





Erasmus+

DEVELOPMENT OF INNOVATION PROJEC

2016-1-TR01-KA202-33958

CLEAN-kWAT

Integrating Environmental Considerations into

Energy Systems Development

Second Activity Evaluation Report

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PROJECT SUMMARY

The Rationale

In Turkey and in Europe, number of institutional and legislative elements of environmental reform, as well as the infrastructure development, have been put on the agenda as part of the environmental planning and education where development of energy systems that protect the environment is an important part. Since energy systems, especially fossil fuelled, leads to global warming, the energy systems designs must be done according to the rules of environmental protection and prevent the destruction of natural resources.

In the energy departments in many universities in Turkey there are no obligatory courses related to environmental impact of energy supply. Since the departments for energy systems engineering show increasing trend in recent years, there is a need for supporting education with training materials, especially with innovative ones. Therefore, the main target group of this project is energy systems designers and engineering students in related departments mainly in energy systems engineering.

The European Qualification Framework (EQF) aims to make National Qualification (NQF) understandable in Europe to allow the mobility of workers between countries and to make common learning system. It is necessary to enhance the quality and performance of VET system through improving guidance systems, promoting creativity, innovation and sharing EU experience in the field of education and training.





The CLEAN-kWAT project will address these issues through development of Learning Outcomes based training systems and redefinition of competence standards. It will highlight required skills and competences for working in energy supply sector, adapt and develop courses in accordance with this and use ICT in teaching and learning activities.

The main focus is to develop Strategic Partnership and share knowledge and experience between partners that are recognized to be national experts in the environmental and energy sectors

The Main Aims

The main project's focus is to develop and launch a Strategic Partnership framework in the field of sustainable development of energy supply sector with environmental concerns leading to the establishment of a joint trans-European competence based training VET model regarding the shift of EU labour market towards smart and green jobs. The model will be based on an EQF framework & on established national models, methods & experiences in the partner countries.

The Objectives

Since energy systems including the renewable have impact on environment and nature, the engineers and engineer candidates are lack of knowledge on the functions of ecosystems and ecological mechanisms and the training materials and techniques are not inclusive enough, in addition to technical



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aspects energy systems design processes including the energy systems development, it is certainly required to integrate environmental concerns deeply as well. Along this line, the project focuses on the 'impacts of energy systems including renewables on the environment and nature' and it is aimed to train energy systems designers and students on the vulnerability and fragility of ecosystems and nature.

The objectives are comprised of an innovative approach based on EQF and ECVET principles; design of blended learning program; build up a broad multilanguage learner-centred e-platform; set up a structural model based on the specific needs of education of VET professionals and arrangement of VET pathways; testing/valorisation of the CLEAN-kWAT outcomes.

The Results

• Training book on Integrating Environmental Considerations into Energy System Development: The book covers technological and environmental aspects of conventional energy production systems (thermal power plants) and renewable energy sources (nuclear, wind, wave and tidal, geothermal, hydrogen gas, biomass).

• Documentaries (visual training materials): They will be produced for each chapter of the Training book and distributed on DVD and YouTube.

• Description of the Qualifications, Learning Objectives and European components: It contains descriptions of the selected professions in the Energy field in participating countries with defined knowledge, skills and competences for these professions.









• E-learning Portal: This knowledge data base will provide competence based carrier development. Besides project information, it will have interactive e-learning environment with training courses

The Consortium

The CLEAN-kWAT consortium has been organized & based on the different backgrounds and strengths of each partner. It includes 8 partners from 5 countries – TR, SP, HU, RS and GE, and is composed of 3 Universities, 2 Research & Training Centre, 1 NGO & 2 SME's.

In addition, the CLEAN-kWAT consortium's members have a wide range of experience in national/EU programs; they possess the necessary capability, expertise and competence for implementation of the CLEAN-kWAT projects and successfully achieve its objectives-based training.

The Main Outcomes

The main outcomes of the CLEAN-kWAT project are:

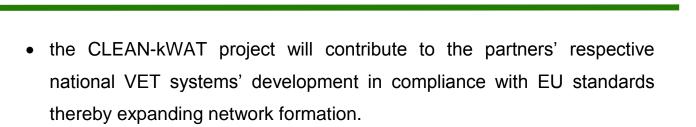
- delivery of system for structural description of work-related competences
- organization of interactive technical support system with multilingual operational capacity
- introduction of educational support services, including novel training opportunities for VET professionals
- personalization of learning paths of specialized knowledge
- planning and performance of project testing
- evaluation and valorisation





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Duration: 1 October 2016 – 30 September 2018



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Partners and Contacts:

P#	Partners	Contact Persons
P0	GİRESUN UNIVERSİTY	Ms. Başak Taşeli Mrs. Duygu Altıok Mr. Evren Altıok
P1	ORKON INTERNATIONAL ENGINEERING TRAINING CONSULTING CO.INC.	Mrs. Altan Dizdar Mr. Ertuğrul Dizdar
P2	GAZİ UNIVERSİTY	Mrs. Gamze Yücel Işıldar Ms. Feriha Yıldırım
P3	RENEWABLES ACADEMY (RENAC) AG	Ms.Manolita Wiehl Ms.Uta Zahringer
P4	KALI ENERGY SOLUTIONS CO.	Mrs. Şahika Kardam Mr. Mehmet Ali Kardam
P5	ASOCIACION AMIGOS DE EUROPA LEONARDO DA VINCI	Mr. Jose M. Daza Mr. Antonio Enamorado
P6	UNIVERZITET U BEOGRADU	Mr Branislav Zivkovic Mr. Aleksandra Sretenovic
P7	ENERGIAKLUB SZAKPOLITIKAI INTEZET MODSZERTANI KOZPONT EGYESULET	Ms. Cecilia Lohasz









PROJECT EVALUATION APPROACH

This is the initial activity evaluation report to be produced regarding the Erasmus+ CLEAN-kWAT project. It is focused on the initial stages of the project, the review of tasks/outcomes, and the general operational approach, including:

- a review of project materials and approaches regarding activities, particularly focused on objectives and results as well as the assessment of the activity tasks,
- the completion of a monitoring report providing information about the project implementation process through collecting and analysing data received from the partners about their activities.

This is the regular systematic collection and analysis of information to track the progress of a project implementation against pre-set targets and objectives.

Evaluation analyzes why intended results were or were not achieved, assesses specific casual contributions of activities to results, examines implementation process, explores unintended results, provides lessons, highlights significant accomplishments or program potential and offers recommendations for improvement. As established in the CLEAN-kWAT evaluation plan, the **evaluation approach** is designed to judge the degree of success of the project in a conventional output/outcome format at its conclusion, as well as to directly support the achievement of project objectives through a process of regular progress review and feedback. It also includes the review of the agreed activity tasks, and assessing partnership strengths and weaknesses. This involves



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capturing successes and avoiding difficulties as they might arise through recommended actions that are designed to minimise the incidence of barriers to the successful completion of the project.

Timely generation of project outputs will be monitored and partners will be informed through monitoring reports twice a year to demonstrate the project's state of play and to take precautions if necessary. By monitoring we detect possible problems quickly with regular reporting, helping foresee the possible delays and to evaluate technical solutions to keep the project on track.

Every information sent by partners is used and the results and recommendations of the monitoring and evaluation should be followed for a successful ending of our project.









Evaluation of the CLEAN-kWAT Project's Activities

Methodology

The main objective of the CLEAN-kWAT activities evaluation report is to identify the strengths and weaknesses of the activities and the project as a whole. This report is for the evaluation of second six month period of the project which is the dates between 01 April 2017 - 01 October 2017.

In CLEAN-kWAT project; internal monitoring and evaluation is carried out and project progress is monitored through questionnaires and on the basis of work plan.

Partners were asked to complete the questionnaire distributed by KALIENERGY as part of Activity 7's (Monitoring and Evaluation) responsibilities. The respondents were asked to rate the questions/statements accuracy on a scale from 1 to 10 (1 = not at all and 10 = excellent; where 2-8 represents varying degrees in between), except one question where there is a checklist, and a comment space for each question was provided for the respondents, so they could write in their own words any thoughts or concerns.









SUMMARY OF QUESTIONNAIRE ANSWERS

- 1) Partners believe that goals and the objectives of the Project will be achieved on time. However; partners working schedules need to be closely followed. Promoter and coordinator of the project do their best and remind due times. However tasks in direct relations with other tasks should be well programmed and management could be improved in deadline task planning.
- 2) Although some deadlines need to be shifted because of the late start of the project, partners are doing an effort for being on time with each task and current activities are running consistent with the timetable now.
- **3)** The results of this project will be a source of inspiration for the creation of other new projects; especially, the book, movie and e-learning portal will be promising for other new projects. This is the first step in the direction of environmental impacts of energy generation being integrated into existing courses for engineers. Environmental aspects could be taken into account for other professions. And this project might show the roadmap. The methodology and learning outcomes could be useful for designing a new project; perhaps about climate change.
- 4) The training material will reach the target groups. The Training Book can be used as part of the curriculum for many subjects related to renewables in Universities. It will provide at least a starting point for discussions related to environment protection in energy system that is unfortunately often neglected for now. However; due to budgetary reasons, the material provide will be basic.
- 5) In the point of view of innovative aspects of the outputs; the e-learning portal is something close to young people that could increase their interest in this topic. The most innovative is use of ECVET framework for carrying out learning outcomes for the selected professions.









- 6) Tools under development express flexibility; E-learning portal can be adapted to new requirements and conditions. Due to budgetary requirements a heavy material with so many pages to be translated into partners' languages cannot be achieved. Yet, they will be quality materials for introducing the subject of the project to the sector.
- 7) The risk in the quality of outputs rises from the budgetary and time constraints. However, partners should do their work not in the simplest way with a little amount of work. It is important to send the comments for the project developments or when anything asked by an e-mail for effective use of project period.
- 8) Based on the results of the questionnaire, the followings can be concluded for the first two 6 month period of the project;
 - Overall the activity coordination is good,
 - The coordinators of the activities are clear and available,
 - The time management/timing of the project activities is appropriate,
 - The coordinator of the activities are highly involved in the project,
 - The activity coordinator takes into account the suggestions and contributions by the partners,
 - The products that will be produced in activities are suitable,
 - The products are appropriate for the target group,
 - The products comply with the activity's aims and objectives.









OVERALL WORK PACKAGE RESULTS

The **overall score** of **9.25** for the CLEAN-kWAT activities, based on the response from the partnership, reflects a high level of satisfaction with CLEAN-kWAT project outcomes and working methods.

Average Rating

The Objectives and Results overall average is 8.86.

Social/political realism in project outputs/recommendations, national priority/commitment to this type of development, national financial resources to follow-up on the project and involvement/participation by beneficiaries are required for sustainability of this project and likely to limit the impacts.

Activity ratings are given below;

- o <u>Activity 1</u>'s overall **average** is **9.45**.
- o <u>Activity 2</u>'s overall **average** is **9.44**.
- o <u>Activity 3</u>'s overall average is 9.24.
- o <u>Activity 4</u>'s overall average is 9.20.
- o <u>Activity 5</u>'s overall **average** is **9.52**.









- o <u>Activity 6</u>'s overall **average** is **8.52**.
- o <u>Activity 7</u>'s overall **average** is **9.45**.
- o <u>Activity 8</u>'s overall **average** is **9.41**.

EVALUATION NOTE

The results indicate that the CLEAN-kWAT project partners are satisfied with the results of the project.

The following section includes the questionnaire questions/statements with graphic illustrations of the results.









Second Activity Evaluation Annex



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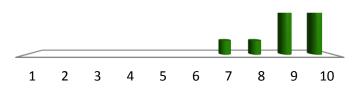




OBJECTIVES and RESULTS

 As you go through the Project do you think that the goals and the objectives of the Project and the expected results were ready on due time?

Satisfaction Level



Comments:

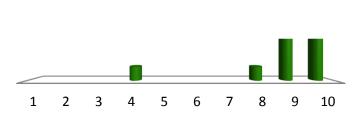
-Promoter and coordinator of the project do their best and remind due times.

- -If we don't follow the partners closely, we may not finish our works on time.
- -The partners are trying to do their work in the simplest way with a little amount of work, we must warn them when they do so,
- -They don't send their comments for the project or when anything asked by an e-mail.





2) Do you believe that Project ran according the Activities set before in terms of time management and contents? If not, Please explain the reasons.



Satisfaction Level

Comments:

-Since the project approval and signing date of contract are behind the time management schedule, the initial activities were postponed couple of months. But current activities are running consistent with the timetable now.

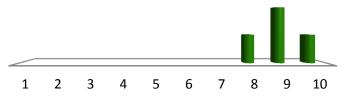
-There are task bad programmed in the timeline, because those task or activities were in direct relation with another task





3) Do you believe that the results that will be obtained in this project will be a source of inspiration for the creation of other new projects? If yes, how? If not, why?

Satisfaction Level



Comments:

- This is a first step in the direction of environmental impacts of energy generation being integrated into existing courses for engineers.
- Yes, we expect that the project outputs, especially, the book, movie and e-learning portal will be promising for other new projects.
- The methodology and learning outcomes could be useful for rewriting a new project perhaps about climate change
- The project shows that integrating renewables into technical higher education is necessary in all countries. The insertion method is effective with CLEAN-kWAT project's outputs.
- Environmental aspects could be taken into account for other professions. And this project might show the roadmap.



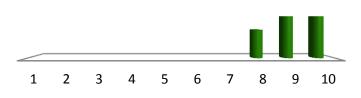




i.

4) Do you think that this Project will be sustainable in terms of its results and outcomes?

Satisfaction Level



Comments:

-The Training Book can be used as part of the curriculum for many subjects related to renewables on Universities

-Yes, because is a need for several partners and the project can be supplemented with mobility programs which can encourage the results of the learning outcomes, and get ECVET credits through traineeship mobilities.

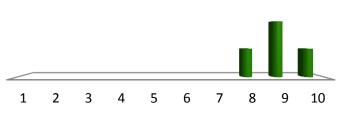
5) Do you believe that the tools under development exhibit a level of flexibility and adjustment to changing conditions and needs with regards to the target groups identified?







6) To what extent do you believe that the training material that is developed offer professional advice for the target groups reached?



Satisfaction Level

Comments:

-It will provide at least starting point for discussion related to environment protection in energy system, that is now unfortunately often neglected.

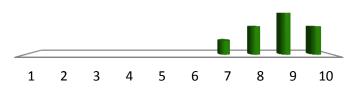
-Due budgetary requirements we can't develop a heavy material with so many pages for being translated, but will be quality material for introducing the subject of the project





7) What can you say about the innovative aspect of the materials that are produced in the project?





Comments:

The e-learning portal is something close to young people that could increase their interest in this topic.

The most innovative is use ecvet framework for carrying out learning outcomes for the selected professions









8) Which of the following factors are most likely to limit the sustainability of the project effects and impact?

X Non-economic attractiveness/viability of the outputs developed by the project
Technical weaknesses in project outputs/recommendations
Lack of attention to natural resource sustainability
X X Lack of social/political realism in project outputs/recommendations
X Insufficient involvement/participation by beneficiaries
X X X Insufficient national financial resources to follow-up on the project
X X X Lack of national priority/commitment to this type of development
Low level of achievement of project objectives
None
X Other (specify): At this moment, it cannot be foreseen since the project outputs, dissemination activities and multiplier events haven't been produced and carried out





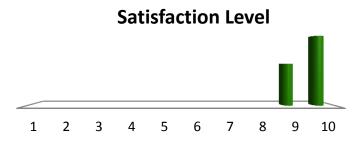
Activity1:Project Organisation & Management

Coordinator: *GIRESUN*+*ORKON*

9) The overall activity management is good.



10) The coordinator of the activity is clear and available.

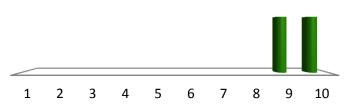




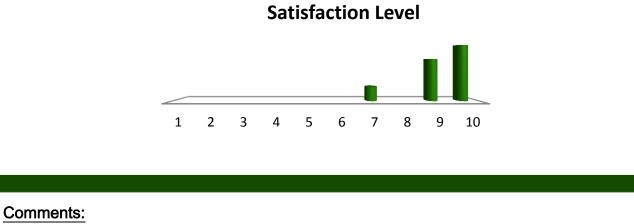


11) The coordinator of the activity is working very successfully.





12) The time management of the activity is appropriate.

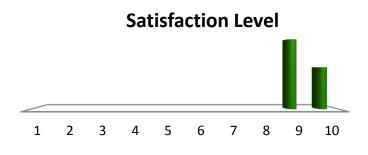


Could be improved, mostly in deadline task planning





13) Respect to the deadlines is appropriate and takes into account consideration of other project partners.



14) The coordinator is highly involved in the CLEAN-kWAT project.







15) The products comply with the activity aims and objectives.



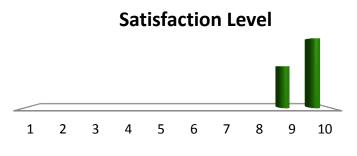
16) Problem solving strategies are well implemented by the coordinator.







17)The coordinator takes into account the suggestions and contributions of the other partners.



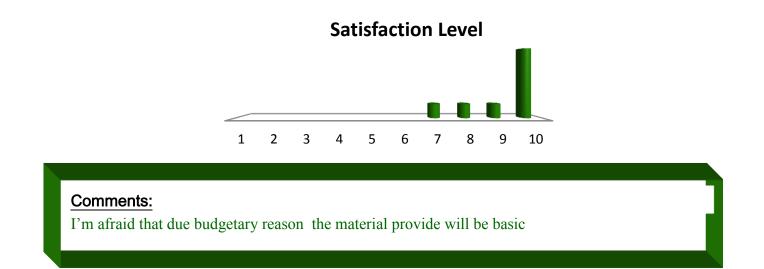
18) The products that will be produced by this activity will be perfectly suitable for the project.







19) The products are appropriate for the CLEAN-kWAT target group.



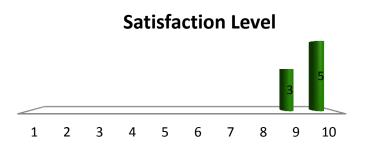




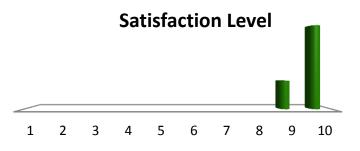
Activity2:Development of the Training Book

Coordinator: *GIRESUN* **Responsible partners:** *GIRESUN* + *GAZI* + *ENERGIAKLUB* + *BELGRADE*

20) The overall activity management is good.



21) The coordinator of the activity is clear and available.

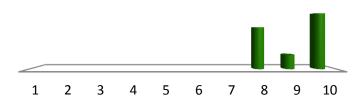






22) The coordinator of the activity is working very successfully.

Satisfaction Level



23) The time management of the activity is appropriate.



24) Respect to the deadlines is appropriate and takes into account consideration of other project partners.

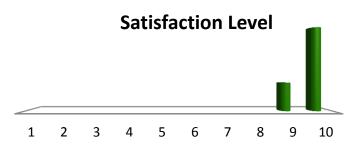




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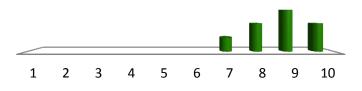


25) The coordinator is highly involved in the CLEAN-kWAT project.



26) The overall quality of the products that are produced upto now is high.

Satisfaction Level







27) The products comply with the activity aims and objectives.



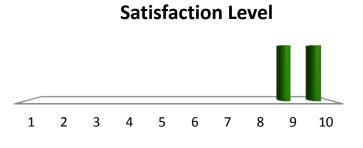
28) Problem solving strategies are well implemented by the coordinator.







29)The coordinator takes into account the suggestions and contributions of the other partners.



30) The products that will be produced by this activity will be perfectly suitable for the project.







31) The products are appropriate for the CLEAN-kWAT target group.



Comments:

I'm afraid that due budgetary reason the material provide will be basic



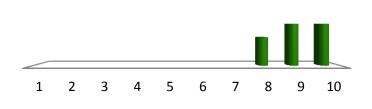


Activity3:Development of Documentaries

Coordinator: AELV

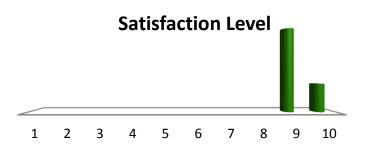
Responsible partners: *AELV* + *BELGRADE*

32) The overall activity management is good.



Satisfaction Level

33) The coordinator of the activity is clear and available.

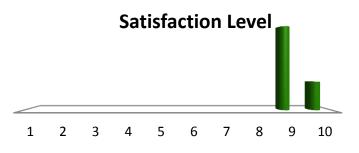




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34) The coordinator of the activity is working very successfully.



35) The time management of the activities is appropriate.



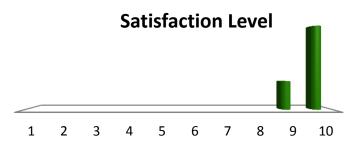




36) Respect to the deadlines is appropriate and takes into account consideration of other project partners.



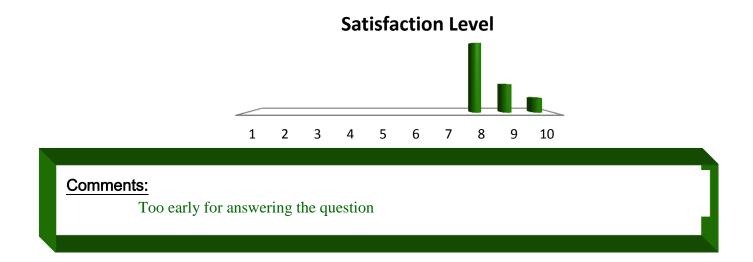
37) The coordinator is highly involved in the CLEAN-kWAT project.



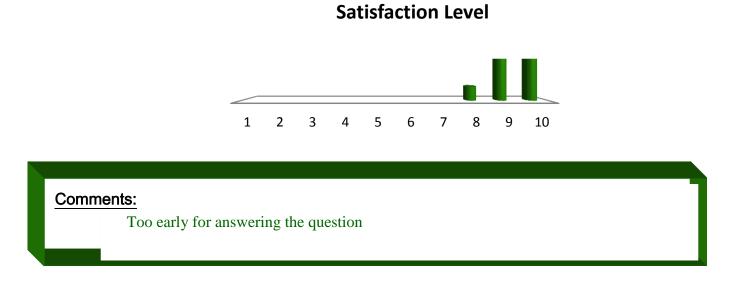




38) The overall quality of the products that are produced upto now is high.



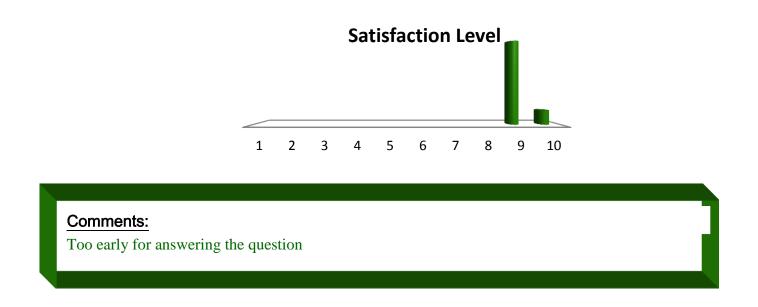
39) The products comply with the activity aims and objectives.





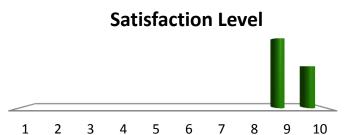


40) Problem solving strategies are well implemented by the coordinator.



41) The coordinator takes into account the suggestions and contributions

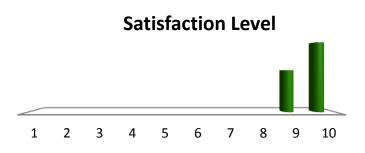
of the other partners.



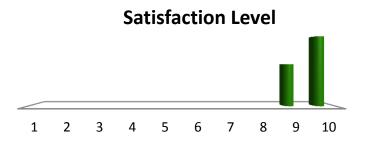




42)The products that will be produced by this activity will be perfectly suitable for the project.



43)The products are appropriate for the CLEAN-kWAT target group.











Activity4:Description of Qualifications, Learning Objectives and

European components

Coordinator: RENAC

Responsible partners: *AELV* + *BELGRADE*

44) The overall activity management is good.



45) The coordinator of the activity is clear and available.

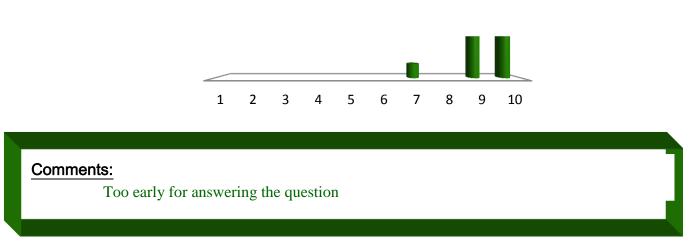




Satisfaction Level

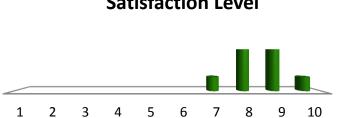


46) The coordinator of the activity is working very successfully.



Satisfaction Level

47) The time management of the activities is appropriate.









48) Respect to the deadlines is appropriate and takes into account consideration of other project partners.



49) The coordinator is highly involved in the CLEAN-kWAT project.



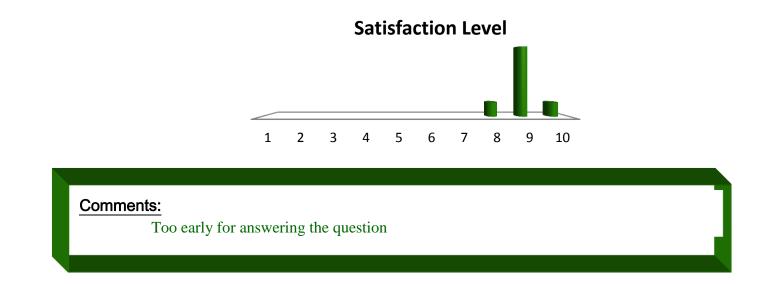




50) The products comply with the activity aims and objectives.



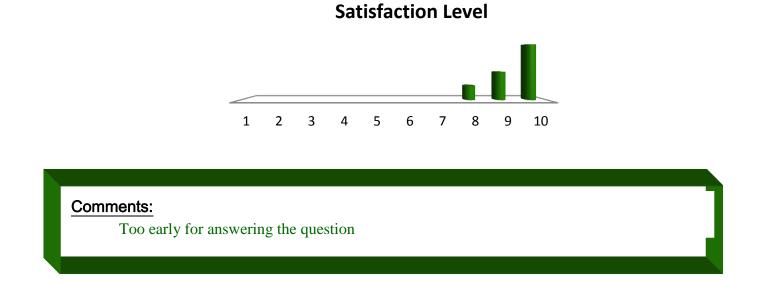
51) Problem solving strategies are well implemented by the coordinator.







52) The coordinator takes into account the suggestions and contributions of the other partners.



53) The products that will be produced by this activity will be perfectly suitable for the project.

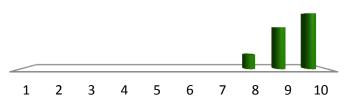






54) The products are appropriate for the CLEAN-kWAT target group.





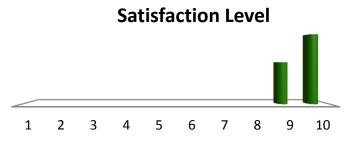




Activity5:Setting up the e-learning Portal

Responsible Partner: ORKON

55) The overall activity management is good.



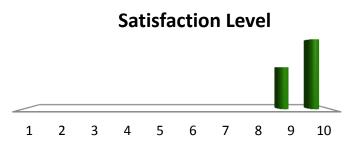
Comments:

Only 3 partners from the whole group entered to the e-learning modules system and now, I am sure as the others don't know the system, they will give low grades to e-learning modules, It is easily seen from the e-leaning system who entered to the system and how long he stayed there, This must be avoided and the partners must be warned to check the system and give their suggestions and comments on the system, they must be aware of the system. If they don't try to see e-leaning modules, they can't have an idea for the criticism and to give grades for the system.

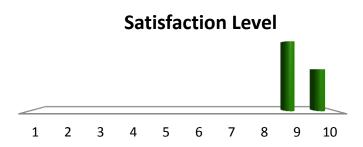




56) The coordinator of the activity is clear and available.



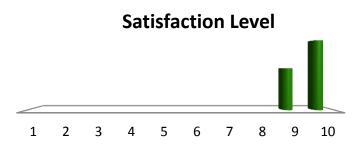
57) The coordinator of the activity is working very successfully.



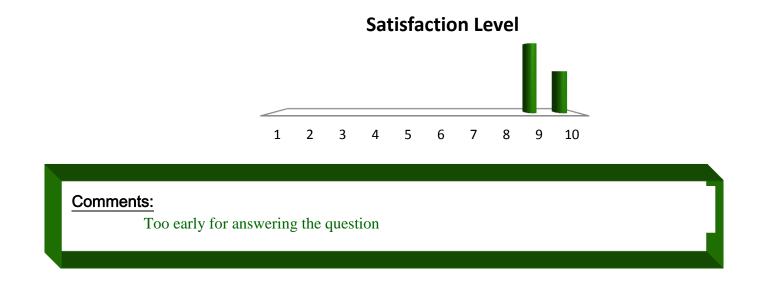




58) The time management of the activities is appropriate.



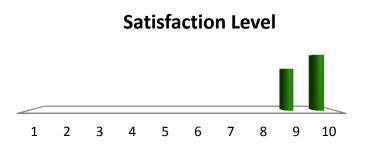
59) Respect to the deadlines is appropriate and takes into account consideration of other project partners.







60) The coordinator is highly involved in the CLEAN-kWAT project.





61) The overall quality of the products that are produced upto now is high.







62) The products comply with the activity aims and objectives.



63) Problem solving strategies are well implemented by the coordinator.







64) The coordinator takes into account the suggestions and contributions of the other partners.



65) The products are appropriate for the CLEAN-kWAT target group.









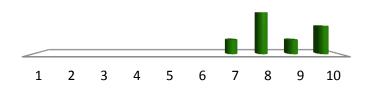


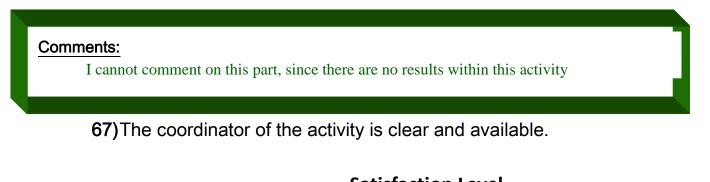
Activity 6: Testing of the Products

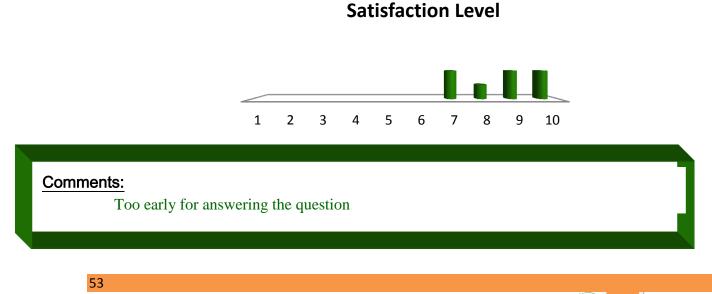
Coordinator: *ENERGIACLUB* **Responsible partners:** *ENERGIACLUB*+ *GIRESUN* + *GAZI* + *BELGRADE* + *ORKON* + *KALIENERGY* + *AELV* + *KALIENERGY*

66) The overall activity management is good.



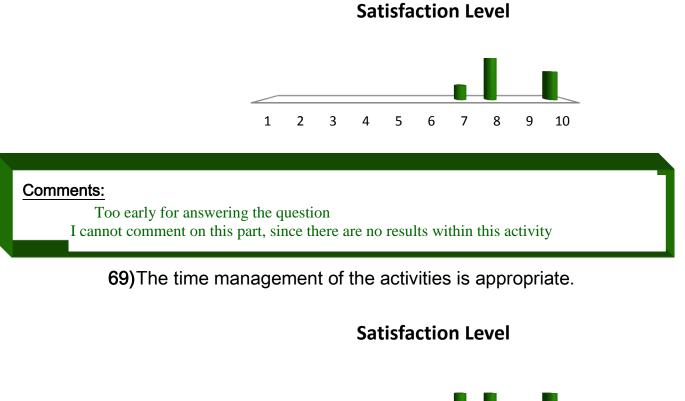


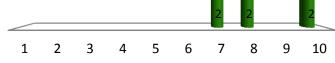






68) The coordinator of the activity is working very successfully.





Comments: Too early for answering the question I cannot comment on this part, since there are no results within this activity





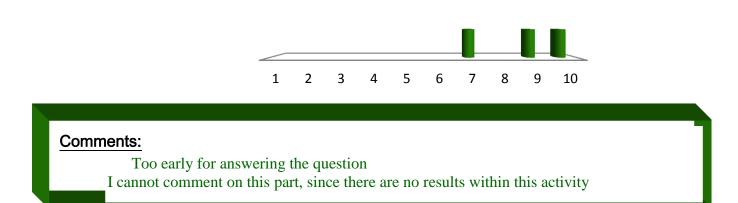




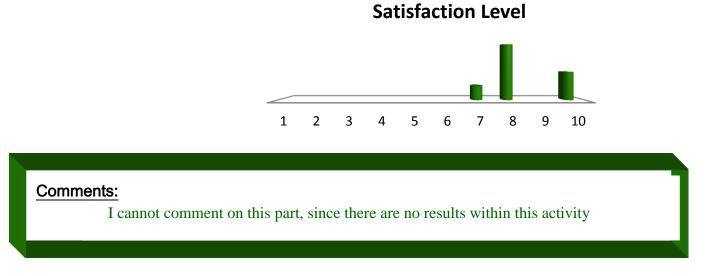
70) Respect to the deadlines is appropriate and takes into account

consideration of other project partners.





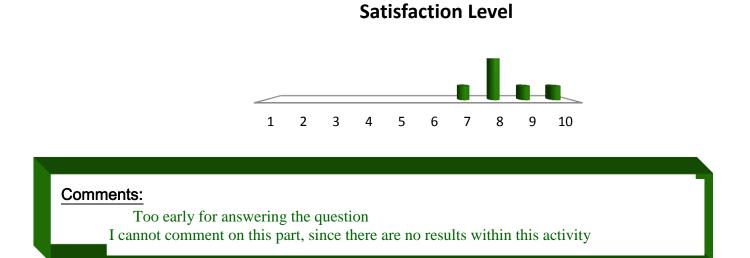
71) The coordinator is highly involved in the CLEAN-kWAT project.





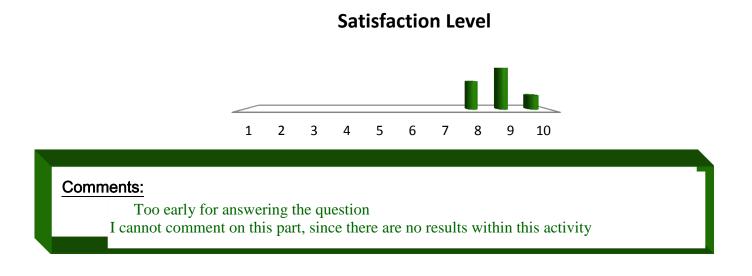


72) The overall quality of the products that are produced upto now is high.



73) The products comply with the activity aims and objectives.

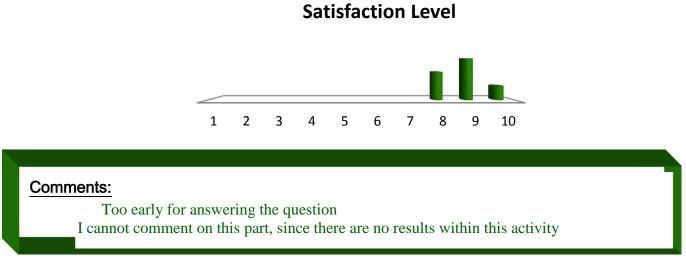
56





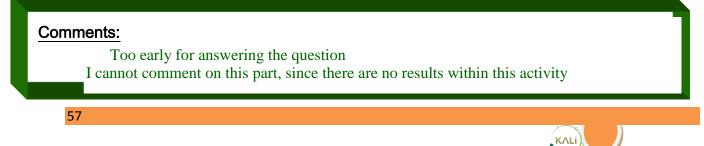


74) Problem solving strategies are well implemented by the coordinator.



75) The coordinator takes into account the suggestions and contributions of the other partners.







76) The products are appropriate for the CLEAN-kWAT target group.





Too early for answering the question I cannot comment on this part, since there are no results within this activity

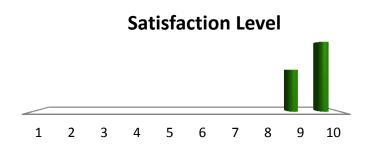
Activity 7: Monitoring and Evaluation of the Project

Responsible partner: *KALIENERGY*





77) The overall activity management is good.



78) The coordinator of the activity is clear and available.



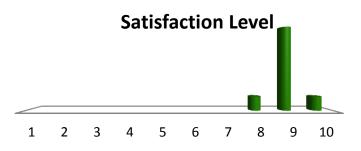




79) The coordinator of the activity is working very successfully.



80) The time management of the activities is appropriate.



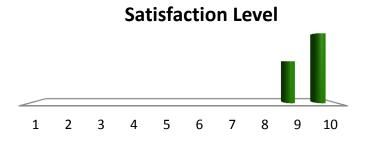




81) Respect to the deadlines is appropriate and takes into account consideration of other project partners.



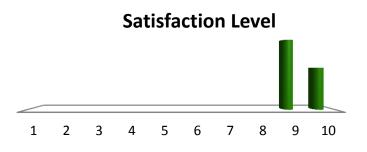
82) The coordinator is highly involved in the CLEAN-kWAT project.







83) The overall quality of the products that are produced upto now is high.



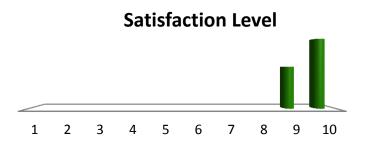
84) The products comply with the activity aims and objectives.



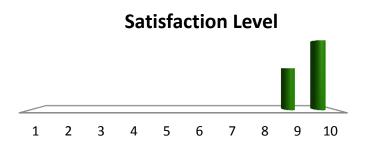




85) Problem solving strategies are well implemented by the coordinator.



86) The coordinator takes into account the suggestions and contributions of the other partners.







87) The products are appropriate for the CLEAN-kWAT target group.



Activity 8: Dissemination, Exploitation & Sustainability of the Project

Coordinator: *BELGRADE* **Responsible partners:** *BELGRADE* + *GIRESUN* + *GAZI*+ *ENERGIAKLUB* + *AELV* + *ORKON* + *KALIENERGY*

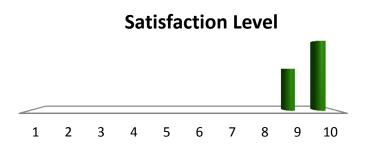




88) The overall activity management is good.



89) The coordinator of the activity is clear and available.



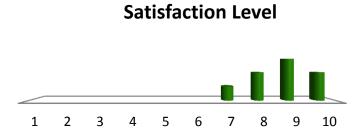




90) The coordinator of the activity is working very successfully.



91) The time management of the activities is appropriate.







92) Respect to the deadlines is appropriate and takes into account consideration of other project partners.



93) The coordinator is highly involved in the CLEAN-kWAT project.







94) The overall quality of the products that are produced upto now is high.



95) The products comply with the activity aims and objectives.



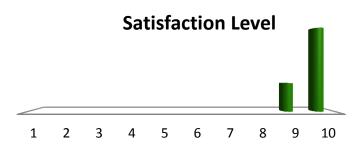




96) Problem solving strategies are well implemented by the coordinator.



97) The coordinator takes into account the suggestions and contributions of the other partners.







98) The products are appropriate for the CLEAN-kWAT target group.



