SOLAR CV

**SolarCV: Sector Skills Alliance to cover skill needs through delivery and recognition of EU joint CV in Concentrated Solar Power**

Photo: Solar field maintenance at Majadas CSP Plant © Javier Campos. ACCIONA

## ABOUT SOLAR CV

SolarCV is a project funded by European Commission under the Erasmus+ programme. It aims at increasing the response of Vocational Education Training (VET) systems by anticipating the Concentrating Solar Power (CSP) labour demand, integrating work-based learning (WBL) in the design of CSP VET and increasing mobility of EU CSP learners, by the recognition of learning outcomes and by achieving qualifications.

SolarCV tools (Curriculum & Validation) are designed considering European Credit system for Vocational Education and Training (ECVET) and European quality assurance in vocational education and training (EQAVET) European references, so the resulting products ensure a better understanding and comparability of qualifications across countries.

About CSP

Concentrating solar power (CSP), also known as Solar Thermal Electricity (STE), is a renewable energy technology that uses mirrors to concentrate the sun's energy and convert it into high-temperature heat to create steam to drive a turbine that generates electricity. CSP is a carbon-free source of electricity that is best suited to areas in the world with strong irradiation: Southern Europe, Northern Africa and the Middle East, South Africa, parts of India, China, Southern USA and Australia.

Co-funded by the Erasmus+ Programme of the European Union

This project is co-funded by the Erasmus+ programme of the European Union. The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

## OBJECTIVES:

- To increase the response of continuing Vocational Education Training (VET) systems to concentrated solar power (CSP) labour market demand for new skills;
- To strength the exchange of knowledge and practice between VET institutions and the CSP labour market by integrating work-based learning (WBL);
- To increase mobility of EU CSP learners, by increasing the recognition of learning outcomes and by providing flexibility of learning pathways to achieve qualifications;
- To strength the European Union's capacity by the "anticipation and matching of labour market and skills needs" as established in the Agenda for New Skills and Jobs.

## THREE MAIN PROJECT RESULTS:

- The definition of European Standard (EU CV) for the training of CSP solar-field operators
- The creation of a ICT e-learning platform (e-simulator) for providing formal training
- The delivery of a methodology for validation non-formal learning.

## MAIN PRODUCTS AND OUTCOMES:

SolarCV implements the learning outcomes approach by proposing European Credit system for Vocational Education and Training (ECVET) in the new EU Curriculum & Validation and for the methodology validating the non-formal and informal learning of learners.

A number of outcomes will be delivered with direct links to the European Qualifications Framework (EQF), the National Qualifications Frameworks (NQF) and ECVET:

- Analysis on s kills and training provision needs in EU
- Analysis on current situation of non-formal, informal and formal training in the CSP sector
- Competence profile for solar-field operator
- EU Curriculum and Validation for solar-field operator
- e-Learning platform with training materials
- CSP solar field e-Simulator
- Pilot courses on concentrated solar thermal (CST)
- Proposal for a Common European Qualification

SolarCV develops tools allow learners to achieve qualifications, partly by having non-formal and informal learning validated and recognized, and by achieving the remaining units through formal learning. A further step consists in promoting the National CSP CV to the National Qualification Institutes. Finally, the EU Certification of CSP Plant Operators assures a EU recognition even if the national Institutes do not integrate their National CSP CV.

DURATION

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015 | | 2016 | | | | | | | | | | | | 2017 | | | | | | | | | | | | 2018 | | | | | | | | | |
| NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT |

WORK PACKAGES

| Research | EU CV | Tools | Recognition |
|---|---|---|---|
| Skills and training provision needs | Joint EU curriculum and validation methodology | Design of innovative tools | EU recognition and validation |

RESULTS

| Skill needs analysis | EU CSP CV | e-Simulator | Full validation |
|---|---|---|---|
| Identification:<br>▸ Tools for CV design<br>▸ Tools for validation<br>▸ CSP structures | Competence Profile:<br>▸ 100% learning units<br>▸ Validation method | ▸ Pilot training course<br>▸ Pilot validation course<br>▸ Repository & Glossary | ▸ National proposals<br>▸ EU Certification 10 operators certified |

Photo: Testing the reflective properties of a parabolic mirror © DLR

## E-LEARNING PLATFORM

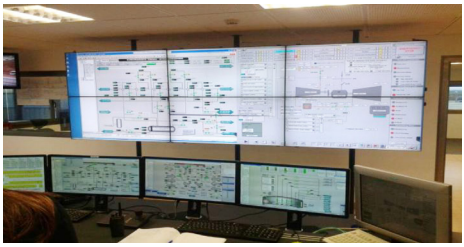
e-Learning platform provide formal training programmes and materials, as well as validation of non-formal learning courses.

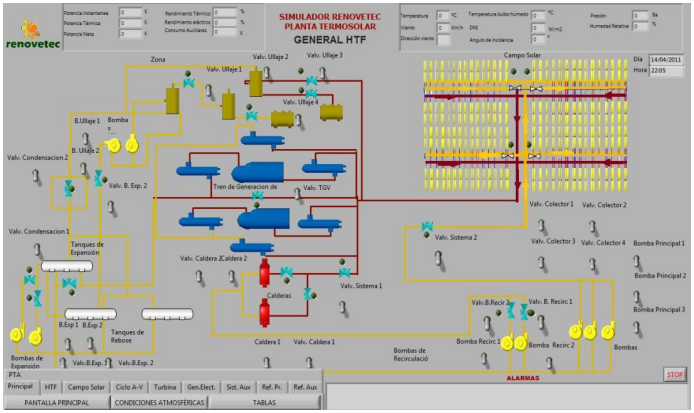
This platform allows flexible course management, robust security and useful communication between teachers and trainees in order to make the learning process effective and borderless.

## E-SIMULATOR

The e-Simulator is a powerful tool which includes innovative teaching methods and high quality learning units based on company experiences. It allows a real-time operation and management of the solar field. The learning of the operation of solar-field is complex because it is used to be based on experience, but now this simulator will provide a full implementation of acquired knowledge via distance learning. The e-Simulator will show several screens with the distribution of a pilot plant sample, including all the required components and parameters of operations.

The e-S imulator is one of the final products of the project and it will keep running even after the end of the project.





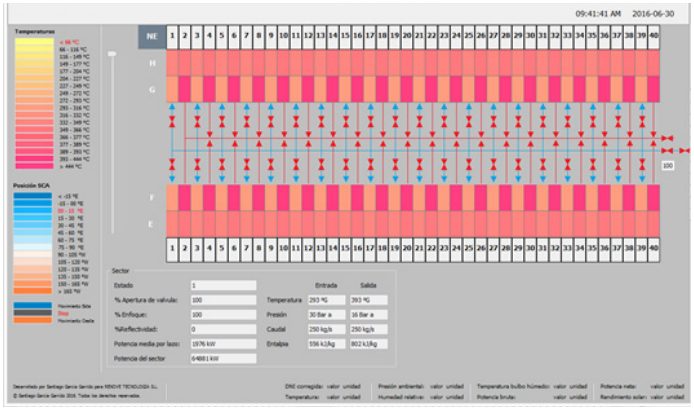




Photo: e-Simulator monitors and screen shots of the tool © Renovetec

## SOLARCV PROVIDES YOU:

- skill needs analysis for CSP market in Europe
- CSP Competence Profile for solar-field operator
- e-learning platform with formal training materials
- specific skill training for solar-field operators based on real-working experience, with materials provided by CSP companies and the development of the e-Simulator (real simulator of the CSP solar field);
- full validation

**Don't want to miss any useful material and training?**
**Follow us on social media and sign up for our newsletter!**

Photo: Solar Parabolic Trough Collector Shape Measurement © CSP Services

### PROJECT PARTNERS:

agencia extremeña de la energía · renovetec · JUNTA DE EXTREMADURA SEXPE Servicio Extremeño Público de Empleo · ARRAM CONSULTORES · PROTERMO SOLAR · KAPE CRES · idec · EOPPEP National Organisation for the Certification of Qualifications & Vocational Guidance · ΕΣΥΡ ΕΛΟΤ · EBHE Ένωση Βιομηχάνων Ηλιακής Ενέργειας · ENEA Agenzia nazionale per le nuove tecnologie, energia e lo sviluppo economico sostenibile · SINERGI Formazione, Ricerca & Sviluppo · Regione Autònoma de Sardigna Regione Autonoma della Sardegna · ANEST · ESTELA · ECQA European Certification & Qualification Association

Contact
Project Coordinator:
AGENEX - Agencia Extremeña de la Energía
Avda. Antonio Masa Campos, 26
06011 - Badajoz
+34 924 262 161
agenex@agenex.org

Find us on:

**For More Info:**
**www.solar-cv.eu**