

SOLAR SPACE HEATING

Fact Sheet

Solar Space Heating for Non-Residential Customers

By using a solar space heating system, you can take advantage of the sun's abundant energy to heat your facility. Solar space heating systems can provide for the bulk of your space heating needs while significantly reducing your heating bills. The business types that are particularly well suited for solar space heating applications are those which benefit most from offsetting daytime heating demands such as day cares, medical offices, machine shops, workshops, elderly and student housing and warehouses. Solar space heating can also provide for ventilation needs in addition to heating for commercial, institutional, agricultural and industrial buildings. In addition, the systems can also be used to deliver solar heated air up to 180°F, making them well suited for industrial preheating processes, crop drying, laundry drying or dehumidification applications.

How Do Solar Space Heating Systems Work?

Indoor space heating is the largest single use of energy in most buildings. Solar space heating systems use solar energy to heat indoor spaces and can be one of the most cost effective solar technologies in colder climates.

One of the most affordable solar heating systems is a solar air collector. Solar air heating collectors are typically wall-mounted, generally located near the central air intake for the building and can be easily integrated into a building's façade. Solar air collector systems operate as follows:

- Fresh air is drawn through the solar heating collector
- The air is preheated using the sun's energy
- The solar heated fresh air is distributed into the building either through the existing HVAC system or directly into the space.

Solar heating systems are also effective for pre-heating hydronic heating systems. This method of heating is also an eligible technology in the incentive program.



Cost Savings

Using the sun's energy to preheat outside air before it is introduced into a plant or other facility can dramatically reduce fuel consumption and heating costs. While energy savings, monthly utility savings and long-term value of a solar system are important, the financial payback on solar heating systems are primarily driven by incentives, which include tax credits, accelerated depreciation and incentives offered by NV Energy.

NV Energy Incentives

The NV Energy Solar Heating Program offers incentives to gas customers who install solar heating systems. Incentives help offset the cost to install solar heating systems. Small business customers can receive up to \$7,500 while schools, public and non-profit customers can receive up to \$30,000 per system. Incentives are issued in the form of a one-time payment based on the number of therms of natural gas consumption that the system is designed to offset annually. Applications are being accepted online at nvenergy.com/solarheating on a first come, first served basis.

System & Installation Costs

The cost of installing a solar heating system can vary widely depending on the type of system. System performance depends on effective siting, system design and installation as well as the quality and durability of the components. Systems are most cost-effective in cold climates with good solar resources like northern Nevada. Costs include the purchase and installation of solar collectors, collector mounting equipment, storage tanks, pumps, controllers, piping, insulation, and connection to HVAC units. While the cost of the system and installation are sometimes higher than a comparable gas system, operational expenses of systems are typically much lower given that the fuel is free sunlight, and simply requires collection for use.

Eligible Contractors

Solar space heating incentive program participants are required to use an eligible contractor to complete the installation of their solar space heating system. In addition to holding the appropriate license types, eligible contractors have completed a one-day training offered by NV Energy. Eligible contractors are available to help determine potential installation costs and

savings estimates as well as assist customers through every step of the solar heating incentive program. A complete list of eligible contractors is available online at nvenergy.com/solarheating or call 866-786-3823 to request a list.



Eligible Equipment

The Solar Rating & Certification Corporation (SRCC) provides third party, ANSI-approved testing for solar thermal collectors. These ratings are the industry's best guarantee that a collector's performance has been reviewed and verified. SRCC certification is required for incentive program eligibility.

Warranty, Maintenance and Expected Life

Maintenance requirements are minimal with solar air heating systems and the expected lifespan is over 20 years. Commercially available collectors come with warranties of 10 years or more.

For More Information

To learn more about the solar heating incentive program, including how to apply and find a contractor, visit nvenergy.com/solarheating or call 866-786-3823.

