‘Green’ construction at MSU to pay for itself — and fast

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MANKATO — To save money, you gotta spend money.

That’s sort of the thinking that is employed when designers aim to make a building “green,” or environmentally friendly and energy efficient. And so it was in the case of Minnesota State University’s Trafton Science Center and Julia A. Sears Residence Hall.

Both buildings cost a little more to build, but the hope is that they’ll end up saving the university — saving taxpayers — much more than the up-front additional cost for the greening.

In the case of Trafton, MSU spent an additional $1 million. Because of that, the building’s annual energy cost savings will be $182,713. Not bad, especially given the way the economy is crumbling. The extra million spent up front will be made up — mostly by lower utility bills — in fewer than five years, according to estimates.

“We actually recover our investment,” says Larry Kohanek, construction manager at MSU.

One of the biggest cost savings on Trafton comes from a device on the roof that acts as a sort of radiator, extracting heat from air that normally would simply be vented into the atmosphere.

Picture a giant fan with air flowing one direction through the top half of it, and air flowing the opposite direction through the bottom. On the bottom half is fresh air from outside. On the top half is air sucked in from chemistry hoods in the labs below.

As the fan’s blades swing through the top half of the airflow, they collect the heat from the air being sucked out of the labs. When those blades swing down through the fresh air, they heat the air that ultimately gets sent back to the classrooms. This system makes up about 15 percent of the cost savings.

About 25 percent of the cost savings comes from the installation of motors that run only as much as they need to.

Classroom lighting comes from high-efficiency fluorescent bulbs, and the switches inside the classrooms allow instructors to supply as much or as little light as they want to the room.

“It’s going to save us a ton of money,” he said. “And that’s the bottom line.”