



GREEN STAR

GREEN skills for enterprises Sustainable
Training for Automotive suppliers cluster



Programma di
apprendimento
permanente



LEONARDO DA VINCI

Leonardo da Vinci TOI n. 2013-1-IT1-LEOO5-03983 G73D13000280006

ACTION PLAN-ENERGY

The purpose of this action plan is to improve the skills of participants regarding green knowdeleges, acording European experience after GT VET in the spirit of Green Star Project. In the same time there are included some concretely actions done for these actions, which are constitute an reduction energy consumption plan in the company with the target of 9% per year.

In SC SINTEROM SA company, there were some actions concerning the energy, in order to raise up the level of consciousness in ecologic ability. The target groups of this program were both workers involved in the production process (press machine setters, ovenmen, locksmiths, electricians) as well as students of the Technical University, practicing in the production Department.



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The existing production processes were approached in a new view, that of the energy, of the types of used energies. In this approach, the target groups were informed about the consumed quantities of energy, their costs, the importance of energy savings and were oriented towards the search of possibilities to reduce them, both in the production process, as well as in maintenance.

The instructions and the presented materials for the transfer of knowledge were elaborated, using as guide the sub-module, “Energy” of the professional training program GT VET, with its four knowledge levels, translated into romanian language and distributed to people involved.

There were carried out individual and group discussions, in order to be understood the phenomenon “The Energy” and to have a correct attitude towards the problems of its consumption and savings.



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There were emphasized, especially, the materials corresponding to the second and third level. There were performed settings for the measurement of the consumed energy quantities in the production processes, with old equipments, in comparison with modern equipments, of high energetic efficiency.

There was put in evidence the quantity of the saved energy for getting the same product, the difference of the energetic costs, the impact upon the environment. There were hold discussions concerning the possibilities to reduce the quantities of consumed energy , through different methods, as the acquisition of modern technologies, the upgrading of the existing equipments, their correct operation , the high class maintenance of the equipments to eliminate the losses.



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For the 3-rd and 4-th level were selected the electricians and the engineers with more experience and practice regarding energy.

- The people involved in a program will have more experience and skills to be involved in an efficient technological process, to be active in optimizing the gas and electrical consumption and to be involved with new ideas to reduce waste energy and energy consumption.
- The final results of a team worked in the Green Star Project will be total reducing energy consumption for the existing plan, yearly, the results for 2015 will be 312 MWh that is estimated to be equivalent of 22.065 euro economy that is around 9% from the total energy cost on 2014.



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ACTION PLAN (ex: see also the table from word documentation):

Activities	Time Frame (begin by, complete by)	Person Responsible	Inputs/Costs
Translation of GT VET Modul- Energy in romanian language for 1-2 level	Month 10-11.2014-CCIR		Computers and printers
Training of the all involved personnel in the project for 1 and 2 level using GT VET submodul energy	15.08.2014-30.06.2015	Csep Janos	Listed GT VET module of energy level 1&2 for mentioned people
Transfer the information like: definition of energy, transformation with examples, different sources renewable and non-renewable to: locksmiths, press setters and ovenmen	1h (15.08.2014-20.08.2014)	Csep Janos	Papers, computers, slides
Conversion of energy, different type of energy, classification after the sources, fulfill the picture of "match the energy sources to picture" for locksmiths, press setters and ovenmen	2h (15.09.2014-20.09.2014)	Csep Janos	Papers, computers, slides



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- Translation of GT VET Modul- Energy in romanian language for 1-2 level
- Training of the all involved personnel in the project for 1 and 2 level using GT VET submodul energy
- Transfer the information like: definition of energy, transformation with examples, different sources renewable and non-renewable to: locksmiths, press setters and ovenmen
- Conversion of energy, different type of energy, classification after the sources, fulfill the picture of “match the energy sources to picture” for locksmiths, press setters and ovenmen



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- Transfer the information like: definition of energy, transformation with examples, different sources renewable and non-renewable to: engineers, electricians
- Conversion of energy, different type of energy, classification after the sources fulfill the picture of “match the energy sources to picture” for engineers, electricians
- Explanations for the energetical levels: primarily energy, technical energy, efficient energy; different kind of sources: renewable and nonrenewable. Examples of the way we can save energy; locksmiths, press setters and ovenmen
- Explanations for the energetical levels: primarily energy, technical energy, efficient energy; different kind of sources: renewable and nonrenewable.



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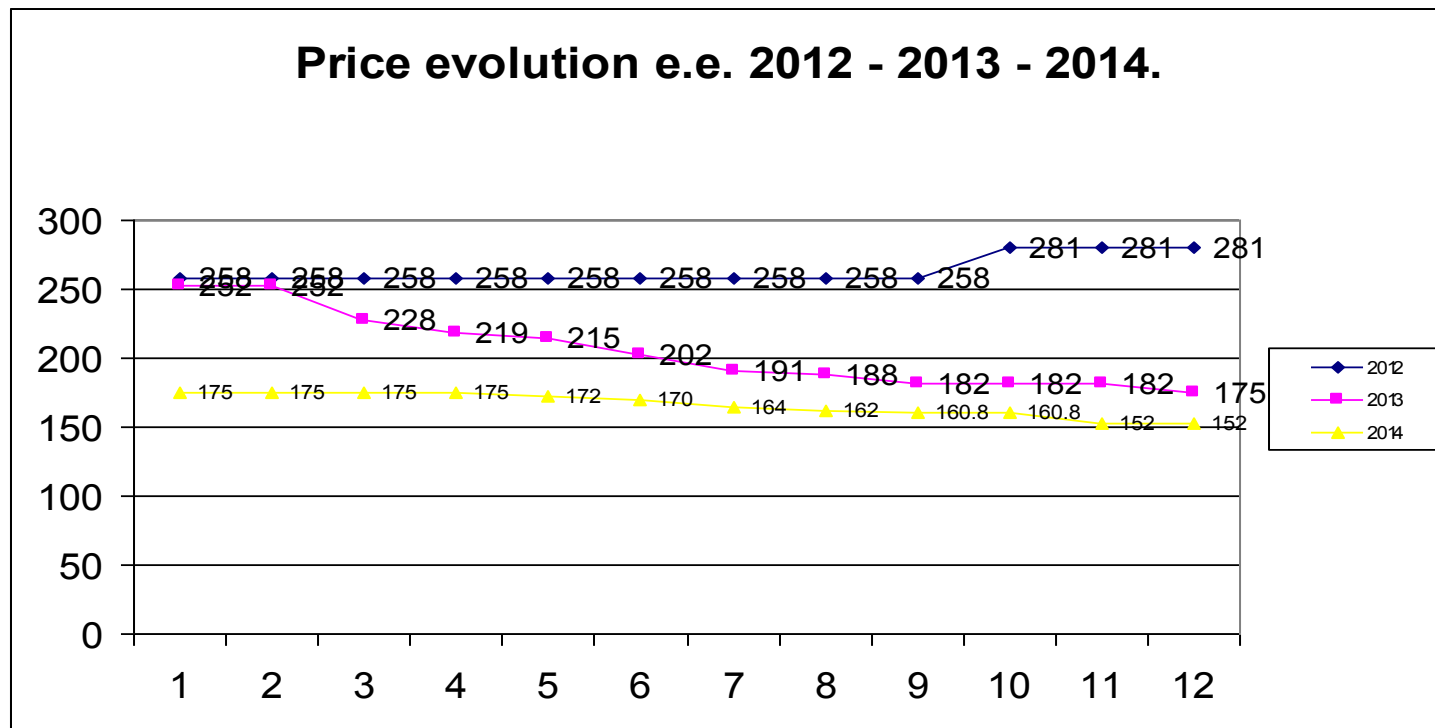
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- Examples of the way we can save energy; engineers and electricians
- Translation of GT VET Modul- Energy into romanian language for 3-4 level
- Training for the selected personnel for 3 and 4 level
- Energetical calculation of cost and effectiveness. Measuring of different light sources. Comparing between different type of lamps (bulb, LED lamp, halogen and fluorescent)- engineers and electricians
- Optimizing of hydraulic system with regulating pump of pressure by measuring the effective energy consumption on compacting mechanical-hydraulic press of 50 tones
- Level 4-The know-how process with results of studying, basic information, data sheets, strategies for energy saving



Electrical energy price in last 3 years





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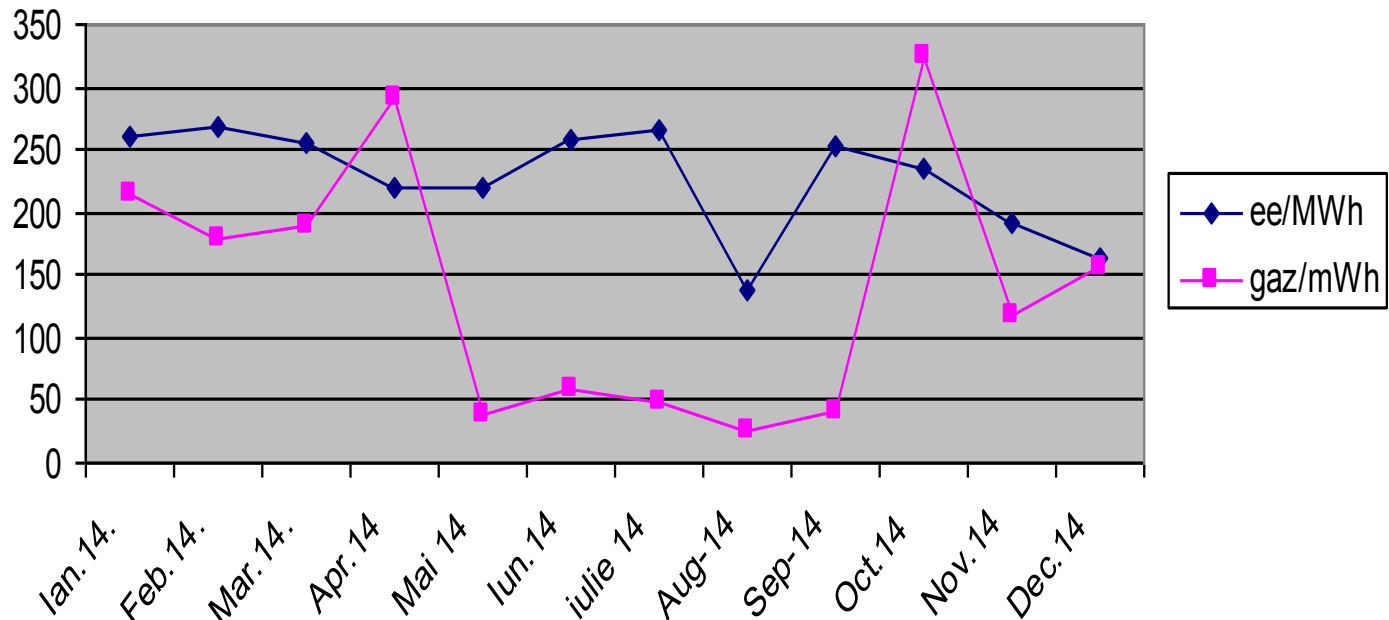
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Gas and energy consumption 2014





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Conveyor belt sintering furnace for bronze with ceramic insulation



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Small tooling heat treatment batch furnace



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**Carbonitriding batch furnace 300 kg/charge
(formerly use for tool heat treatment)**



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**TPA 50 powder mechano-
hydraulic compacting press**



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**Hydraulic aggregate of TPA 50 to (for
hydraulic study)**



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***THANK YOU FOR YOUR
ATTENTION !***