

**Take more from the sun,  
give less to the sky...  
and we all win.**





# SolarWall®: How to profit in a chaotic world – while helping to improve it.

***“Though virtue be its own reward, impressive paybacks win the Board!”***

A product that, a) uses the sun’s rays to reduce heating energy needs, b) refreshes the air breathed by those inside, c) at negligible operating costs, might well be deemed worthy of purchase for world citizenship reasons alone.

However, in a less-than-perfect world, a significant new expenditure is more likely to win boardroom applause by bettering the bottom line. Which SolarWall does – routinely.

Specifically, its industry-leading efficiency rate of up to 75% normally results in financial paybacks that range from immediate to six years.

Considering that SolarWall systems reduce both greenhouse gas emissions and dependence on costly imported energy (in many cases, creating local jobs) installing a SolarWall system makes sense all around the Boardroom table – from the down-to-earth “show me the return on investment” to more visionary members.

And now to how it all happened – *and what SolarWall can do for you.*



▲ Sales office, Beijing, China – one of 25 SolarWall countries.

**Acclaimed “most significant new product”.**

Three decades ago, Conservall Engineering president John Hollick (an engineer by training, an inventor by choice) began offering solar alternatives to the world’s dependence on fossil fuels. By the early ’90s he had invented one of the world’s most effective ways to harness the sun’s energy to help heat buildings of all shapes, sizes and functions – new or retrofit.

The product’s apt name: SolarWall.

Worldwide interest was sparked immediately. When introduced in 1994 (along with the patents necessary to protect this unique solution) RESEARCH & DEVELOPMENT magazine selected SolarWall as “One of the 100 Most Technologically Significant New Products of the Year”; POPULAR SCIENCE magazine listed it in “The Year’s 100 greatest achievements in Science & Technology.”



◀ Horizontal SolarWall panels, German manufacturing facility.

# SolarWall®: How to profit in a chaotic world – while helping to improve it *(cont'd)*

SolarWall has led the way ever since (both scientifically and in worldwide sales).

## ***“In top 2%... worldwide”***

According to the U.S. Department of Energy SolarWall system’s unique design is *“in the top two percent of energy-related inventions in the world”*.

SolarWall was also lauded by the National Renewable Energy Laboratory (NREL) as *“the most efficient active solar heating system ever designed... with an average daily efficiency of more than 70%... new designs can achieve up to 80% efficiency”*.

Natural Resources Canada was bluntly specific: *“The simplest, most efficient – and least expensive – way to preheat outside air for industrial and commercial applications is through the use of a perforated-plate absorber or a solar air heating system such as the SolarWall.”*

Rounding out the tributes, SolarWall systems have been described as being *“on the low side of inexpensive to buy, easy to install, and ridiculously cheap to run.”*

## ***“How come SolarWall isn’t better-known?”***

The answer to the above question depends on who you ask! When RETscreen International put together a network of experts to create energy-saving-modeling

software for worldwide use (i.e. for helping companies to figure out the best clean energy technologies for their purposes) SolarWall’s John Hollick was a natural choice. Since other partners included UNEP (United Nations Environment Program), REDI (Renewable



▲ Bus garage! Calgary, Alberta.

Energy Deployment Initiative), NASA and the World Bank, he was obviously in the best of company.

The question remains: Why is SolarWall less well-known in the *business* community? Answer: Because marketing efforts played second fiddle as Hollick and colleagues spent most of their energies *perfecting a unique offering*. And *that* consumed most of two decades.

However, as ever more leaders of industry and commerce embrace SolarWall energy... *“times they are a changin’...”*

◀ SolarWall panels on a Wal-Mart in Colorado.





# From the world of business to the world of culture, in 25 countries worldwide.

From a U.S. base camp at the South Pole to a Canadian high-rise apartment that boasts the world's tallest solar collector, SolarWall systems are found in 25 countries, including solid penetration of North American and European markets, as well as those of Japan, China and India.

Its customers (around 1,000 in number) range from the gigantic hangars of the U.S. Army and NASA, to large high-rises embracing a wide range of office and apartment types, to schools and arenas in urban and remote locations. Major corporate clients include Bombardier, FedEx, Ford, General Motors, Goodyear Tire and Wal-Mart.

In the world of culture, a SolarWall system is both a key working system and an integral visual element of the architecturally-magnificent Swedish Museum of Modern Art!

All these learning, working and living spaces, of myriad design, shape, size and function, *share* a major benefit – SolarWall's contribution to air quality – in particular the fight against Sick Building Syndrome (responsible for a growing number of employee absentee days).



▲ Long, narrow SolarWall panels are a dramatic feature of this Calgary, Alberta apartment complex.

In short, by moving fresh air into a building, thus displacing stale air... **SolarWall helps clean the air we breathe and protect the climate on which we rely.**

## Running costs? From negligible to free!

Deceptively simple both in concept and execution, SolarWall is inexpensive to buy, easy to install – and costs next to nothing to run. When a SolarWall system is incorporated into the construction of a building, material costs are comparable to those of a simple brick wall. Moreover, since its only moving parts are ventilation fans (which you need anyway), a SolarWall system's on-going costs are negligible.

◀ *Canadair division of Bombardier: 100,000 ft<sup>2</sup> SolarWall – world's largest solar air heating system.*



# From the world of business to the world of culture, in 25 countries worldwide *(cont'd)*

According to the U.S. Department of Energy, SolarWall is *“the most reliable, best performing and lowest cost solar heating system for commercial and industrial buildings available on the market today.”*

## Mega savings may include government funding.

Annual energy savings (which begin immediately, of course) range from \$2 to \$8/ft<sup>2</sup> (\$20 to \$80/m<sup>2</sup>) of wall during cold winter weather.

On sunny days, SolarWall heating systems can raise the air temperature by 30° to 70° F (16° to 40° C) depending on the flow rate. Typically, SolarWall will produce 50 to 70 kWh/ft<sup>2</sup> (500 to 700 kWh/m<sup>2</sup>) each year. In lay terms, on sunny days each square foot of SolarWall paneling can create over 160 BTU's of heat *per hour!*

On cloudy days SolarWall panels provide energy savings as a pre-heating system for ventilation air.

Use SolarWall technology for process air heating, too, and operating costs decrease even further.

Other money-saving SolarWall ways: When moisture moves through regular masonry walls, bricks can begin to crumble with freeze/thaw cycles. When installed over masonry, the SolarWall panels act as a

rainscreen, protecting the building against rain and other moisture – which is especially useful in retrofits of older buildings.

For installation costs, please contact us. Why? Because in many countries – and U.S. states – government grants greatly offset initial product and installation costs. *And that money can flow directly to the bottom line.*

***“But I want my building to look good, too!”***

So how would you *like* it to look?! SolarWall panels can be customized for almost any architectural plan. They can be finished in a multitude of colors (the best heat gains, and corresponding energy savings, come from using darker shades). Panels can even be curved (see brochure cover).

In short, take a look at the straightforward photographs included in this brochure – from a rounded and boldly-thrusting-skyward museum in Sweden to a glass-and-SolarWall-paneled German factory that could comfortably qualify as a cultural icon of the arts!



▲ Kristinehamn Museum of Modern Art, Sweden.



◀ Federal Express distribution center, Colorado: Dark red SolarWall panels span entire southern wall.





# SolarWall® – an overview.

A SolarWall solar air heating system comprises two key parts. 1. Perforated aluminum or steel cladding, installed on an exterior wall or walls (usually the sun-rich south-facing wall). 2. Simple ventilation fans. And that's that!

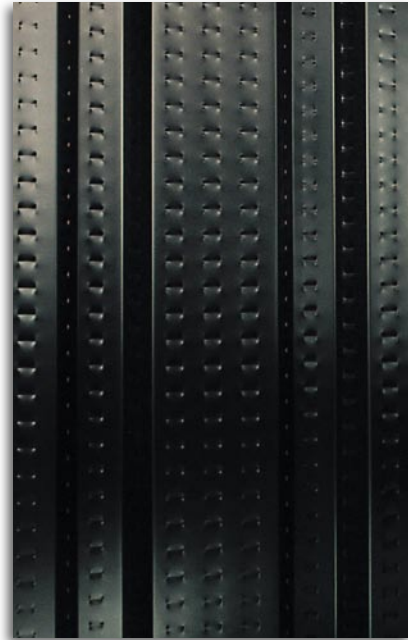
Installed about 8 inches (20 centimeters) away from the inner wall, the sun-absorbing all-metal cladding creates a small space between the facade and the building. Outside air is drawn in through tiny holes by ventilation fans located at the top of the wall. Warmed by the solar panels, the trapped air rises to a plenum (duct) at the top of the wall; from there it is routed to the nearest dedicated ventilation fan – or into the building's HVAC system.

At the same time, the SolarWall cladding prevents loss of heat through the building's walls (especially at night) – further boosting energy savings. Moreover, the system is virtually maintenance free (it uses no liquids: fans are its only moving parts).

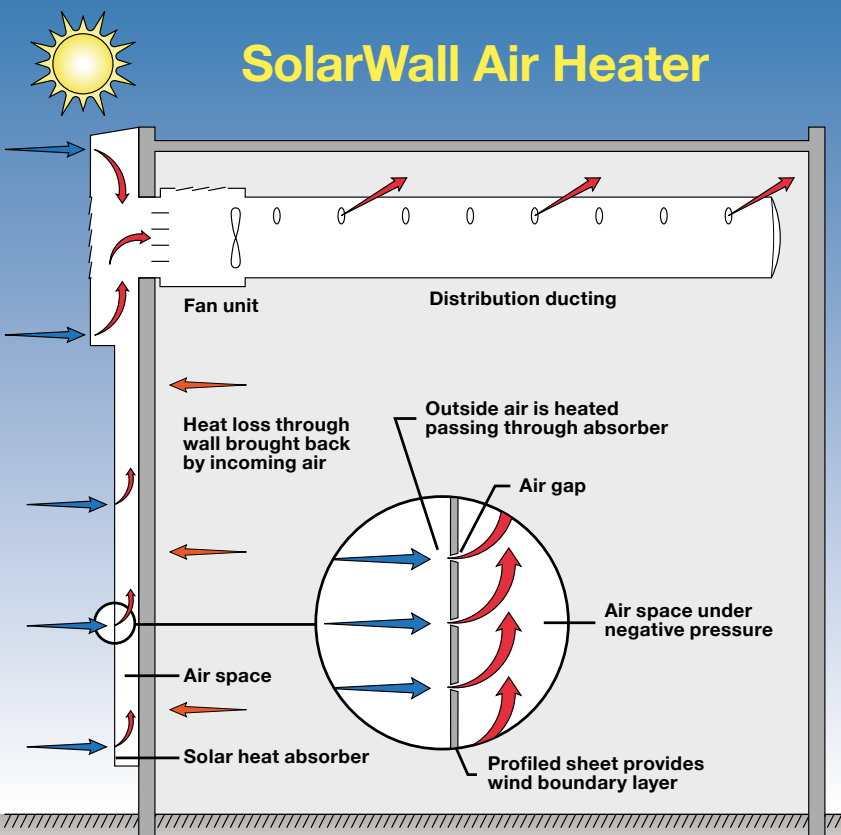
## Even the AC gets help. Now, that's cool!

When summer enters the scene, hey, presto! The same SolarWall tools go to work helping keep the building *cool*.

In hot summer months, ventilation fans by-pass the SolarWall panels. Warm air that does get through is whisked up the side of the building, and rather than being drawn into the ventilation system, is released through holes at the top of the SolarWall cladding. SolarWall panels also prevent most of the sun's rays from striking the building, so depending on how bright the day and how hot the sun, *the SolarWall contribution can reduce a building's cooling loads*. And as we said, "that's cool!"



▲ Close-up view of perforations in typical SolarWall panel.



## The wrap-up: How to make money helping save the world from itself.

The words on these pages have indicated how organizations large and small can adopt near-to-free solar energy to reduce fossil fuel use, help purify the air, cut costs – and thus add to the bottom line. (Now is that, or is it not, a good deal!?) The next step is yours.

To request a Design Guide, or to obtain case histories, please call us, or visit our website:

[www.solarwall.com](http://www.solarwall.com)



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