

Snow cooling

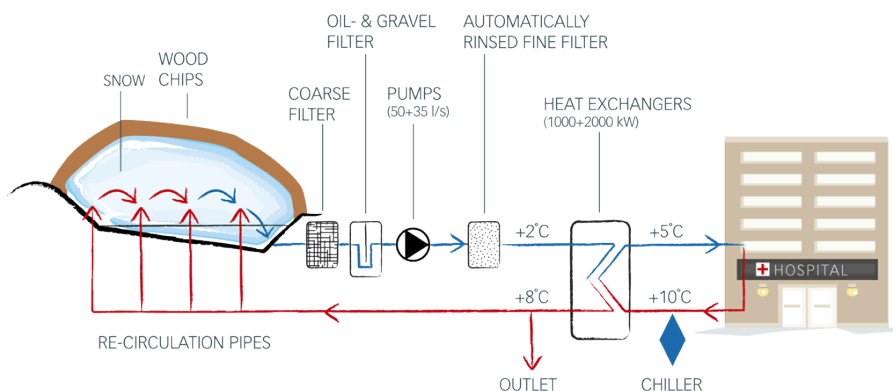
District cooling with snow storage – snow from winter cools summer heat. At Sundsvall County Hospital the electricity consumption has decreased by more than 90% thanks to snow cooling!

In care there is a large need for cooling of medical equipment, servers and indoor environment. Since 2000 a large heap of snow provides cooling for Sundsvall County Hospital which has decreased electricity consumption with more than 90%. District cooling has many advantages compared to individual cooling. It is environmentally friendly, energy efficient, makes less noise and is reliable. District cooling with snow has even more advantages since it is locally produced, and provides unlimited power, has a simple technique and is not sensitive to high electricity prices.



The technique is old, just a hollow in the ground filled with snow during the winter and covered with a layer of isolating wood chips. In spring and summer the cold melting water is collected in the bottom and pumped to the cooling system. Via heat exchangers the heated water is pumped to the snow storage and helps melting more snow. The snow can also be stored in rock shelters. Almost no Freon based cooling media are used, which is very good since it is a powerful greenhouse gas and breaks down the ozone layer. Pollutions in the snow can be treated instead of into water courses. The wood chips covering the snow can be used for several years.

Up to 70 000 cubic metre natural or artificial snow can be stored in a hollow the ground, large as a football ground, with a dense layer in the bottom, and this covers more than 90 per cent of the need for cooling in the summer half-year. As much as 2,500 MWh cool can be supplied, and the power can be adjusted after what is needed. The electricity consumption has decreased by more than 90% and it is even cheaper!



For more information, please visit

http://www.snowpower.se/sundsvalls-kyanlaggning_en.asp

<http://advantage-environment.com/byggnader/stored-snow-for-summer-cooling/>

Source of pictures http://www.snowpower.se/sundsvalls-kyanlaggning_en.asp