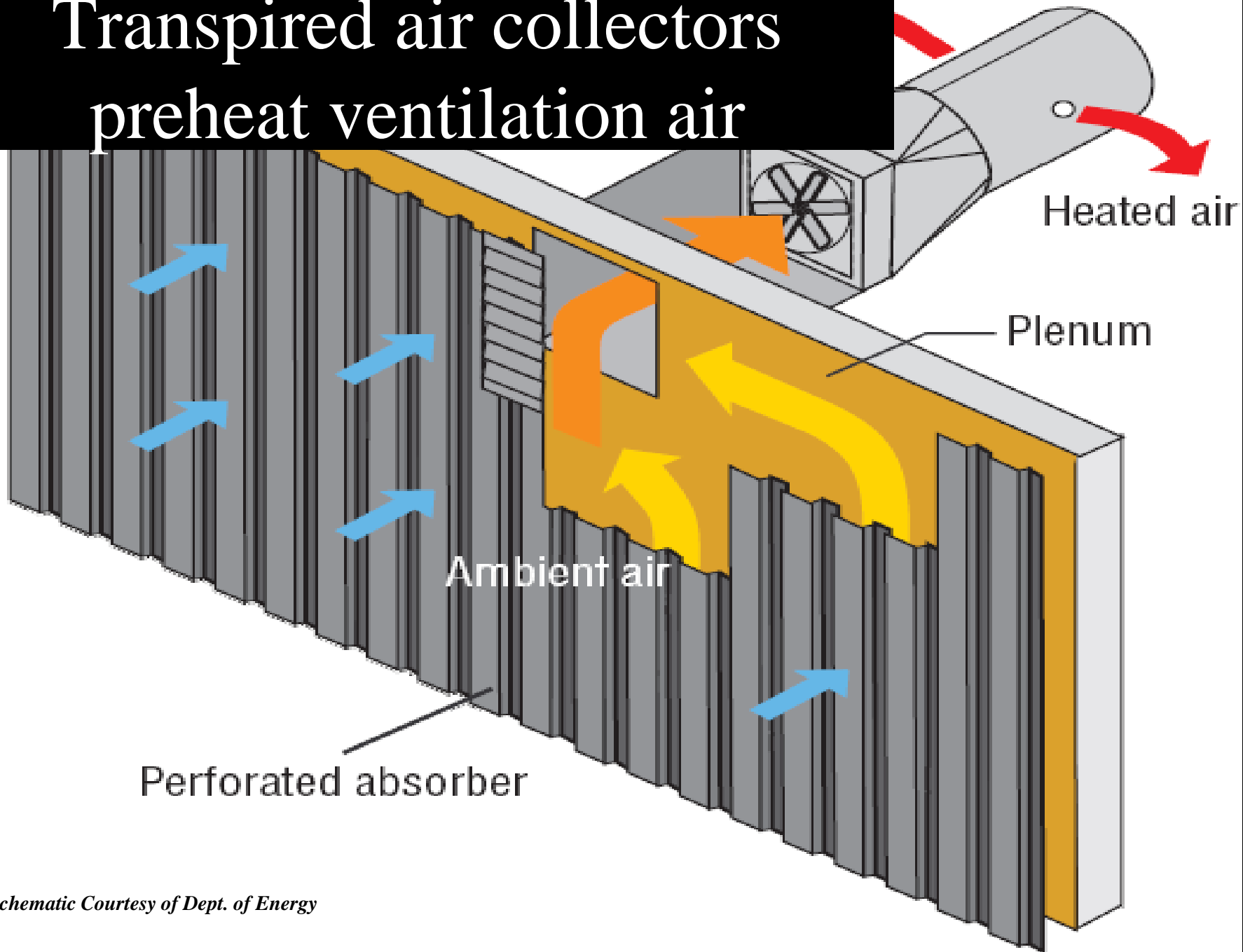


A photograph of a modern building with a large glass facade and a prominent vertical solar air heat collector wall. The building features a white overhang and a brick base. The sky is clear blue.

*The Value of  
Transpired  
Solar Air Heat for  
Commercial and  
Agricultural Applications*

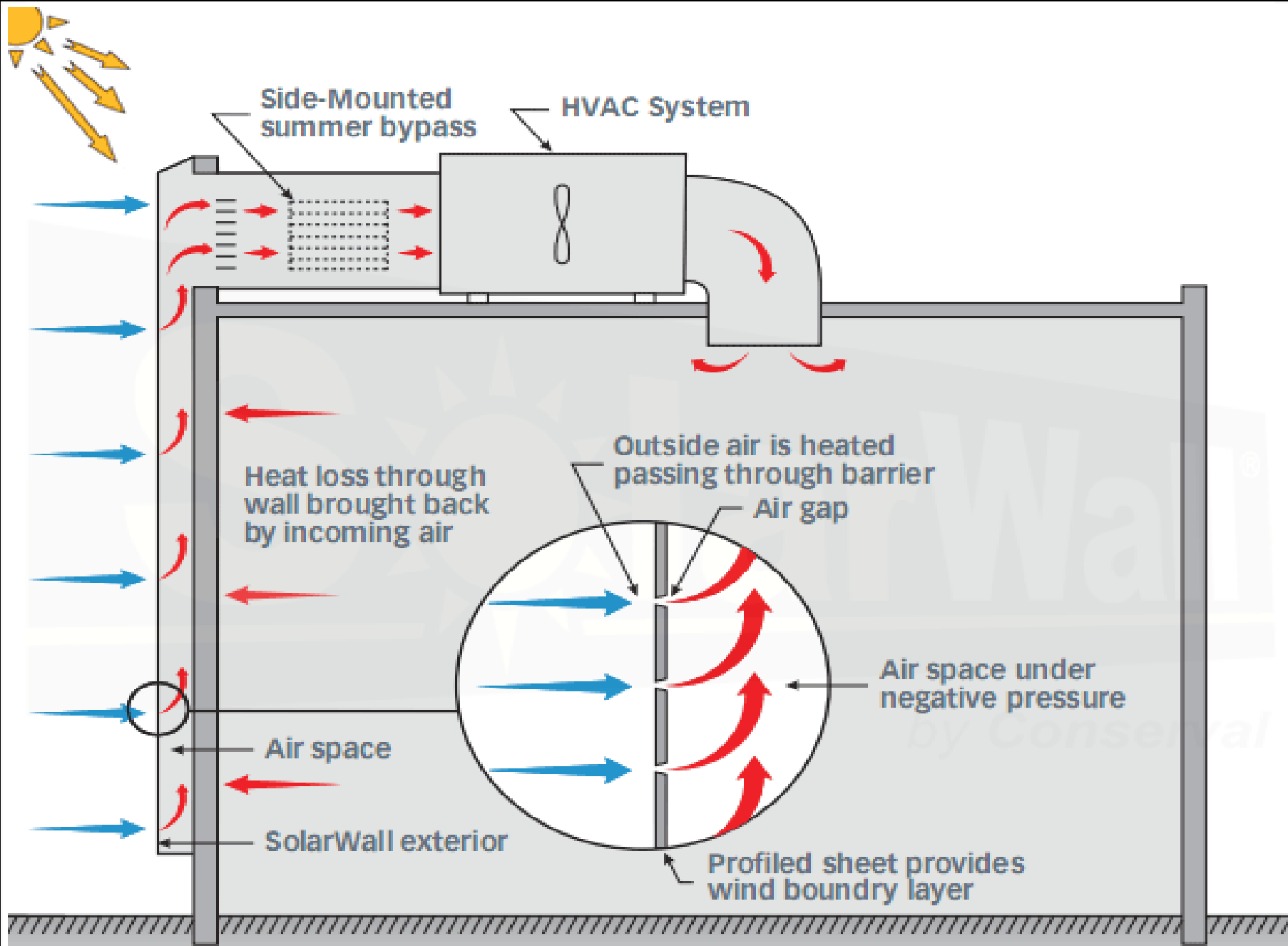
*Photos Courtesy of Solarwall*

# Transpired air collectors preheat ventilation air



# Transpired Solar Air Heating Systems

- Heats fresh air 30-70°F on sunny days
- Improves indoor air quality by filtering out particulates
- Low Maintenance with typical lifespan of 30+ years
- De-stratify industrial space for additional energy savings
- Can also be used for process drying
- Building integrated with a variety of colors available
- Eligible for more than 9 LEED points



Waterloo Police Station, ON - Canada

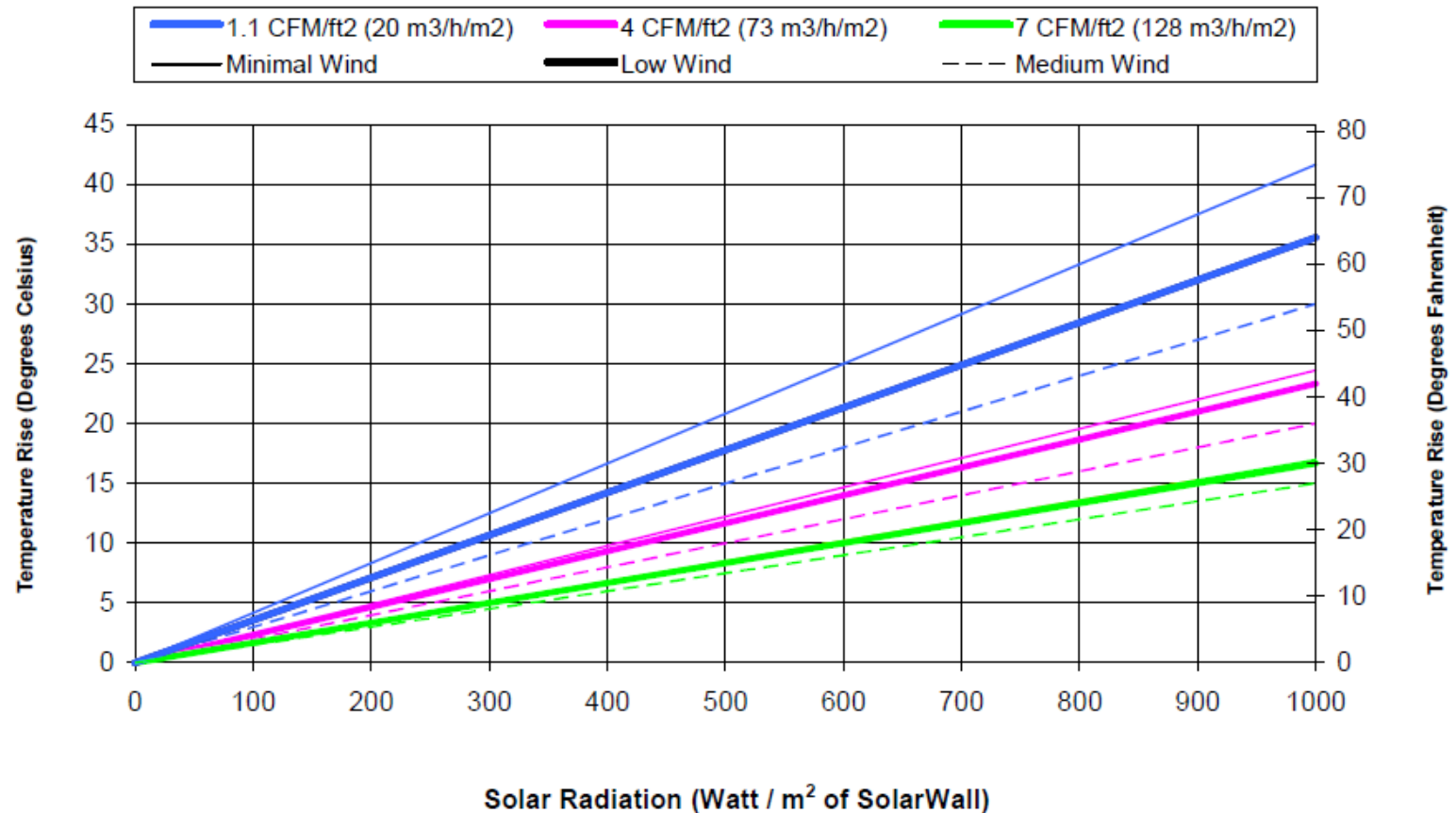


Greater Toronto Airport Authority, ON - Canada - LEED Silver Certified

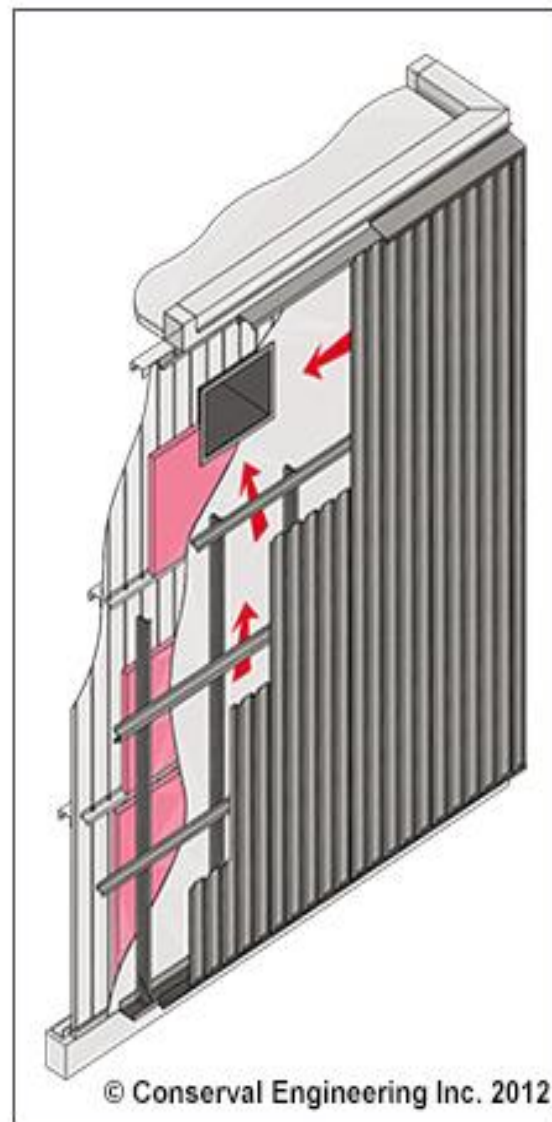
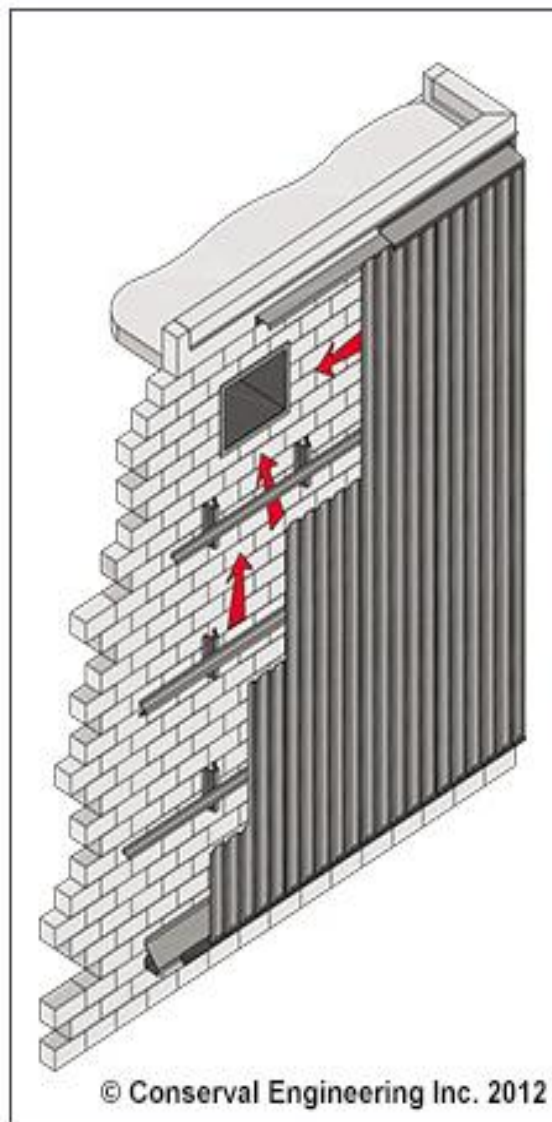


# Typical temperature rise is 20-40°F

Temperature Performance for SolarWall Single Stage  
with Wind Variance



## Typical SolarWall Construction



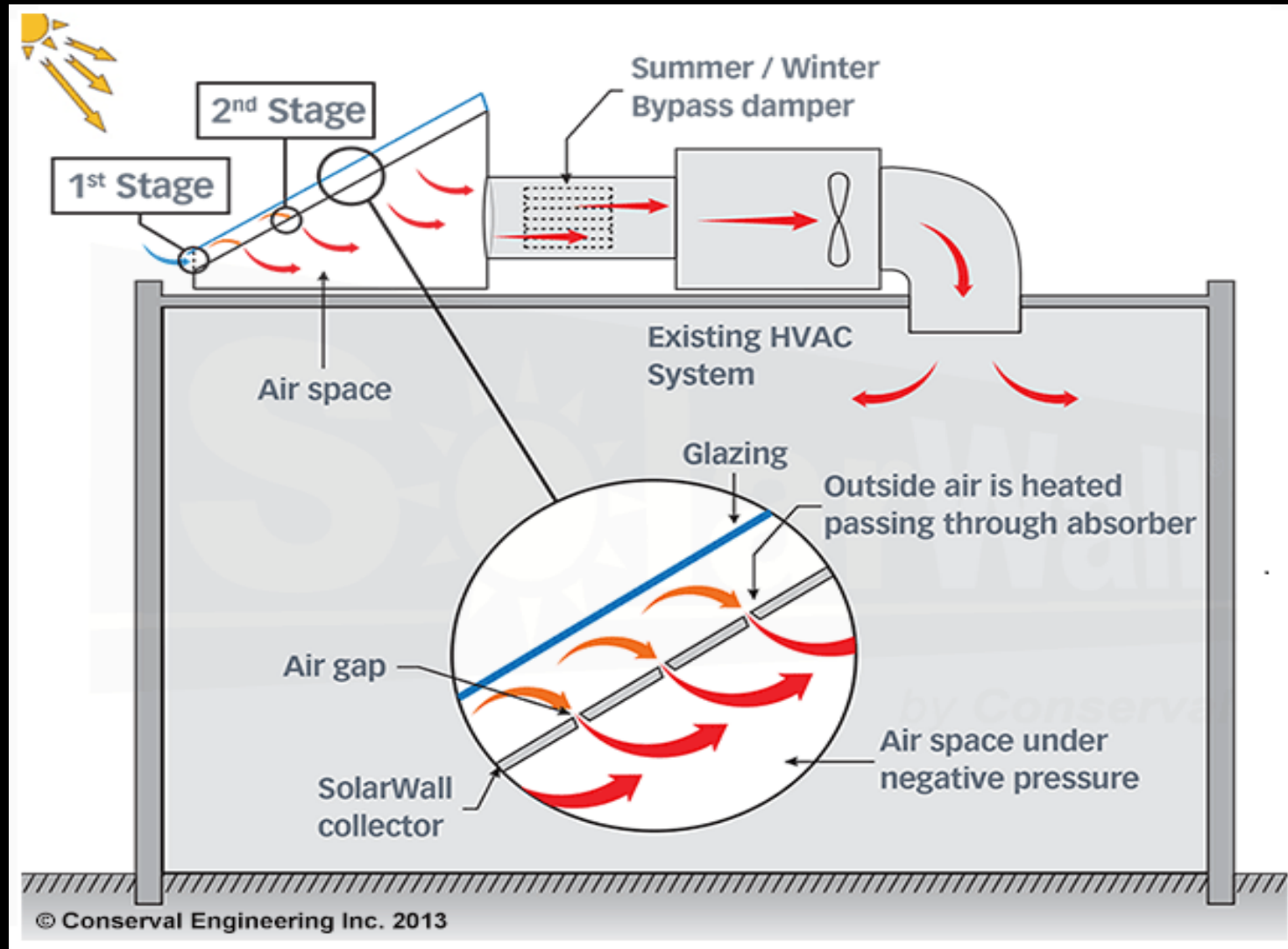
1-SolarWall panels on typical block wall construction 2-SolarWall panels on typical metal wall construction





**SolarDuct for  
Rooftop Installation**

# *SolarDuct* for rooftop installation



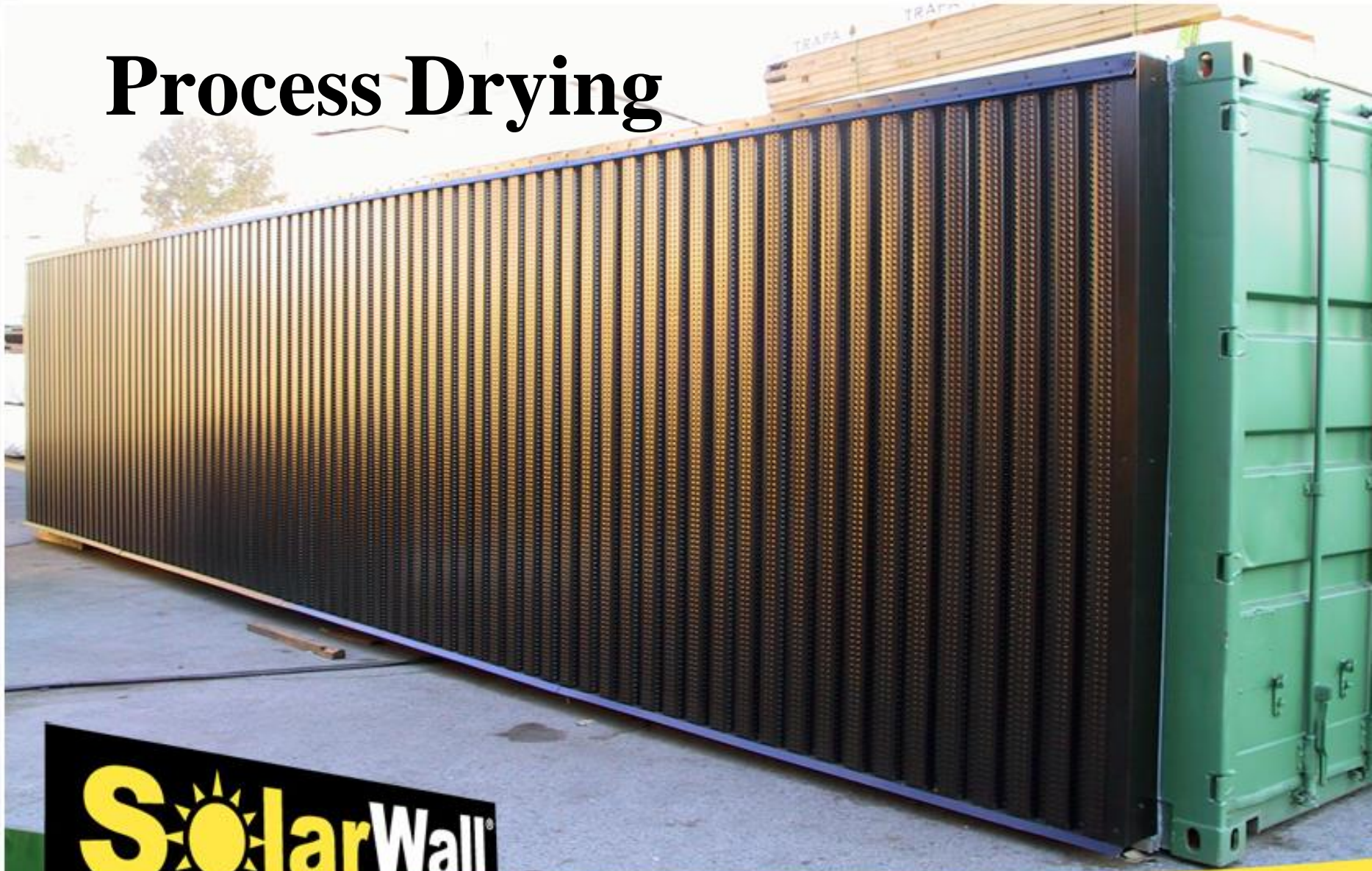
# Process Drying



by Conserval®

Chicken Manure Drying - Quebec

# Process Drying



by Conserval®

Lumber Drying Container - British Columbia

# *SolarWall PV/T*

## Hybrid solar air heat + solar electric system



- 75-80% of solar energy that reaches a PV module is converted to heat and is normally lost to ambient air
- SolarWall installed under PV modules recovers up to half of that heat
- PV modules are cooled, improving electric output up to 10%



# Lower Hobson Student Union

## *Cost and performance estimate*

- **Delivered energy: 129.0 mmBtu**
- **Heat recaptured: 54.7 mmBtu**
- **Carbon savings: 10.7 tons CO<sub>2</sub>**
- **First year cost savings: \$2,150**
- **Equity payback: 12.2 years**

*Photo: RREAL*

# *Transpired Air for Agricultural Applications*

*Photo Courtesy of Solarwall*



# Cost per Unit of Energy Analysis



## **Brainerd Regional Airport**

- \$25,000 Solar Air Heating System
- 14,649 kWh<sup>th</sup> annual production
- Service life: 40 years



## **White Earth Nation Fire Hall and Rescue**

- \$44,000 Grid-tied PV system
- 14,000 kWh annual production
- Service life: 40 years





RREAL

Rural Renewable Energy Alliance

Rural Renewable Energy Alliance

*Photo: RREAL*