

Fuel to Burn

Renewafuel believes its waste-based briquettes could replace coal in many industrial applications. Iron giant Cleveland-Cliffs agrees.

Here's the thing that gets lost in a lot of coverage of emerging renewable energy sources: We already know how to transform just about anything into energy. The real riddle researchers and entrepreneurs are racing to solve is how to convert that energy in ways that are efficient, convenient, and profitable.

A start-up that originated in Rosemount called Renewafuel thinks it might have all three qualities in its new "fuel cubes" product. The gray briquettes burn like coal, but they're made from a proprietary blend of plant material that gives off far less air pollution than coal does.

"Our goal is to be the least expensive and cleanest fuel that's out there," says James Mennell, one of the company's co-owners.

Mennell, a Minneapolis environmental attorney, learned about the renewable fuels industry while representing many of the region's largest ethanol projects. One of his clients, Leon Endres, owns Rosemount-based

Endres Processing, which collects and processes food waste from commercial food producers into a single-consistency livestock feed. A couple of years ago, Mennell began wondering whether a similar process could be used to make fuel. The idea became the basis for Renewafuel, which he started with Endres.

Perfecting the manufacturing process was part science and part art, Mennell says. The recipe can include things like wood, corn stover, straw, paper, grasses, grains, and seed hulls. The mix can be adjusted depending on what's available. Renewafuel buys waste from farmers, commercial food producers, and forest products companies. It hopes to seed a market for farmers to grow switchgrass and to buy that as a fuel, too.

Renewafuel's cubes can be blended with or substituted for coal in existing burners with little or no modification, according to the company. Cleveland-Cliffs, an Ohio-based mining company that owns facilities in northern Minnesota, tried using the cubes to heat a taconite-pelletizing furnace at one of its Michigan plants. **The results were so promising that Cleveland-Cliffs bought 70 percent of Renewafuel in December.** Renewafuel is now headquartered in Cleveland, though it still has a presence in Minnesota.

Renewafuel has one full-scale production facility operating in Michigan, and it hopes to have two more by early next year, including one on the Iron Range.

—Dan Haugen



James Mennell (left) and Leon Endres powered their business on "fuel cubes" that can be made from a wide variety of organic waste.