

CONSERVATION

Danvers Leads the Way

Smart growth encompasses more than land use planning and development. Programs that help conserve energy and water, recycle consumer waste, and educate the public about how individuals can make a difference in conservation efforts are a critical component of smart growth. The Town of Danvers is a regional leader in engaging the public in resource protection through a series of interrelated conservation efforts.

Municipal Programs

Danvers offers conservation programs that address three areas: water resource protection, energy conservation, and recycling. The key themes of the programs are conserve, save money, and protect resources. Public education transcends all elements of the program and is essential to its success.



In 2008, the programs operated on an annual budget of \$90,000 including salaries, but excluding grants. The programs have been managed by Pam Irwin for twenty-five years.

Her official title is Customer Service Advisor, but she also uses task-specific titles such as Recycling Coordinator or Energy Conservation Advisor. In this case study, she is referred to as the Conservation Coordinator. Irwin works for both the Department of Public Works and Danvers Electric, a municipally-owned and operated utility. Revenue from electric bills pays for the portion of the program dedicated to electricity conservation. The budget for the water conservation and recycling components comes from the general fund and is voted by Town Meeting as part of the municipal budget each year. Irwin also applies for grants targeted to specific elements of the program. For example, the Department of Public Works was awarded a Department of Environmental Protection (DEP) Sustainability Grant, used to fund portions of the water conservation and recycling programs.

Energy Conservation

The energy conservation component of the program focuses on helping consumers conserve energy in their homes. Danvers Electric offers free “fuel blind”¹ energy audits for residents. Energy conservation professionals will visit homes and conduct a comprehensive analysis of the energy use in the residence. The audit includes evaluation of appliances, heating, and all utilities, as well as an assessment of the residents’ lifestyle and related energy needs. For example, the audit will take into account such things as whether or not elderly people live in the unit, or

¹ “Fuel blind” means that, although the audit is paid for by the electric utility, it includes an audit of all fuels used in the home, including electricity, gas and oil.

if the house is unoccupied during the day. The outcome of an audit is suggestions for how the homeowner can reduce overall energy consumption. Participants also receive free gifts to help improve the energy efficiency of their homes. Items are specific to individual needs, and may include compact fluorescent bulbs, weather stripping, outlet gaskets, or other materials.

In addition to the energy audit, the Town provides residents with rebates for the purchase of EnergyStar refrigerators and washing machines. The Town also offers rebates for the purchase of a central air system with a Seasonal Energy Efficiency Ratio (SEER) rating of greater than thirteen. The SEER rating is the ratio of the total BTUs of cooling output during a typical cooling season to the total electric energy input (watt-hours) over the same period. A high rating indicates a more energy efficient system. The Electric utility pays for these rebates.

The Conservation Coordinator has developed an energy conservation syllabus that is integrated into the public school's Grade 3 curriculum on electricity and magnets. The syllabus focuses on electrical safety and energy conservation. The Conservation Coordinator works with the school staff to deliver the curriculum.

The Town also produces and distributes information on how consumers can reduce energy and electricity costs. Danvers Electric published a flyer in the fall of 2007 entitled, "Top Ten No Cost/Low Cost Tips to Save on Your Energy Bill." The flyer listed things such as opening drapes on sunny days to let the sun warm your home, and closing them on cold days so that they provide insulation from the cold; keeping the damper closed on the fireplace; and shortening showers to save as much as 33% of the hot water heating cost.

Water Conservation

The water conservation² element of the program incorporates several components. Homeowners who purchase appliances that have low water usage can receive a conservation rebate. Rebates are also provided to homeowners who purchase EnergyStar washing machines, washing machines rated as highly energy efficient by the Consortium for Energy Efficiency³, and toilets with an EPA WaterSense label. The rebates are funded from both an EPA grant, and a local match to the grant allocated from the general fund.



Danvers joined the Massachusetts Greenscapes Program, a partnership between several water protection organizations⁴ and member communities.

² Danvers is 98% sewer. Danvers gets its drinking water from two surface water sources – Middleton Pond in Middleton, and Swan Pond in North Reading- and two town wells that draw from the Ipswich River.

³ The Consortium for Energy Efficiency (CEE) is a national non-profit that researches and rates appliances for energy efficiency. For more on CEE, go to <http://www.cee1.org/>.

⁴ Coalition members include the Massachusetts Bay Estuary Association, the Massachusetts Bays Program, North and South Rivers Watershed Association, Eight Towns and the Bay Committee, Salem Sound Coastwatch, and the Ipswich River Watershed Association

<http://www.greenscapes.org/Page-111.html>

The Town pays an annual membership fee to participate in the program. In exchange, all residents receive a newsletter that includes articles on topics such as mowing tips, fertilizer alternatives, composting tips, irrigation systems, designing rain gardens, and low-maintenance plants. The newsletter also includes information on workshops and coupons for savings on rain barrels, sprinkler timers, and other water conservation tools.

Greenscapes Massachusetts: Beautiful Landscapes that Protect our Water

Educate citizens and professionals about environmentally sound landscaping.

Create informed and proactive stewards of people's own backyards.

Generate broad public support for responsible management of water resources.

Since 2003, the Town has participated in the sale and distribution of rain barrels in collaboration with the New England Rain Barrel Company. Parties interested in participating order their barrels through the company. The Town sets up a delivery date and site, which provides an opportunity to educate the public about other conservation programs, and allows for one-on-one meetings with customers. Barrels cost about \$65, and the town provides a discount that is subsidized through the annual Water Department budget and through various grants⁵. In 2008, the Town sold 65 rain barrels, an increase over previous years. As more residents are becoming aware of water conservation issues, demand for barrels is beginning to outstrip the supply of discount barrels available through the Town.

⁵ For example, the Town has used a Massachusetts Department of Environmental Protection Sustainability Grant to pay for ten to fifteen barrels each year.

Another component of the water conservation program is the Adopt-an-Island program. The Town works to engage local businesses and civic organizations to take responsibility for planting islands in town roads with plants that are drought resistant. Organizations that agree to participate can erect a sign on the island that gives them credit for its maintenance.

The Conservation Coordinator has also teamed up with local hotels to educate guests about ways to help conserve water. The Town produces tent cards⁶ which are displayed in every guest room at participating hotels. The cards provide guests tips for how to help conserve water during their stay. These tips include turning off the tap while brushing teeth and shaving, taking shorter showers, never using the toilet as a waste basket, and reporting leaking faucets to the management.

Finally, as with the energy component of the conservation program, the Town brings the water conservation program to the schools. The Conservation Coordinator has designed a program to engage high school kids in stenciling stormwater water drains with messages to deter dumping of chemicals and other waste into the stormwater water system. The Town buys the materials and the kids provide the labor. The kids also design flyers that are distributed door-to-door in neighborhoods where stenciling has just been completed. Thus, the program succeeds in educating both the high schoolers and residents.

⁶ Tent cards are made from heavy cardboard or plastic. They are designed to fold in half and sit like a tent on a table. They provide a very portable and inexpensive method for advertising water conservation tips. Danvers began working with hotels to display tent cards many years before water conservation tent cards began appearing in hotels across the nation.



Recycling

Recycling is the third component of the Danvers conservation programs. Through its mandatory curbside recycling, the Town provides plastic recycling bins to residents, and accepts all types of plastic, newspapers, and cardboard. The Town produces flyers and conducts neighborhood surveys to educate the public about the mandatory program, and to provide guidance on how to break down cardboard for collection. A “leave behind” policy is under consideration for materials that are not part of the program. Under the policy, stickers would be affixed to anything left behind so people know why it was not picked up. The Conservation Coordinator is developing education materials to inform the public about additional changes to the recycling program in an effort to increase participation. For example, it is now easier to recycle, as people no longer need to remove plastic rings from bottle necks, plastic windows from envelopes, or labels from cans, but many people are not aware of these changes.

In conjunction with the DEP, the Town has established a mercury shed.⁷ Residents can drop off fluorescent light bulbs, thermostats, thermometers, button batteries, and other

⁷ A mercury shed is a small shed used only for the storage of products that contain mercury.

products that contain mercury for safe disposal. The Town offers a thermometer swap program through which it collects old mercury-based thermometers and replaces them at no cost with mercury-free thermometers provided by the DEP.

The Town also sells composting bins to residents. Using a DEP Sustainability grant, the Town purchases composting bins and sells them to residents at a small discount. In 2007, 20 residents purchased composting bins from the Town. Through July 2008, 30 residents bought bins.

An important element of the Town’s recycling efforts is to educate people about how the program saves taxpayer dollars. The Town pays a per ton fee for trash to go to the incinerator. As recycling increases, the Town will save money on trash disposable, freeing up dollars for other uses.

Tools that Support the Programs

The Danvers Conservation Coordinator utilizes a wide range of tools to promote the Town’s conservation programs. The diversity of the audiences she must reach with her programs requires using every possible strategy for public outreach.

Publications The program produces numerous educational publications including a quarterly newsletter about the conservation programs, which is mailed to all residents. Irwin creates brochures describing energy conservation strategies and touting her programs. She makes available publications about conservation produced by other state and federal agencies. Brochures and posters are available in the foyer of the DPW offices when people come to pay their water bills. She uses press releases to advertise programs and events.

Video/Audio Irwin stresses the importance of taking advantage of free television exposure through the use of the local cable network. She has taped programs about recycling and resource protection, as well as a tour of the water treatment plant that describes how water gets from its drinking water sources to the tap. She also created “H₂Know”, a video about water conservation. Irwin is a regular guest on the local radio stations, where she talks about the programs and answers questions.

Events The Danvers Conservation Program includes many events to engage the public throughout the year. The Town’s annual open house draws a large audience, and many departments participate. At this event, Danvers Electric creates a “safety village” to teach kids and adults about home electrical safety and offers rides in the bucket of the bucket truck to attract kids to the event.⁸ The Water Department holds its own bi-annual open house with tours of the sewage treatment facility.

On Earth Day in the spring and America Recycles Day in the fall, the Town teams up with Big Brothers Big Sisters and Got Books. The former collects used clothing to be given to needy children. The latter collects books for redistribution to organization that will reuse them. The Town also provides a shredder for use by residents. The event provides the vendors with publicity and provides an opportunity for people to dispose of unwanted items.

These events are held at Town Hall, a very visible location on a well-travelled street. The spring collection day is held the same day as the Little League parade, which passes by the venue. This

helps create interest from kids and parents alike. In 2007, the vendors collected 9,000 pounds of clothing and 8,000 pounds of books. The City uses these events as an opportunity to further educate the public about all types of recycling, and results in the disposal of a large amount of unwanted items in an environmentally sensitive manner.



To engage children, Irwin has created a character called the Water Wizard. She dons the Water Wizard costume to participate in Town parades and other events. The character talks to the public about the Town’s water conservation efforts.

Rebates/Giveaways The Town finds that rebates and giveaways are an effective way to introduce residents to the conservation programs to encourage water conservation. In addition to several kinds of rebates, Danvers gives away faucet aerators, thermometers, and low-flow nozzles for hoses.

School Programs The Danvers Conservation Program is integrated into the school system. The Town knows that by bringing the program to kids, it makes its way to the adults in the community. Not only do kids talk about the programs at home, but the community at large

⁸ Kids are secured with a safety restraint and two utility linemen are present to supervise the rides.

likes to learn how kids are engaged in community programs.

For example, each year Irwin conducts an art contest in the elementary school. Kids submit art work on the theme of recycling, and thirteen winners are selected for inclusion in a calendar produced by the Town. The winners are feted at an awards ceremony held during a school board meeting and televised on the local cable network. Calendars are distributed at various locations around town and available at municipal offices. The only program cost is printing, yet it delivers community-wide education. Posters not included in the calendar are displayed in the entrance to the Department of Public Works. The calendar also includes recycling information and dates for environmental activities.

Public Speaking Irwin gladly accepts all opportunities to speak to groups about the Town's conservation program. In addition to participation on local radio shows, she is a regular guest speaker at organizations ranging from the Garden Club to the Rotary.

Web Site The Town web site includes an appliance calculator and a water calculator that allow residents to estimate the energy usage of their household appliances and their general water usage.⁹ Irwin would like to see the site made more user-friendly to provide yet another way to engage the public in conservation efforts.

Ingredients for Success

The Danvers conservation programs operate on a limited budget with only one full-time staff person, yet have resulted in significant energy

and water conservation. Irwin identified six elements essential to the programs' success:

Good Communications Municipal conservation programs must reach a broad and diverse audience. While the program is based on sound engineering and scientific principles, it must be communicated to audiences in plain language that can easily be understood. Engaging the public means making the program fun and accessible. This means identifying each individual segment of the community and designing unique presentations and materials that will resonate with each group. Irwin identifies very discrete groups among her target audiences, including homeowners, condominium owners, apartment dwellers, the elderly, school children, businesses, civic organizations, government and politicians. Some programs can be designed to reach all residents, while others must be targeted to some subgroup of residents. Understanding the subtle differences in the message that must be conveyed to individuals is critical to achieving the greatest possible program participation.

Flexibility The program must be designed to respond to changes in environmental conditions and political emphasis from year to year. For example, in drought years, water conservation programs may demand more resources and program time, while when energy costs soar, energy conservation strategies may take precedence. This means the program director must be on top of trends that affect the program, and must be adept at responding quickly to outside influences. This can be particularly challenging when running programs financed with discrete, targeted grant funding.

Leverage resources Few communities will have sufficient financial resources to fund a comprehensive resource conservation and recycling program. The program director must

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http://www.danvers.govoffice.com/index.asp?Type=B_BASIS&SEC={CAD8767C-2062-4EE3-B56E-567481761AD5}

continually explore opportunities to leverage municipal resources with outside support.



One strategy is to scour the internet and other sources for grant opportunities, including those available from state and federal agencies, as well as private foundations. Another avenue for stretching budgets is to use publications and programs created by other groups, which can often be purchased relatively inexpensively. For example, the New England Water Works Association¹⁰ produces *PR in a Packet*, a publication that includes strategies and sample materials for educating the public about water conservation programs. Energy New England¹¹ works with municipalities on energy and water conservation, providing educational materials, home audit programs, and community liaisons. Danvers worked with the Ipswich River Watershed Association¹² to produce materials on water conservation, and uses their brochure on landscaping in its education programs. The

SuAsCo Watershed Community Council¹³, an organization serving the Sudbury, Assabet and Concord River watersheds, has numerous materials available at low cost to communities across Massachusetts. Irwin continually looks for opportunities to leverage resources by tapping into programs already designed by others.

Piggyback on other municipal activities To connect with the largest number of constituents possible, Irwin keeps track of the multitude of Town events and coordinates her own events with them. For example, rain barrels are delivered on the same day as the Water Department open house so that visitors will see people picking up the rain barrels, and those picking up rain barrels may participate in the open house. Irwin worked with the Middle School on recycling, tying the program into a local parade by having the middle school students collect recyclable bottles and cans along the route.

The high school requires students to participate in public service projects, so Irwin jumped on the opportunity to work with a team at the newly-renovated Holten-Richmond Middle School. This school was renovated and expanded in 2005, incorporating many “green” features, including, daylight harvesting controls, high efficiency boilers, and a demonstration-scale photovoltaic system.¹⁴ In 2008, Irwin worked with 6th graders at the school to develop two “water-wise” gardens. The kids researched, designed and planted these gardens, and created a brochure.

Be visible Irwin looks for every opportunity to bring her programs to the public.

¹⁰ <http://www.newwa.org>

¹¹ <http://www.energynewengland.com>

¹² The Ipswich River Watershed Association is a non-profit organization whose mission is to “ensure ecological integrity, healthy fisheries, adequate stream flows, clean water, reliable drinking water supplies, and outstanding recreational opportunities” for the region within the Ipswich River Watershed in Massachusetts. For more about IRWA and its water conservation programs, go to <http://www.ipswichriver.org/about/mission.htm>.

¹³ <http://www.suasco.org>

¹⁴ For more about the “green” aspects of this project, go to <http://mtc.buildinggreen.com/overview.cfm?ProjectID=356>.



which will in turn attract adults. Examples include the bucket rides offered at the Danvers Electric annual open house and the presentation of awards for calendar art winners at a televised school board meeting.

Conclusion

The efforts of the Town of Danvers illustrate that a comprehensive, integrated conservation program can be accomplished with a relatively small budget and a single, energetic staff person. Key ingredients to success are knowledge of the diverse constituencies that the program must serve, and ongoing, diverse communications that utilize all available tools for educating the public. The Danvers program demonstrates that residents and businesses welcome opportunities to participate in conservation programs when they understand how the programs benefit the individual and the community at large. Creativity in designing program elements and in leveraging resources also enhances the program's appeal and success.

In addition to her efforts to coordinate her program with other events happening around town, she never turns down an opportunity to speak to civic organizations. She also ensures that her program brochures are available at a range of venues throughout Danvers, and works with the press to get coverage for the program and its successes.

Create events Irwin looks for opportunities to create events that will garner media attention and public participation. She works hard to design her program to involve activities for kids,

Sources

Pamela Irwin, Customer Service Advisor/Conservation Coordinator, Town of Danvers