

## CASE STUDY:

# NGENIC TUNE

# DISTRICT HEATING

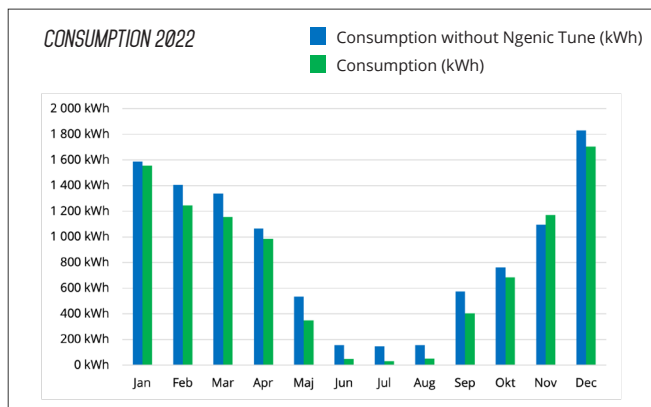
 **VILLA 3**  
UPPSALA, SWEDEN

Living Area	150 sqm, 1.5 floors
Year Built	1979
Heating	District heating with radiators.
Annual Consumption	2022 12,406 kWh (normalized, including hot water).
District Heating Supplier	Vattenfall
Ngenic Tune Installed	2020
Residents	Family with 3 children aged 7-16 years

## NGENIC TUNE FOR DISTRICT HEATING

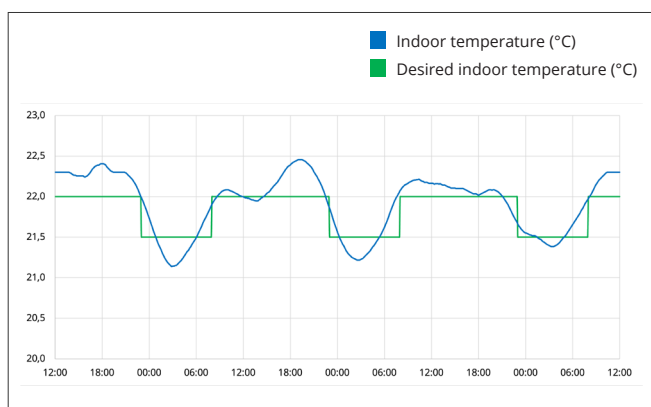
The family has had heating control since 2020.

## ENERGY CONSUMPTION



## TEMPERATURE VARIATION WITH NGENIC TUNE

Indoor temperature over a few days with nighttime setpoint lowering



## RESULTS

Month	Consumption*	Saved kWh	Saved %	Saved SEK
January 2022	1557 kWh	32 kWh	2 %	29 SEK
February 2022	1245 kWh	161 kWh	11 %	145 SEK
March 2022	1156 kWh	182 kWh	14 %	164 SEK
April 2022	985 kWh	81 kWh	8 %	73 SEK
May 2022	350 kWh	185 kWh	35 %	167 SEK
June 2022	49 kWh	109 kWh	69 %	98 SEK
July 2022	33 kWh	114 kWh	78 %	103 SEK
August 2022	50 kWh	107 kWh	68 %	97 SEK
September 2022	405 kWh	170 kWh	30 %	153 SEK
October 2022	685 kWh	78 kWh	10 %	70 SEK
November 2022	1172 kWh	-76 kWh	-7 %	-69 SEK
December 2022	1704 kWh	128 kWh	7 %	115 SEK

\* Heat consumption excluding hot water

## ENERGY SAVINGS

Energy savings with Tune have been 11.9% of heat consumption in 2021 and 12% in 2022. The villa already has a low consumption of approximately 12,500 kWh including hot water, which means the savings are about 1,300 SEK/year with Vattenfall's rates. Additionally, thanks to the reduction in energy consumption, the house has been able to move from energy class C to B.

## REFLECTIONS

The temperature is consistent and always stays within a few tenths of a degree from the set value. Since 2022, the family has a recurring schedule with a lower temperature at night, but only for comfort purposes. Even then, the temperature seems to follow the settings well, and the family notes the comfort of having a cooler night but still waking up in a warm house in the morning. The focus for the family has mainly been comfort – the set temperature has been between 22 and 22.5 degrees. Despite this, they find that the district heating bill remains at reasonable levels.