

WP 5. Advanced applications

Work package No.: WP 5	Starting month: 0											
Work package title: Advanced applications												
Activity type: Coordination activities												
	Leader	Other partners with major involvement										
Partner No.:	ENEA	ITW	Arsenal	INETI	Demokr.	CSTB	INTA	SERC	Unik.	Ecofys	AEE	Poli.MI
Person-months per partner:	4.1	2.6	1.7	1.7	1.4	0.6	1.7	2.0	2.6	0.3	2.6	4.2

WP 5: Objectives

The main objective of this work package is to create a forum for the investigation of seawater desalination and cooling systems powered by solar thermal energy at low to medium temperatures.

The most suitable technologies for the solar desalination of brackish and seawater are multi-stage flash, multiple effect distillation and reverse osmosis. Due to specific technological and cost related advantages and disadvantages it is still open, which will be the technology of tomorrow.

The same is in principle appropriate for the different solar cooling technologies, such as absorption cooling, desiccant cooling and chemical heat pumps.

With regard to effective future developments it is important to identify the most promising technologies.

WP 5: Description of work

The main activities of this work package will predominantly focus on:

- Up-to-date status report of the different solar thermal desalination and cooling technologies, particularly paying attention to aspects like electrical energy consumption as well as investment and operation costs. The work related to solar cooling is carried out in close co-operation with IEA SH&C Task 25 (Solar assisted air conditioning of buildings).
- Investigation of different collector technologies with regard to different desalination and cooling technologies.
- Workshops for knowledge transfer and experience exchange as well as for the identification of the most promising technologies for both, solar cooling and solar desalination.
- Development of user-friendly design and simulation software for the promotion of these technologies.
- Feasibility study in order to identify potential application areas in European as well as in the Mediterranean belt.

WP 5: Deliverables

- WP5.D1: Technical status report on solar desalination and solar cooling
- WP5.D2: Report concerning the suitability of different collector technologies for solar cooling and solar desalination
- WP5.D3: Design- and simulation software
- WP5.D4: Workshop on solar cooling and solar desalination
- WP5.D5: Feasibility study in order to identify the potential areas for these applications

WP 5: Milestones and expected results

- WP5.M1: Technical status report (12 months)
- WP5.M2: Identification of the most promising technologies for solar cooling and solar desalination (month 18)
- WP5.M3: Identification of potential areas for these applications (month 24)