



ClimateWell

Shaping the Future of
Air Conditioning



ClimateWell



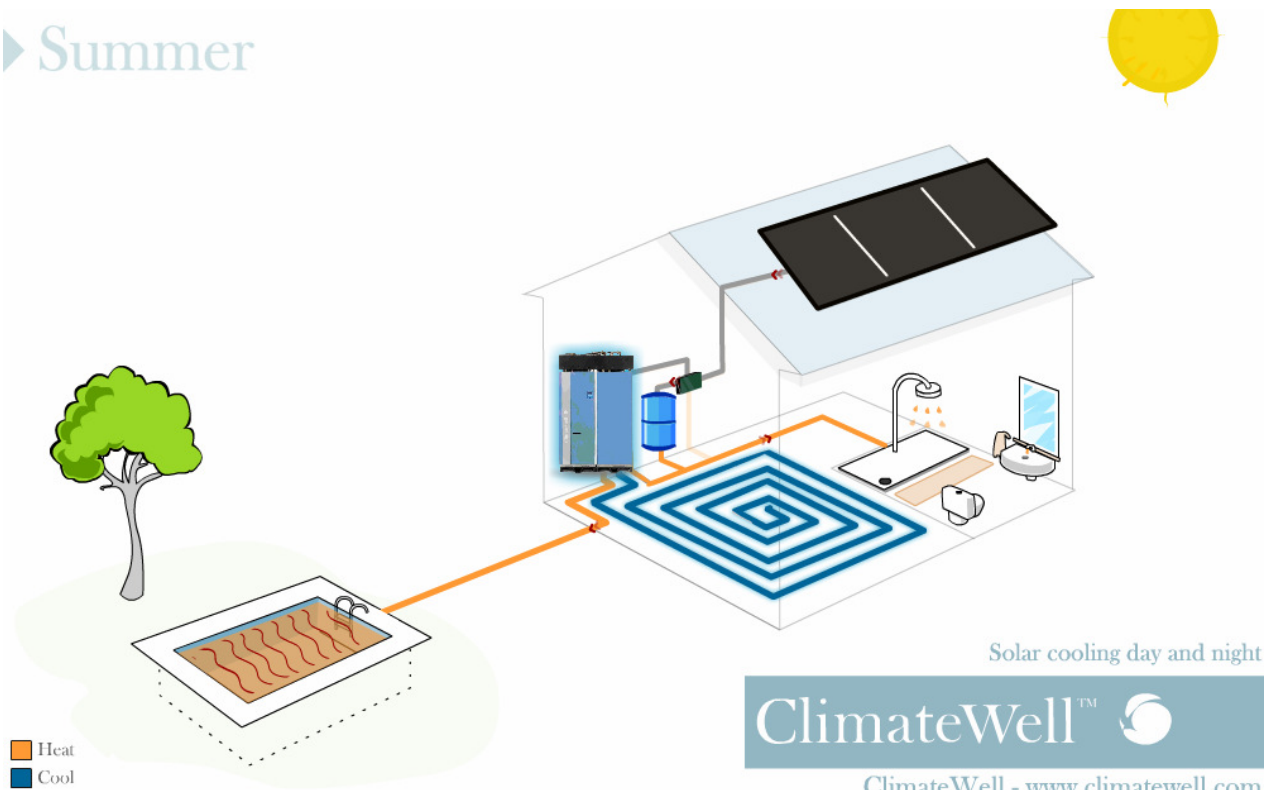
SolarCombi+ presentation
February 2008

Martin Holmström

ClimateWell – the solar powered indoor climate solution

- Solar Cooling, heating, DHW and pool heating
- Profitable from Day 1
- Renewable and clean energy – Sustainable

▶ Summer



ClimateWell

The ClimateWell group

ClimateWell's proprietary technology – 3 state absorption – is patented worldwide



- Stockholm, Sweden: Corporate HQ
- Madrid, Spain: Sales office and show-house
- Soria, Spain: Manufacturing plant



Partners and references



ClimateWell

Customers

- Solar cooling installation in Spain
- 150+ units sold
- 30+ installed and running



New version (V9) of CW10 February 2008

- No moving parts in process
- No need for electricity in process
- The process is totally noiseless
- 1.6 m in height, EUR pallet size (1.2x0.8m)
- Advanced control strategies
- Same performance as V76
- Will be presented at GENERA fair next week



ClimateWell 10 – A unique technology

- Continuous delivery of heating and cooling, around the clock
- Energy storage in integrated “chemical batteries”
- Dimensioned to provide indoor climate comfort for some 150m² of surface

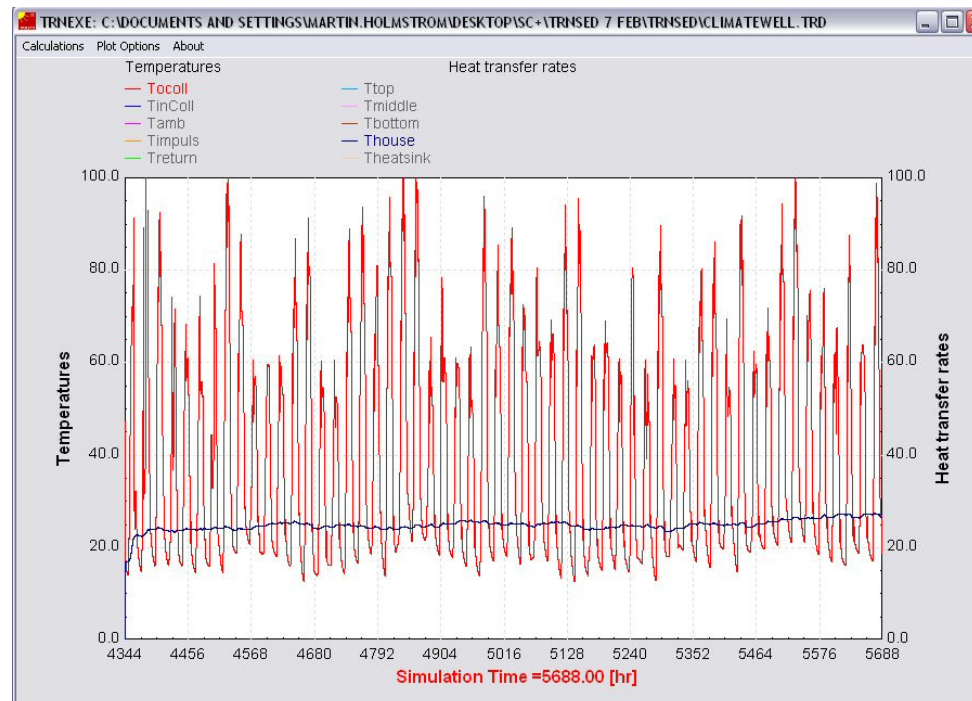


	Heating	Cooling
Power (kW)	20	10
Energy storage (kWh)	76	60



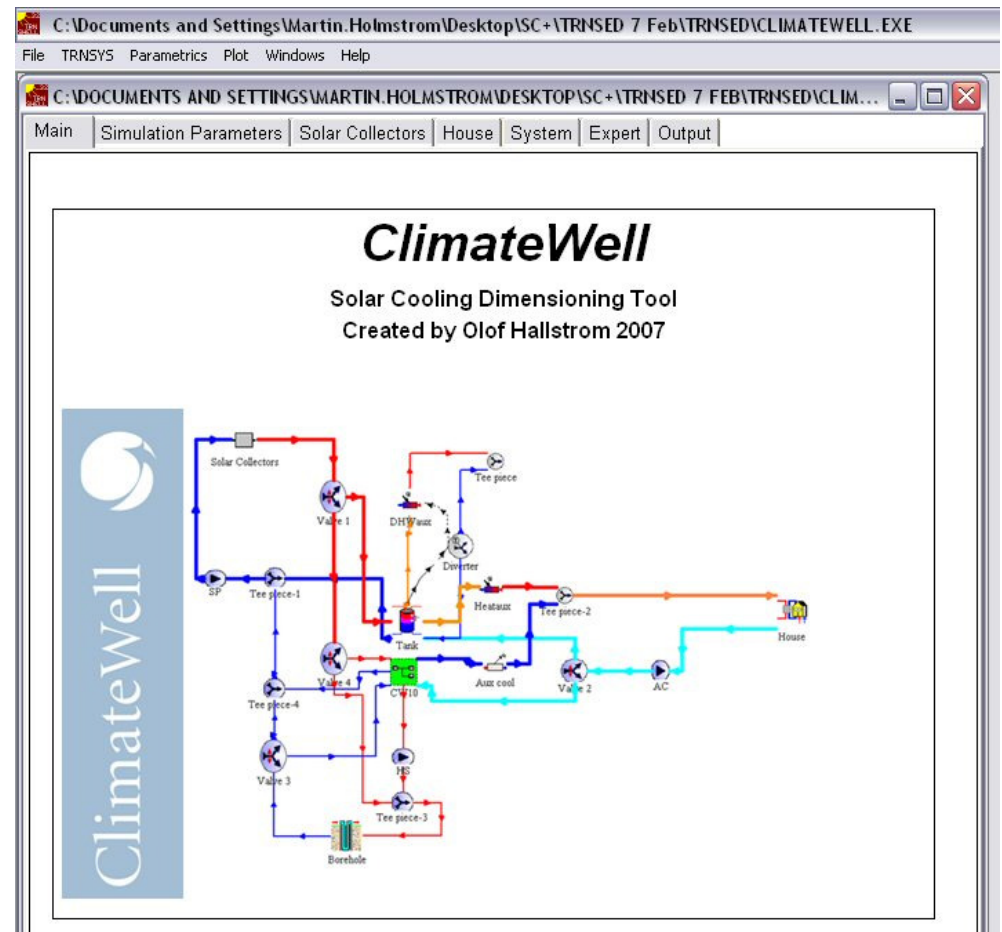
The CW10 TrnSYS type (V76)

- TrnSYS Type 215 (CW10 Barrel)
- TrnSYS Type 216 (CW10 Control)
- Developed by SERC (Solar Energy Research Centre, Chris Bales) and ClimateWell
- Includes the energy storage



TRNSED simulation tool developed by ClimateWell

- Simplified simulation tool
- Predefined settings
- Easy to use



Energy efficiency certification model

- Calculates the building's energy performance depending on the chosen system
- Used for pre-studies
- Includes CO₂ savings

Cobertura

Cobertura Anual (%)

Calef.	ACS	Refrig.
73%	98%	88%

Ahorros

Ahorros económicos por consumos (eur)

Ahorros económicos por consumos (%)

Calef.	ACS	Refrig.	TOTAL año
314,5 €	395,6 €	1 018,6 €	1 728,7 €
73%	98%	88%	87%

Emisiones de CO2

Emisiones anuales de CO2 evitadas (kg) según Escala Energética

4 527

Nº de Máquinas

Nº de Máquinas

1

m2 de captación necesarios por máquina

32

Clasificación Inicial del Edificio, según demandas

Clasificación de vivienda a estudio

Calefac.	ACS	Refrigerac.
C	E	E

Etiqueta Energética

D

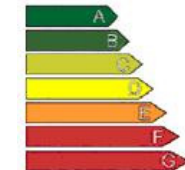
Nueva clasificación de la vivienda

Etiqueta Energética

A

Calificación de eficiencia energética de edificios: proyecto/edificio terminado

Más



Menos

Edificio: _____
 Localidad/Zona climática: _____
 Uso del Edificio: _____
 Consumo Energético Anual: _____ kWh/año
 (_____ kWh/m²/año)
 Emisiones de CO₂ Anual: _____ kg CO₂/año
 (_____ kg CO₂/m²/año)

El Consumo de Energía y sus Emisiones de Dióxido de Carbono son los parámetros por el que se determina la clasificación energética de un edificio y de las condiciones climáticas, entre otros factores.



Dimensioning and planning a CW10 system

- A cold buffer is not necessary, energy storage included in CW10
- Only a small buffer for DHW necessary on the Solar circuit return
- With a geothermal heat sink, CW10 can provide heating

