

the ENERGY INDEPENDENT

MOVING SAINT PAUL TO HOMEGROWN ENERGY SOLUTIONS

March/April 2008

GREEN-FUELED POWER PLANT AT ROCK-TENN, CENTRAL CORRIDOR ENERGY DISTRICT COULD HELP STATE MEET PLEDGE TO REDUCE GREENHOUSE GASES



Engineers say the warm air and steam currently vented by Rock-Tenn has the potential to be captured to heat commercial buildings on University Avenue and the Central Corridor stations.

A green-energy project proposed for University Avenue could help Minnesota fulfill its commitment to reduce global-warming carbon dioxide emissions by 15 percent by 2015.

City officials and a 15-person community advisory panel are assessing the viability of a possible biomass-powered energy plant to serve Rock-Tenn, Minnesota's largest paper recycling facility. They're also studying the prospect of an energy district to heat commercial and industrial buildings along the Central Corridor.

If built, the green-fueled energy plant and heating district could cut carbon dioxide emissions by approximately 200,000 metric tons. Last year, the state pledged to reduce all carbon dioxide emissions by about 20 million metric tons over the next seven years or about 4 metric tons per person.

To put this into perspective, 20 million metric tons of carbon dioxide would fill more than 7 million hot air balloons. That's about 1.5 hot air balloons per person.

City and Rock-Tenn officials prefer that carbon-neutral fuels such as energy crops, agricultural waste and clean wood waste be used

at a possible Rock-Tenn power plant. Rock-Tenn currently is burning #6 fuel oil and natural gas to generate the enormous amount of thermal energy it needs to convert about 1,000 tons of recycled paper a day into box-board packaging. When burned to create energy, #6 fuel oil and natural gas produce global-warming greenhouse gases and air pollutants.

The proposed energy district could provide heat to commercial and industrial buildings along University Avenue that currently burn natural gas and #6 fuel oil, and generate carbon dioxide. The heat would not come from a central power plant, as is the case with most energy districts. Instead, the heat would come from Rock-Tenn.

Here's how: Warm air and steam currently are vented by the plant. It's the big cloud people see rising above the Vandalia Avenue facility during winter. Engineers say this waste heat could be captured and pumped through pipes beneath University Avenue to heat buildings and the Central Corridor light rail station platforms.

Carbon dioxide is emitted as a consequence of what each of us consumes every day. Turn on the stove to make breakfast and the burning natural gas emits carbon dioxide. Take a warm shower and the burning natural gas that heats the water in your home emits carbon dioxide. Switch on the lights, a television, the coffee pot and the electricity needed is drawn from a power plant that burns fuel to generate electricity. That produces carbon dioxide emissions, too. Drive

TAKE PERSONAL ACTION AGAINST GLOBAL WARMING

You can reduce your personal contribution to global warming and set an example for others by using less gasoline, natural gas, oil, and electricity in your daily life. Your choices about energy and transportation are especially crucial.

- The next time you buy a car, choose one that is highly fuel-efficient. Your choice of vehicle is probably your single most important environmental decision: for every single gallon of gasoline burned, 20 pounds of carbon dioxide go into the atmosphere.
- Instead of driving alone in your car, join a carpool, take mass transit, walk, or ride a bike — anything that reduces the amount of gasoline you burn.
- The next time you buy an appliance, purchase a highly efficient model. You can tell by looking for the Energy Star, awarded by the Environmental Protection Agency.
- Ask your local electric or gas utility to perform an energy audit of your house or apartment. Then put the recommendations into practice.
- Develop a plan to reduce daily electricity use around your home. Ask each member of your household to take responsibility for a different electricity-saving action.

Source: Union of Concerned Scientists

Continued on next page

GREEN-FUELED POWER PLANT AT ROCK-TENN, CENTRAL CORRIDOR ENERGY DISTRICT COULD HELP STATE MEET PLEDGE TO REDUCE GREENHOUSE GASES

The Rock-Tenn Community Advisory Panel (RCAP) is assessing the environmental, economic and technical feasibility of renewable energy choices to fuel Rock-Tenn's paper recycling operations in Saint Paul.

RCAP meetings are open to the public and currently are held at the Central Corridor Resource Center (CCRC), 1080 University Avenue West. Beginning with the March 31 meeting, all RCAP meetings will be held at the Wilder Center, 451 Lexington Parkway North.

Below are the upcoming meeting dates:

MONDAY, MARCH 17
(CCRC)

MONDAY, MARCH 31
(WILDER CENTER)

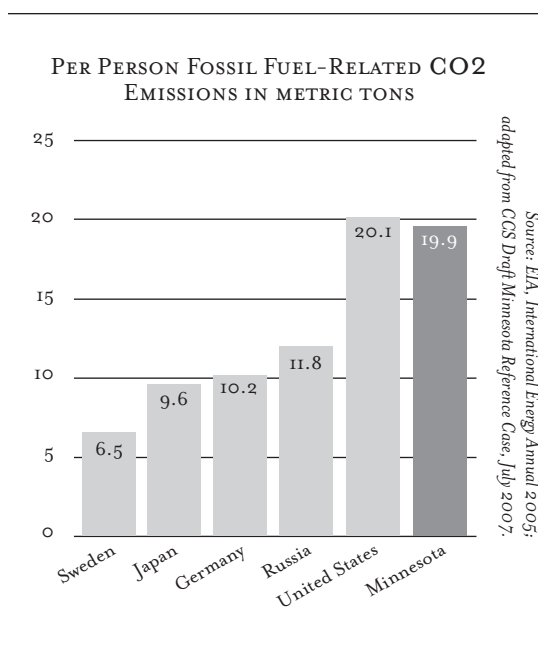
MONDAY, APRIL 7
(WILDER CENTER)

MONDAY, APRIL 21
(WILDER CENTER)

Meetings begin at 7 p.m.

Agendas are posted the Friday before at rtadvisory.org.

For more information, contact Nina Axelson, RCAP Outreach Coordinator, at 612-788-4151 or nina@sapcc.org.



your car or ride the bus, emissions from those vehicles produce carbon dioxide.

And all that carbon dioxide rising into the atmosphere puts a lid over the earth, trapping the heat of the sun that warms our planet.

Energy-related activities in Minnesota accounted for approximately 104 million metric tons of carbon dioxide emissions in 2005 or about 20 metric tons per person, according to the Center for Climate Strategies. Use of electricity by Minnesotans accounted for one-third of the state's carbon dioxide emissions, or about 34.5 million metric tons.

Emissions from cars, buses, trucks, boats, trains and airplanes contributed to nearly 40 percent of the state's total, or about 37.2 million metric tons. Oil and natural gas for heating homes and buildings produced more than 29 million metric tons of carbon dioxide in 2005.

MOVE TO GREEN-POWERED HEATING DISTRICTS HELPED PUT SWEDEN ON PATH TO CUT GLOBAL-WARMING CARBON DIOXIDE

Biomass-powered heating districts have been key to helping Sweden reduce greenhouse gas emissions, decreasing its reliance on fossil fuels and advancing the nation's energy independence.

From 1990 to 2005, carbon dioxide emissions from all economic sectors in Sweden except transportation dropped 17 percent.

International environmental and energy experts credit this progress to Sweden's expansion of urban heating districts powered by homegrown, renewable energy, such as willow, poplar and clean wood waste. These replenishable fuel options are considered carbon neutral; that is, any carbon dioxide they release when burned is absorbed by the next generation of growing plants.

Back in the 1980s, the people of Sweden decided they had to do something to reduce their dependence on imported oil, coal and coal gas. They wanted to promote energy self-reliance by developing local, renewable fuel options. Over the next 20 years, Sweden dramatically altered the way it generated heat and electricity for homes and industry.

Sweden expanded its use of energy districts, ending the need for individual homes and commercial buildings to have their own furnaces and boilers. Each of these individual heating systems had been powered by coal, oil or coal gas, fossil fuels that emit global-warming carbon dioxide when burned to create energy.

An energy district is a large group of buildings served by a single energy plant. The energy plant transmits heat through underground pipes to those buildings. In the United States, district energy systems typically supply heat to college and hospital campuses. Saint Paul has a district energy system that heats more than 180 public and commercial buildings in and around the downtown area, including the State Capitol complex.

In 1980, 90 percent of Sweden's district energy needs were fueled by imported oil, coal and coal gas. By 2005, its reliance on fossil fuels for district heating had dropped to about 15 percent.

Greenhouse gas emissions from homes and businesses served by district heating dropped 64 percent, from 8.9 million metric tons in 1990 to 3 million metric tons in 2005.



POWERED BY
greenenergy