



EVAPORATIVE PRE-COOLER



OVERVIEW

- Best suited for warm dry climates – like Idaho and Eastern Oregon
- Wetted media cools down air entering condenser coils
- Cooler air has more capacity to absorb heat
- Using a media prevents condenser coils from becoming wet during evaporation process

Evaporative pre-coolers, when added to an air-cooled condenser coil, can improve both equipment capacity and energy efficiency (this is not a replacement of an air-cooled condenser with an evaporative condenser). Pre-coolers save energy because the entering air to the condenser coil is lower in temperature, reducing the compressor power, resulting in energy reduction of 20 to 40 percent.

INCENTIVES

An incentive of **\$20 per ton** of attached **cooling capacity** is available for the installation of an evaporative pre-cooler on the condenser of an air-cooled chiller through Idaho Power's Commercial and Industrial Energy Efficiency Program.

Eligible projects are those in which equipment is added to an existing or new air-cooled condenser to evaporatively cool the ambient air temperature before reaching the condenser coils. Water supply must have chemical or mechanical water treatment (magnetic water treatment does not qualify). Only units with R-410A refrigerant (or equivalent) and a 6-inch minimum media thickness are eligible.

Visit idahopower.com/business for program details and requirements.

Payback

Typical costs associated with evaporative pre-coolers differ depending on the size needed for the application. Evaporative pre-cooler projects, with Idaho Power's incentives, typically see a payback of 3-5 years.

References

Energy Efficient Emerging Technology, Desiccant-Enhanced Hybrid Evaporative Pre-Cooler. Retrieved on September 6, 2016 from <http://e3tnw.org/ItemDetail.aspx?id=49;Oak Ridge National Laboratory>.

Direct Evaporative Precooling Model and Analysis. Sourced on September 6, 2016 from <http://info.ornl.gov/sites/publications/files/Pub26605.pdf>



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