



Erasmus+ KA2 Knowledge Alliances project
“Greening Energy Market and Finance – GrEnFin”

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**WP9 – D9.2 - Report on the internal discussion to elaborate the
qualitative and the quantitative insights coming from the
external monitoring
Annual Quality Report (PQB)
Report 2, on the period M15-M24**



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Executive Summary

In this report, we provide an external assessment of the progress of the project in terms of (i) design and implementation, (ii) development and implementation of cooperation arrangements, (iii) achievement of the milestones of the project. We further provide suggestions on possible developments and synergies to exploit in the third phase of the project (M15-M36). A summary of conclusions completes the report.

This second version updates the first one by integrating work performed in the second phase of the project in the evaluation of the milestones.





1. Progress in project design and implementation

There has been very substantial progress in the design of the GrEnFin Master and of its learning outcomes, which are described in details in deliverable 3.4. First and foremost, the figure of the sustainable energy expert (SEE) is clearly described. This really gives flesh to the project and shall allow educators, professionals and prospective students to build expectations and plan ahead their evolution/education in an efficient and pragmatic way. The hard and soft skills, the key competencies and the expected knowledge and understanding for SEEs are clearly spelled out. Overall, the design of the master appears very promising and stimulating.

There are however still a number of issues to be solved for a successful implementation that will make the most of the great potential of the project's design. In particular, I would put forward the following points.

- (i) It is hard to understand the organization in three different tracks. On the one hand, the “environmental finance” and “climate & business” tracks appear to have many commonalities and seem to require mostly competencies in environmental economics and finance. On the other hand, the renewable technologies seem much more related to engineering and require more engineering related competencies.
- (ii) The expected learning outcomes and the planned content of courses are both extremely broad and highly technical.
- (iii) The preparatory core courses seem too/very focused on mathematical finance.
- (iv) Although the professional module has the same objective as the master program, i.e. the formation of sustainable energy experts, the depth and the technicality of the learning material of the professional master seems much below that of the master.

These issues are interrelated and echo some of the points raised by the participants of the summer schools, in particular the fact that *“Based on the comments of students and lecturers the future edition of the Summer School is expected to be organized in more qualitative way to reduce the technicality of lectures.”*

Potential avenues to address these issues are:

- (i) Considering different partitions of the tracks, for example merging the climate & business with the environmental finance track and/or clarifying the focus of the climate & business track (which seems much less specialized than the two other tracks).
- (ii) The integration of more interdisciplinary/transdisciplinary courses, in particular as part of the core preparatory courses. This could allow to cover the very broad range of topics required by the expected learning outcomes in a more synergistic and less technical way.
- (iii) Exploit further synergies between the master and the professional module. In particular, interdisciplinary courses developed for the master could also be offered to participants in the professional module (e.g. in online format), case studies developed for the professional module could be used as learning material in the master program.





Progress in these directions as in fact already been made building on the feedback received from stakeholders during consultations: changes have been made in the denomination of the different curricula, new courses on legal and public policy aspects have been included in the curriculum, laboratories have been included in the curriculum with the aim of *“connecting the different teachings to give organicity to the overall Educational Path.”*

2. Progress in cooperation arrangements

The project has built on existing double-degree agreements (between UNIBO, LMU and UEK) to pilot-test a “green semester” with a learning program close to that planned for the GrEnFIn master (in particular for the environmental finance track).

The exchange structure for the program is simple and efficient, each partner university offering a thematic “green semester” that students can follow in the course of an Erasmus mobility track. Erasmus grants have been provided to pilot-test this exchange. The pilot seems very successful as 20 students from the three partner universities were selected for this specific exchange. This suggests that the program has a very strong appeal and is aligned with students’ educational and professional objectives.

The reporting documents (deliverable 4.1 Descriptive document of activation of modules in the university of the consortium involved in the existent double degree M21) mention that universities which still do not participate in double degrees consortium (Birkbeck College, Vienna University of Economics and Business, Université Paris-Dauphine) have been activating the corresponding procedures and processes in order to establish a new course programme. To track whether progress is in line with the objectives of the project, further information would be needed about the advancement of the related administrative and academic procedures. It might in particular be useful to define a key performance indicator related to this progress.

The reporting documents also mention that staff from industries partners have been engaged in teaching activities. This is a very interesting development. However, further information is required to assess the institutional progress in the cooperation arrangements between academic and industrial partners.

Hence, in the next phase of the project, it might be useful to address the following issues:

- Design the institutional arrangements required to integrate the non-participating partners in double-degree (or alternative) agreements. Define a calendar and associated milestones for the implementation of these arrangements
- Design institutional arrangements for the cooperation between academic and industrial partners. This cooperation structure shall in particular aim to maximize the synergies between the master program and the professional module





- Build on the “green semester” pilot to develop a comprehensive mobility track for the master program.

3. Evaluation of the milestones

Milestone	Description	Target month	Assessment
MS2.1	Design of a GrEnFln database	M3	The database has been delivered and is consistent with description.
MS2.2	Completion of report on needs and gaps of the main target groups, state-of-the-art in sustainable finance and energy market education and professional service-learning education. Definition of the consultation’s document structure and submission	M6	Relevant stakeholders had been identified in the first reporting period. Substantial feedback has been collected during the summer school and via the consultation commission composed by the coordination unit of the KA Erasmus+ GrEnFln project and the Department of Statistical Sciences of the University of Bologna. The feedback from stakeholders has been integrated into the design of the curriculum, which seems very well aligned with existing demand the labor market and more broadly the needs of the energy transition.
MS3.1	Test of learning outcomes concerning the academic path	M9- M21	Learning outcomes have been thoroughly tested through (i) two summer schools, (ii) a green semester for the master program and (iii) a summer training for the professional module. Substantial feedback has been collected from participants and stakeholders and incorporated in the updated design of the programs.
MS3.2	Completion of the design of the academic educational path and community training materials	M24	The overarching design of the master program and of the professional module have been completed. The design is very well aligned with the objective to train sustainable energy experts (SEE). There are still some imbalances between the different tracks of the master program, and between the master program and the professional module that are both supposed to train SEEs
MS5.1	Completion of the final academic curriculum	M36	The structure of the curricula for both the master program and the professional module are clear. The interdisciplinary/transdisciplinary dimension of certain courses could be further developed. Conversely, some more technical/specialized courses could be made elective rather than compulsory.
MS6.1	Preliminary definition and test of the learning	M12- M21	The professional module has been designed and tested during a summer training program. Feedback





	outcomes/methodologies concerning the professional module		from participants appear extremely positive. However, the content of the professional module appears much lighter than that of the master program although both programs have the same objective to train sustainable energy experts.
MS6.2	Completion of the description of the facilities and services to implement in the GrEnFin-Hub VPlatform	M12	The description has been successfully completed
MS7.1	Completion of the final design of the professional module and community training materials	M29	To be evaluated during the final reporting period.
MS8.1	Development of the GrEnFin Website	M11	The website is online, functional and is of high quality with respect to higher education institutions standards.
MS8.2	Development of the GrEnFin-Hub VPlatform: e-learning services, didactic materials, services/utilities for industries, lab services	M29	The software infrastructure for the GrEnFin-Hub VPlatform is functional but the content is still to be included.
MS9.1	Development of the project quality plan and quality assurance survey	M1-M36	The project quality plan and the quality assurance surveyed have been developed. They follow a robust methodology and are consistent with industry standards.
MS10.1	Completion of the evaluation process through questionnaires	M32	The rate of response to questionnaire has increased with respect to the first period. However, it seems further improvement is possible. The project should target an answering rate close to 100% and review existing procedures with this objective in sight.
MS10.2	Implementation of recommendations from partners and evaluation questionnaires	M36	The feedback from stakeholders has been meaningfully included in the design of the curriculum of the master program.
MS10.3	External evaluation of the quality of the project	M12-M24-M36	To be evaluated by a third party
MS11.1	Completion of the local and global exploitation plan of the project results	M36	To be evaluated during the final reporting period.





4. Conclusion

During this second phase of the project, there has been very substantial progress in terms of project design and implementation as well as in the achievement of milestones. In particular, feedback from stakeholders has been meaningfully integrated in the design of the academic curriculum.

Progress in cooperation arrangements has mainly built on existing double-degree programs between some of the partner universities. The development of similar/additional agreements with other academic partners is under way but the exact calendar and structure are not defined yet. Similarly, the institutional framework for the cooperation between industrial and academic partners and the calendar for its deployment are not finalized.

The project is in a very good position to achieve its objectives in the third phase of the project by exploiting the potential for interdisciplinarity present in the learning curriculum, building further on the synergies between the master program and the professional module, continuing the joint development of the program with stakeholders and providing to prospective students a venue for the fulfilment of their learning and professional objectives.





Appendix to the second external evaluation: follow-up comments

Legend:

- Extract from the report
- Element of response by UNIBO
- Question by UNIBO
- Clarification by WU
- Additional comments and responses by the external evaluator

It is hard to understand the organization in three different tracks. On the one hand, the “environmental finance” and “climate & business” tracks appear to have many commonalities and seem to require mostly competencies in environmental economics and finance. On the other hand, the renewable technologies seem much more related to engineering and require more engineering related competencies.

The commonalities of the Master are meant to be there, but the paths are very different. The Environmental Finance one is more math focused while the Business one is more economics focused.

The expected learning outcomes and the planned content of courses are both extremely broad and highly technical.

Could we specify the meaning? Is too technical or too generic?

It seems to me the expected learning outcomes are both very technical and cover a wide variety of topics. My suggestion is to reduce the technical level of some courses, possibly by covering the material in a more interdisciplinary manner

Although the professional module has the same objective as the master program, i.e. the formation of sustainable energy experts, the depth and the technicality of the learning material of the professional master seems much below that of the master.

The Professional Module is a training course for professionals on specific topics, the Master aims to create a new professional figure. Moreover, the Professional Module is one of the exams of the Master itself.

These issues are interrelated and echo some of the points raised by the participants of the summer schools, in particular the fact that “Based on the comments of students and lecturers the future edition of the Summer School is expected to be organized in more qualitative way to reduce the technicality of lectures.”

This quote applies to the Summer School, and is not necessarily conflicting with UNIBO creating a Master with a high technical profile.

The main motive to wind down technical aspects in the shorter programmes is that technical aspects appear to be difficult to convey in the space of a few days, but this would not be the case for the Master.





Potential avenues to address these issues are: (i) Considering different partitions of the tracks, for example merging the climate & business with the environmental finance track and/or clarifying the focus of the climate & business track (which seems much less specialized than the two other tracks). Should we understand that the Climate and Business path doesn't have clear aims, while the other two are clearer?

In fact, it seems to me the objectives of the climate& business track and the environmental finance track are not that different so I am asking whether it wouldn't be a good idea to merge the two.

[...] (ii) The integration of more interdisciplinary/transdisciplinary courses, in particular as part of the core preparatory courses. This could allow to cover the very broad range of topics required by the expected learning outcomes in a more synergistic and less technical way.

What does it mean? The courses have to be 6 ECTS each, they cannot be merged. The synergy exists in the sense that they are complementary, they are bounded between them.

I understand the comment as suggesting that more courses be classified as part of the core courses where they are in practice common to all track. It is however unclear to what extent this would call for a less technical approach?

I think more interdisciplinary/transdisciplinary courses should be proposed as part of the core preparatory courses.

[...] (iii) Exploit further synergies between the master and the professional module. In particular, interdisciplinary courses developed for the master could also be offered to participants in the professional module (e.g. in online format), case studies developed for the professional module could be used as learning material in the master program.

It is already the case. The professional module is part of the educational path and it is called summer – winter training and we expect that students will participate as well as professionals that have the possibility to acquire this course autonomously (acquiring university ECTS).

The project has built on existing double-degree agreements (between UNIBO, LMU and UEK) to pilot-test a "green semester" with a learning program close to that planned for the GrEnFin master (in particular for the environmental finance track).

It is the Pilot Class we implemented that utilizes the existing agreement within the Universities, the Master does not.

Hence, in the next phase of the project, it might be useful to address the following issues: [...] Build on the "green semester" pilot to develop a comprehensive mobility track for the master program.

The mobility track is based on double/multiple degree agreements on which we are currently working on.



Greening Energy Market and Finance



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Project website: <http://grenfin.eu>



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