



**SOLTEC. TOWARDS A EUROPEAN QUALIFICATION FOR
SERVICE AND MAINTENANCE IN THE SOLAR ENERGY
SECTOR.**

**WP-2: NEEDS ANALYSIS AND DEVELOPMENT OF
COMPETENCE PROFILE. REPORT OF NEEDS
ANALYSIS(SPAIN).**





INTRODUCTION

The Spanish partners which take part in the SOLTEC Project had carried out four interviews to the companies of the FV sector and other organizations like a training institute. These interviews have been carried out under the Leonardo da Vinci project "**SOLTEC, Towards a European qualification for service and maintenance in the solar energy sector**". In relation to the area of business of the companies which we have interviewed, one of them is an installation company (developer), the second one is a promoter company and the last one is a production company (producer of solar components). We also have interviewed a training institute.

For carrying out the interviews, the interview facilitator has sent in advance to the interviewees the competence profile. The interviews have been carried out in person, taking the form of an open discussion and following the tips given by SREP, the workpackage leader.

Structure of the interviewed companies

The interviewed companies had the following structure:

- Unskilled workers.
- Workers qualified at the job place.
- Skilled workers, technicians.
- Administration.
- Academics.

There are remarkable differences between the interviewed companies. For example, in the installer company, most of the workers are **workers qualified at the job place**, but in the promoter company most of the workers (50% of the staff) are **skilled workers and technicians**. And last, in the production company, 50% of the staff are **workers qualified at the job place** and the other half are **academics**.

In relation to structure of the training institute, 5% of its workers are skilled workers, 10% administration and 85% academics. They have five workers with specific expertise in photovoltaic.

Staff trained in photovoltaic

When we asked about the workers with tasks that require specific expertise in photovoltaic we have different answers depending on the kind of company. In the installer company, 45% of the staff has expertise in photovoltaic, and in the other two companies we





have 100% of the staff. In relation to the trained staff in photovoltaic and its specific expertise in photovoltaic, we have the following answers:

- Installer company: Mainly professional experience, and also qualifications in electronics and low voltage electricity.
- Promoter company: The staff of this company range from VET graduates to Industrial Engineers and other professionals with qualifications in the Renewable Energy sector.
- Production company: In this company we only find Engineers.

The staff with specific expertise in photovoltaic at the training institute are Industrial Engineers and Mining Engineers.

Demand for specialists in photovoltaic.

In relation to this question, we have a unanimous answer of all the interviewed companies, these specialists are not in great demand because of the applicable regulations for this sector.

Number of photovoltaic technicians that work in installation/ maintenance.

- Installer company: they have 22 workers, 7 of them work in installation or in maintenance of photovoltaic solar plants.
- Promoter company: They have 10 workers with specific skills in photovoltaic, 33% of the staff.
- Production company: They have 4 employees, 3 of them have specific skills in photovoltaic.

The training institute has 2 workers with specific expertise in PV in the field of installation and maintenance.

Means of gaining expertise of photovoltaic professionals.

In relation to how the workers get their skills, we have different answers depending on the kind of company we are talking about. The installer company use to hire personnel with professional experience in the photovoltaic field. These workers also have been trained by the suppliers of electronic inverters. In relation to the promoter company, most of its workers has qualifications in electricity, and they have rounded out these qualifications with seminars and specific courses in company. Finally, from the production company they told us that they hire





personnel with professional experience in the photovoltaic field and also workers trained by suppliers.

Regarding the training institute, its workers got their expertise by studies and VET.

Expected employment growth until 2013.

When we asked about the expected employment growth we had the following answers: From the installer company they told us that they hope to hire two workers, but it depends on the success of some projects they have. In relation to the other two companies, from what the interviewees says the applicable regulations for this sector are a problem and it is because of that they will not expect that the employment grows until 2013.

Regarding to this point of the interview, the person in charge of the training institute told us that they expect to hire seven new workers until 2013.

Recruitment requirements and further training of employees.

From the installer company they told us that they are interested in hiring workers with qualifications in electricity and, if it is possible, with professional experience in the FV sector, and they also appreciate technical skills in installation and maintenance. The answer of the promoter company is very similar. Finally, from the production company they appreciate the attitude and the wishes of working.

In relation to the training institute they are interested in hiring workers who have PV training courses or university degrees.

Vocational training curriculum in the photovoltaic field.

We have different answers for this point; from the installer company they told us that they provide training in Thermography and its workers are also trained by the company's suppliers.





In the promoter company its workers take part in training courses provided by the suppliers. Finally, the interviewee at the production company told us that the staff does not receive training because the current learning offer is not adapted to the needs of the solar energy sector.

Basic qualifications, key competences and profesional knowledge of professionals working in service and maintenance in the photovoltaic field.

From the installer company they consider absolutely necessary to include in the vocational training curriculum the following subjects:

- Reading and interpretation of data.
- Reading of information.
- Connection of equipment.
- Knowledge and interpretation of the performance of components and systems.
- Knowledge about low and direct current.
- Detection of failures.
- Parameters of performance.
- Installations sizing.
- Thermography.
- Preventive and regulation maintenance.
- Software of sizing.
- Management of stocks.

They also think that there are other subjects like how inverters works or a software to estimate the photovoltaic plants sizing. In relation to the needed basic qualifications they consider that are knowledge in electricity and in photovoltaic.

The promoter company emphasize in the knowledge of electricity and low voltage. They also consider necessary mechanical and maintenance knowledge, training in electricity, telecommunications, computer science, monitoring, communications networks and configuration of inverters. Finally and when we talk about basic qualifications they stress the importance of electricity, technical English, office automation and setting up networks.

From the production company they think that subjects like knowledge of Ohm's Law, training in low voltage and knowledge of electricity should be included in the vocational training curriculum. In relation to the basic qualifications they think that the most important is training in electricity.





For this point it is very important the training institute answer, as a specialist in the subject. They consider absolutely necessary in the vocational training curriculum the following subjects:

- Electricity and electronics.
- Redefining of solar photovoltaic installations.
- Assembly of solar photovoltaic installations.
- Maintenance of solar photovoltaic installations.
- Health and safety in the photovoltaic field.
- Feasibility Studies for solar installations.
- Projects of solar photovoltaic installations.

They also consider very interesting the option of doing internships at companies of the PV sector.

