

Study: cut heating costs this winter with a tag team of solar and heat pumps

Solar-powered heat pumps can be considered 25-year investments in financial security, warmth and environmental sustainability.

SAULT STE MARIE, MICHIGAN, UNITED STATES, June 17, 2021 /EINPresswire.com/ -- It is well known that solar photovoltaic (PV) technology is now a profitable method to decarbonize the grid, but if catastrophic climate change is to be avoided, emissions from transportation and heating must also decarbonize. One approach to



renewable heating is leveraging improvements in PV with heat pumps (HPs). The <u>results</u> - you can make money, but you just won't get rich.

Researchers took a hard look at solar-powered HPs in the US and Canada. To determine the potential for PV+HP systems there, this <u>study</u> performed numerical simulations and economic analysis using the same loads and climate, but with local electricity and natural gas rates for Sault Ste Marie, in both Canada and U.S. Ground-mounted, fixed-tilt, grid-tied PV systems are sized to match 100% of electric loads considering cases both with and without air source HPs for residences with natural gas-based heating.

"For the first time the results show North American residents can profitably install residential solar-powered heat pump systems, earning a few percent per year in Canada and the US, to provide for all of their electric and heating needs." explains Professor Joshua Pearce, the lead author on the study.

Returns on PV-only systems are higher, up to 4.3%, however the PV capacities are less than half. These results suggest northern homeowners have a clear and simple method to reduce their greenhouse gas emissions by making an investment that offers a higher internal rate of return than savings accounts, CDs and GICs in both countries. The Bottom line : if you have any money in CDs or a savings account you are better off investing in this technology.

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