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**DELIVERABLE**

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| Project Acronym: | **GreeNET** |
| Grant Agreement number: | **527891** |
| Project Title: | **Environmental Education through Enquiry and Technology** |

**D4.1.1 – Validation Plan**

**Revision: [final] V. 1.5.**

**Authors:**

**Vassiliki Markaki, Aggeliki Christodoulopoulou, Sofoklis Sotiriou (EA) and Michaela Marterer (STVG)**

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# Executive Summary

The aim of this document is to explain the GreeNET validation plan and process. More specifically, the goal is to **consolidate and share the GreeNET collected good practices with various stakeholders and to also examine the applicability of the GreeNET best practices in real school environments through collaborative actions with affiliated partners and regional authorities** and examine the validation of the green labor market through collaborative actions with green enterprises**.** The number of participants to be reached in each phase and in each country is explicitly documented. Also, a set of different types of activities is defined; these can be used by the partners as a guide towards the organization of the validation actions and the engagement of the pre-defined number of participants. This document aims to identify the work plan, the time schedule and the expected outcomes.

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# Introduction

## Scope

This deliverable presents the design and specification of the validation plan.

## Audience

This report is addressed to the consortium members of the GreeNET project.

## Structure

**Chapter 2:** provides an overview of the GreeNET project.

**Chapter 3:** provides a short description of the different validation activities of the GreeNET project.

**Chapter 4:** focuses on the evaluation of the validation activities.

# Objectives

Teachers are the key players in the regeneration of environmental education and the establishment of environmental conscience. The effective widespread use of enquiry-based teaching techniques in primary and secondary schools heavily depends on them. Still, a series of constraints in the adoption of enquiry-based methods in teaching seem to exist, as many surveys show. Even so, it is well-documented that teachers are more willing to implement green and enquiry-based educational scenarios in the classroom if the following conditions apply:

1. Comprehension of the learning mechanisms: teachers need to become aware of specific weaknesses in their own practice, as well as how learning is achieved. In most cases, this meta-cognition process not only involves building an awareness of what the teachers do but the mindset underlying it.
2. Professional development: teachers need to be properly trained but most importantly motivated to make necessary improvements. In general this requires a deeper change in motivation that cannot be achieved through changing material incentives.
3. Support with specially designed and adapted tools: teachers need to be provided with specific best practices, as well as gaining understanding of them. In general, this can only be achieved through the demonstration of such practices in authentic settings.
4. Multidimensional character of environmental education: although considered and confronted as specific subject in most schools, environmental education is by definition multidimensional and touches upon many-if not all-of the school subjects.

Taking the above considerations and limitations into account, the GreeNET project aims to contribute to the improvement of the quality of environmental teaching and its connection with the world of work through the GreeNET methodology that:

**a)** proposes a standard-based approach to teaching environmental education by enquiry based on pre-specified and widely tested models for the management of the in-class instruction,

**b)** deploys a series of localized implementation actions aiming to bring together, train and motivate teachers, and to provide them with the necessary skills to assess the selected enquiry-based techniques and activities and to adopt these/such good practices in their classrooms for the effective teaching of environmental education

**c)** promotes the use of effective best practices in EE&T through specialized actions, such as the European transnational workshop,

**d)** promotes collaboration, discussion and exchange of best practices among a constantly expanding network of teachers on a European level

**e)** offers access to a unique collection of exceptional educational scenarios and teaching practices (linked with the respective curricula of the participating countries and with the goals of the EU on environmental projection), enriched with the use of technology, that have proven their efficiency and efficacy in promoting environmental education using the enquiry model and technology-based techniques, and linking environmental education with the world of work.

Such an approach enabling all stakeholders (teachers, teachers’ trainers, curriculum developers, policy makers) to examine their own practices in the light of the best performing approaches that set the standards on what can be achieved and provides them with a unique tool to bring about improvements in their everyday practice.

In general, the main objectives that characterize the implementation scheme of the GreeNET project are the following:

1. ***To implement a large number of enquiry-based training activities that will introduce the use of enquiry methods in environmental education classes and professional development schemes***. During the implementation process the participating teachers and educators will be given access to a large number of free and open educational activities connected with the environmental education of the participating countries’ curricula, with proven educational efficiency that are overcoming the limitations of the classroom. The GreeNET project brings together a network of institutions of formal and non-formal education, research organizations, policy makers, and environment expects in the participating countries [Austria, Belgium, Germany, Greece, Spain, UK] in order to act as the pilot group of the planned activities and of the project educational activities. On a second level, through the GreeNET associated partners’ scheme, a bigger number of teachers/educators will participate in the planned implementation activities, actively contributing to the validation of the proposed activities.
2. ***To further support the adoption of enquiry-based methods in environmental education, by demonstrating ways to reduce the various constraints and hesitation.*** The GreeNET project will deploy aseries of methods of effectively involving teachers in the enquiryinstruction with the use of technology. In order for them to fully realize the potential of enquiry**-**based education, a complete confrontation of hesitation andpotential negative preconceptions related to the proposed approach will be addressed while the participating teachers will be supported in every step of the process.
3. ***To effectively underline and strengthen the links between technology and environmental education, and to clarify the potential of green jobs, in order to maximize their impact in terms of the effectiveness and efficiency.*** The key areas of interest of the proposed methodology will be Environmental Education, Technology (tools, services and infrastructure), Natural Sciences Pedagogy and connection with the world of work. The project will be implemented in schools, and training centers, in different countries that will allow for an ethnographic research and evaluation of different attitudes against the use of enquiry-based techniques in different cultures providing thus ways for intercultural dialogue to improve these attitudes.

# Validation Activities

In the framework of the GreeNET project a nine-month period starting from November 2014 act as the framework for the validation events. These events will be **supplementary to the implementation** ones and they will have as their **main focus** **to provide the consortium with valid information about the possible exploitation of the project’s good practices to different settings and in other countries Pan-Europeanly.**

The **result** of this process, will be the **formation of a set of recommendations** to policy makers and regional authorities on the **ways European policy making specialists can use the GreeNET Inventory** and the collected and evaluated good practices in order to support the training of their citizens in taking advantage of such ICT based services. Moreover, a concrete Roadmap for teachers**,** resulting from the overall work, will be disseminated through teacher communities across Europe, aiming to be used as a guide for European teachers’ networks.

This deliverable aims to describe the different types of events to be organized under the GreeNET validation umbrella, and the approach on how to collect and evaluate the feedback received in order to proceed and create the beforehand results.

NOTE: Associated partners, when applicable, can be involved in the presented events.

## EVENT TYPE 1: CONSULTATION WITH STAKEHOLDERS

The **aim** of this validation option is to discuss the project findings and outcomes with the representatives of different stakeholders. These stakeholders can be from one or more of the following sectors: environmental education, entrepreneurship in education, and use of ICT-tools in education.

Two sub-types of events/activities are foreseen for this type:

1. **Meetings with stakeholders**

Each of the GreeNET partners is to organize a set of meetings with stakeholders, in order to present and discuss the findings of the project, and also **to investigate the applicability of the project’s outcomes in the educational system.** What would be suggested in this point is that all partners try to achieve collaboration with the Ministries of Education-Environmental Protection-Culture to ensure at least one meeting with representatives from high-level participation of stakeholders, and in order to verify that the proposed GreeNET activities not only meet the local/national objectives, but also contribute to them. Moreover, the partners should approach representatives of the enterprises and especially green enterprises in order to validate the competencies needed to work in the green labor market, or to be greener in any sector / these competencies are also relevant to EU 2020. The goal in this case is to answer the following question: *Which competences of the EE could be validated from the Green Labor market?*

During these discussions, the involved stakeholders will have the opportunity to get familiarized with the concept of good practices and with the GreeNET project in general, in order to provide feedback, which will be useful for the Roadmap for teachers [D7.4 ‘The Guide for Bringing Green Science Education Development in European School Communities’] and for the exploitation process in general.

Other than the aforementioned Ministries and relevant services, it would be recommended that meetings could involve representatives from prominent NGOs, universities, museums, other projects [national or European], school directors and curriculum developers, and experts in the project’s sectors.

**Target:** Each country is responsible to engage at least ten stakeholders in such activities, whether on a one-to-one basis in larger scale meetings. Associated partners can be involved as stakeholders.

1. **The „Cross-Check“ of Principles of Best Practises**

This activity will involve the filling in of specific questionnaires from representative from the enterprises sector (from all partners) to evaluate the criteria for the identification of good/best practices.

In GreeNET a set of Criteria for identification of „good/best practices“ regarding „Green Projects“ was developed. An important intention is **to compare these criteria with the needs, demands, possible „criteria“ for employees in companies concerning „green attitudes“.** Based by the thesis, innovative, future orientated, effective companies are aware, that „green knowledge, skills and attitudes“ could be key assets for success, on the market, in society, and for attractiveness for high qualified job applicants, a specific questionnaire is designed (Annex 2) to collect feedback.

**Target:** Submission of the questionnaires at least from at least 10 persons (per country) from the enterprises sector.

## EVENT TYPE 2: ACTIVITIES WITH SCHOOLS/TEACHERS/STUDENTS

These activities are to be executed during the validation period to provide additional feedback and added value on the previous implemented implementation activities. They are classified into the following major types:

1. **Contests for teachers** that will promote the use of enquiry-based approaches in the classroom for teaching environment-related subjects with use of technology ensure the results and activities of the work group reach an audience beyond that of the network partners. For the organization of such anevent each partner can collaborate with an institution that is already holding such a national contest, using and/or expanding the GreeNET associated partners’ network. Alternatively, the partners can work closely with the affiliated partners. In order to ensure the large participation of teachers, preliminary planning steps need to be taken so that the structure of the contests can be developed and fully formulated through vital collaborations with other key organizations such as for example the Ministries of Education, Science Centers & Environmental Education Centers.

**Target:** At least one National contest will be organized (Greece – coordinated BY EA).

1. **Thematic events**, which will focus on the experiences evaluation after the implementation of best practices on EE&T in formal contexts. They can be considered as follow up events from a previous implementation event in order to collect additional feedback after actual experimentation (in real school lessons) of some of the best practices.

**Target:** At least one event per country focusing on actual implementation of best practices from participants of previous organized implementation events.

1. **Establishment of an ODS[[1]](#footnote-1) Community** with teachers participating in the two implementation phases. Aim of this community will be to facilitate discussion/validation over the good/best practices of GreeNET using the project platform and the WEB 2.0 tools. EA will coordinate this activity.

**Steps:**

* Each partner will setup an ODS sub-community at <http://portal.opendiscoveryspace.eu/community/greenet-sharing-enviromental-educational-resources-822229>
* Aim of each partner’s community will be to focus on its own practice(s)
* The teachers participating will be encouraged to provide their ideas for further enhancement of the cases and to create educational scenarios based on them (utilizing the new version of the Greenet tools)[[2]](#footnote-2). See <http://portal.opendiscoveryspace.eu/community/my-school-garden-ellinogermaniki-agogi-kindergarten-668545> as an example from a case of EA.

**Target:** Each partner will assure the involvement of at least 20 teachers. This is a very important indirect validation mean, since the existence of a “live” community discussing issues related with the projects and the best practices will provide useful quantitative metrics for the final evaluation.

1. **Facebook contest** for students (but also teachers and interested public). It will be developed based on the guidelines of BM:BF with the purpose to get the “feeling” also from students in relation with Green “mindset” of students and how (and if) the identified good/best practices are compatible with this.

**Intention of the contest:**With the contest BM:BF wants to encourage all GreeNET Facebook fans to worry about this topic (green careers, environment sector of the economy) and to present us their ideas or scenarios on how to link environmental education to green career contexts.

**Target:** All partners will assure that students (but also teachers and interested public) from their country will participate accessing the facebook page of the project.

## EVENT TYPE 3: SPECIAL DAYS

This is a special category of national, European or International days that touch upon the thematology of GreeNET. These events could include for example participation or co-organization of Water Days, Environment Day, Sustainable energy days, Summer Schools et.al. In many cases, special events are organized in the context of these celebrations, and the **GreeNET partners could collaborate with the organizers to align their programmers to include GreenNET presentations about the best practices** within them (e.g. EA will organize such an event in the framework of its 2015 Summer School). Such presentations will allow the consortium to get additional feedback useful for the validation of best practices.

**Target**: Participation or organization of one event per country.

## Time Plan

The realization of effective Validation Plan will create many opportunities for different groups and stakeholders to engage in the GreeNET outcomes and proposed activities, and through this experience develop a sense of their own understanding of the importance and relevance of the GreeNET best practices, to everyday life, to future career choices, and to environmental education in general. It is the intent of the GreeNET project to be able to connect potential users with the appropriate data, products, and results, and to point out ways to improve their learning experience. The steps in order to develop the validation activities are as follows:

* **Finalize the Moodle widget and the Web 2.0 tools and the integration with the ODS by GRNET and EUMMENA** (along with instructions) **in order the other partners will assure the involvement of at least 20 teachers (each) in 3.2C (deadline: 15/4)**
* **Validation activities planning** per partner per type of activity by filling in the table of ***Annex 3*** (**deadline 31/3**)
* **Validation activities realization** (deadline ***31/7*** to provide feedback –reporting and evaluation questionnaires)
* Final **WP4 and WP5 deliverables** (***31/10***)
* **Final project conference** (***September in Athens***)

# Evaluation of Validation Activities

Concerning the reporting from each activity, all partners will use3 the template which was used also for the implementation activities.

For the evaluation of all activities the following tools will be used:

TYPE 1.A

* Meeting reports (using the reporting template of the Implementation Phase)
* Guidelines provided by EA (Annex 1)
* Evaluation Questionnaires by STVG (Annex 1)

TYPE 1.B

* Guidelines provided by STVG (Annex 2)
* The questionnaires provided by STVG (Annex 2)

TYPE 2.A

* If a partner (apart from EA) will decide to implement such an activity, will be in touch with EA to design an ad-hoc evaluation report.

TYPE 2.B

* Event reports (using the reporting template of the Implementation Phase)
* Evaluation Questionnaires (Annex 1:To compare the effectiveness the same questionnaire is used as in the implementation phase)

TYPE 2.C

* Report from EA and WP3 leader based on metrics from the ODS communities and the project web tools (e.g. members, posts, resources) etc

TYPE 2.D

* Specific evaluation report to be provided by BM:BF which will be responsible for its organization (10 days after the conclusion of the facebook contest, mid of May 2015). Evaluation report will include data like: number of participants, text/postings being submitted, results for page post engagement ad incl. people reached, genders, ages etc. (contest announcement posting was accompanied by facebook ads to further promote the contest).

TYPE 3

* Event reports (if possible –for event organized from the partner- using the reporting template of the Implementation Phase)
* Evaluation Questionnaires (Annex 1)

Apart from the above, the final evaluation will also use quantitative information from analytics coming from the project web repository (responsible partner: WP3 leader). Such list of indicators could include:

- unique visitors

- time on site per visit

- number of pages visited per visit

- geo info of the users

- new/returing visitors

- bounce rate

# ANNEX 1: GUIDELINES AND EVALUATION FORM FOR VALIDATION MEETINGS AND EVENTS

## Guidelines for Type 1.A

***Guided Interview Guidelines***

***Stakeholder Consultation:*** *Identify all potential stakeholders in the framework of GREENET project and consult with them on their needs and on the projected outcomes from the network. This process includes gathering data and producing reports about the key stakeholders’ point of view. Consultation with all selected stakeholders will take part during the validation phase of the project. This short document aims to support the GREENET project partners to organise their interviews following a common approach.*

**CONSULTATION OBJECTIVE:**  Identify all **potential stakeholders** and consult with them on their needs and projected outcomes from the network.

**METHODOLOGY - PROCESS**:

The project partners carry out interviews using common guidelines. Each partner of the consortium conducts at least one interview with the key stakeholders; two different profiles should be interviewed: Educational Policy Makers and representatives of Green Enterprises. All Partners are involved.

**DEADLINE**: The interview reports should be sent to STVG by

**INSTRUCTIONS TO CONDUCT THE INTERVIEWS:**

You will have to consult with your interviewees using the template A.1. This template includes 14 questions. For each question, the underlying objective is indicated/appears in italics. Please, do keep the objectives in mind while conducting the interview.

To facilitate the understanding and the interpretation of your results, please invite your interviewees to give clear and precise examples while answering the questions.

Please, use the template below to collect and present the answers (one report by interview).

**STEP 1 (2-3 minutes) –Tell us a few words about you:**

***[Objective: sample of the stakeholders]***

Name:

Country:

Age:

Gender:

Educational Level:

**STEP 2 (2-3 minutes)– Describe your professional background in the field of environmental education / green entrepreneurship**

***[Objective: profile of the stakeholders]***

Professional background:

Company /organization /department:

Business Area /Activity area:

Describe company /organization /department assignments as precisely as possible:

What is your job title?

Years at position:

Describe your professional assignments as precisely as possible:

**STEP 3 –(2 minutes) Which problems are you facing in your professional activity? (Examples: Lack of references and data, availability of resources and content organisation, lack of tools, lack of expertise in the field,…)**

***[Objective: identify stakeholders’ needs]***

**STEP 4 – (2 minutes) Considering these problems, what would you like to share and develop within a network? Examples: courses, tools, video, digital resources,… What about Best Practices? How important Best Practices are for you?**

***[Objective: identify needs relevant to the GREENET services]***

**STEP 5 – (15 minutes) Presentation of the GREENET Tools**

***[Objective: identify needs relevant to the GREENET services]***

1. **Explain the objectives of the project (emphasize the use of OERs and the connections with the world of work)**
2. **Start the presentation from greenet.ea.gr and explain the organization of tools**
3. **Go to Best Practices Inventory and select a Best Practice that according to your view could offer a solution to the problems identified above. This stage is very crucial. The selection of the Best Practice is of major importance.**
4. **Demonstrate how the Best Practice is used/enriched in the framework of the project implementation. If the stakeholder is moodle user demonstrate the project implementation using moodle (Case A). If the stakeholder is not familiar with moodle then use the inventory for the rest of the presentation (Case B). This can take a bit longer as a series of tools have to be presented including the community building facility and the scenario authoring tool of Open Discovery Space.**
5. **In Case A ignore question 14**
6. **In Case B ignore question 13**

**Find below a detailed plan on the presentation of the GreeNET tools and the relevant questions to be discussed:**

|  |  |
| --- | --- |
| **Presentation of the Best Practices Inventory (Discussion on the importance of the Best Practices)** | The project and the results of the project e.g. best practises were presented in a proper way |
| **Presentation of specific Best Practices to be integrated in the school curriculum (e.g. Agroweb, Green Garden)** | The outcomes of the project are applicable in the educational system |
| The harmonization of GreeNET Scenarios with the school curricula |
| The outcomes are useful to motivate students for the green labour market |
| The outcomes are useful to prepare students for the green labour market |
| The outcomes are useful to qualify students for the green labour market |
| **Presentation of data from the first and second implementation phase** | Are the project outcomes in your opinion possible to transfer in the school system (subject teaching) |
| **Presentation of the evaluation data and the web analytics** | The presented project outcomes meet the interests of concerned teachers |
| **Presentation of Validation data and views of the GreeNET users** | The competences addressed by the project outcomes meet the needs and demands of the green labour market |
| **Discuss the EU2020 Policy framework. Explain how GreeNET contributes to its aims.** | If you are familiar with the aims of EU 2020: The application of the project outcomes in schools will contribute to the aims of objects of EU 2020 |
|  | If it is relevant for you: can the initiatives support the cooperation between schools and the world of work and collaboration between them |
| **Present the GreeNET moodle enviroment** | If you are familiar with moodle: In my opinion the use of moodle is appropriate for teachers |
| **Present the GreeNET Inventory, the search mechanism, the community building methodology and the school portal generator.** | If you are familiar with ODS: The ODS platform is a very useful ICT Tool for teachers and interested persons to find out best practises and more |

## Template for Reporting and Evaluation of Type 1.A

Location of Meeting: *to be filled in by the partner*

Date of meeting: *to be filled in by the partner*

Time of meeting: *to be filled in by the partner*

Name(s) of interview partners: *to be filled in by the partner*

**Reporting per Interview partner:**

Name:

Country:

Age:

Gender:

Educational Level:

Professional background:

Company /organization /department:

Business Area /Activity area:

Describe company /organization /department assignments as precisely as possible:

What is your job title?

Years at position:

Describe your professional assignments as precisely as possible:

**Thank you for your time and for the interesting meeting.**

**Please provide us with a short feedback to the meeting**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Totally disagree | Disagree | Neutral | Agree | Totally agree |
| The project and the results of the project e.g. best practises were presented in a proper way |  |  |  |  |  |
| The outcomes of the project are applicable in the educational system |  |  |  |  |  |
| The harmonization of GreeNET Szenarios with the school curricula |  |  |  |  |  |
| The outcomes are useful to motivate students for the green labour market |  |  |  |  |  |
| The outcomes are useful to prepare students for the green labour market |  |  |  |  |  |
| The outcomes are useful to qualify students for the green labour market |  |  |  |  |  |
| The project outcomes in your opinion are possible to transfer in the school system (subject teaching) |  |  |  |  |  |
| The presented project outcomes meet the interests of concerned teachers |  |  |  |  |  |
| The competences addressed by the project outcomes meet the needs and demands of the green labour market |  |  |  |  |  |
| If you are familiar with the aims of EU 2020: The application of the project outcomes in schools will contribute to the aims of objects of EU 2020 |  |  |  |  |  |
| If it is relevant for you: can the initiatives support the cooperation between schools and the world of work and collaboration between them |  |  |  |  |  |
| If you are familiar with moodle: In my opinion the use of moodle is appropriate for teachers |  |  |  |  |  |
| If you are familiar with ODS: The ODS platform is a very useful ICT Tool for teachers and interested persons to find out best practises and more |  |  |  |  |  |

**Please use following excel sheet to give in the results:**

**15\_04\_GreeNET\_Evaluation for Stakeholders\_FINAL\_ZeMM.xlsx**

## Template for TYPE 2.B

Questionnaire for Teachers / Trainers

**GreeNET Feedback Form**

**Thank you for implementing or transfer one of the best practices of GreeNET. Please support us with your feedback**

**Name of programme transferd / implemented:**

Country:

Name of school:

Type of school:

Please let us know the age of students in your school:

6-12  13-15 16-19

Subject you teach:  Physics  Mathematics

Biology  Chemistry

other\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

You are  female  male

*(Please mark)*

**Section 1: Please support us first with your feedback for the event:**

The organisation of the event was

☹ 😐 ☺

I rate the effectiveness of content and appropriate range and balance of activities

☹ 😐 ☺

I rate the effectiveness of the delivery by trainers, workshop leaders etc.

☹ 😐 ☺

**Section 2: Please support us with your “voice of user”:**

1. **Relation to a green topic and to the National Curriculum**

The Programme addresses topics that are closely connected to the National Curriculum of your country.

☹ 😐 ☺

***Remarks for improving:***

1. **Being interdisciplinary: Drawing upon many academic disciplines and teaching methods**
   * Natural science Social science economics,
   * political science history geography
   * psychology philosophy and ethics

***The programme includes***

* + laboratory experiments
  + field work
  + Enquiry Based Science Education approaches
  + ICT/online tools (animations, simulation)

***Remarks for improving:***

1. **Relevance to the daily life of students**

|  |  |  |
| --- | --- | --- |
| The learning activities will be relevant, important and motivating for the students | yes | no |
| The new experiences can be linked to what students already know | yes | no |
| The students will be curious and motivated to discuss the issues-under-examination and ask/answer questions | yes | no |
| The learning activity enables students to engage with real objects and with real problems of their daily life | yes | no |
| The practise reveals to the students new ways of understanding and possibilities for personal choices especially linked to green careers | yes | no |

***Remarks for improving:***

1. **Based on accurate and factual professional expertise**

The content of the learning activity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is based on accurate, reliable, and credible information about environmental issues and on state-of-the-art information and communication technologies.

☹ 😐 ☺

***Remarks for improving:***

1. **Connection to professions in the green labour market**

The learning activity\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ demonstrates concrete professions of sustainable economy, to support students to have an insight in green careers.

☹ 😐 ☺

***Remarks for improving:***

1. **Learning by research and enquiry**

There are numerous enquiry-based ways of inspiring students to identify, compare, synthesize, and reflect on their various experiences.

I believe that the learning activity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ supports the following features:

|  |  |  |
| --- | --- | --- |
| Scientifically-oriented and very engaging questions. | yes | no |
| Giving priority to evidence, which allows learners to develop and evaluate explanations that address scientifically oriented questions. | yes | no |
| Formulating explanations from evidence to address scientifically oriented questions. | yes | no |
| Evaluation of explanations in light of alternative explanations, particularly those reflecting scientific understanding. | yes | no |
| Communication – justification of the explanations proposed by the learners. | yes | no |

***Remarks for improving:***

1. **Activation of the students by hands-on**

|  |  |
| --- | --- |
| The learning activity includes hands-on activities  ☹ 😐 ☺ | The learning activity includes interaction with various materials  ☹ 😐 ☺ |

***Remarks for improving:***

1. **Enhancement of students’ ICT skills**

The programme enhances the ICT skills of students

☹ 😐 ☺

***Remarks for improving:***

1. **The learning activity supports the development of following social skills**

|  |  |
| --- | --- |
| Team cooperation  ☹ 😐 ☺ | Forming new ideas  ☹ 😐 ☺ |
| Support in forming and defending the learners’ opinion about environmental and green issues  ☹ 😐 ☺ | Skills for solving environmental problems  ☹ 😐 ☺ |
| Growing awareness for the environmental protection  ☹ 😐 ☺ |  |

***Remarks for improving:***

1. **The programme is easily adaptable for**

|  |  |
| --- | --- |
| Specific educational needs  ☹ 😐 ☺ | Students’ interest  ☹ 😐 ☺ |
| Educational aims  ☹ 😐 ☺ |  |

***Remarks for improving:***

**Section 3: The materials of the programme / practice and general feedback**

The structure supports easy retrieval of themes and topics for teaching elements of environmental education as an opportunity to make environmental education accessible at primary and secondary school level.

☹ 😐 ☺

The spelling style is linked to the target group: teachers / trainers

☹ 😐 ☺

Subject-related vocabulary is used

☹ 😐 ☺

Didactic concepts and methods used are appropriate

☹ 😐 ☺

The structure of the practices is well explained and useable for the teachers to find out elements for daily work

☹ 😐 ☺

The content is adequate for using it in the teaching unit

☹ 😐 ☺

The time practicability is described in a proper way

☹ 😐 ☺

**Section 4: Feedback concerning the training**

The training approach used in this event was for you

☹ 😐 ☺

Please give a feedback for the educational approach and ideas

☹ 😐 ☺

The materials you got are in your opinion

☹ 😐 ☺

**Section 5: You are kindly invited to give any general remarks:**

Thank you for your support!

**Please use following excel sheet to give in the results:**

**D.5.2.GreeNET Table 8 and Table 9**

## Template for Evaluation of Type 3

**Date of the special day: *to be filled in by the partner***

**Topic of the special day: *to be filled in by the partner***

**Location: *to be filled in by the partner***

The event was interesting for me ☺ 😐 ☹

The GreeNET presentation was interesting ☺ 😐 ☹

The GreeNET best practises presented was interesting ☺ 😐 ☹

I can use the best practises at my school ☺ 😐 ☹

I want to know more about GreeNET via Email / facebook

* No
* Yes

Email address:

**Thank you for your Feedback!**

**Please use following excel sheet to give in the results:**

**15\_05\_GreeNET\_Evaluation Type 3\_FINAL.xlsx**

# ANNEX 2: GUIDELINES AND QUESTIONNAIRE FOR ENTERPRISES (for the activity 3.1.B)

**Guidelines for Cross-check with stakeholders/enterprises**

**Rationale / Arguments…**

1. **Introduction:**

***Short rationale in principle regarding links between „green topics“ and „world of work“***

*Arguments in general could be e.g.:*

* „green“ markets as future option for enterprises, economy and employment
* Growing „green“ sensitivity in society in general, by clients, neighbours of plants, etc… especially by high qualified young people
* For employees in general at least two aspects are essential – skills and competences how to deal with environmental tasks and a environmental protecting „attitude“.
* For employees in spezial areas: skills and competences in technique, in biological, climate pollution, waste minimasing, recycling, etc issues, related to the specific sectors of business and economy
* Knowledge about and insight into future developing areas for „green“ economic chances, in production, marketing, research…, also as options for personal pathways into enterprises and world of work

*(to use in a situative way, concerning the setting of the meeting, the area of business, disposable time, position of the stakeholders etc…)*

1. **Short presentation**

***„GreeNET“ as an „answer“ of the mentioned arguments***

* *Presentation of the main rational of GreeNET*
* *Focussing on topics regarding the company concern*
* *Addressing some arguments concerning possible benefits for the company out of the general aims and objectives of GreeNET*

***An essential element of the project GreeNET is:***

***to recognize the needs, demands, out of enterprises concerning***

* „green topics“ in general
* Specific skills, competences and attitudes of graduates – needed
* Specific skills, competences and attitudes of graduates -

1. **Possible attitudes of „questioning“**

* Asking the company, what they need, from the employers perspective, from the demand of daily company work – human resources in general, production, cooperative processes with different competences in the company, use of ICT, market, clients, willingness and ability for and interest in further learning and training etc…?
* What are possible wishes and recommendations out of the employers perspective for schools – concerning contents, competences for students, possible cooperation between school and company etc.?
* What could and would the company contribute to support school improve the educational quality in school?

**Strong arguments for that could be:**

* Schools and teachers need authentic information, to qualify students for real needs and demands of companies,
* nobody else than companies and professionals out of companies can address this demands in a similar concrete and qualitative way…
* the most motivating, effective and impressive impact for pedagogical processes are „lively“ examples for applications of contents in curricula in real life, especially in world of work – young people are searching for „sense“ and „meaning“ – companies can strongly contribute to that – also for their own benefit

***The „guidelines“ are not a „strict“ concept or formular for an interview, but should be understood as a kind of a short „menu“ to check possible arguments, approaches for interesting the stakeholder/ the company fort he topics behind GreeNET, to recognize possible benefits – probably responsibilities – for companies to contribut for creating competences for innovative future jobs – as a benefit for Youth, for school, for society and for the company itself!***

**Questionnaire**

**Thank you for your willingness to support this questionnaire.**

Name:

Position / responsibility in the company:

Company:

Company Size (number of employees):

Area of working (branch):

1. **Relation to a green topic and curriculum**

***This criterion is essential for a school pedagogic, process, project in***

Low extent high extent

0 1 2 3 4 5 6 7 8 9 10

1. **Being interdisciplinary: Drawing upon many academic disciplines and teaching methods**

***Interdisciplinarity is important for our company to a***

Low extent high extent

0 1 2 3 4 5 6 7 8 9 10

1. **Relevance to the daily life of students**

***Practice and life relevance is a value to a***

Low extent high extent

0 1 2 3 4 5 6 7 8 9 10

1. **Based on accurate and factual professional expertise**

***Professional and scientific expertise concerning green competences we estimate to a***

Low extent high extent

0 1 2 3 4 5 6 7 8 9 10

1. **Connection to professions in the green labour market**

***Our company assesses the practice approach of job applicants, especially to green jobs***

Low extent high extent

0 1 2 3 4 5 6 7 8 9 10

1. **Learning by research and enquiry**

***Our company appreciates self-directed recognition and appraisement***

Low extent high extent

0 1 2 3 4 5 6 7 8 9 10

1. **Activation of the students by hands-on**

***In our company practically competences are estimated to a***

Low extent high extent

0 1 2 3 4 5 6 7 8 9 10

1. **Enhancement of students’ ICT skills**

***ICT skills are important in our company to a***

Low extent high extent

0 1 2 3 4 5 6 7 8 9 10

1. **Support of the development of social skills**

***Social skills in our branches are necessary to a***

Low extent high extent

0 1 2 3 4 5 6 7 8 9 10

1. **Adaptability of the programme**

***This is a criterion only addressed to school…***

**Evaluation of the Cross-Check:**

***Thank you for time. Please give your opinion to following statements:***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Totally disagree** | **Disagree** | **Neutral** | **Agree** | **Totally Agree** |
| It was interesting to hear about the project activities at school concerning environmental education |  |  |  |  |  |
| I would like to be more involved in creating practices at school in order to put in the ideas of a company |  |  |  |  |  |
| I would like have more contacts to schools to be able to present the possible jobs of my company |  |  |  |  |  |

**Please use following excel sheet to give in the results:**

**15\_04\_GreeNET\_Type B\_Cross Check FINAL\_ZeMM .xlsx**

# ANNEX 3: PLANNING TABLE

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Partner /**  **Activity** | **1.A Meetings with stakeholders** | **1.B “Cross check” with private companies** | **2.A Contests for teachers** | **2.B Thematic events** | **2.C ODS community** | **2.D Facebook contest** | **3. Special days** |
| **P1 EA** |  |  |  |  |  |  |  |
| **Target** | To engage at least ten stakeholders (in collaboration with GRNET and AUA), whether on a one-to-one basis in larger scale meetings | To collect >= 10 questionnaires | 1 contest in Greece | 1 event in collaboration with the other 2 Greek partners | >20 teachers | All partners will assure that students / teachers etc from their country will participate accessing the facebook page of the project. | 1 (in collaboration with GRNET and AUA) |
| **Planning**  **(what, when)** | Meetings with associated partners and other stakeholders | Planned in the event of the 1.A meetings | 1 contest with the participation of 53 schools | Summer course for 10 teachers at the end of June | Establishment of a community (to support the 2.A contest  Creation of the “Green educational resources academy” in ODS | Local promotion of the contest | Conference in collaboration with ODS at the end of September |
| **P2 STVG** |  |  |  |  |  |  |  |
| **Target** | To engage at least ten stakeholders, whether on a one-to-one basis in larger scale meetings | To collect >= 10 questionnaires | Optional | 1 event | >20 teachers | All partners will assure that students / teachers etc from their country will participate accessing the facebook page of the project. | 1 |
| **Planning**  **(what, when)** | Dr. Karl Springer (Energie Steiermark AG) May 2015  Sabine Fritz (Teachers Training University Styria and Chair of the national further training group for career counsellors) May 2015  CEOs of the provincial associations for education and economics (7 persons, summer meeting) 2nd July 2015  Sabine Sattler (representative of “future of industries” in styria), May 2015 | Planned with the industrial companies of the initiate “your job” in Graz, planned for May- August 2015:  Andritz AG  AVL  Knapp  XAL  Siemens Transportation  Magna Steyr  Anton Paar  Sattler AG  EVG  Saubermacher | Will be discussed with second Austrian partner, not possible only for STVG | 1 event | We will do our best to involve 20 teachers from May – end of September | We already of course sent out to teachers to promote it, but is difficult because all is in English, that is the feedback so far. If they will attend, they will attend in German language. | We checked the special days possibilities and will cooperate with 1 school hopefully in one of the days possible till the end of the project duration.  <http://www.kleiner-kalender.de/rubrik/umwelttage.html> |
| **P3 GRNET** |  |  |  |  |  |  |  |
| **Target** | To engage at least ten stakeholders (in collaboration with GRNET and AUA), whether on a one-to-one basis in larger scale meetings | To collect >= 10 questionnaires | Collaboration with EA to assure maximum participation in the Greek contest | 1 event in collaboration with the other 2 Greek partners | >20 teachers | All partners will assure that students / teachers etc from their country will participate accessing the facebook page of the project. | 1 (in collaboration with EA and AUA) |
| **Planning**  **(what, when)** | Within the next months (beginning from April) we will meet stakeholders for one to one meetings. | We will choose the right candidates from our network and collect the questionnaire | Promotion through our channels | Green Ideas @ EA Summer School | N/A | N/A | EDEN Conference participation to present GreeNET web 2.0 portal |
| **P4 BMBF** |  |  |  |  |  |  |  |
| **Target** | To engage at least ten stakeholders, whether on a one-to-one basis in larger scale meetings | To collect >= 10 questionnaires | Optional | 1 event | >20 teachers | All partners will assure that students / teachers etc from their country will participate accessing the facebook page of the project. | 1 |
| **Planning**  **(what, when)** | September 2015:  Meeting with all Austrian Associated Partners and other stakeholders (f.e. environmental enterprises)  internal review meeting (organized by the ministry) in August 2015 with different stakeholders (people managing other EU projects, but also companies/enterprises being partners in diverse EU projects might be present). | By end of April 2015: translation of quest. into German language; afterwards start sending the quest. to a pre-defined network of (green) enterprises until end of June 2015. | So far, no further contest planned other than the one on facebook | April 2015: “School of Eating”: involvement of approx. 20 teachers.  Mai 2015: “Bildung Online”: educational traide fair in Tyrol: presentation of GreeNET, projects’ objectives, as well as workshop on best practices  Mai 2015: ENIS Meeting (European Network of Innovative Schools): presentation of GreeNET, projects’ objectives and best practices | April 2015: documentation of the « School of Eating » (pictures, report etc.) on the Austrian GreeNET community within the ODS portal | 21.03.-21.04.2015: submission period for facebook contest; voting (done by all partners) until May 1st -> announcement of winner(s). BMBF will also provide a set of criteria for the partners to make voting decisions easier (will be sent out to partners at end of contest submission period). BMBF will take care of this process.  Evaluation of contest: report with concrete analysis (number of participants, facebook analytics etc.) 10 days after conclusion of contest (mid May 2015). | 08.-10.04.2015: project days at a Viennese school called “School of Eating” |
| **P5 EUMMENA** |  |  |  |  |  |  |  |
| **Target** | To engage at least ten stakeholders, whether on a one-to-one basis in larger scale meetings | To collect >= 10 questionnaires | Optional | 1 event | >20 teachers | All partners will assure that students / teachers etc from their country will participate accessing the facebook page of the project. | 1 |
| **Planning**  **(what, when)** | May-June 2015 | Collect 5 questionnaires from the meetings with stakeholders | Maybe – June 2015 | May 2015 | May -June2015 | May-June 2015 | June 2015 |
| **P6 ECOI** |  |  |  |  |  |  |  |
| **Target** | To engage at least ten stakeholders, whether on a one-to-one basis in larger scale meetings | To collect >= 10 questionnaires | Optional | 1 event | >20 teachers | All partners will assure that students / teachers etc from their country will participate accessing the facebook page of the project. | 1 |
| **Planning**  **(what, when)** | March-Mai 2015  Networking with stakeholders from the green economy (BioArchitecture, Environmental engineers, Environmental journalist, Environmental services and Public works, Environmental and social enterprise, etc.) | March- June 2015  Translation the quest. Into Catalan language  Sending the quest. to a pre-defined network of (green) enterprises |  | Implementation Action – European Week for Waste Reduction (La Maquinista School, Barcelona) | April- June 2015  Waiting for further specific information/instructions to involve teachers in the use of GreeNET Web 2.0 tools within the ODS | March-April 2015  Dissemination of the fecebook contest (Barcelona Schools and Department of Education in Catalonia, through CESIRE) | March- June 2015  Implementation Action on a Special day (still to be defined) |
| **P7 UBT** |  |  |  |  |  |  |  |
| **Target** | To engage at least ten stakeholders, whether on a one-to-one basis in larger scale meetings | To collect >= 10 questionnaires | Optional | 1 event | >20 teachers | All partners will assure that students / teachers etc from their country will participate accessing the facebook page of the project. | 1 |
| **Planning**  **(what, when)** | See ANNEX 4 | See ANNEX 4 | See ANNEX 4 | See ANNEX 4 | See ANNEX 4 | See ANNEX 4 | See ANNEX 4 |
| **P8 AUA** |  |  |  |  |  |  |  |
| **Target** | To engage at least ten stakeholders (in collaboration with GRNET and AUA), whether on a one-to-one basis in larger scale meetings | To collect >= 10 questionnaires | Collaboration with EA to assure maximum participation in the Greek contest | 1 event in collaboration with the other 2 Greek partners | >20 teachers | All partners will assure that students / teachers etc from their country will participate accessing the facebook page of the project. | 1 (in collaboration with EA and GRNET) |
| **Planning**  **(what, when)** | Αpril: one to one meeting with Mediterranean Agronomic Institute of Chania (MAICh), Lafarge Beton (company)  May: one to one meeting with associated partner “Organization Earth” as stakeholder, LAVA S.A. (company), Department of environmental education (Secondary Education 2nd Directorate of Athens)  June : one to one meeting with associated partner “Lake Pamvotis” | Collection of questionnaires after the one to one meetings | Promote the contest to our associated partners and our network | Participate in Greek event and promote the event to our network | June: Collaboration with Faculty of Primary Education of Ioannina to involve teachers | Promote the contest through our network | Participate to the event and promote it through our network |

**ANNEX 4: Planned Validation Activities in Germany (UBT)**

***EVENT TYPE 1: CONSULTATION WITH STAKEHOLDERS***

1. **Meetings with stakeholders**

* Interviews on a one-to-one basis according to an internally developed interview guide:
  + Introduction
  + Aims & Scope of the meeting
  + Presentation of GreeNET and the projects’ objectives
  + Which competences of EE would be valuable for the Green Labour Market?
  + Presentation of the ten essential criteria developed by GreeNET (using simple word-cards/flip chart or a power-point-presentation)
  + Evaluation of the ten criteria
  + Presentation of selected Best Practices
  + If appropriate: Cross-check of Principles of Best practices
* Possible stakeholders

|  |  |  |  |
| --- | --- | --- | --- |
| **Stakeholder** | | **Name** | **Contact UBT** |
| Enterprises/Institutions | | | |
| 1 | ZMS | Thomas Knoll | Bogner |
| 2 | Siemens | Katharina Baltzer | Mona |
| 3 | ÖBG | Marianne Lauerer | Mona |
| 4 | Umweltstation Lindenhof | n.n. | Mona |
| 5 | Fraunhofer Institut | Jens Herdegen | Maxi |
| 6 | IBC Solar | Dominik Greim | Maxi |
| 7 | Gutachtenfirma | Sara Bauer | Maxi |
| 8 | GMN | Manfred Elbacher | Mona |
| 9 | PlanGrün | Maximilian Richter | Mona |
| 10 | Bionicum | Alexandra Lang | Michaela |
| Education | | | |
| 11 | P-Seminar, Gymnasium | Maria Motschmann | Maxi |
| 12 | Berufsschule | Thomas Herter | Mona |
| Projects | | | |
| 13 | PRiMaT | Christian Fremerey | Mona |
| 14 | PATHWAY | Ulla Diener | Mona |
| Public authorities/organisations | | | |
| 15 | Stadt Nürnberg | n.n. | Mona |
| 16 | BUND | Franziska Schumm | Maxi |
| 17 | Arbeitsamt | n.n. | Mona |
| 18 | Landratsamt Lichtenfels | Andrea Musiol | Mona |
| 19 | Bioenergieregion Bayreuth | Bernd Rothammel | Bogner/Maxi |

* Time: April to July

1. **The “Cross-Check” of Principles of Best Practices**

* Filling in of the specific questionnaire
* If possible in context of a meeting with possible stakeholders (see 1A) of the enterprise/institution sector
* Time: April to July

***EVENT TYPE 2: ACTIVITIES WITH SCHOOLS / TEACHERS / STUDENTS***

1. **Contest for teachers**

* Optional!
* *If necessary involvement of the pre-service-teacher in summer term*

1. **Thematic event**

* Evaluation; Experiences of the implementation of Best Practices
* Event for teachers/educators who implemented BPs according to an internally developed event guide:
  + Introduction
  + Aims & Scope of the meeting
  + Presentation of GreeNET and the projects’ objectives
  + Experience exchange on three levels:
    - Implementation in general (maybe SWOT analysis)
    - GreeNET’s essential criteria
    - Results if available
* Participants
  + Michaela Marth (HOBOS)
  + Maxi Schumm (Energy – Today & Tomorrow)
  + Kerstin Bissinger (Rainforest)
  + Gerdi Haverkamp-Hermans / Christian Fremerey (Waste)
* Time: April 2015

1. **Establishment of an ODS Community**

* Waiting for further specific information/instructions
* Involvement of pre-service teachers of the university; Lecture “Unterrichtsmittel im Biologieunterricht”
* Time: June/July 2015

1. **Facebook contest**

* Students and teachers
* Teachers: Involvement of pre-service teachers of the university

***EVENT TYPE 3: SPECIAL DAY***

* Collaboration with the anniversary of the University of Bayreuth; Open house day: <http://www.uni-bayreuth.de/campus-erleben/index.html>
* Presentation of GreeNET in form of posters
* Presentation of selected Best Practices on posters, on positioned computers (e.g. HOBOS) and Flyers, printed version of D2.5
* Time: 20/07/2015

1. Open Discovery Space (ODS) is a socially empowered platform with 7.500 teachers from all Europe. [↑](#footnote-ref-1)
2. Detailed description on the functionalities provided will be delivered to all partners until 15/4 [↑](#footnote-ref-2)