Project summary

Good, operational and generally accepted European Standards are an essential part of the market conditions and the basis for a large and open European market. Standards and pre-Standards were established but work was still needed in order to keep track with recent technological developments in the direct use of solar thermal energy (i.e. new materials, concentrating devices, etc.) and in combination with other technologies (cooling, heat pumps, etc.).

New Member States also provided new opportunities to market development. It is essential that the quality requirements, as well as the public incentives and regulations for solar thermal technologies that rely on them, integrate the current best practices.

To open the world market for European producers, coordination with activities in the international standardization was required. The timing was the right one to promote the European experience and quality standards outside our region.

QAiST has helped to shape the future of the industry in Europe, with standards updated to reflect developments and market requirements, looking into new areas, improving test laboratories’ performance and actively promoting quality assurance in Europe and beyond.
Main Achievements

• Solar thermal collectors

  – New version of the EN 12975 (EN 12975-1 and EN ISO 9896) expected in 2013.
  – Tracking concentrating collectors within the scope of EN 12975
  – Introduction of “class definitions” for mechanical load tests, impact resistance and exposure tests
  – Description of test procedures improved
  – Evacuated Tube Collectors: input to a revision of EN 12975 agreed
  – Improved durability test procedures and new test methods.
  – Procedure for calculating annual collector performance develop and soon included in the standard
Main Achievements

• Solar thermal systems

– Revision of EN 12976 for Factory-made systems put forward
– Procedures developed for certification of complete systems’ family, now included in the Solar Keymark certification scheme rules
– Procedures adapting the results of system testing to the upcoming Energy Labelling were developed
– ENV 12977 series revised (and restructured) and published as CEN/TS
– Decision to extrapolate CEN/TS documents to European Standards (EN’S)
– Solar Keymark available for custom-built systems (including space heating)
Main Achievements

• Quality assurance in testing
  – Largest ever inter-laboratory comparison in the field of solar thermal
  – Results considered excellent by independent institute
  – Confirmation that level of testing in Europe is high
  – Identification of areas offering possibilities for improvement
Main Achievements

- New areas for quality assurance
  - Common approach for combined heat pump and solar thermal systems developed in cooperation with IEA implementing agreements
  - Assessment of state of the art of function and yield control of large solar thermal systems
  - Establishment of basis for technology roadmap for function and yield control of large solar thermal systems
  - Preparation of technical reports on requirements for durability and performance; durability issues; maintenance and costs of solar cooling systems
  - Review on testing procedures and quality standards for thermally driven chillers
  - Assessment of the possibility of incorporating solar thermal cooling into EN 12977 series
Main Achievements

- Promotion of quality assurance in solar thermal
  - Consolidation of the Solar Keymark Network (SKN)
  - Test labs from member states and candidate countries involved in SKN
  - Workshops on quality assurance in South-East Europe and Northern Europe
  - New materials produced to promote quality assurance and Solar Keymark
  - Strong European contribution to international harmonization
  - Draft EN 12975-1 and a draft International standard (DIS) 9806 developed based on the revised EN 12975 series
  - Decisive developments on global certification prospects
Long term objective and ultimate goals

• The long term objective of the QAiST project is to prepare the quality assurance framework so that the European solar thermal heating and cooling industry can sustainably contribute to the targets agreed by the Member states (20% of renewable energy by 2020) and become a technological world leader.

• The ultimate goals for longer term are:
  – Speeding-up of broad market penetration of solar thermal products through the removal of trade barriers and the general acceptance of the Solar Keymark
  – Increasing the share of quality products in the solar thermal market
  – Increasing the uptake of new technologies and encourage new collector and system designs and materials
Available documents

Before QAiST very limited resources were available about quality assurance for solar thermal. The project has produced many outputs freely available for experts, industry, public authorities, students or other interested persons. We believe this information is of great value and are glad to have it available on

www.qaist.eu

A description of the documents facilitates finding them under the following categories:

- Solar Thermal Collectors
- Solar Thermal Systems
- Quality Assurance in testing
- New areas for Quality Assurance
- Communication and Dissemination
Project consortium

- Coordinator: ESTIF, Belgium

- Partners:
  CENER, Spain  ISFH, Germany
  CSTB, France  ITC, Spain
  DEMOKRITOS, Greece  IZES, Germany
  AIT, Austria  PlanEnergi, Denmark
  LNEG Portugal  SP, Sweden
  PIMOT, Poland  TEU Germany
  ISE, Germany  USTUTT-ITW, Germany
Any questions?

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