

Can You Use Solar Thermal Energy To Reduce the Spread of COVID-19?

Everyone under the sun understands how solar power saves on energy costs. It's a renewable source of power that's always there and costs little to convert once you've got the right systems in place. However, most people might not think of solar energy being able to help reduce the chance of transmission for viruses like COVID-19.

How Is COVID-19 Transmitted to Other People?

Viruses cannot live without a carrier. When an infected person exhales, coughs, or sneezes, they expel tiny particles containing the virus, but that virus will die in the air without a carrier to hitch a ride on. Typically, given certain levels of humidity, water vapor in the air can provide the carrier to transmit those particles to another person in close proximity.

This is one of the reasons the health experts have advised opening windows in the warmer months to decrease the chance of transmission. The tricky part is that opening the windows can often raise the humidity of an interior space. This rise in humidity can counteract the benefits of opening windows in the first place. The ideal Relative Humidity (RH) to reduce the chance of transmission is under 60% humidity.

The Rise of Solar Thermal Energy Systems

As solar technology grows in leaps and bounds, every year we see more and more people and businesses adopting solar power into their life and work environments. Solar thermal energy typically operates as a type of solar boiler to produce large quantities of hot water or heat whether it is sunny or cloudy outside. On average, solar thermal collectors produce 30,000 BTUs per hour over a typical 10-hour solar day.

So, How Does Solar Thermal Impact COVID-19 Transmission?

Even the most experienced HVAC engineer struggles with perfecting the control of humidity indoors. Packaged rooftops and advanced DCC controls do provide simple dehumidification, but they can be challenging to operate and maintain over the long haul. Also, there are Energy Codes and ASHRAE guidelines in process that limit mechanical and electrical reheat applications.

Thermal solar systems provide a sustainable model for offering hot water heating in the winter months. The thermal water can also be used to preheat domestic water or other process water. In many cases during the summer, this produces an excess of hot water that is ultimately wasted. Luckily, hot water is a simple system to design and operate as a means of reheating cool air—another way to control dehumidification.

Reheating in this way enables the AC system to stay on longer and take more moisture out of the air. So, all of these elements work together to create a sustainable way to control summer humidity to such a degree that reduces the chance of transmission of COVID-19 in many indoor environments.

The Benefits of Solar Thermal Energy Systems

Solar thermal collectors are a simple way to turn ultraviolet rays into a renewable source of energy for your business. Our solar heating products are perfect for anyone who has high energy costs, consistently needs large amounts of heat or hot water, wants to decrease their dependency on fossil fuels, or wants to make a positive environmental impact. And now we can add the health benefits of controlling humidity to that list of advantages. To learn more about the energy and health benefits of solar thermal technology, contact Solar UV Solutions today.