

Going green: Entire Swedish city switches to biofuels to become environmentally friendly

March 8 2009, By Laurie Goering

Though a fraction of Chicago's size, this industrial city in southeast Sweden has plenty of similarities with it, including a long, snowy winter and a football team the town's crazy about.

One thing is dramatically different about Kalmar, however: It is on the verge of eliminating the use of fossil fuels, for good, and with minimal effect on its standard of living.

The city of 60,000 - and its surrounding 12-town region, with a quarter-million people - has traded in most of its oil, gas and electric furnaces for community "district heat," produced at plants that burn sawdust and wood waste left by timber companies. Hydropower, nuclear power and windmills now provide more than 90 percent of the region's electricity.

Kalmar's publicly owned cars and buses - and a growing share of its private and business vehicles - run on biogas made from waste wood and chicken manure, or an 85 percent ethanol blend from Brazil.

Just as important, the switch from oil and gas is helping slash fuel bills and preserve jobs in a worldwide economic downturn. And despite dramatic drops in fossil fuel consumption, residents say nobody has been forced to give up the car or huddle around the dining table wearing three sweaters to stay warm.

"We are not eco-freaks," said Carolina Gunnarsson, a sustainability officer with the Kalmar County regional council, as her teenage

daughter, wearing a tank top, lounged on their living room sofa on a snowy February afternoon. "We're just making it easy to change, giving people the tools."

As President Barack Obama looks for ways to revive the sagging U.S. economy, create jobs, trim the country's dependence on foreign oil and cut greenhouse gas emissions, Kalmar's example - achieved through a combination of political will and creativity - may prove useful for Chicago and the rest of the nation.

"The technological part is possible. The bigger task is the cultural change, taking on the way of thinking," said Jonas Lohnn, a pastor and Kalmar city commissioner.

Sweden has been looking for ways to decrease its dependence on fossil fuels since the oil price shocks of the 1970s. Today climate change concerns are driving the changeover.

Kalmar, located in a thinly populated county heavily dependent on private cars for transport, is leading the way. The forested region, which has incomes lower than the national average, now gets more than 65 percent of its energy from renewable sources, a rate more than double that of Sweden as a whole.

By 2030, Kalmar plans to have no net use of fossil fuels, with any remnant use of gas, diesel or oil offset by exports of excess power generation from renewable sources, officials say.

"Politicians laughed at this idea at the beginning, when it was first presented," said Hakan Brynielsson, head of the Kalmar regional council. "Now 95 percent of politicians are convinced of the necessity of doing these things."

The region, which depends on forest-related industry for a third of its jobs, has managed the dramatic cutbacks in fossil fuel use without slowing economic growth. Thanks to lower fuel bills, government tax incentives for clean energy and a focus on turning Kalmar into a center for energy technology, business is booming, particularly for clean-technology industries.

Euronom, a traditional Kalmar oil boiler manufacturer, for instance, has transformed itself into a builder of high-efficiency renewable energy furnaces and heat pumps. This January its sales were double those a year ago.

Obama "is 200 percent right" about making money on energy efficiency and green retooling of industry, said Ake Hjort, Euronom's managing director. If the company were still building oil boilers, "we'd be bankrupt," he said.

Kalmar's push to reduce fossil fuels is evident everywhere. A local trucking firm, which employs nearly 450 people, has taught its operators fuel-efficient eco-driving - moderate speed, no fast starts and stops - and installed computers that track fuel efficiency and have cut diesel use by 10 percent, paying off the cost of the devices in just a year. Now the company is looking to fuel its future fleet with biodiesel.

A big wood pulp plant has figured out how to harness the steam and hot water it once released as waste to provide heating, through below-ground pipes, for a nearby town of 13,000, plus generate enough electricity to power its own operations and 20,000 homes.

Bicycle lanes have sprung up throughout towns, and cars line up at Kalmar city's public biogas pump. Building codes now require efficient insulation and windows for new construction or retrofits. Street lights sport low-energy sodium bulbs, and car dealers promote fuel-efficient

and hybrid vehicles.

Residents say cutting back on fossil fuels has taken some getting used to, but it hasn't made life miserable - and it's saving them money.

Nicklas and Sara Svensson, municipal workers who have a 3-year-old daughter, joined on a year ago as one of 12 Kalmar "climate pilot" families experimenting with ways to cut fossil fuel use.

Becoming vegetarian (meat takes more energy to produce than grains and vegetables) didn't go down so well - "we really didn't make it (the transition)," Nicklas Svensson said. And they couldn't afford to trade their cars for hybrids, though he has taken to biking to work.

But the pair, who have a high-efficiency refrigerator and heat pump and do without a clothes dryer, have learned some new tricks, including buying more locally produced food.

"We wanted to do something so we could look (our daughter) in the eye in 20 years' time and say, 'We tried,'" Sara Svensson said.

Bosse Lindholm, Kalmar city's environment and sustainability development manager, says most of Kalmar's ideas could be adopted anywhere.

"It's important to have small victories, to go the right direction even at low speed rather than the wrong direction at high speed," Lindholm said.

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Citation: Going green: Entire Swedish city switches to biofuels to become environmentally friendly (2009, March 8) retrieved 27 March 2023 from <https://phys.org/news/2009-03-green-entire-swedish-city-biofuels.html>

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