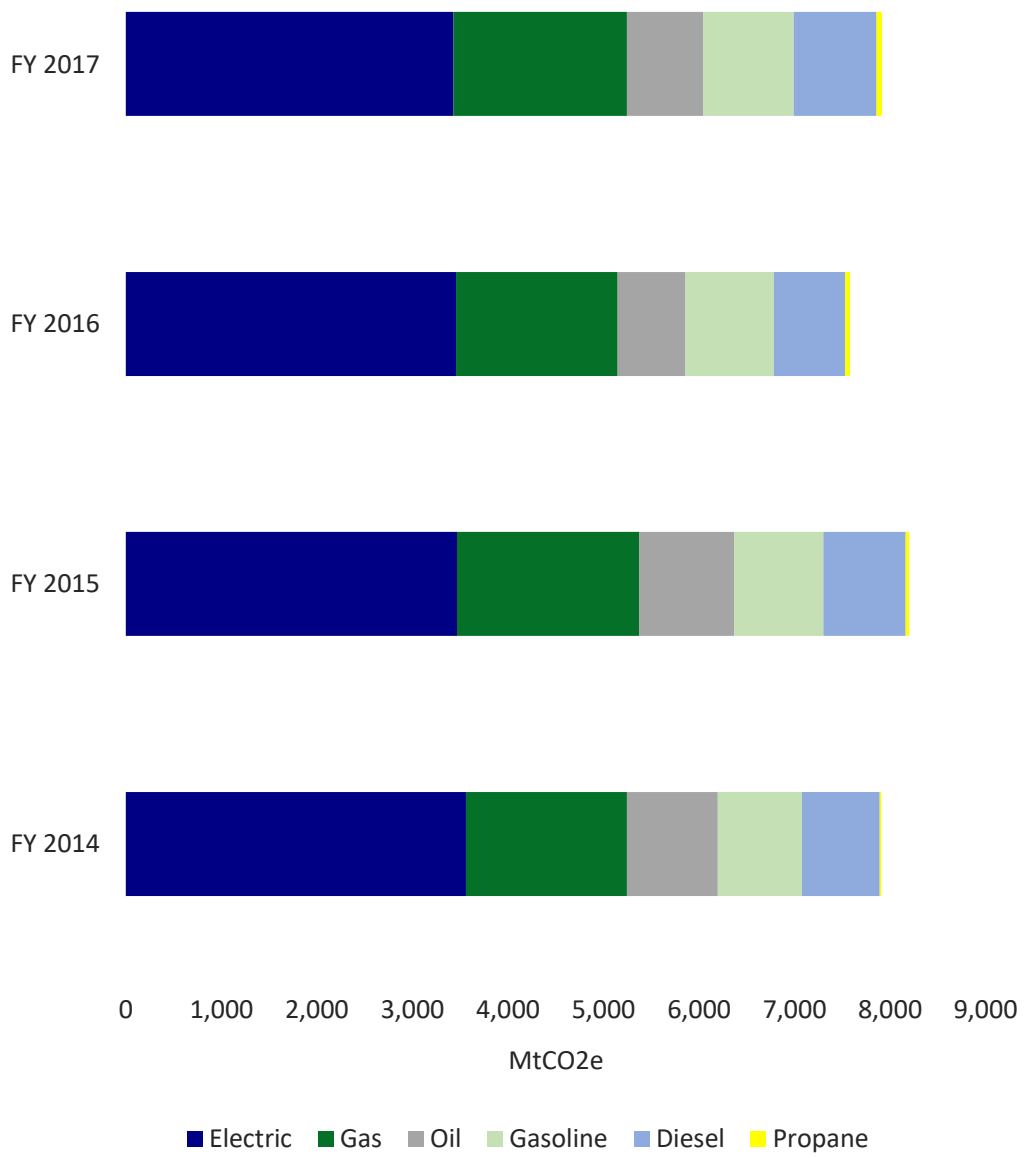
The Conservation Commission works in close cooperation with the Dartmouth Natural Resources Trust (DNRT), a local private entity that acts to conserve natural land and wildlife throughout Dartmouth. The DNRT currently owns over 1,700 acres of land. In addition to managing its existing holdings and engaging in community outreach, the DNRT continues to build upon its successes through additional conservation projects. In 2016, for example, the DNRT continued work on the Allens Pond Conservation Project to protect 217 acres of unprotected farmland and woodlands in coordination with the Buzzards Bay Coalition.

The Buzzards Bay Coalition similarly works with the Town and other local organizations to actively protect and improve Dartmouth's environment. Along with the significant work the organization does to protect the local waters including Buzzards Bay and neighboring estuaries, the Coalition has been directly involved with projects on Town land. For example, the Coalition has worked for years to remove invasive phragmites from salt ponds and marshes in the community, directly contributing to the biodiversity of the Town.

EMISSIONS

As part of Dartmouth's commitment to sustainability and energy efficiency, the Town is working to reduce its environmental impact by directly mitigating its emission of greenhouse gasses (GHG). As a result of the overall increase in municipal energy use, the Town produced more greenhouse gas emissions than in the prior fiscal year. Nevertheless, the Town is continuing its efforts to not only reduce energy consumption, but to switch to alternative fuel sources that result in less pollution to the environment where feasible.

MTCO2E EMISSIONS BY FISCAL YEAR



SOCIAL IMPACT

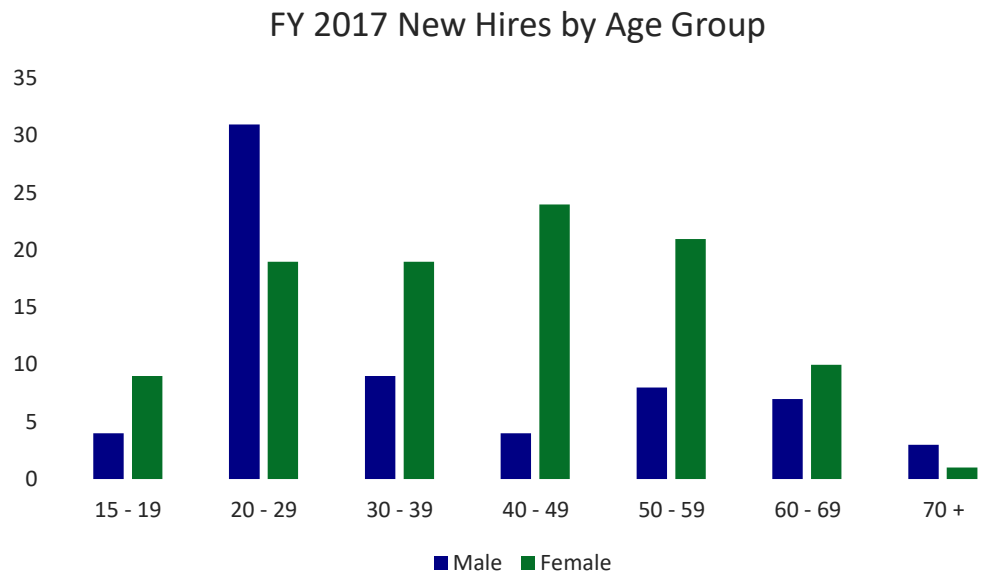
The Town of Dartmouth is committed to serving the needs of its stakeholders. Under the leadership of the Town Administrator, the Town has striven to shape its social impact through its commitment to sustainability. In addition to ensuring a safe and productive work environment for municipal employees, the Town of Dartmouth regularly seeks to benefit residents and businesses through local community engagement, impact assessments, and development programs.

GENDER & DIVERSITY

As of 2014, there were a total of 26 senior managers, 14 of which lived in Dartmouth, and 12 of which did not live locally. In this instance, the Town of Dartmouth's geographical definition of 'local' is being located within the boundaries of the municipality.

Of the 1,295 individuals that were employed by the Town in FY 2017, 790 employees worked in the School Department, either as part-time, full-time, or temporary staff, and another 505 employees worked in other municipal departments. Out of all municipal employees, there were 782 female employees and 513 male employees.

There were 169 new hires in FY 2017, 65 of which were male and 104 of which were female. More specifically, 36 males where hired by the School Department while 29 were hired by other municipal departments. Of the 104 females hired, 80 were hired by the School Department while 24 were hired by other municipal departments.



Except for some part-time temporary positions, the Town of Dartmouth's municipal workforce is not compensated according to minimum wage rules. Instead, the Town provides wages for most of the entry-level positions well beyond the required minimum wage established by both State and Federal Laws. Salaries of various Town employees, including professional and non-professional staff can be found in the Town budget. The following is a sampling of the salaries for professional staff employed by the Town:

- Accountant: $87,745.71
- Director of Budget and Finance: $117,876.39
- Town Clerk: $74,399.91
- Planning Director: $76,989.78
- Public Health Director: $86,388.27
- Library Director: $84,642.15

In 2012, the Town of Dartmouth hired Executive Pay Consultants to review all department head pay policies for employees working at the Town Hall. The focus of this review was to try to improve the competitiveness of all salaries compared to what was currently offered in the market.

The average total gross pay of municipal employees, excluding certain temporary and substitute positions, was $46,073.75 in FY 2017, up $278.77 compared to the prior fiscal year. The average gross pay for female employees in FY 2017 was $45,746.68 and for male employees it was $46,522.51. These averages do not incorporate most part-time and seasonal positions at the School Department and other municipal departments.

In their best efforts to fairly and accurately represent the diversity of the community, the governance bodies for the Town of Dartmouth are comprised by Town employees as well as resident volunteers. Currently, there are 31 committees listed on the Town's website comprised of municipal and non-municipal members. 113 (58.55%) of the 193 committee members are male while 80 (41.54%) are female.

EMPLOYEE BENEFITS

The Town of Dartmouth offers a comprehensive set of benefits comparable to other municipalities in Massachusetts for Town officials. These benefits include services and opportunities such as life insurance, health insurance, and retirement provisions. In addition, all employees working over 1,250 hours annually are entitled to parental leave under the Family and Medical Leave Agreement of 1993 (FMLA). A summary of benefits available to Town officials can be found on the Town website. In addition, the Police Department and the School Department may offer additional benefit packages to employees.

TRAINING & ASSISTANCE

All public employees of the Commonwealth of Massachusetts must undergo training according to the requirements set forth by the State Ethics Commission. Newly hired employees must complete online ethics training within 30 days of being hired, and all current employees are required to complete training every two years thereafter according to MGL c. 268A. All municipalities must designate a senior-level employee as the liaison between their municipality and the State Ethics Commission. Under this framework, unit managers and employees also undergo ethical practice training through the Human Resources Department. More information on ethics training and policies can be found on the state ethics website. In addition to ethics training opportunities to assist municipal employees with conforming to state and federal regulations, various departments within the Town of Dartmouth also provide other valuable training opportunities.

In 2017, the Town of Dartmouth continued its commitment to provide training to municipal employees including police officers.

For example, training opportunities offered to or mandated for Police Department employees are frequently dependent on their position but have in the past included:

- CPR/ First Responder First Aid
- Defensive Tactics
- Legal Updates
- Advanced Crisis Intervention
- ATV Training
- Incident Response to Terrorist Bombings
- Advanced SWAT
- Proactive Criminal Enforcement
- Dive Rescue
- Identifying Deceptive Behavior

In this reporting period, the Police Department was comprised of a 95-member staff. The Police Department's organizational breakdown was as follows:

Chief of Police	1
Acting Chief	1
Captain	2
Lieutenant	3
Sergeant	7
Patrolmen	58
Special Police Officer	5
Dispatcher	10
Administrative Assistant	1
Administrative Clerk	3
Traffic Supervisor	4

LABOR PRACTICES

The Town seeks to notify employees and their representatives of operational changes that could impact them expediently. In many cases, the Town notifies employees two to four weeks in advance before implementing such changes.

This timeframe differs in collective bargaining agreements, during which notice periods occur several months prior to the formalization and signatory of a contract. This notice allows for consultants and attorneys to validate all language contained in the contract.

The Town of Dartmouth has, and will continue to abide by all state and federal laws and regulations with respect to the use of child, forced, or compulsory labor as per Massachusetts General Law (MGL) c. 149 § 33B, c. 149 § 56 – 105, and Federal Laws 29 U.S.C. § 212, and 29 C.F.R Part 541. Guided by state and federal regulations, the Town of Dartmouth does not condone the utilization of illegal labor practices within or outside of the organization. Private organizations within Dartmouth that are discovered to infringe on these laws will be subject to the applicable state and federal fines and punishments.

The Town of Dartmouth considers the human rights of all stakeholders with respect to its policies, regulations, and operations. During FY 2017, there were no human rights incidents brought forth. There were no violations regarding the

rights of indigenous people(s) and there were no incidents of discrimination identified in this reporting period. Nevertheless, none of the Town's operations were subject to reviews during this period to determine impacts classified as detrimental to the rights to Dartmouth's employees, citizens, or other stakeholders. To prevent instances of human rights abuses, the Town is committed to providing ethics training to all employees in addition to specialized training offered to heads of departments.

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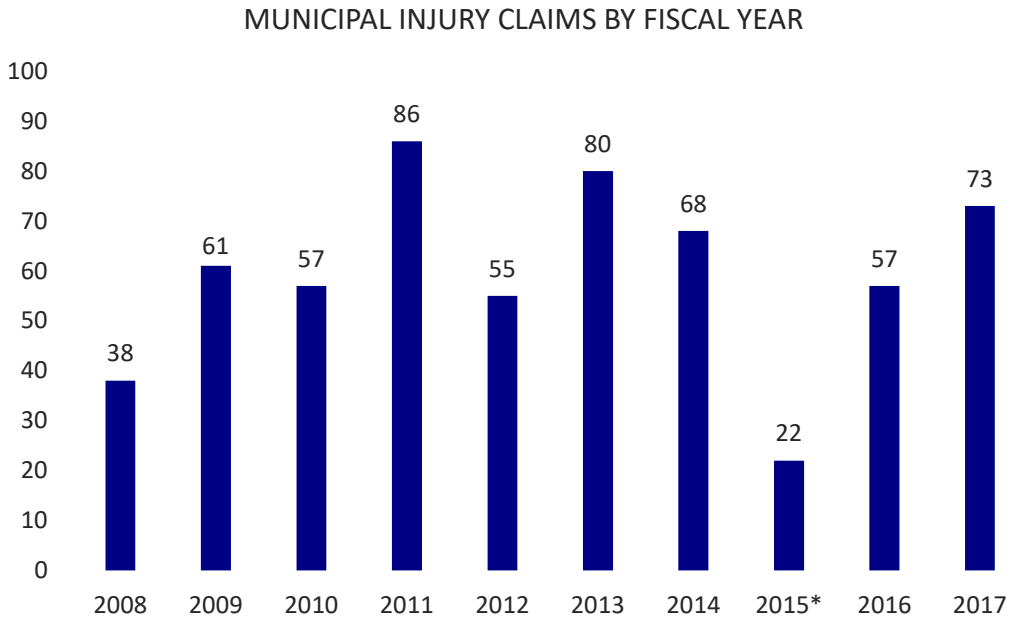
Annual performance reviews are conducted only at the Department of Public Works (DPW). Individuals are evaluated each year until their seventh year working for the DPW or until they have maximized their pay. As performance reviews apply to each employee working at the DPW, roughly 80 individuals are covered by these annual assessments.

HEALTH & SAFETY

Collective bargaining agreements between the Town and workers' unions continue to ensure the high quality of working conditions for municipal employees. In the negotiation process, workers' unions are met by management representatives, the Town Administrator, the Director of Finance, as well as the heads of other applicable departments. These agreements cover approximately



90% of all municipal union employees; however, these agreements to do cover non-union employees. While these agreements may not contain language specifically covering worker health and safety, the Town works diligently to provide a safe and productive working environment for all its employees.

To better understand the dangers of individual job requirements and to identify opportunities to improve the safety of municipal operations, the Town utilizes third-party services to track health and safety indicators such as injury claims. In 2017, 73 municipal injury claims were filed by employees of the Town of Dartmouth, including the Police Department and the School Department. It should be noted that complete data for 2015 has not been made available since that reporting period; the actual total is expected to be higher than what is indicated by the graph above.

Although many municipal positions hold some level of risk, the Town defines workers who are likely, or may have high incidence rates for specific diseases and occupational risks, as police officers and those employed in other public safety services, such as solid waste truck drivers. These workers have been identified through the nature of their job responsibilities and observed rates of injury claims.

TECHNOLOGY

In accordance with state and federal laws and regulations, Dartmouth's responsibility to provide its residents with the aforementioned array of services is supported through the use of various technologies. The Town relies on the data it collects through normal operations to run efficiently and effectively. As a result, the Town houses data on residents and businesses including names, addresses, and telephone numbers. During this reporting period, there have been no complaints regarding customer privacy and the collection of information. The Town of Dartmouth has not identified any non-compliance issues with laws or regulations applicable to the collection of this data. Computer and internet policies designed to safeguard employee and stakeholder data can be found on the Town website.

GLOSSARY

GLOBAL REPORTING INITIATIVE (GRI): GRI is "an international independent organization that helps businesses, governments and other organizations to understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption and many others."

GRI STANDARDS: As defined by GRI, the GRI Standards are "the first global standards for sustainability reporting". These standards guide businesses and organizations, such as the Town of Dartmouth, in reporting on a range of economic, environmental, and social impacts.

kW (KILOWATT): A measure of power, typically used to describe the capacity of a solar energy system in this report; equal to 1,000 watts.

kWh (KILOWATT-HOUR): A unit of energy, typically used to describe electricity consumption.

MMBtu: A unit of energy; equivalent to 1 million BTUs (British Thermal Units).

MW (MEGAWATT): A measure of power, used in this report to describe the capacity of a solar energy system; equal to 1,000,000 watts.

SUSTAINABILITY: As defined by the EPA, sustainability is an approach to "create and maintain the conditions under which humans and nature can exist in productive harmony to support present and future generation.

SUSTAINABLE DEVELOPMENT: As defined by the World Commission on Environment and Development, sustainable development is "development that meets the needs of the present without comprising the ability of future generations to meet their own needs."

SUSTAINABILITY REPORT: As defined by GRI, a sustainability report is "a report published by a company or organization about the economic, environmental and social impacts caused by its everyday activities. A sustainability report also presents the organization's values and governance model, and demonstrates the link between its strategy and its commitment to a sustainable global economy."

THERM: A unit of energy; used to describe the energy content of fuels such as natural gas; 100,000 BTUs.

HEATING DEGREE DAYS (HDDs): As described by the National Weather Service, the number of degrees that a day's average temperature is below 65°F.

LIST OF IMPORTANT TABLES AND FIGURES

MATERIALITY MATRIX 7

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MUNICIPAL FINANCES..... 15 - 16

LOCAL EMPLOYMENT..... 17

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ENERGY USE BY DEPARTMENT..... 22

ANNUAL FUEL USAGE BY TYPE..... 21

LOCAL SOLAR FARMS 24

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PAPER PRODUCTS & COMMINGLED RECYCLABLES 30

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GRI CONTENT INDEX

Fully Reported

Partially Reported

GRI Standard	Level of Reporting	Disclosure	URL and/or Page Number	Comments
GRI 101: Foundation 2016				
GRI 102: General Disclosures 2016		102-1 Name of the organization	Page 3	
		102-2 Activities, brands, products, and services	Pages 12, 27	
		102-3 Location of headquarters	Page 12	
		102-4 Location of operations	Page 12	
		102-5 Ownership and legal form	Pages 5, 12	
		102-6 Markets served	Pages 7, 12	
		102-7 Scale of the organization	Pages 9, 12, 13, 21, 29	
		102-8 Information on employees and other workers	Pages 12, 36, 39	
		102-9 Supply chain	Pages 7, 12, 21, 24	
		102-10 Significant changes to the organization and its supply chain	Page 12	
		102-11 Precautionary Principle or approach	Pages 5 – 7	
		102-12 External initiatives	Pages 10, 11, 12, 18, 19, 34	
		102-13 Membership of associations	Page 12	
		102-14 Statement from senior decision-maker	Page 3	
		102-16 Values, principles, standards, and norms of behavior	Pages 5 – 8, 12	
		102-18 Governance	Pages 5, 7, 8, 12, & town.dartmouth.ma.us	Listings of all municipal departments and boards can be found on the Town of Dartmouth website.
		102-40 List of stakeholder groups	Page 7	
		102-41 Collective bargaining agreements	Page 39	
		102-42 Identifying and selecting stakeholders	Page 6 – 7	Combination of research and previous stakeholder surveys.
		102-43 Approach to stakeholder engagement	Pages 5 – 7	Combination of research and previous stakeholder surveys.
		102-44 Key topics and concerns raised	Pages 6 – 7	Identified through research and previous stakeholder engagement.
		102-45 Entities included in the consolidated financial statements	Page 12, & Town of Dartmouth Financial Statement	The Town of Dartmouth Financial Statement is publicly available by request and will be posted online.
		102-46 Defining report content and topic Boundaries	Pages 5 – 7	Alongside stakeholder engagement research, the

				Town selected topics and defined their boundaries according to their priority and relevance to explaining municipal sustainability goals and efforts. Data availability also impacted these decisions.
		102-47 List of material topics	Page 7	
		102-48 Restatements of information	Page 6	In addition to the Town's assertion of a hybrid reporting period that has been utilized in previous reports, one other restatement has been made: The Town has maintained its AAA rating for two years as of the 2015 Sustainability Report as opposed to the three identified.
		102-49 Changes in reporting	Pages 6, & 2015 Sustainability Report GRI Content Index, Pages VII – X	In addition to the identification of a hybrid reporting period, the Town has made changes to its selections of included disclosures, both as a result of data availability and relevance to municipal operations.
		102-50 Reporting Period	Page 6	
		102-51 Date of most recent report	Page 5	
		102-52 Reporting cycle	Page 5	Reports are generally completed in the year following the reporting period.
		102-53 Contact point for questions regarding the report	Page 4	Shawn Luz, sluz@town.dartmouth.ma.us, +1508-910-1830.
		102-54 Claims of reporting in accordance with the GRI Standards	Page 4	While efforts have been made to incorporate the latest GRI Standards, the Town does not claim to be in accordance with the GRI Standards: Core option.
		102-55 GRI Content Index	Pages 43 – 48	
		102-56 External Assurance	Page 4	
GRI 103: Management Approach 2016		103-1 Explanation of the material topic and its Boundary	Pages 6, 7 & each material topic	
		103-2 The management approach and its components	Pages 6, 7, & each material topic	
		103-3 Evaluation of the management approach	Pages 6, 7, & each material topic	

GRI 201: Economic Performance 2016		201-1 Direct economic value generated and distributed	Pages 15, 16 & 2017 Town Report (In Progress)	In addition to information found in the "Economy" section, more data can be found in the 2016 Town Annual Report.
		201-2 Financial implications and other risks and opportunities due to climate change	Page 16	
		201-3 Defined benefit plan obligations and other retirement plans	2017 Town Report (In Progress)	
		201-4 Financial assistance received from government	Page 15	
GRI 202: Market Presence 2016		202-1 Ratios of standard entry level wage by gender compared to local minimum wage	Pages 36, 37	
		202-2 Proportion of senior management hired from the local community	Page 36	While information for this disclosure was not able to be collected for the current reporting period, it is expected that there are not many changes from when the information was previously collected in 2014.
GRI 203: Indirect Economic Impacts 2016		203-1 Infrastructure investments and services supported	Page 12, 13, 4, 17	
		203-2 Significant indirect economic impacts	Pages 13, 14, 17	
GRI 204: Procurement Practices 2016		204-1 Proportion of spending on local suppliers	Page 12	Data is not available for this supporting period. The Town of Dartmouth strives to use local suppliers when feasible.
GRI 205: Anti-Corruption 2016		205-1 Operations assessed for risks related to corruption	Page 33	
		205-2 Communication and training about anti-corruption policies and procedures	Pages 31 – 33	Information on the practices of municipal business partners is unavailable. However, public employees are encouraged to complete Conflict of Interest Law Training.
		205-3 Confirmed incidents of corruption and actions taken	Page 39	
GRI 206: Anti-Competitive Behavior 2016		206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Page 39	
GRI 301: Materials 2016		301-1 Materials used by weight or volume	Pages 29 – 31	Due to the wide array of materials that are utilized to produce municipal services and products, the Town was unable to collect complete information for this disclosure.
		301-2 Recycled input materials used	Pages 29 – 31	Due to the wide array of materials that are utilized to produce municipal services and products, the Town was unable to collect complete

				information for this disclosure.
		301-3 Reclaimed products and their packaging materials	Page 29 – 31	Due to the wide array of materials that are utilized to produce municipal services and products, the Town was unable to collect complete information for this disclosure.
GRI 302: Energy 2016		302-1 Energy consumption within the organization	Pages 21 - 23	Total energy use is provided in MMBtus and data was gathered utilizing the tool MassEnergyInsight. Energy data is subject to change in continued efforts to improve data accuracy.
		302-3 Energy intensity	Page 46	The energy intensity ratio provided includes all types of energy use within the organization within the numerator and utilizes the total amount of workers in 2017 as the denominator. **The energy use intensity was 104433.101/1295 = 80.6 MMBtu/person.**
		302-4 Reduction of energy consumption	Pages 21 - 23	Energy reductions are shown through graphs and data tables. Data on actual energy savings are derived from MassEnergyInsight. Data on the projected energy savings of energy conservation measures was derived from associated energy audits.
GRI 303: Water 2016		303-1 Water withdrawal by source	Pages 27 – 28	
		303-2 Water sources significantly affected by withdrawal of water	Pages 27 – 28	
		303-3 Water recycled and reused	Page 27- 28	No water is recycled or reused by the municipality.
GRI 304: Biodiversity 2016		304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside of protected areas	Page 32	Updated sizes of buildings of identified locations can be found on the Town Online GIS Viewer along with other relevant information.
		304-2 Significant impact of activities, products, and services on biodiversity	Pages 32 – 35	
		304-3 Habitats protected or restored	Pages 32 – 35	Areas protected under land conservation or as DEP wetlands can be found on the Town Online GIS Viewer. The DNRT also has

				information available online about protected land.
		304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	Page 33	In place of the IUCN data, state resources have been utilized that better reflect local conditions.
GRI 305: Emissions 2016		305-1 Direct (Scope 1) GHG emissions	Pages 35	
		305-4 GHG emissions intensity	Pages 29 – 30	6.106 mtCO2e per employee (7,907.75 mtCO2e in FY 2017 / 1295 employees)
		305-5 Reduction of GHG emissions	Pages 35	
GRI 306: Effluents and Waste 2016		306-1 Water discharge by quality and destination	Page 29	
		306-2 Waste by type and disposal method	Pages 29 – 31	Due to the wide array of materials and that are utilized to produce municipal services and products, the Town was unable to collect complete information for this disclosure.
		306-3 Significant spills	Page 47	No significant spills were reported during the reporting period or could be identified during this reporting period.
		396-5 Water bodies affected by water discharges and/or runoff	Page 29	
GRI 307: Environmental Compliance 2016		307-1 Non-compliance with environmental laws and regulations	Page 35	
GRI 308: Supplier Environmental Assessment 2016		308-1 New suppliers that were screened using environmental criteria	Page 47	Suppliers are screened according to applicable State Law.
GRI 401: Employment 2016		401-1 New employee hires and employee turnover	Page 36	Data on employee turnover was not available for this reporting period.
		401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Page 38	Information on benefits offered to municipal employees can be found on the Town's website under Human Resources.
		401-3 Parental Leave	Page 38	Data on the number of individuals utilizing this provision is not available.
GRI 402: Labor/Management Relations 2016		402-1 Minimum notice periods regarding operational changes	Page 39	
GRI 403: Occupational Health and Safety 2016		403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Page 40	
		403-3 Workers with high incidence or high risk of diseases related to their occupation	Page 41	
		403-4 Health and safety topics covered in formal agreements with trade unions	Page 40	
GRI 404: Training and Education 2016		404-1 Average hours of training per year per employee	Page 39	2017 data was not available in time for the

				creation of this report. This data does not include all Town employees, which was not available Town-wide.
		404-2 Programs for upgrading employee skills and transition assistance programs	Pages 38 – 39	
		404-3 Percentage of employees receiving regular performance and career development reviews	Page 40	The provided percentage does not include data regarding the teaching staff at the Dartmouth Public Schools Department.
GRI 405: Diversity and Equal Opportunity 2016		405-1 Diversity of governance bodies and employees	Page 37	Incomplete data was available for governing bodies including from boards and committees.
		405-2 Ratio of basic salary and remuneration of women to men	Page 37	
GRI 406: Non-Discrimination 2016		406-1 Incidents of discrimination and corrective actions taken	Page 37	
GRI 411: Rights of Indigenous People 2016		411-1 Incidents of violations involving rights of indigenous peoples	Page 39	
GRI 412 Human Rights Assessment 2016		412-2 Employee training on human rights policies or procedures	Page 40	
GRI 413: Local Communities 2016		413-1 Operations with local community engagement, impact assessments, and development programs	Pages 18 – 20	As a municipality, all of the Town of Dartmouth's actions impact the local community.
		413-2 Operations with significant actual and potential negative impacts on local communities	Pages 29 – 31, 35	
GRI 414: Supplier Social Assessment 2016		414-1 New suppliers that were screened using social criteria.	Page 12	Suppliers are screened according to applicable State Law.
GRI 418: Customer Privacy 2016		418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Page 41	
GRI 419: Socioeconomic Compliance 2016		419-1 Non-compliance with laws and regulations in the social and economic area	Page 41	No instances of non-compliance with these laws and regulations have been identified.