



solarcombi+

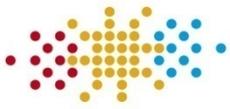
# Online Tool

Solar Combi+ Project meeting  
Perpignan 10th-12th June 2009

Identification of most promising markets and promotion of standardised system configurations for the market entry of small scale combined solar heating & cooling applications  
EIE/07/158/SI2.466793 09/2007 – 02/2010

Intelligent Energy  Europe

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# Online Tool

- Objective

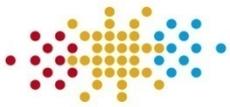
Promote standard system configurations employed by the industrial partners.

- Outcome

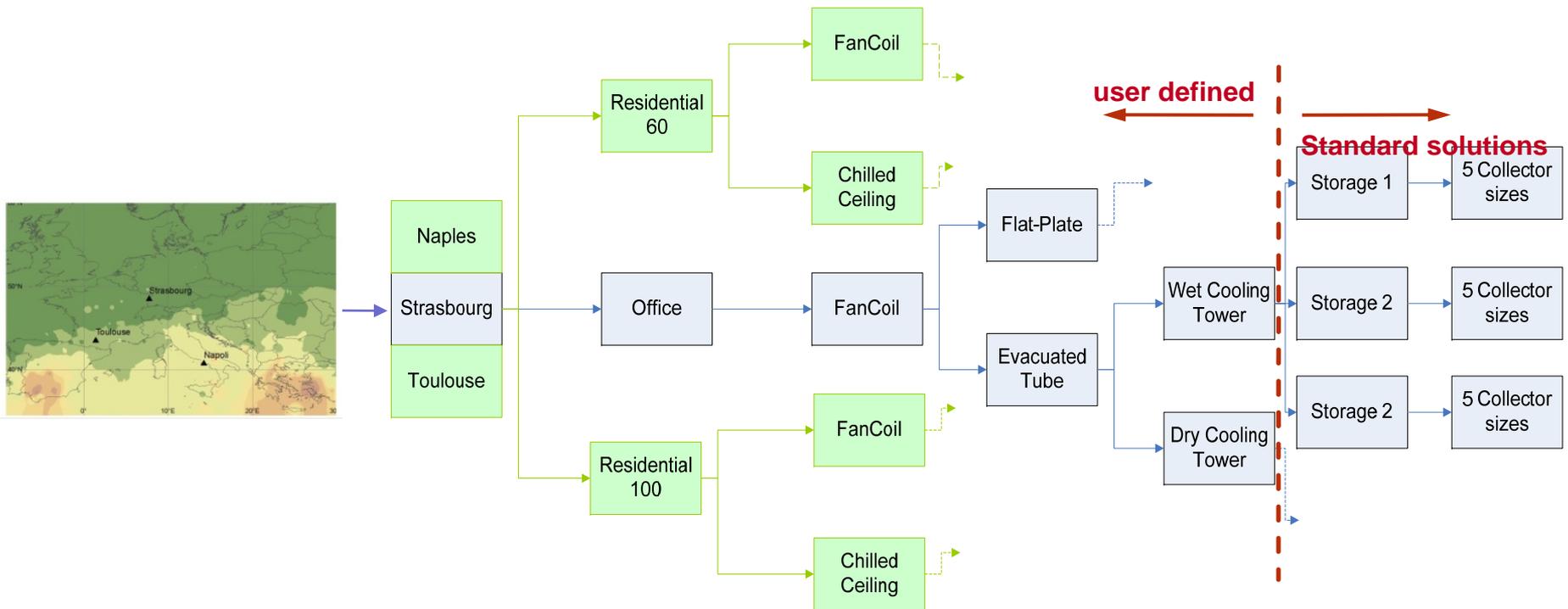
An inquiry tool, based on the Oracle DB, makes the results of selected virtual case studies available online.

- Impact

Customers, planners and architects are advised about specific installations: which solutions work best for given working condition



The online tool addresses the DB through a number of queries:





### TOOL FOR THE IDENTIFICATION OF SUITABLE SOLAR COMBI+ SYSTEMS CONFIGURATIONS

Here you find a tool that helps identifying a range of suitable Solar Combi+ configurations in terms of collectors area and storage size, once chiller type, climatic conditions, application and technical solutions are selected. The tool do not simulate the functioning of the system for the chosen condition; it only selects among predefined solutions that were obtained through dynamic simulations relating to specific applications (two residential buildings and one office), situated in three European cities (Strasbourg, Toulouse, Naples). Since changes in climatic conditions and cooling demand might vary the results to a significant extent, this is not intended as a "pre-design tool". Only a range of suitable standard Solar Combi+ configurations can be derived and the data reported have to be accurately evaluated, if different working conditions are considered.

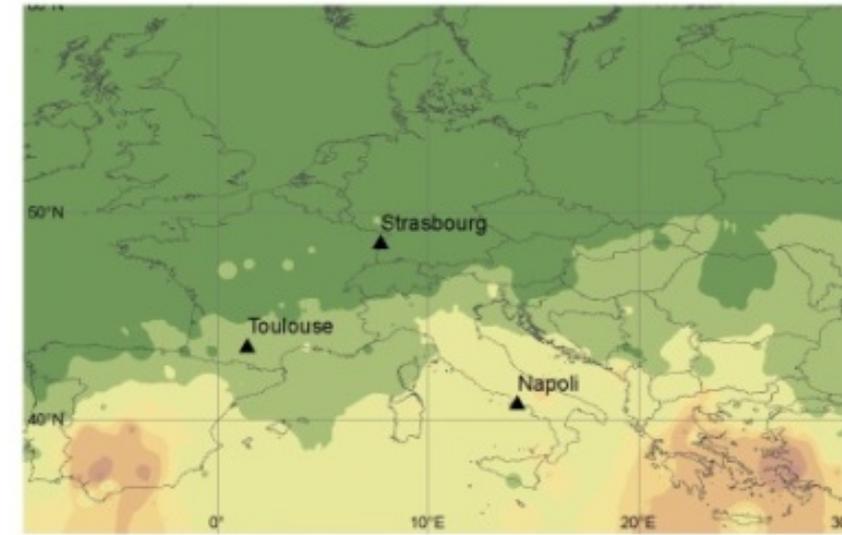


Location ?

Naples

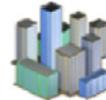
Chiller type ?

Rotartica





**Applications** ⓘ

 <b>60<sub>kWh</sub></b> <input checked="" type="radio"/> Residential 60kWh/m <sup>2</sup> /year	 <b>100<sub>kWh</sub></b> <input type="radio"/> Residential 100kWh/m <sup>2</sup> /year	 <input type="radio"/> Office
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**Distribution technologies** ⓘ

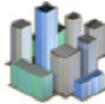
 <input type="radio"/> Fan Coils	 <input checked="" type="radio"/> Chilled ceiling
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**Applications** ?

 **60 kWh**  
 Residential 60kWh/m2/year

 **100 kWh**  
 Residential 100kWh/m2/year

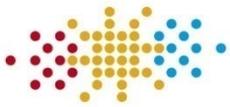
  
 Office

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**Distribution technologies** ?

  
 Fan Coils

  
 Chilled ceiling



Solar collectors ?

Flat plate

Evacuated tubes

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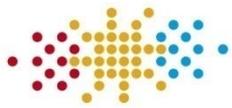
Heat rejection systems ?

W  
Wet cooling tower

D  
Dry air cooler

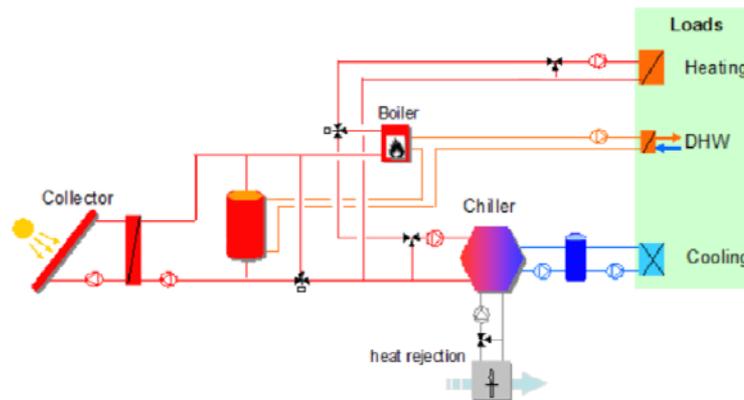
H  
Hybrid cooler

Display results



### TOOL FOR THE IDENTIFICATION OF SUITABLE SOLAR COMBI+ SYSTEMS CONFIGURATIONS

- Toulouse
- Climatewell
- Residential 100kWh/m<sup>2</sup>/year
- Chilled ceiling
- Evacuated tubes
- Wet cooling tower



Area Coll. [m <sup>2</sup> /kW]	Vol Storage [l/m <sup>2</sup> ]	Solar Fraction	Relative PE Saved	Specific PE Saved [(kWh/year)/m <sup>2</sup> ]	Electrical COP	Cost of PE Saved [euros/kWh]
2,20	74	0,58	0,31	192,10	31,30	0,71
2,50	26	0,52	0,29	152,40	32,20	0,83
2,50	50	0,58	0,34	178,20	32,20	0,71
2,50	76	0,63	0,37	194,90	32,10	0,66