

IEE/12/758/SI2.644752
D 2.1: Training Plan

tesla⁸
Transferring
Energy Save
Laid on Agroindustry

Author: Spanish Co-ops

Update version:
September 2013

Authors:

Spanish Co-ops

About this report

This document has been develop in the framework of the TESLA project (Intelligent Energy in Europe) and has been founded by the European Commission.

Copyright

This document can be copied and distributed always includes notes of copyright. Teachers and trainers and any other user must always quote the authors, the TESLA project and the Intelligent Energy in Europe Program.

The sole responsibility for the content of this document lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EACI nor the European Commission are responsible for any use that may be made of the information contained therein.

1. Planned dates in each country:

PARTNER	DATES	SUBSECTOR OF THE PILOT COOPERATIVE	EXPECTED NUMBER OF ATTENDEES
Confagri	10-13 September	Winery	7
Spanish Coops	16-19 September	Winery	16
Legacoop	7-10 October	Winery	6
CDF	5-8 November	F&V	6

2. Programme:

DAY 1:

THEORETICAL SESSION. KINDS OF ENERGY AND IMPROVEMENTS IN THERMAL SYSTEMS.

10:00 – 11:00: Basic concepts about energy units. Kinds of energy, conversion factors, emission factors of the different energy sources, energy costs.

11:00 – 15:00: Savings in thermal equipments. Kinds of boilers, performance of these boilers, kinds of cooling systems, kinds of climate control, costs of implementing it, maintenance operations, parameters of functioning, aspects having influence in energy consumption. Key actors suppliers of thermal systems.

15:00 – 16:00: break

16:00 – 17:00: Kinds of isolation, cooling systems panes, transmittance concept and its values in the typical panes used in cold store for fruit and vegetables storage.

17:00 – 18:00: Considerations about electric energy. Concepts of active energy and reactive energy and factors having influence on their values.

18:00 – 19:00: Exercise solving about the concepts studied during this day and its applications.

DAY 2:

THEORETICAL SESSION. IMPROVEMENTS IN ELECTRIC SYSTEMS AND AUDIT REPORT.

9:00 – 13:00: Savings in electric equipments. Kinds of systems demanding electric energy: Lighting, cooling devices, electric engines. Costs of implementation, maintenance operations, parameters of functioning and aspects having influence in energy consumption. Key actors suppliers of electric systems.

13:00 – 14:00: Execution of energy audits. Methodology of actions and used devices. Presentation of devices and its main characteristics.

14:00 – 15:00: break

15:00 – 16:00: Evaluation of economic viability of proposed measures. Presentation of an Excel tool for the evaluation of these measures.

16:00 – 17:00: Audit report, structure and basic information that should be presented. Presentation as reporting template and data sheets to be filled in for the audits.

17:00 – 18:00: Exercise solving about the concepts studied during this day and its applications.

DAY 3:

THEORETICAL SESSION. ANALYSIS OF INDUSTRIAL PROCESSES OF TESLA

9:00 – 10:00: Study of production processes of olive oil mills, key points to take into account during the audit.

10:00 – 11:00: Study of production processes of wineries, key points to take into account during the audit.

11:00 – 12:00: Study of production processes of fruit and vegetables processing plants, key points to take into account during the audit.

12:00 – 13:00: Study of production processes of animal feed factories, key points to take into account during the audit.

13:00 – 14:00: Best practices to be implemented in the facilities of industries belonging to TESLA subsectors (i).

14:00 – 15:00: break

15:00 – 16:00: Best practices to be implemented in the facilities of industries belonging to TESLA subsectors (ii).

16:00 – 17:00: Exercise solving about the concepts studied during this day and its applications.

17:00 – 18:00: Conclusions, doubt solving and theoretical sessions closure.

DAY 4:

PRACTICAL SESSION:

PORTUGAL: Cooperative Winery.

SPAIN: Cooperative Winery: Ntra. Sra. De Manjavacas Soc. Coop. de CLM (Mota del Cuervo)

ITALY: Cooperative Winery.

FRANCE: Cooperative Fruit and Vegetables Processing Plant.

9:00 – 10:00: Analysis of production process, meeting with Board of Direction of the cooperative to know the most important consumption factors in their process.

10:00 – 11:00: Analysis of energy bills, introduction of data from these bills in the computer tool and study of the monthly evolution of these energy consumption. Identification of the more energy consuming periods.

11:00 – 13:00: Visit to the facilities together with the maintenance technician of the cooperative. Inventory of equipments, filling in of data sheets with the equipments and identification of equipments' preservation current situation and their parameters of use.

13:00 – 14:00: Meeting with the maintenance technician to solve doubts arising during the visit, writing of main maintenance operations usually developed and writing of the most problem production processes as well as their controlling parameters of these processes and the most relevant parameters to maintain final product quality.

14:00 – 14:30: break

14:30 – 16:00: Data gathering development in main equipments. Handling of grid analyzer, amperimetric grips and thermographic camera. Variables that must be determined and risk prevention aspects that must be considered.

16:00 – 17:00: Execution of audit report. Data that must be included and presentation of the report to the cooperative.