

Excess and ambient district heating cases in Finland

Background: This case listing was gathered by Finnish Environment Institute SYKE as open data for research purposes during 12/2020-3/2021, more information (in Finnish): [https://www.hiilineutraalisuomi.fi/fi-fi/Ilmastotyö/Energia/Hukka_ ja_ ymparistolammon_ kasvun_ esteet_ j\(59173\)](https://www.hiilineutraalisuomi.fi/fi-fi/Ilmastotyö/Energia/Hukka_ ja_ ymparistolammon_ kasvun_ esteet_ j(59173))

City / municipality	Area	Heating company	Ambient heat source(s)	Excess heat source(s)	Heat provider(s)	Technology / solution provider(s)	Technologies	Volume	Production starting time	Sources
Alajärvi		Keitele Timber Oy		Flue gas from the bioboiler		Caligo Industria	Scrubber with heat pump		2019	http://www.caligoindustria.com/en/references.html
Espoo	Jorvi	Fortum		Building cooling	Espoon sairaala	Ollon		50 homes	2014	https://www.sttinfo.fi/tiedote/fortumin-ratkaisu-tekee-espoon-uudesta-sairaalaista-kaukolammon-tuottajan?publisherId=3099&releaseId=14418470
Espoo		Fortum		Datacenter	Tieto			20 GWh = approx. 1000 homes		https://www.fortum.fi/datakeskusten-hukkalampo-kaukolammoksi
Espoo	Säteri	Fortum		Datacenter	Elisa	Nohewa		400 homes	2020?	https://corporate.elisa.fi/uutishuone/tiedotteet/uutinen/elisan-datakeskuksen-hukkal%C3%A4mp%C3%B6-hy%C3%B6dynnet%C3%A4%C3%A4n-tulevaisuudessa-suomalaiskotien-l%C3%A4mmityksess%C3%A4/06753998715537
Espoo	Suomenoja	Fortum		Sewage	HSY		Industrial heat pumps	15 000 homes	2015	https://yle.fi/uutiset/3-10987058
Espoo	Otaniemi	St1	Geothermal energy			St1	> 6 km deep heat boreholes		2020	https://yle.fi/uutiset/3-11326223
Espoo	Otaniemi	Fortum	Air, water	Buildings	Aalto University, ACRE	Sweco Finland Oy,	Heat pumps	Ten large buildings in Works-square	2021	https://www.sweco.fi/meilla-on-suunnitelma/aalto-yliopiston-lahienenergia-ratkaisu/
Espoo	Vermo	Fortum	Air			Oilon Oy	Heat pump		2021	https://www.fortum.fi/media/2020/12/fortum-suunnittelee-suomen-suurinta-kaukolampoverkkoon-liitettävää-ilmavesilämpöpumppulaitosta-hankkeelle-temin-tukea?utm_source=twitter%20linkedin&utm_medium=social&utm_campaign=ilmavesi%C3%A4mp%C2%ADp%C3%B6C2%ADpump%C2%ADpu%C2%ADlai%C2%ADtos%20Vermo,OilonOy
Forssa		Nevel Oy		Building cooling	School, City of Forssa				2022	https://nevel.com/fi/story/nevel-ja-forssa-yhteistyolla-100-prosenttisesti-vihreaa-lampoa/
Helsinki	Esplanad	Helen Oy		Building cooling			Industrial heat pump			https://yle.fi/uutiset/3-11326223
Helsinki	Kallio	Helen Oy		Building cooling, refrigeration heat recovery	Lidl Oy	Oilon Oy			2017	https://www.helen.fi/yritykset/jaahdytysta-yrityksille/ajankohtaista/lidlin-myymalan-jaahdytystuottaa-myos-kaukolampoa
Helsinki	Vuosaari	Helen Oy		Coffee roastery	Paulig Oy			1000 homes	2020?	https://www.paulig.fi/yritys/mediatiedotteet/kahvipahtimon-hukkalampo-hyotykayttoon
Helsinki	Kruunuvuori	Helen Oy	Sea water	District cooling	Baltic sea		Seasonal thermal storage		After 2015	https://www.hs.fi/kaupunki/art-2000005535700.html
Helsinki	Vuosaari	Helen Oy	Sea water	Heat boilers	Baltic sea		Industrial heat pump	13 MW	2022	https://yle.fi/uutiset/3-11326223
Helsinki	Kallio, Katri Vala	Helen Oy		Sewage water, district cooling	HSY Viikinmäki sewage treatment plant		Industrial heat pumps	105 MW -> 158 MW	2005-2021	https://yle.fi/uutiset/3-11326223 , https://www.hel.fi/uutiset/fi/helsinki/hukkalampo+entista-paremmi-hyodyksi
Helsinki		Helen Oy	Geothermal energy						?	https://yle.fi/uutiset/3-11326223
Helsinki	Mustikkamaa	Helen Oy					Thermal storage 12 MW		2021	https://yle.fi/uutiset/3-11326223

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Helsinki	Postipuisto	Helen Oy	Geoenergy	Building (sewage, grocery store)	Ilmarinen, Asunto Oy Helsingin Rullakkokatu 1	Helen Oy, Oilon Oy, Enersys CM Oy	Heat pumps, solar panels, two-way DH		2021	https://www.ilmarinen.fi/tietoa-ilmarisesta/ajankohtaista/uutiset-ja-tiedotteet/2020/postipuiston-uusi-energiaratkaisukirittää-kohti-hiilineutraaliutta , https://www.helen.fi/uutiset/2020/postipuisto
Helsinki	Suurmetsä	Smart Heating Oy	Geoenergy	Buildings	As Oy Jakometsä and As Oy Jakolehdo	Smart Heating Oy, Rototec		19 apartment buildings	2021	https://www.facebook.com/permalink.php?id=527715734039016&story_fbid=2294627010681204
Helsinki		Helen Oy		Building cooling	Fire station, City of Helsinki	Oilon Oy	Heat pump		2016	Oilon Oy
Helsinki		Helen Oy		Building cooling	Office building	Oilon Oy	Heat pump		2018	Oilon Oy
Helsinki		Helen Oy		Building cooling	Office building	Oilon Oy	Heat pump		2018	Oilon Oy
Helsinki		Helen Oy		Building cooling	Office building	Oilon Oy	Heat pump		2018	Oilon Oy
Helsinki		Helen Oy		Building cooling	Office building	Oilon Oy	Heat pump		2019	Oilon Oy
Helsinki		Helen Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2019	Oilon Oy
Helsinki		Helen Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2019	Oilon Oy
Helsinki		Helen Oy		Refrigeration heat recovery	Supermarket	Oilon Oy	Heat pump		2019	Oilon Oy
Helsinki		Helen Oy		Refrigeration heat recovery	Supermarket	Oilon Oy	Heat pump		2019	Oilon Oy
Helsinki		Helen Oy		Building cooling	Office building	Oilon Oy	Heat pump		2020	Oilon Oy
Helsinki		Helen Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2020	Oilon Oy
Helsinki		Helen Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2020	Oilon Oy
Helsinki		Helen Oy		Building cooling	Shopping center	Oilon Oy	Heat pump		2020	Oilon Oy
Helsinki		Helen Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2021	Oilon Oy
Helsinki		Helen Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2021	Oilon Oy
Helsinki		Helen Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2021	Oilon Oy
Helsinki		Helen Oy		Electrical stations cooling		Oilon Oy	Heat pump		2021	Oilon Oy
Helsinki		Helen Oy		Building cooling, wastewater, refrigeration heat recovery	Apartment building	Oilon Oy	Heat pump		2021	Oilon Oy
Hämeenlinna		Loimua Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2018	Oilon Oy
Hämeenlinna		Loimua Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2019	Oilon Oy
Hämeenlinna		Loimua Oy		Building cooling	Apartment building	Oilon Oy	Heat pump		2019	Oilon Oy
Hämeenlinna	Vanajanlinna		Geoenergy	Buildings	Linna Golf	Rototec, Adven	Heat pumps, local heat distribution grid		2018	https://rototec.fi/vanajanlinna-linna-golf/
Joensuu		Fortum		Building cooling	Hospital, Pohjois-Karjalan keskussairaala			300 homes	2016?	https://yle.fi/uutiset/3-7985792
Järvenpää		Fortum	Geoenergy	Buildings	JUST	Rototec	Heat pump		2017	Rototec

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Järvenpää		Fortum		Building cooling	Lidl Oy		Heat pump	700 MWh, 40 homes	2018	https://www.fortum.fi/media/2018/11/fortum-ja-lidl-sopimukseen-ylijaamalammon-hyodyntamisesta-avoimessa-kaukolampoverkossa
Kajaani	Renforsin Ranta	Loiste Lämpö		Datacenter Lumi	CSC – Tieteen tietotekniikan keskus			20% of Kajaani DH	?	https://yle.fi/uutiset/3-11361319
Kankaanpää		Vatajankosken Sähkö		Plasterboard factory	Knauf Oy	Caligo Industria		1/3 of Kankaanpää DH	2021	https://yle.fi/uutiset/3-11348123 , https://www.energiuutiset.fi/uutiset/alykasta-kaukolampoa.html
Kankaanpää		Vatajankosken Sähkö		Servers		Kuulea Oy		1,2 MW	2020	https://www.kuulea.com/post/t%C3%A4ysin-uudenlainen-kaukol%C3%A4mp%C3%B6voimalk%C3%A4ynnistetty-vatajankosken-s%C3%A4hk%C3%B6ll%C3%A4
Kauhava	Ylihärmä	Kauhavan Kaukolämpö		Flue gas from the bioboiler		Caligo Industria	Scrubber with heat pump		2013	http://www.caligoindustria.com/en/references.html
Keitele		Keitele Energy Oy		Flue gas from the bioboiler		Caligo Industria	Scrubber with heat pump		2019	http://www.caligoindustria.com/en/references.html
Kirkkonummi		Fortum		Datacenter	Ericsson			10 -> 20 GWh		https://www.fortum.fi/datakeskusten-hukkalampon-kaukolammoksi
Kotka		Kotkan Energia		Flue gas from the heat boiler					?	https://www.kotkanenergia.fi/hukkalammon-hyodyntaminen/
Kotka		Kotkan Energia		Pulp factory	Kotka Mills			1400 homes		https://www.kotkanenergia.fi/hukkalammon-hyodyntaminen/
Kuopio		Kuopion Energia	Lake water	District cooling		Oilon Oy			2020	https://oilon.com/fi/references/oilon-chc-tekniikka-kuopion-energiolle/
Kuopio		Kuopion Energia		Building cooling		Oilon Oy	Heat pump		2020	
Kuopio		Kuopion Energia		Building cooling	Kuopio Library and Museum	Oilon Oy	Heat pump		2019	https://www.kuopionenergia.fi/media-ja-materiaalit/asiakastarinat/kuopion-kirjasto-ja-museo/
Kuopio		Kuopion Energia		Flue gas from the heat boiler	Kuopion Energia	Valmet Oy	Scrubber with heat pump	Approx. 46 MW	2013	Kuopion Energia Oy
Kurikka		Kurikan kaukolämpö		Flue gas from the heat boiler		Caligo Industria			2020	https://www.kurikankaukolampo.fi/ajankohtaista/Kurikan-Kaukolampo-investoimajoen-lampolaitokselle-23.html
Lappeenranta		Lappeenrannan Energia		Cement production plant	Finnsementti			15% of Lappeenranta DH?	2000?	https://yle.fi/uutiset/3-11209108
Lempäälä		Lempäälän Lämpö		Chemical factory	Kiilto Oy	Calefa Oy, Rototec	Industrial heat pumps		2020-2021	https://yle.fi/uutiset/3-10800350
Lempäälä		Lempäälän Energia		Flue gas from the bioboiler		Caligo Industria	Scrubber with heat pump		2018	http://www.caligoindustria.com/en/references.html
Lohja	Kisakallio	Kisakallio Sports Institute	Lake water		Lake Lohjanjärvi	Energys Oy, Rototec	Heat pumps, local heat distribution grid	All facilities of the training and education center	2007	https://www.energiailoikka.fi/jarvilampoa-urheiluoipiston-lohjalla/
Mikkeli		Etelä-Savon Energia Oy		Building cooling		Oilon Oy	Heat pump		2018	Oilon Oy
Mikkeli		Etelä-Savon Energia Oy		Building cooling		Oilon Oy	Heat pump		2020	Oilon Oy
Mikkeli		Etelä-Savon Energia Oy		Waste water	Sewage treatment plant	Oilon Oy	Heat pump		2021	Oilon Oy

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Mäntsälä		Nivos Oy		Datacenter	Yandex Corporation	Calefa Oy		80% of Mäntsälä's DH?	2016?	https://yle.fi/uutiset/3-7550739
Myrskylä	Kirkkojärvi		Solar, geoenergy			Savosolar Oyj	solar heat collectors		2013	https://savosolar.com/fi/case/kirkkojarven-aluelampolaitos-myrskyla/
Nivala		Nivalan Kaukolämpö		Flue gas from the bio boiler		Caligo Industria	Scrubber with heat pump		2017	http://www.caligoindustria.com/en/references.html
Oulu	Ankkurilahti	Oulun Seudun Sähkö	Solar			Savosolar Oyj	solar heat collectors	10% of Ankkurilahti's heating	2018	https://issuu.com/oulunseudunsahko/docs/oss_vuosikertomus_2018 , https://yle.fi/uutiset/3-10133161
Paimio		Paimion Lämpökeskus		Flue gas from the bio boiler		Caligo Industria	Scrubber with heat pump		2017	http://www.caligoindustria.com/en/references.html
Parainen		Paraisten Kaukolämpö Oy		Industrial processes: cement and calc owens	Nordkalk Oy and FinnSementti		Heat exchangers	20-30% of the district heating	Nordkalk in the 1990's, Finnsementti 2005 & upgrade 2015	https://www.ts.fi/uutiset/kotimaa/1074027206/Parainen+lisaa+jatela-mmon+hyotykayttoa,_Paraisten_Kaukolampö_Oy
Porvoo		Porvoon Energia	Solar				Thermal storage, two-way DH		?	https://hiilineutraalisuomi.fi/fi-FI/Canemure/Osahankkeet/Porvoo
Puumala		Suur-Savon Sähkö	Solar, air			Calefa Oy, Savosolar	Industrial heat pump, solar heat collectors		2019	https://rakennusmaailma.fi/hukkalampo-lammittaa-jo-asuntoja-nyt-kaukolampoa-tehdaan-auringosta/
Salo		Lounavoima Oy				Q-heat				
Siilinjärvi				Fertilizer factory	Yara			96 % of Siilinjärvi DH	2020	https://yle.fi/uutiset/3-11429387
Tampere	Hiedanranta	Tampereen sähkölaitos		Biochar production plant	Carbofex Oy				2018	https://www.sahkolaitos.fi/lampoa-ja-viileytta/lamporatkaisut/kehityva-kaukolampo/
Tampere		Tampereen sähkölaitos	Solar, geoenergy	Building cooling	Asoy Pohjolankatu 18-20	Enermix Oy, Rototec	Heat pump		2017	
Tampere		Tampereen sähkölaitos	Lake water	Datacenter	Nokia, Näsijärvi	Oilon Oy			2016	https://yle.fi/uutiset/3-9317072
Tampere		Tampereen sähkölaitos		Building cooling		Oilon Oy	Heat pump		2021	Oilon Oy
Turku	Kakola	Turku Energia		Sewage water	Sewage treatment plant				2009	https://yle.fi/uutiset/3-5241997
Turku	Skanssi	Turku Energia	Solar, geoenergy			Rototec, Adven	Two-way DH	4000 homes	2021?	https://yle.fi/uutiset/3-7930713
Turku		Turku Energia	Geoenergy	Buildings	As Oy Vähä-Häme	Rototec	Heat pump			Rototec
Turku		Turku Energia		DH return pipeline		Oilon Oy	Heat pump		2018	Oilon Oy
Turku		Turku Energia		Building cooling		Oilon Oy	Heat pump		2019	Oilon Oy
Turku		Turku Energia		DH return pipeline		Oilon Oy	Heat pump		2021	Oilon Oy
Vaasa	Vaskiluoto	Vaasan Sähkö		Waste incineration plant	Westenergy		Thermal storage			https://yle.fi/uutiset/3-11397105
Vantaa		Vantaan Energia		Datacenter	Ficolo				?	https://www.teknikkatalous.fi/uutiset/ficolo-investoi-50-miljoonaa-datakeskukseen-hukkalampo-vantaan-energiaille/a7a6c21a-161e-4fa3-b839-9129898dd1b5

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Vantaa		Vantaan Energia	Geoenergy, solar	Waste incineration plant, district cooling			Thermal storage 1 M m ³	100 GWh	2026?	https://yle.fi/uutiset/3-11556904
Vantaa	Varisto	Vantaan Energia	Geoenergy			Quantitative Heat Oy (QHeat) , Oilon	1-2 km borehole	0,5 MW	2021	https://yle.fi/uutiset/3-11539531
Vihti	Nummela	Nummelan aluelämpö / Adven		Flue gas from the bioboiler		Caligo Industria	Scrubber with heat pump		2014	http://www.nummelanaluelampo.fi/index.php?id=13 , http://www.caligoindustria.com/en/references.html
Ylivieska		Herrfors Oy		Flue gas from the bioboiler		Caligo Industria	Scrubber with heat pump		2019	http://www.caligoindustria.com/en/references.html