# Article information:

Analysis of the effect of icing on the thermal behavior of helical coil heat exchangers in surface water heat pump applications - ScienceDirect
<https://www.sciencedirect.com/science/article/pii/S0017931021011807>

# Article summary:

1. Surface water heat pumps (SWHP) are a renewable energy technology that can exploit the thermal energy of seawater, rivers, and ponds for the heating and cooling of buildings.

2. Heat exchangers used in SWHP systems are usually made of metal or plastic, with plastic materials having lower thermal conductivity than metal materials.

3. A type of multirow helically coiled tube (MHCT) heat exchanger has been developed to improve the performance of SWHP systems, with some studies providing relevant performance data and correlations for the calculation of heat transfer between the fluid inside the tube and the surrounding water.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Analysis of the effect of icing on the thermal behavior of helical coil heat exchangers in surface water heat pump applications” is generally reliable and trustworthy. The article provides an overview of surface water heat pumps (SWHP), their components, and how they work. It also discusses different types of heat exchangers used in SWHP systems, such as metal and plastic materials, as well as a type of multirow helically coiled tube (MHCT) heat exchanger that has been developed to improve performance. The article cites several studies that provide relevant performance data and correlations for calculating heat transfer between fluids inside tubes and surrounding water.

The article does not appear to be biased or one-sided in its reporting; it presents both sides equally by discussing both metal and plastic materials for use in SWHP systems. It also does not appear to contain any promotional content or partiality towards any particular material or technology. The article does not make any unsupported claims; all claims are backed up by evidence from cited studies.

The only potential issue with this article is that it does not explore any counterarguments or possible risks associated with using MHCTs in SWHP systems; however, this is likely due to space constraints rather than bias or lack of research on the topic. In conclusion, this article is generally reliable and trustworthy; it provides an accurate overview of SWHP systems and their components without bias or unsupported claims.

# Topics for further research:

* Surface water heat pump performance
* Heat exchanger materials for SWHP systems
* Heat transfer correlations for SWHP systems
* Advantages of multirow helically coiled tube heat exchangers
* Disadvantages of multirow helically coiled tube heat exchangers
* Icing effects on SWHP systems

# Report location:

<https://www.fullpicture.app/item/07cc1cc8bb321f34e43896a437db4ca0>