

Reduce budgets, create jobs and go green!

A tall order? Perhaps. But government and military corps of engineers have been snapping to – helped, in part, by the use of SolarWall® technologies.

The U.S. military has been exploring the use of renewable energy for a number of years. SolarWall is a natural choice because it's relatively inexpensive and easy to incorporate in either new construction, or in retrofit situations. Given that a lot of military buildings already have metal cladding, it makes both the decision and installation easier.

This has proven to be the case in all of the military projects SolarWall has worked on to date. For example, in Colorado, 17,400 square feet of SolarWall panels have been installed on a helicopter hangar and a vehicle maintenance building at Fort Carson.

In Upstate New York, 39 walls on twenty-seven of the buildings are being retrofitted at Fort Drum to include SolarWall systems. Included in the project are warehouses, motor pools and vehicle maintenance shops. In all, over 110,000 square feet of wall area will be covered. Since each square foot saves 75 kWh/year of thermal energy, Fort Drum will be saving over 8 million kilowatt hours of energy each and every year. That's 8 million units that don't have to be imported from elsewhere – and 8 million units saved in energy costs!

In the process of making the buildings more energy efficient, jobs were also being created – something that happens every time a SolarWall system is installed. At Fort Drum alone, the project resulted in 10 man years' worth of new jobs.

Military and Municipalities getting fresh... air that is.

Managers of municipal buildings and government installations are as concerned with enhancing air quality as they are with improving the bottom line. At Fort Drum, the engineers were seeking to improve the ventilation and indoor air quality as



much as they were looking to save on energy costs. The same holds true in Fort Carson where the SolarWall system helps to combat the fume-related challenges inherent with maintaining diesel-fueled helicopters and other military vehicles. In both cases, thanks to their SolarWall installations, these base buildings now have plenty of fresh air.

When the Manitoba Housing Authority needed to replace an outdated corridor ventilation system for a twenty-storey public housing complex, they looked at various options to cost effectively solve their need for good ventilation around the

clock. Robert Bisson, former mechanical engineer with Manitoba Housing Authority explains, *"We needed to solve the ventilation problem and looked at different things to reduce the cost impact of the project, including SolarWall. We did some analysis using RETscreen software and made the decision to go with it. Once we had a business case for the project and received approval for it, the SolarWall system went up well and has worked out better than I thought it would in terms of performance. We monitor the temperatures and in the winter, the temperature off the SolarWall picks up by almost 50°F – it definitely exceeds my expectations."* The annual energy cost savings aren't bad either!

Hot heads vanquished.

Not only do SolarWall systems provide a healthier ventilation environment, they create a more comfortable working climate, too. In large buildings with high ceilings, it's often hard to keep the temperature comfortably constant throughout the work area, and employees alternate between shivering and sweltering. Thanks to SolarWall, air temperature stratifications can be eliminated, further reducing heating costs, and increasing employee comfort. (Please see the Industrial Fan and Ventilation insert for details.)

Government and military sewage and water treatment plants, supply depots, community centers, bus and vehicle maintenance garages, hangars, warehouses, offices and the like are all ideal candidates to benefit from the installation of a SolarWall system.

Lookin' good!

The old joke about "practical" being military code for ugly and uncomfortable is a relic of the past.

Today, the Corps of Engineers works hard to create buildings that are as aesthetically pleasing as they are practical. The Fort Drum and Fort Carson projects are no exceptions.



At Fort Drum, the engineer used a color chip sample and worked with SolarWall to choose a color scheme that would work well. The building design already included a lot of orange; by choosing rocky grays and browns the Fort Drum buildings

ended up with some very attractive architectural contrasts.

At Fort Carson, the architects blended dark SolarWall panels smoothly into the boldly handsome tri-color design on the hangars – with more visually-pleasing results.

Clean air in and out.

SolarWall systems also help the outdoor air by

reducing greenhouse gases: Every year, SolarWall panels at Fort Drum prevent over 2,000 tons of CO₂ from being released into the atmosphere. Although Manitoba's installation is much smaller, it, too, does its part as 236 fewer tons of greenhouse gases get released into the air each year. Says Bisson, "The SolarWall system showcases our government's commitment to address climate change issues."

"In it for the long term"

This commitment is an important one for many in the public eye. Bisson explains, "Governments are in it for the long term. It's a good investment for government funded agencies. A lot of agencies' mechanical systems are beyond their life expectancies and this is a good opportunity to easily tie in renewable energy savings with modernization of equipment. This [SolarWall] project shows that we are trying to be leaders in the renewable energy field." His suggestion: That all government agencies step up and do their part.

Presidential Points of View.

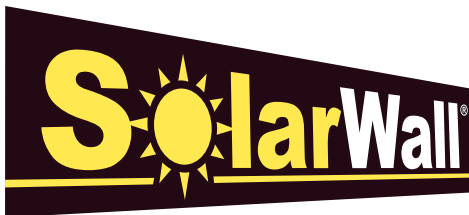
In February 2006, U.S. Energy Secretary Samuel Bodman said, "The programs at NREL [National Renewable Energy Laboratory] are critically important to realizing the president's vision to diversify and strengthen our nation's energy mix." After touring the NREL facility in Golden, Colorado, Bush urged everyone to seek ways of including renewable energy resources wherever possible.

Former president Bill Clinton recently said that whether it's in the area of preventing and curing diseases, eradicating poverty, helping our environment, or reducing our consumption of energy resources, "individuals and corporations should lead by example – and put in place actions and solutions that serve the greater good". Among the examples offered: The use of renewable energy.

Given that many local governments already have a specific mandate to "go green", and that solar air heating has one of the best ROI and payback periods of all the renewable technologies, installing a SolarWall system could be an easy and affordable means of fulfilling the "green government" requirement to reduce electricity and natural gas consumption (and lower budgetary spending), while "leading by example". As an added bonus, in municipalities where LEED targets have been adopted, the use of SolarWall technologies can provide up to 6 LEED points.

Considering that the construction of SolarWall buildings also creates jobs locally, while reducing dependence on imported energy, lowering energy costs, reducing CO₂ emissions, and improving indoor air quality, installing a SolarWall system makes sense all round. Or, in the words of one advocate, "Why *wouldn't* you do it?!"

For more information on how to incorporate a SolarWall system into your new building or retrofit construction plans, please call us or visit our website.



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