Solar Keymark Network meeting
Paris, France
5-6 October 2011
Work in Progress

WP2: Solar thermal collectors
WP3: Solar thermal systems
WP4: Quality assurance of testing
WP5: New areas for quality assurance systems
Update on status of the Work Packages

WP2: Solar thermal collectors
D 2.1 Performance of mid temperature collectors (CENER lead)  

D 2.2 Durability of collectors and materials (ISE lead)  

– First step  
  • EC request for CE marking / revision of the ISO 9806  
  • Two drafts are now out on CEN inquiry (EN 12975 parts -1 and -3-1) and one is ready for ISO CEN parallel inquiry (ISO EN 9806) in November 2011  
  • All three are planned to be implemented by the end of 2012  
  • Contents are e.g. harmonized annex ZA, tracking collectors in the scope, improved durability tests, Task X method on selective coatings integrated, air collectors included, etc...
D 2.1 Performance of mid temperature collectors (CENER lead)

D 2.2 Durability of collectors and materials (ISE lead)

– Second step
  • Further work on the ISO EN standards
  • Draft for public inquiry in 2012
  • Contents are e.g. focusing on ETC:s and further on collector materials
D 2.3 Guide to EN 12975 (SP lead, Due December 2012)

- Five main partners have been working on two deliverables, one targeted at test labs (new and existing...appr. 50 pages), one at manufacturers (brief introduction....5-10 pages) →

- All remaining partners and industry provide additional input and review

- Available by the end of 2011
D 2.4 Performance calculation tool

– Extension to unglazed and tracking/concentrating collectors and some minor improvements implemented as proposed by reviewers

– Checking and validation carried out by several partners was recently concluded (No major remarks)

– To be included in Scheme Rules and in ISO EN 9806 asap
Update on status of the Work Packages

WP3:
Solar thermal systems
WP 3: Solar thermal systems

Improvement of the standards:

• Factory Made Systems / Custom Built Systems
  (EN 12976 Part 1 and 2) / (CEN/TS 12977 Part 1,2,4 and 5 and EN 12977 Part 3)

• Outcomes:
  – Revised version of EN 12976 presented in CEN TC 312 WG2/WG3 Meeting in Kassel (September 2010);
  – Deliverables:
    – Clarification of requirements in both standards – Final version available until end of year;
    – Guide for EN 12976 on reliability tests.
WP 3: Solar thermal systems

Development of an extrapolation procedure

– that proves to be valid for different types of systems allowing for flexibility in the definition of families of systems and reducing test costs for the manufacturers

• Outcomes:

– Two different methodologies now available in Solar Keymark Scheme Rules
– Proposals for revision presented and approved at 10th SKN meeting;
– Application of these methodologies by Labs – exchange of experience.
WP 3: Solar thermal systems

Development of a procedure for converting the test result into results valid for the “EU reference tapping cycles”

– necessary for Labeling of systems according to European Directive for Eco-Design
  • How to apply this procedure to tests performed with DST/CSTG test methodologies?

Outcomes:

• First application with DST for Factory Made and TRNSYS for Custom Built Systems
• First proposal for application with CSTG test results – to be validated.
WP 3: Solar thermal systems

Definition of concept: Hot Water Comfort (STS)

• Outcomes:
  – First document with the revision of the existing test methods for assessment of Hot Water Comfort was prepared
  – Work on going on final proposal from QAiST for access of Hot Water Comfort.
Update on status of the Work Packages

WP4:
Quality assurance of testing
WP 4: Quality assurance of testing

T 4.2 Round Robin Collector

- Organization, managing and evaluation by independent body (IfEP GmbH)
- Rotation in winter 2010/2011 (completed)
- Midterm results have been presented by IfEP March 23rd and have been considered as very good by IfEP
- Final results expected October 2011

T 4.3 Round Robin Systems
WP 4: Quality assurance of testing

T 4.2 Round Robin Collector

- 3 flat plate and 13 evacuated tubular collectors with CPC collectors
- Each participant test 2 collectors of both types (4 tests)
- Participants: CENER, CSTB, DEMOKRITOS, AIT, LNEG, IPIEO, ISE, ISFH, ITC, IZES, SP TÜV, ITW

T 4.3 Round Robin Systems

- 9 thermosyphon and 9 forced circulation systems
- Each participant will test 2 systems (4 tests)
- Participants: CENER, CSTB, DEMOKRITOS, LNEG, ISE, ISFH, IZES, TÜV, ITW
WP 4: Quality assurance of testing

T 4.2 Round Robin Collectors

• Additional participants
  – ASIC
  – Bosch Solarthermie GmbH
  – 6 North american test labs

• Collectors, transport, evaluation and all other expenses caused by the Round Robin will be covered by the additional participants

• In order not to influence the result of the QAiST Round Robin the evaluation will be done in parallel by IfEP
Update on status of the Work Packages

WP5: New areas for quality assurance systems
WP 5: New areas for quality assurance systems

Objectives

– To develop a basic set of requirements and test methods for emerging areas of solar thermal energy

Application is already on the market => need for quality assurance measures not covered by any standards so far e.g. large solar thermal systems, solar cooling

OR

Application is new on the market => no quality assurance measures existent yet e.g. combined solar & heat pump systems
WP 5: New areas for quality assurance systems

- To develop a basic set of requirements and test methods for emerging areas of solar thermal energy

Task 5.1
Performance references and test methods for HP+ST
Leader: Ivan Malenkovic, AIT

Task 5.2
Function and yield controlling of large solar thermal systems
Leader: Klaus Vanoli, ISFH

Task 5.3
Quality requirements for solar cooling systems
Leader: Pilar Navarro, ITC
WP 5: New areas for quality assurance systems

– Status and outlook Task 5.1

• Overview of present HP+ST systems in cooperation with Task 44/Annex 38 ongoing.
• ST and HP relevant standards collected and analysed
  – extension possibilities regarding combined systems
  – development of transparent and consistent performance evaluation system
WP 5: New areas for quality assurance systems

– Status and outlook Task 5.1

- Proposal for system classification with the focus on testing and performance evaluation requirements
- Unified concept of performance evaluation figures
  – taking into account the comparability of these systems to other technologies
  – proposed, jointly with Task 44 / Annex 38
  – Further discussion needed before finalisation until the end of 2011.
WP 5: New areas for quality assurance systems

Status and outlook Task 5.2

– Currently available function and yield control concepts have been collected and reviewed
– Workshop to discuss new VDI 2169 guideline with all relevant stakeholders being prepared
– Initial goal revised
  • harmonized technical approach on F&YC cannot be reached
  • new task objective: setting the basis for the strategic roadmap for the development and implementation of F&YC
WP 5: New areas for quality assurance systems

Status and outlook Task 5.3

– Data collected on running solar cooling systems
– Results from the collected data, including qualitative assessment of the installations in terms of performance and quality, available
– Based on the results, additional in-depth questionnaire was defined and experts’ interviews are ongoing
WP 5: New areas for quality assurance systems

Status and outlook Task 5.3

- The collection of relevant standards and other normative documents was carried out. The documents will be analysed and used as a starting point for the development of test method proposals.
- A definition of best practice and lessons learned will be published on the project intranet.
Update on status of the Work Packages

WP6&7:
Communication and Dissemination
WP 6&7: Communication and Dissemination

T6.1 Distr. dissemination of project results
– Prepare initial info-release for 2011
– Inform on CE marking mandate & planned revisions
– Previously: update of national reports from SK II
  • AT, CZ, DK, ES, FR, DE, GR, IT, MK, PL, PT, SE
– Several presentations at international level
  • ISES conference:
    – Midterm result of the Round Robin test of solar collectors and solar thermal system
    – Global certification of solar collectors
    – Energy output calculation tool for Solar thermal collector
    – Test methods for solar thermal collectors
WP 6&7: Communication and Dissemination

T6.1 Distr. dissemination of project results

- Several presentations at international level
  - ESTEC 2011 - 5th European Solar Thermal Energy Conference, Marseille:
    - Interim results of QAiST project
    - Performance evaluation of solar thermal and heat pump hybrid systems
  - April 2012
    - Meeting of CEN/TC 312/WG1, location to be confirmed
    - Discussion on comments from public review
  - June 2012
    - Meeting of CEN/TC 312/WG1 and CEN/TC 312, Borås Sweden
    - Approval of final draft and submission to final vote on EN 12975
- Several presentations at National level
WP 6&7: Communication and Dissemination

T6.5 WP6/ International harmonization

- Broad European participation in IEA SH&C Task 43 on global standards and certification --> Harmonization in practice!
- Presentations at ISO/TC 180, CEN TC 312 and IEA-SHC Task 43
- Agreed with ISO/TC 180 to have the ISO 9806 revision follow closely that of EN 12975
WP 6&7: Communication and Dissemination

T6.5 SK implementation in CEE NMS

– Workshop Northern Europe
  • First scheduled for Spring 2010
  • Proposal from PIMOT: 14 Dec 2011
  • Organise jointly with project meeting – 15-16 December
  • Content being finalised
WP 6&7: Communication and Dissemination

- T6.5 SK implementation in CEE NMS
  - Information package for CEE new members states produced
    - Brochure produced
    - Information package being developed
  - Participation of NMS partners at SKN Meetings (T4.2)
    - Cyprus / Slovakia / Czech Republic
    - Macedonia (fYRO) / Albania
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