



It's Raining, It's Pouring ~ But Where is it Going?

Rain flows off our houses and workplaces, onto pavement and into the street, picking up dirt and other contaminants along the way. Then it seems to mysteriously disappear into storm drains. But where does it go?

Our urban areas have a considerable amount of concrete and blacktop. Just think of all the roads, sidewalks and parking lots that surround the State Capitol building in Hartford. As rain runs off and over these "impervious surfaces," it picks up pollutants like oil, dirt, pet waste, pesticides and fertilizers that can end up in nearby streams and rivers. If it's a really big storm, the storm drains (also known as catch basins) can become overwhelmed and stormwater may back up into streets and basements.

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Installation of a green roof at the State Capitol.

Thanks to the Connecticut Department of Environmental Protection's (DEP's) Clean Water Fund, the State Capitol is showcasing a better way of dealing with rainwater by retrofitting the Capitol grounds, a roof and sidewalks. By using techniques referred to as "Low Impact Development" or "Green Infrastructure," stormwater is now being filtered as it naturally seeps into the ground rather than running off into storm drains.

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The Green Capitol project was first considered during a U.S. EPA-sponsored green infrastructure conference held in Hartford in July 2009. The Hartford Green Capitols project is part of U.S. EPA's national initiative designed to use public buildings across the country as demonstrations of green infrastructure. The Connecticut project is a collaborative effort among DEP, the Metropolitan District Commission (MDC) and the State Capitol Facilities Office, to integrate green demonstration areas on the historic Capitol grounds.



Porous asphalt at the State Capitol parking area. Right: Demonstration of absorption capacity.

Photos: CDM



So what are the green infrastructure improvements at the Capitol?

- Rainwater from a section of the building's roof leaders is diverted to a 6,000-gallon underground cistern (the largest in the state!) to provide irrigation for perennial garden beds;
- Two residential-style rain gardens installed along the Capitol drive allow rain and snow melt to be collected and seep into the ground from a shallow depression landscaped with native plants;
- An "urban rain garden," constructed alongside a parking area, is able to absorb the volume of rainfall that occurs here 90% of the time;
- Existing sidewalks and parking areas surrounding the Capitol were retrofitted with pervious concrete and porous asphalt (the largest installation in the state!), allowing rainwater to seep through into the soil underneath;
- Permeable paving stones (there are spaces around these "pavers" that allow rainwater to flow through) were placed in the sidewalks, showing how they might be used for a crosswalk; and
- A planted "green roof" was constructed over a basement room of the Capitol at ground level that will retain and filter stormwater, and also provide insulation that reduces heating and cooling costs.

Green infrastructure projects are a cost-effective and environmentally-preferable alternative to traditional methods of stormwater delivery and treatment. According to the DEP staff overseeing the project, "They limit the amount of stormwater runoff entering sewer collection systems and also improve water quality. In Hartford, green retrofits can result in reduced pipe sizes for the MDC's combined sewer separation project."

The installation at the State Capitol provides a visible demonstration to municipal officials and others that they too can implement low-impact development strategies. You can pick up a DEP brochure about the Green Capitols Project at the League of Women Voters' booth located in the State Capitol, and learn more about the various "green" areas by viewing them on your own. **To download the brochure, visit the DEP website at <http://www.ct.gov/dep/watershed>.**

Questions? Contact DEP: Stacy Pappano at 860-424-3362, or MaryAnn Nusom Haverstock at 860-424-3347.

Connecticut Cities Use the “S” Word

You have probably been noticing a buzz word starting with the letter “S” in the news more frequently. **Sustainable development, Sustainable businesses, Sustainable communities — what does it all mean?**

The most widely used definition of sustainable (the “S” word) is “use of resources to meet the needs of the present without compromising the ability of future generations to meet their own needs.” By working towards sustainability, towns and cities have seen improvements in public health and the local economy — by limiting waste, preventing pollution, increasing conservation and energy efficiency and using local resources. These innovative municipalities involve the whole community; inviting citizens, government, business, and nonprofit organizations to partner and participate.

Three of Connecticut’s major cities, Bridgeport, New Haven and Stamford, started out several years ago by focusing on energy efficiency in town buildings, evaluating their greenhouse gas emissions and committing to buy 20% of its electricity from clean power. More recently though, they have ramped up these activities, put them into a more comprehensive format and are leading the way on making sustainability the focal point in their municipality. While each city’s approach is unique, there is a common theme among them — working with the community and using environmental actions to improve the quality of life while growing the local economy.

Bridgeport

Bridgeport’s Mayor, Bill Finch, put out an Executive Order in 2008 that led to the creation of a public/private partnership between the City of Bridgeport and the Bridgeport Regional Business Council to develop a comprehensive sustainability plan, **BGreen 2020**. BGreen 2020 has 64 strategies aimed at improving the quality of life in Bridgeport as well as social equity, economic competitiveness and the environment. Recommendations address land use, transportation, energy generation, building efficiency, green jobs, green purchasing, open space, recycling, water resources, and education.

For example, Bridgeport has adopted a “**Transit First**” policy with the goal of lowering household transportation costs and limiting the need for automobiles. Several streets will be redesigned to make them more pedestrian and bike friendly (crosswalks, bike lanes). The city’s **Green Collar Institute** trains workers and acts as an incubator for developing green industries, and has held Greenscaper Training (designing and installing rain gardens). An **Energy Improvement District** was created to support energy efficiency and renewables and lower utility bills, and a youth **Conservation Corps** literally goes door-to-door to get information to residents and businesses on recycling and other issues that will end up saving money and helping the environment.

New Haven

The City of **New Haven’s Office of Sustainability** serves as the central point for sustainability activities in the Elm City and provides residents with resources. Information is posted on its website. The City anticipates developing a sustainability plan document with specific goals during 2011.

Currently, New Haven is focusing on energy efficiency and renewables, reducing waste, increasing recycling, and improving air quality. Some of the efforts underway include free home energy audits under the **Home Energy Solutions** program (about 25% of the auditors are New Haven residents), and **single stream recycling**, which has increased the recycling bins from 18 gallons to 96 gallons and decreased the trash bins from 96 gallons to 48. Under the **Plant a Tree** program, residents can request that a street tree

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be planted in front of their homes; the City will plant 1,000 trees a year for five years. In partnership with the Port Authority, New Haven is constructing a **greener truck stop** in the port area to provide heating, cooling and electrical hookups so that trucks won't have to idle their engines. The City also is working to set up a 5-kilowatt **demonstration wind turbine**.

Stamford

Governor Dannel P. Malloy, then Mayor in 2007, issued **Stamford Cool & Green 2020**, an environmental proclamation that led the way for Stamford to start using the “S” word. **Sustainable Stamford** is taking steps to make the city a greener place to live, work and play and is preparing a sustainability amendment to the city's Master Plan. Similar to Bridgeport and New Haven, energy, waste reduction, air quality and transportation are the major areas of focus.

Some of Stamford's notable activities to date include an **Energy Improvement District** where large power users can generate their own electricity (e.g., a fuel cell microgrid at the Stamford Government Center, solar panels at a middle school and the highway department), and a **Green Lights** program aimed at making it easy and affordable for residents to replace incandescent bulbs with compact florescent lights (CFLs). Other efforts include: **single stream recycling**, with a goal of recycling 40% of their trash; plans for a construction-waste recycling ordinance; the **Curb Your Car Challenge** that encourages residents to walk or bike to work; and, new **Transit Oriented Developments** in the Glenbrook, Springdale, and East Main Street sections of the city.

So, maybe your city or town wants to start using the “S” word. It's a process that starts with small steps, but has a large benefit — working as a whole community to improve the quality of life and your local economy.

Bridgeport BGreen 2020: <http://www.rpa.org/bgreen/BGreen-2020.pdf>

New Haven Office of Sustainability: <http://www.cityofnewhaven.com/sustainability/>

Sustainable Stamford: <http://www.cityofstamford.org/content/25/50/105109/default.aspx>

What's **NEW** in P2?

Get Charged Up!

In the next few years about a dozen different highway-capable plug-in electric vehicles (EVs) will be on the market. Connecticut is one of the first six states nationwide offering sales of the Chevy Volt; a car dealer in New Canaan sold the first one in December 2010. Connecticut will also be one of the first states to offer the Nissan Leaf, thanks to a collaborative

agreement between the Governor's office and Nissan North America. Both carmakers chose the state because of its commitment to clean energy. Because EVs offer environmental, economic and energy benefits, the goal is to have 25,000 EVs in Connecticut by 2020. Businesses such as taxi and rental car companies are expected to be among the early purchasers.

Electric charging stations will be popping up in several places in the coming months, from train stations and parking garages to office buildings and even at the State Capitol. Currently, there are four EV charging stations that are open to the public — two in New Haven (Neon Garage and Omni Hotel), one at Whole Foods in Darien, and another at GE in Plainville. A few other stations are for private use only. Home-based charging is also an option.



Vehicle charging station

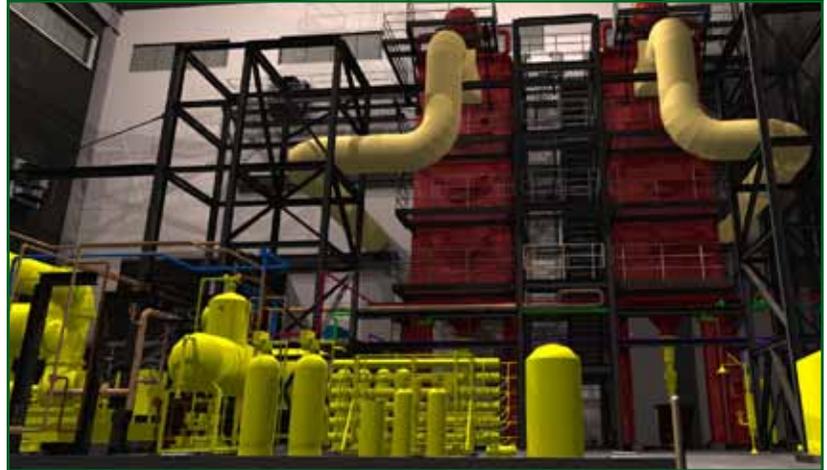
Connecticut's Electric Vehicle Infrastructure Council (EVIC) released its final report recommending legislation be proposed to provide incentives for consumers and businesses to buy EVs, including sales and property tax breaks and grants to offset the purchase price, use of HOV lanes, parking incentives, and electricity pricing considerations.

EVIC's Final Report: <http://www.ct.gov/dpuc/lib/dpuc/ev/evfinal.pdf>

Alternative Vehicles in Connecticut: <http://www.afdc.energy.gov/afdc/states/CT>

The MDC Won't Waste a Watt

If you rely on a municipal sewer, you probably don't know much about what happens to the wastewater that goes out of your home or business. You might be surprised to know that a lot of sludge is generated in the treatment process. The Metropolitan District Commission (MDC), which provides drinking water and water pollution control to central Connecticut municipalities, has embarked on a project to recover the energy that is a by-product of the wastewater treatment process.



Rendering of the MDC's new waste heat recovery system.

Wastewater must be treated to a certain level so that it can be discharged safely into our waterways. This multi-step process uses large amounts of energy — so much in fact, that in an average day, the Hartford Water Pollution Control Facility (HWPCF) uses enough energy to light 35,000 one hundred-watt bulbs!

The DEP's Clean Water Fund awarded the MDC \$19.2 million in American Recovery and Reinvestment Act funding to construct a new building and process at the HWPCF. The excess heat that is generated from the incineration of sludge will be used to produce steam in a boiler instead of being wasted. The steam will pass through a turbine to drive a generator that will produce about 1500 kW or about 35-40% of the plant's electrical needs. The production of electricity is scheduled to begin this year.

For more information, contact the MDC, <http://themdc.com> or 860-278-7850, or Rowland Denny at DEP, 860-424-3749.

CT Businesses Attend Sustainability Summit

More than 250 people attended the *Connecticut Summit on Business Sustainability*, held December 7, 2010 at the Legislative Office Building in Hartford. The Summit was co-hosted by John Rathgeber, President of the Connecticut Business and Industry Association (CBIA), and Amey Marrella, Commissioner of the DEP. Businesses had the opportunity to network and learn from each other's successes and to tell State leaders how government can support their greening efforts.

Additional information, including case studies from businesses that are leaders in sustainability and a video recording of the session with State leaders, can be found at <http://ctclimatechange.com/index.php/act/businesses/ct-summit-on-business-sustainability/>.



Windshield Company Cracks a Tough Recycling Problem

Many parts of a car — the metals, tires, oil, oil filters, and batteries — have been recycled for decades, but windshields have been a challenge because of how they are made. The windshield is really

a glass sandwich with a filling of polyvinyl butyrate (PVB), a resin that makes it very strong, but keeps the glass clear. This laminated glass is less likely to shatter and reduces the risk of injury to passengers in the event of an accident. It had been very difficult to separate the layers, but improvements in technology are making recycling easier. A company that does a lot of business in Connecticut is leading the way.



JN Phillips, (<http://www.jnphillips.com>) is a Woburn, Massachusetts-based glass installer with 40 retail locations in New England, including four in Connecticut and mobile units that service most of the state. They began their GreenShieldSM program

in November, 2010 with a Midwest recycling partner. The company's president, Bob Rosenfield, felt it was the right thing to do for the environment and his company is now committed to recycling 100% of the windshields they replace. Since the program began, they have recycled 400,000 pounds (200 tons) of glass and plastic. They estimate that in one year, they will recycle 2,200 tons.

The windshields are collected and stored in a warehouse until they are shipped to their recycling partner for processing. At the processing facility, the windshields are pulverized and the glass and plastic are separated. The resultant cullet (crushed glass) and plastic are recycled into products such as fiberglass insulation, carpet glue and an additive to concrete blocks.

What are their customers' reactions? JN Phillips has received very positive feedback about the program by email. They are also getting some support from one insurance company that informs its customers about this greener option.

For additional information, contact Josh Rosenfield at Jrosenfield@jnphillips.com or 781-938-3484.

- 15 million automobile windshields that are replaced each year in the U.S. end up as trash — 600 million pounds!
- Producing glass from virgin materials requires 30 percent more energy than producing it from crushed, used glass.
- One ton of recycled glass saves 42 Kwh of energy, 0.12 barrels of oil (5 gallons), 714,000 BTUs of energy, and 7.5 pounds of air pollutants from being released.

Show Me the Numbers!

You notice that most of your neighbors put their recycling containers out every week and your town's transfer station is busy with people dropping off scrap metal and electronics. Have you ever wondered how your town compares to other towns in Connecticut when it comes to recycling? Curious about what our state's recycling rate is?

Your town or city (and permitted solid waste facilities) is required by state law to report solid waste and recycling data to the DEP. The data helps us track state and municipal recycling, disposal and generation rates, calculate the environmental benefits of recycling, plan for future needs and much more. You can now check out the numbers on DEP's website at www.ct.gov/dep/solidwaste. Questions? Contact Judy Belaval at judy.belaval@ct.gov or 860-424-3237.

Ask Eartha

While cleaning out my cabinets, I found some full and partially-full recyclable containers that I want to get rid of (containing, for example, liquid soap, hand lotion, shampoo, old cooking oil). I know not to dump the contents down the drain, but do I throw them in the garbage because they have a substance in them? Or can I put them with my recycling items, and hope that the recycling process “burns” up the substance?

Judy D., Lyme, CT



I have sometimes found myself in the same position — with partially-full containers of products that I don't want to use. It's great to hear that you know it's a bad idea to dump the stuff down the drain!

Sometimes I am able to use these unwanted products for some other purpose. For example, I have used old shampoo to clean my shower — it works great! The shampoo softens the soap scum, making it easier to remove than using a toxic tub and tile cleaner (and healthier to breathe!). And cooking oil removes sticky label residue from hard surfaces.

If the containers are full or almost full and the products are still usable, see if you can find a place to donate them. When I helped clean out a relative's house,

For specific information about your town or city's recycling program, contact your local recycling coordinator. For a list of municipal coordinators and locations of household hazardous waste collections, go to www.ct.gov/depr/recycle or call 860-424-3365.

I donated hand lotion, soaps and other personal care items to a local women's shelter. Another social agency was happy to take the cleaning products for families in need.

I pour products that are no longer usable into something that I am throwing out (such as a potato chip bag or a Chinese food container). A small spatula works to remove thick products, such

as mayonnaise or peanut butter, from the jar before recycling. If the product does not come out easily, I do sometimes just throw the whole container away.

So as not to attract animals to my recycling bin, I do a quick rinse of the food containers using the water left in the dishpan after washing the dishes. With oily products, a quick wipe with a paper towel or napkin is better than rinsing greasy stuff down your drain. In the case of containers that I can't wipe out, such as cooking oil bottles, I usually tip the bottle upside down on some used paper towels to drain out the residual product. A little product left in containers is okay and won't affect the recycling process.

Any unwanted products that are hazardous should be kept in their original containers and saved in a safe place until they can be brought to a household hazardous waste collection. Products such as cleaners containing ammonia or petroleum distillates, and personal care products like nail polish remover fall into this category.



OR



Eartha answers selected environmental questions. Email your question to judith.prill@ct.gov and watch future issues for your answer.

P 2 C A L E N D A R

A SELECTION OF ENVIRONMENTAL EVENTS

Homeowner Gardening Workshops

*Common Ground Environmental Education Center,
New Haven, CT*

A variety of workshops presented in partnership with CT Northeast Organic Farming Association (NOFA).

To register: 203-888-5146 or www.ctnofa.org

Saturday, February 5

Planning Your Organic Garden

Saturday, February 12

Starting Seedlings

Saturday, April 2

Soils and Compost – The Best Soil for the Garden

Saturday, April 9

Growing Food in Small Spaces

Saturday, February 5

No Child Left Inside Winter Festival

Black Rock State Park, Watertown, CT

Come out for a fun family day full of winter activities such as ice fishing, snowshoeing, and sledding. For details:

DEP's event calendar, www.ct.gov/dep/calendar

Wednesday, February 9

Designing Native Buffers

Windham County Extension Office, Brooklyn, CT

Learn how to prevent sediment and pollutants from reaching nearby streams, rivers and ponds by maintaining native buffers. To register: CT Master Gardener Program, 860-486-6343 or www.ladybug.uconn.edu

Saturday, February 12

Solar Electric and Solar Thermal Installation

St. Bridget School, Manchester

Seminar on solar PV and hot water systems for residential, commercial and institutional buildings, including design, installation, performance and economics. Presented by Solar Energy Association of Connecticut. Advance registration required: 860-233-5684 or www.SolarEnergyOfCT.org.

Saturday, March 5

CT NOFA Winter Conference

*Manchester Community College,
Manchester, CT*

Celebration of local organic farming, gardening, landscaping and sustainable lifestyles featuring a keynote speaker, potluck lunch, vendor/exhibit area and a variety of workshops including urban chickens, biodiversity gardening, managing woodlots, and wine-making. To register: 203-888-5146 or www.ctnofa.org

Wednesday, March 16

Native Plants: Go Local

Bartlett Arboretum Visitors Center, Stamford, CT

Learn how to select and grow plants native to the state — a better choice for your garden and the environment. Sponsored by the CT Master Gardener Program, 860-486-6343 or www.ladybug.uconn.edu

Saturday, April 16

Earth Day Celebration

Smart Living Center, Orange

A day of fun and learning, including activities such as Rainforest Reptiles, face painting, and Bash the Trash workshops (reservations required), as well as demonstrations and presentations by energy industry leaders. Call 203-799-0460 for more details.

Tuesday, April 19

Grow Your Own... Organically

Kellogg Environmental Center, Derby, CT

Learn how to grow delicious organic vegetables! Starting a garden, building healthy soil, planning for a long harvest season and organic pest management will be covered in this illustrated talk. Details: DEP's event calendar, www.ct.gov/dep/calendar

Let's Go Ice Fishing — Watch DEP's new video at www.ct.gov/dep



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Amy Marrella, Commissioner

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For a free subscription, please contact Judy Prill at 860-424-3694 or email your request to judith.prill@ct.gov. If you want to save paper and postage by reading the *P2 View* electronically, you can either subscribe to the listserv or view it online (www.ct.gov/dep/p2view).

P2 View is published by the Connecticut Department of Environmental Protection, Office of Pollution Prevention. Editor: Judy Prill; Contributors: Connie Mendolia, Nan Peckham, Mary Sherwin, Kim Trella.

Publication of this newsletter is funded by a grant from the U.S. EPA. The listing of websites in this publication is provided as a public service and does not constitute an endorsement by DEP.

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