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In trash, Europe finds clean energy

New Incinerators Trap Pollutants, Cut Power Costs

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Horsholm: The lawyers and engineers who dwell in an elegant enclave here are at peace with the hulking neighbor just over the back fence: a vast energy plant that burns thousands of tons of household garbage and industrial waste, round the clock.

Far cleaner than conventional incinerators, this new type of plant converts local trash into heat and electricity. Dozens of filters catch pollutants, from mercury to dioxin, that would have emerged from its smokestack only a decade ago.

In that time, such plants have become both the mainstay of garbage disposal and a crucial fuel source across Denmark, from wealthy exurbs like Horsholm to Copenhagen's downtown area.

Their use has not only reduced the country's energy costs and reliance on oil and gas, but also benefited the environment, diminishing the use of landfills and cutting carbon dioxide emissions. The plants run so cleanly that many times more dioxin is now released from home fireplaces and backyard barbecues than from incineration.

With all these innovations, Denmark now regards garbage as a clean alternative fuel rather than a smelly, unsightly problem. And the incinerators, known as waste-to-energy plants, have acquired considerable cachet as communities like Horsholm vie to have them built.

Denmark now has 29 such plants, serving 98 municipalities in a country of 5.5 million people, and 10 more are planned or under construction. Across Europe, there are about 400 plants, with Denmark, Germany and the Netherlands leading the pack in expanding them and building new ones.

Plants in Denmark are placed in the communities they serve, no matter how affluent, so that the heat of burning garbage can be efficiently piped into homes. Planners take pains to separate residential traffic from trucks delivering garbage, and some of the newest plants are encased in elaborate outer shells that resemble sculptures.

The lower heating costs don't hurt, either. Eighty percent of Horsholm's heat and 20% of its electricity come from burning trash. Many countries that are expanding waste-to-energy capacity, like Denmark and Germany, typically also have the highest recycling rates; only the material that cannot be recycled is burned.

Today's incinerators have little in common with the smoke-belching models of the past. Emissions from the plants in all categories have been reduced to just 10% to 20% of levels allowed under the EU's standards for air and water discharges. NYT NEWS SERVICE

GARBAGE TO GOLD: A waste incinerator in Horsholm, Denmark