Giants to be solar powered.

From the Coliseum to the Chrysler Building, from the Taj Mahal to the Vatican, from Sydney's Opera House to the Rockefeller Center, every period in history has had its architectural giants. And every period has seen radical changes in building design. As the world seeks sustainability, this century will be recognized as the era that ushered in environmentally-responsible, "green" architecture. According to world renowned architect Bill McDonough*, the architectural giants of this century, *"the ones that will be well-regarded for generations to come, will be solar-powered in some way..."*

Our beliefs shape the way we build.

Throughout time, commonly held beliefs have shaped our buildings and communities, and architects have long known that their work has an important influence on the working and living environment of everyone who comes in contact with their edifices. Today, however, this responsibility has become even more complex. In addition to being authorities on building systems, design aesthetics, space planning and code requirements, architects must also balance the needs of their clients, with the needs of the community, with the growing public demand for corporate environmental responsibility – all within budget realities.

*Among his many awards, prizes and other honors, William McDonough received "three U.S. presidential awards: the Presidential Award for Sustainable Development (1996), the National Design Award (2004) and the Presidential Green Chemistry Challenge Award (2003)".

Why people won't do what's right.

For many architects, convincing clients to include renewable technology as an energy source can be a very tough sell. Dave Stafford is an architect and partner with enVision Design Inc. (formerly known as Thurston Design Group LLP), the firm that designed the two, identical Rapid City Community Centers (West and South) featured herein. Dave Stafford is also a member of the Washington based NCARB Sustainable Design Task Force, and knows that resistance to solar and other renewables can be stiff: *"We believe in responsible design. Sustainable, green architecture is a hallmark for the firm and wherever possible we try to get clients to include as much 'green' as can be included within their budget. But clients are afraid it's going to cost them a fortune, that it won't be appropriate, or that it won't look good aesthetically. There are all kinds of reasons why people don't do what's good for them."*

Fortunately, SolarWall® solutions are cost effective, made from standard building materials (aluminum or steel), easy to include and virtually maintenance free, making it easier to persuade a hesitant client to incorporate renewable energy sources in their building's design (new or retrofit). As an added bonus, the inclusion of SolarWall systems also help buildings qualify for up to six LEED points, which can mean attaining the next level of LEED certification.

"Like free gas for your car."

SolarWall systems have now been used on hundreds of architectural projects around the world, with a consistent track record of rapid payback and on-going energy cost savings, which can be very helpful when working with a client with an eye on the bottom line.

Financial savings are among the benefits the two Rapid City Community Centers are reaping from the decision to include a SolarWall heating system in their plans. Says Dave Stafford, *"We were able to include the SolarWall panels that would pre-heat the make-up air without spending any*

significant additional money – whatever the cost difference is, it's of no great consequence. You don't even know that it's there and all of a sudden you have free BTUs that wouldn't have been available otherwise. It's like found money. Anytime that we can find an appropriate way to use it, we will.

"In the dead of winter it could be 20°F below zero here. Because the codes require a continuous exchange of a significant portion of the building's air, you have to run the heating system overtime to recover the heat. For all the cold air you bring in, you've thrown away just as much hot air. By using SolarWall to pre-heat the incoming air, you get rid of the whole BTU trading process – it just goes away. That's a huge savings; it's like free gas for your car.

"We were using metal fascia anyway, and there was a conventional ventilation system. Just by substituting the SolarWall panels, it became this solar thing that lets them save energy and money. It's like backing up to a free gas pump."

Afraid it won't look good.

Not long ago, the Hibbing Courthouse in St. Louis, MN received a new look when an annex was added. The attractive building features three large sections of SolarWall paneling. Says Tony Mancuso, County Director of Property Management, *"If you're the least bit creative, you should be able to come up with something that looks nice. Our building has blond brick fascia, so the dark brown SolarWall makes a nice contrast. The design of the SolarWall was stylized to have a bit of pizzazz to it with the angle on the side. The building was very institutional looking and we used the SolarWall to give it a bit of architectural interest."*

SolarWall panels come in a variety of colors and have been used for dramatic effect on dozens of other buildings, too. Most notable of these is the architecturally-magnificent Swedish Museum of Modern Art where the energy saving curved wall is a key focal point.

There are times though when form and function need to blend not only seamlessly, but almost invisibly. *"Rib paneling is fairly common these days and people are used to seeing it on buildings,"* says Dave Stafford. The architects used SolarWall heating systems on other buildings, too and he adds, *"Because of the nature of SolarWall, there's nothing expensive or weird about it. There are no PV cells sticking up. It just blends with the aesthetics and into a matrix of similar looking materials and you don't know it's there."*

What about the engineers?

SolarWall systems are simple and can be easily integrated with PV systems and existing HVAC systems. The many engineers who have incorporated SolarWall heaters into their construction projects echo Dave Stafford's comments: *"It's textured metal panel that industry is used to working with. You don't flash or prep the wall any differently. It's easy."*

Tony Mancuso offers this advice: *"Although including a SolarWall is not complex from an engineering point of view, we had to educate our constructors. They had never seen anything like it before, so we ordered a sample of the product and used it for the pre-bid walk-through. We had it pulled apart so they could see and touch it before the bid and not drive the price up."*

Why *wouldn't* you use it?!

"It's as simple to use as a standard, non-solar metal fascia system. The ventilation you need anyway and there's no change [needed] to it. There's almost nothing to it. Why wouldn't you use it?!" sums up Stafford. To learn how you can easily include SolarWall in your plans and gain LEED points in the process, please call us and talk to one of our engineers.

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