

## MILESTONE 1.1

### 1. GENERAL INFORMATION

PROJECT: URBAN RETROFIT

CONTEXT: CITY OF SALZBURG, AUSTRIA

ORIGINAL USE: MIX

USE: MIX

DESIGNER(S): ND

COMPLETION DATE: 2013



**KEY WORDS:** District Heating, Integrate Renewable Energy in existing building, Solar Collector, Micro-net, Social Aspects of Energy Retrofit, Decision-making processes, Tenants Behaviour, Urban quality, Reduction of the heat demand.



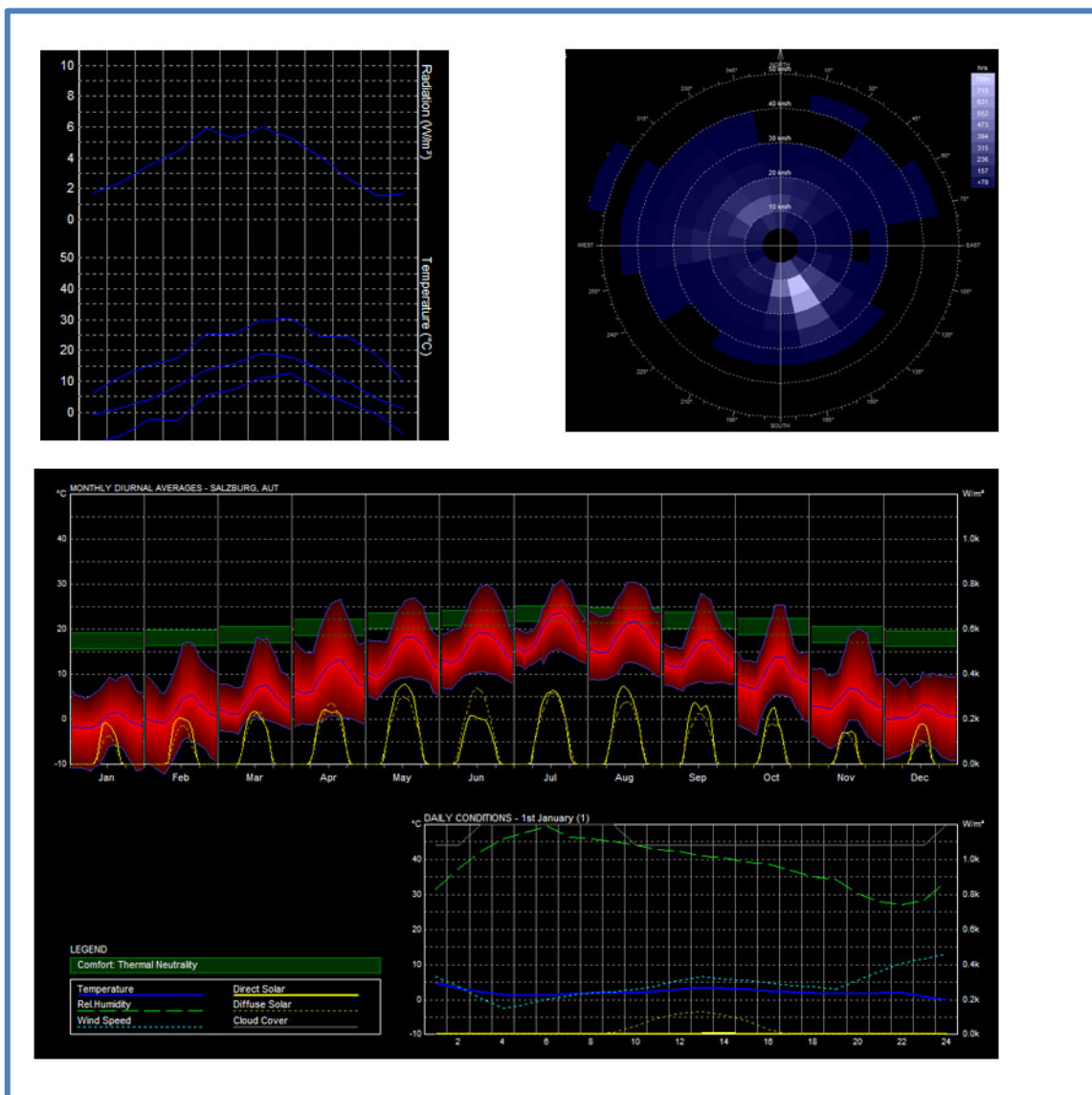
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## 2. CLIMATIC FEATURES

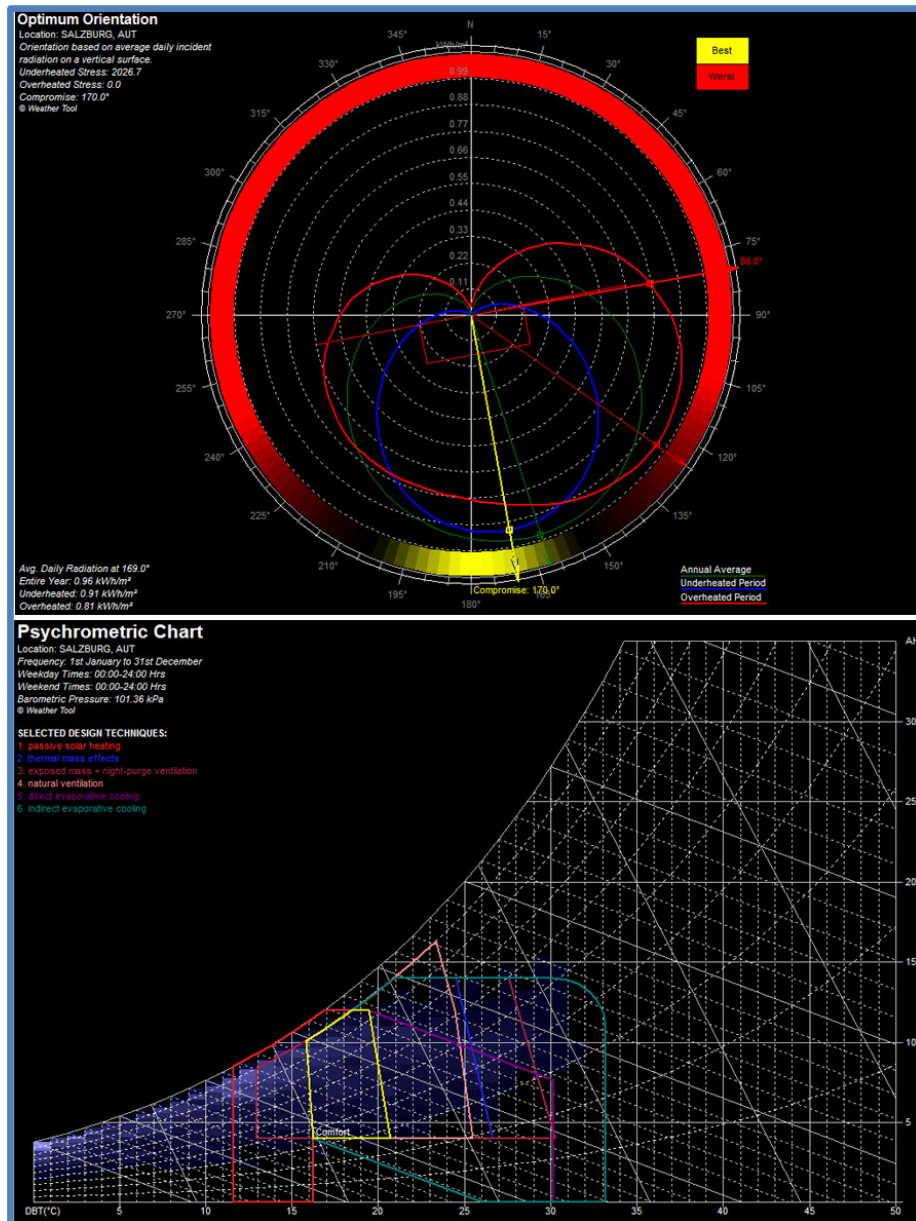
### CLIMATE SUMMARY:

- MONTHLY DATA: RADIATION (W/mq); MAX, MID, MIN TEMPERATURE °C
- PREVALLING WIND (WIND FREQUENCY – Hrs)
- HOURLY DATA – MONTHLY DIURNAL AVERAGES
- DAILY CONDITION (1<sup>ST</sup> JAN



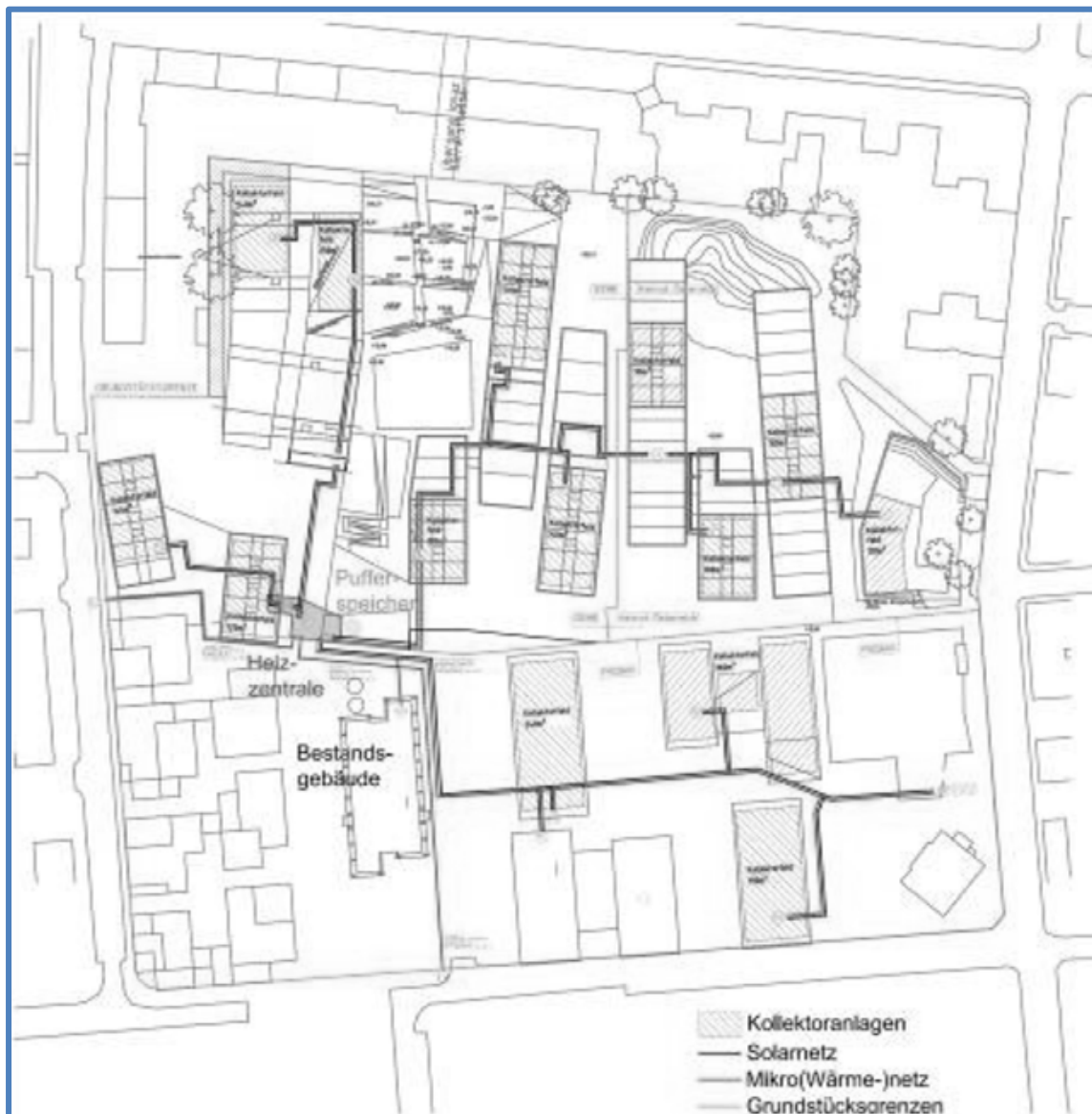
### 3.BIOCLIMATIC FEATURES

- OPTIMUM ORIENTATION
- COMBINATION OF PASSIVE ENERGY STRATEGIES



**4. URBAN AND/OR BUILDING FEATURES**

The challenge to integrate renewable energy in existing supply system was solved by following a strategy based on solar energy and district heating system. But there are additional improvements necessary to meet the goal of high share of renewable energy. Increase solar fraction is achieved by installation of a heat pump in order to increase efficiency of solar collector fields. In addition to that also an own micro-net for heat supply is foreseen. This micro-net in combination with planning directives for all of the housing projects allows low temperatures and thus also higher solar gains.

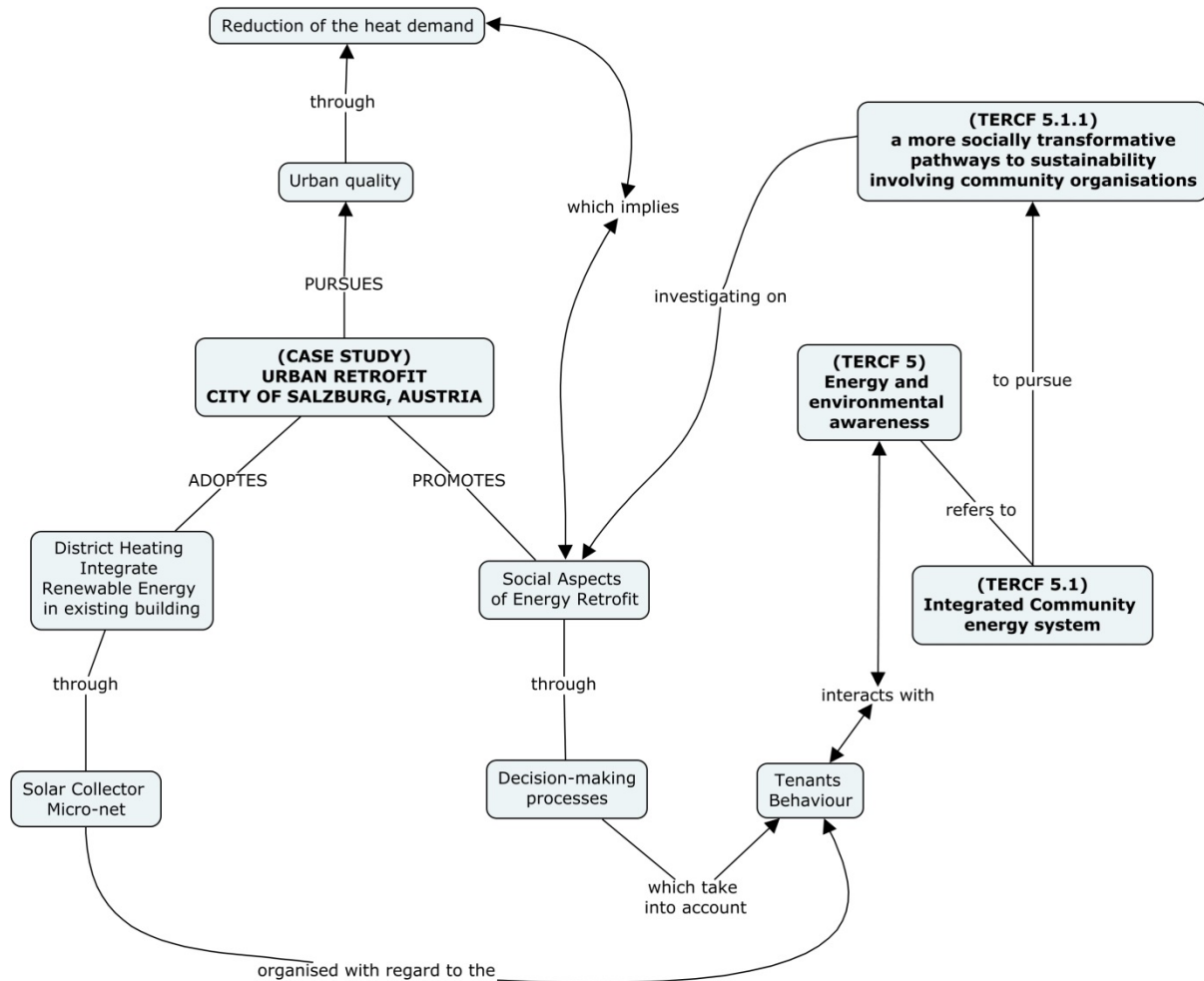


Heat supply concept with solar collector fields, storage tank and micro-net



**5. FOCUS QUESTION AND MAP**

**What strategies to innovate energy infrastructure and buildings?**





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### 6. REFERENCES

Helmut Strasser, Boris Mahler, Norbert Dorfinger, Solar energy in urban community in City of Salzburg, Austria, Word Renewable Energy congress, 2011, Sweden 8-13 May 2011

Helmut Strasser, IEA Annex 51 – Guidelines and Case Studies for Energy Efficient Communities Subtask B: Case Studies on Energy Planning and Implementation Strategy for Neighbourhoods, Quarters and Municipal Areas" Case Study for Austria: stadtwerk:lehen, Salzburg, 2010



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