



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

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**WP4 – D4.4 Report on the Experience of the piloting (descriptive report completed by
the perceived appreciation of students and the opinion of the partners involved)**





Work Package (WP)	WP4 – Pilot Class of the Study Plan
WP Leader	Birbeck College, UEK
Deliverable Title and Number	WP4 – D4.4 Report on the Experience of the piloting (descriptive report completed by the perceived appreciation of students and the opinion of the partners involved)
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1. Introduction

Based on the evidence coming from activities of WP2 and WP3, during the third year of the project a pilot of the study plan was implemented. It involves the activation of the projected study plan inside the existent double degree agreements (UNIBO, LMU, UEK) in a form of “green semester” for participating universities. At the same time the other higher education institutions (HEIs) which still do not participate in double degrees consortium (Birkbeck College, Vienna University of Economics and Business, Université Paris-Dauphine) have activated the corresponding procedures and processes in order to establish a new course programme.

This document shows the steps that were undertaken by the universities (UNIBO, LMU, UEK) to organise the pilot GrEnFin semester.



2. Pilot Class structure

The study plan projected in WP3 was implemented through the activation of modules in the universities of the consortium already involved in the existent double degree agreement (UNIBO-LMU-UEK). These modules will be attributed in a form of free credits, without any modification of the existing master degree structure. The teaching activities involved also people coming from the industrial partners. Moreover, the other activities concerning the teaching, the following evaluation and corrective actions report were done with the contribution of all the consortium.

During the academic year 2021/2022 a pilot class run as an experiment for the drafted study path. Three HEIs (already connected via double degree agreements) offered at least 30 ECTS in line with the drafted project.

The mobility of students was financed by the active Erasmus agreements. Each university offered at least 5 Erasmus grants for this exchange. LMU offered the pilot class in the Winter Semester 2021/2022, while UNIBO and UEK at Summer Semester 2021/2022.

Below you can find a scheme that illustrates the periods when students from LMU, UEK and UNIBO spent their semester abroad.

1st possibility Unibo <-> LMU

	Winter 2020/21	Summer 2020/21	Winter 2021/22	Summer 2021/22
Students from LMU	LMU	LMU	LMU	UNIBO
Students from UNIBO	UNIBO	UNIBO	LMU	UNIBO

2nd possibility Unibo <-> UEK

	Winter 2020/21	Summer 2020/21	Winter 2021/22	Summer 2021/22
Students from UNIBO	UNIBO	UNIBO	UNIBO	UEK
Students from UEK	UEK	UEK	UEK	UNIBO

After the selection procedure 31 students were chosen (29 finally decided to participate, 2 resignations) that means that application procedure was properly and successfully managed. Among them for the mobility:

- 5 from UNIBO incoming to LMU, 2 from UNIBO to UEK
- 1 from LMU incoming to UNIBO
- 3 from UEK incoming to UNIBO



NO	SURNAME	NAME	COMING UNIVERSITY	UNIVERSITY CHOSEN FOR PILOTE	Student in Mobility
1	LAMBERTINI	LORENZO	UNIBO	UNIBO	
2	BONGERMINO	GIORGIO	UNIBO	UNIBO	
3	RUSTICELLI	LUCA	UNIBO	UNIBO	
4	DRAGO	RICCARDO	UNIBO	UNIBO	
5	MARTIS	MAURO	UNIBO	UNIBO	
6	PARIGI	MARCO	UNIBO	UNIBO	
7	CRUCCO	NICOLO'	UNIBO	UNIBO	
8	MARCONI	LEONARDO	UNIBO	UNIBO	
9	KORCZAK	AGNIESZKA	UEK	UNIBO	X
10	ADAŚKO	KRZYSZTOF	UEK	UNIBO	X
11	DOBKO	EMILIA	UEK	UNIBO	X
12	WENDT	KORNEL	LMU	UNIBO	X
13	ALUNNI	ALESSANDRA	UNIBO	UEK	X
14	PASCUCCI	VINCENZO	UNIBO	UEK	X
15	LO GIUDICE	ANDREA	UNIBO	LMU	X
16	LUISO	RICCARDO	UNIBO	LMU	X
17	PAUSELLI	RICCARDO	UNIBO	LMU	X
18	LIU	QUAN	UNIBO	LMU	X
19	BARBIERI	MATTEO	UNIBO	LMU	X
20	WEBER	NIKLAS	LMU	LMU	
21	STÜRZENBERGER	DAVID	LMU	LMU	
22	DEMIR	MELIH SABRI	LMU	LMU	
23	MÜHLBACHER	MICHAEL	LMU	LMU	
24	POMMER	MARCEL	LMU	LMU	
25	CHU MUN	CHOW	LMU	LMU	
26	GERK	MICHAEL	LMU	LMU	
27	SCHMITT	BEATRIX	LMU	LMU	
28	WEBER	NIKLAS	LMU	LMU	
29	DEL GAUDIO	SIMON	LMU	LMU	

The Erasmus grants for the mobility are to be delivered from common Erasmus grants set.

3. Assessment procedure – the questionnaire

3.1. Preparation of the questionnaire

During the preparation period the Consortium decided to create the questionnaire to get an overall assessment in five areas:

- Organisation of the semester
- General programme





- Teaching and Learning Environment
- Programme from Erasmus students (social activities)
- Overall assessment

The Students had a possibility to graduate their answer from the highest level “strongly agree” to the lowest level “strongly disagree”. Additionally, at the beginning of the questionnaire, students were asked to answer which HEI they represent and which HEI they chose for the Pilot Class. After each of the five areas the students had a possibility to add additional comments.

After a discussion within the consortium in December 2021 the question was established as following:

Introductory questions

1. Which university is your home institution?
2. In which University did you decide to attend the Pilot class?

Organisation of the semester

1. The Pilot was well organized (e.g. timely access to materials, schedule, notification of changes, etc.)
2. Information I received helped me to prepare for the course and to get an overview of the course
3. I have always known my contact person regarding organizational questions
4. Further comments

General programme

1. The Pilot was well structured to achieve the learning outcomes (good balance of lectures, tutorials, practical etc.)
2. Learning materials (recommended readings, schedule, course notes etc.) were relevant and useful.
3. The method of assessment was clear and reasonable
4. Further comments

Teaching and Learning Environment

1. The Pilot helped me to significantly improve my knowledge (a new perspective etc.).
2. The learning and teaching methods encouraged participation and to get through the problem
3. The involvement of the industry (if any) representative allowed to strengthen the links between theory and practice.
4. Working in international teams helped me to improve my social skills.
5. Further comments

Programme from Erasmus students (social activities)



1. The social programme helped me to improve my knowledge of the visiting country
2. The social programme helped me to get in contact with other students in an informal way.
3. Further comments

Overall assessment

1. The Pilot was well balanced (theoretical, practical and course time)
2. There were enough opportunities to exchange ideas and experiences with other students and lecturers
3. I would recommend the Pilot to others
4. Further comments

3.2. Dissemination of the questionnaire

In January 2022 the Evaluation form was prepared and sent for checking and acceptance. After the acceptance it was shared among universities inside the consortium to spread it around potential participants inside the universities starting from February 15

Evaluation Form - Pilot class
"Greening Energy Markets and Finance"
 Academic year 2021/2022

Introductory questions

UNBO LMU UDR

Which university is your home institution?

In which University did you decide to attend the Pilot class?

Organisation of the semester

Strongly Agree Agree Uncertain Disagree Strongly Disagree

1. The Pilot was well organized (e.g. timely access to materials, schedule, notification of changes, etc.)
2. Information I received helped me to prepare for the course and to get an overview of the course
3. I have always known my contact person regarding organizational questions
4. Further comments

General programme

Strongly Agree Agree Uncertain Disagree Strongly Disagree

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Overall assessment

Strongly Agree Agree Uncertain Disagree Strongly Disagree

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3. I would recommend the Pilot to others
4. Further comments



The consortium agreed to use the project's platform developed by PIXEL. This is the link of the page where it was published: <https://www.grenfin.eu/7-8.php> :



PILOT CLASS QUESTIONNAIRE

INTRODUCTORY QUESTIONS

1. Which university is your home institution?

- UNIBO
- LMU
- UEK

2. In which University did you decide to attend the Pilot class?

- UNIBO
- LMU
- UEK

Next

4. Pilot Class - students' opinion

4.1. Overall evaluation

A total of 20 respondents took part in the survey prepared for students. Respondents answered most of the questions. This section will present the students' evaluation of the different aspects of the programme.

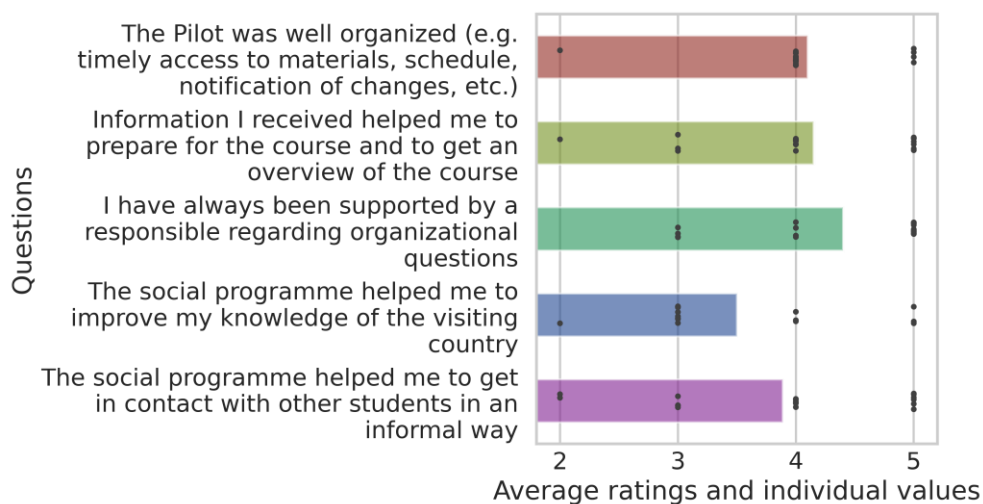
The figure below shows the students' home universities as well as their destinations. A total of four students went abroad as part of the pilot activities, while the remaining 14 remained at their home university. We could observe that the majority of students (14 out of 20) came from the University of Bologna.





4.2. Organisation of the semester (Q1) and Social activities (Q4)

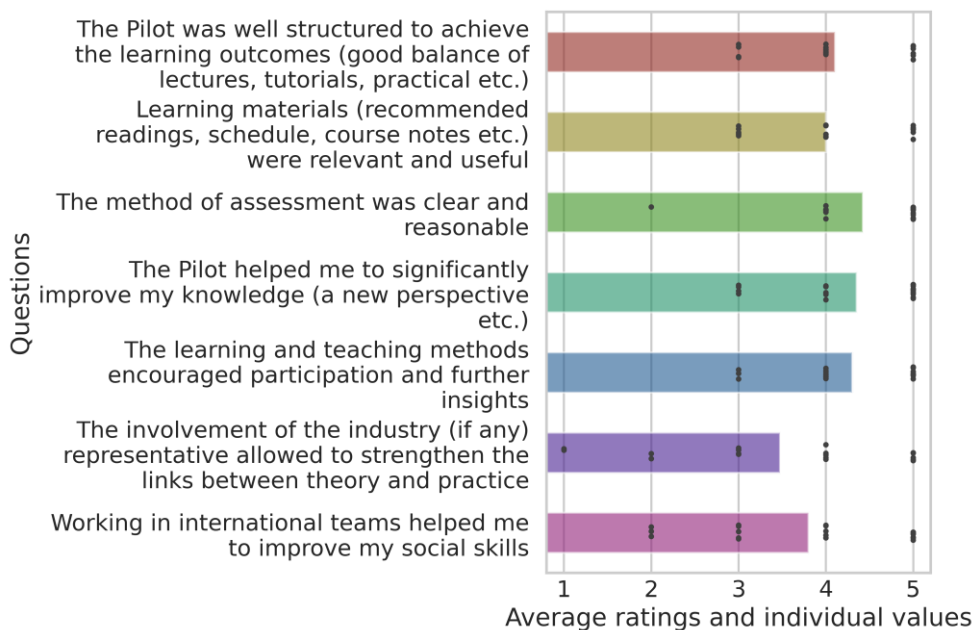
The figure below shows the first set of student responses to questions on organisational aspects and the social programme. The organisational aspects received generally good ratings, with averages above 4 on a scale of 1 to 5. Given the GrEnFin standards, this can be considered satisfactory results. The best rated item was the availability of support for students who need it. On the other hand, both items related to the social programme received slightly lower ratings. This can partly be explained by the fact that, during the pilot phase, the COVID pandemic restrictions were still in place, mainly concerning personal interactions. This is reflected in the mixed opinions of the students regarding the social aspect: one student perceived added value in terms of networking with others (also in a separate student certificate), while another perceived this effect as zero (both from LMU). However, discovering the visited country was rated even lower than student-to-student contacts, so it is likely that not enough emphasis was placed on this aspect.



4.3. General programme (Q2) and Teaching and Learning Environment (Q3)

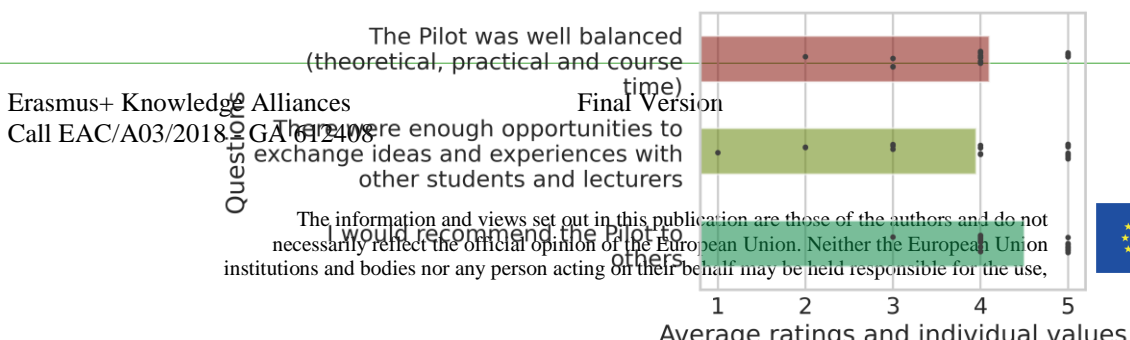
The following figure shows the responses for lectures and learning experiences. In this case it can also be stated that most subjects have a satisfactory average score, with most above 4. It can therefore be assumed that the overall structure and content performed well.

A separate student testimony confirms that the academic content of the pilot phase was appreciated. The lowest rated items (average rating below 4), include the quality and usability of the teaching materials, which is in line with the evaluation of other programmes run by GrEnFin. Next, the involvement of industry partners is the item that performs the worst. According to one student's comment, it seems that the perceived added value was limited. The last item with a score of less than 4 was how an international group can help to improve social skills. The connection assessed in this last item is perhaps not so direct and again the social interactions may have been hindered by COVID's restrictive measures, which would explain the mixed opinions.



4.4. Overall assessment (Q5)

The final three questions were designed to elicit students' overall impressions of their overall experience. The average ratings were satisfactory, with the vast majority of students positive that they would recommend the programme to others. The only item that performed slightly worse than the others and scored an average of less than 4 concerned the opportunity to exchange ideas and experiences with others, indicating a relative lack of direct interaction.





4.5. Students individual

Regarding the students who attended the workshop, most of them currently are in the second year of Quantitative Finance Master's Degree and were interested in this experience as a way to deepen their pre-existing knowledge regarding sustainable finance. Most of them saw the workshop as a way to investigate potential research topics for their thesis project, and to obtain additional level of knowledge in this frontier context, both for personal interest and to gain some advantage in the job market. However, there were also a few student that did not have any pre-existing information in the field, and saw the workshop as an opportunity to get started with the topic. Most students provided extremely positive feedback regarding their participation; in particular:

- Many students appreciated the participation to the workshop of working professionals, which enriched the experience by providing their point-of-view and clarifying how these topics are seen in day-to-day business applications.
- The presence of ex-students as lecturers, which presented their thesis work or recent research was often indicated as a very positive factor, as they understood perfectly the preparation level of the students and could tailor their presentations. Also, presentations were found helpful as sources of inspiration for their own thesis projects.
- Some students, especially those from the first year, found the workshop a bit intensive and demanding in terms of complexity, and suggested they would have needed a more relaxed schedule to fully grasp some of the concepts.
- Some students suggested that there were some concepts that were frequently repeated (introduction to ESG framework and introduction to artificial intelligence, mainly); they mentioned the idea for next years to include a first lecture where all the "basics" are explained, so that all lecturers can start their presentation on a common ground, not repeating the same introductions and focusing on their specific results.
- Many students indicated as their main interest Climate Risk, and its integration in financial practices.





Beatrix, LMU

"When I heard about the GrEnFin Pilot Class at LMU, I was immediately excited. In my opinion, it is a very positive aspect that current green applications have been integrated into some existing lectures of the LMU Master's programme in Financial and Actuarial Mathematics. These lectures include climate topics, but mainly cover stochastic calculations, risk management and numerical methods of financial mathematics. As part of the Pilot Class, we were able to participate in the Munich Climate School at LMU, an interdisciplinary summer school that combines different disciplines such as geography, biology, law, and mathematics, thus giving us new perspectives on climate-related topics. The pilot class allowed me to get in touch with fellow students I have not met before, which was also a positive effect in the Covid era. Another great aspect is the opportunity to write a thesis on a GrEnFin topic to directly deal with climate change issues in financial mathematics, which can be relevant for a possible future job. Overall, I really enjoyed the Pilot Class for its interdisciplinary dialogue between sustainability and financial mathematics, which in my opinion is the right way to deal with climate change."

Student, UEK

"I spent one academic year in Katowice, studying in the ARIMA program at UeKat. I would define this experience, an experience of great educational value, in fact the teaching approach used is mainly aimed at understanding practical tasks and "challenges".

The topics covered in classes have always been very current topics, with Teachers prepared and updated.

The thing I preferred from the point of view of the teaching experience is that many teachers immediately put us students within the topics covered by small research and projects that made us better understand their real and daily characteristics".

5. Pilot Class – an assessment coming from participants of the Boogna workshop

Some comments about the Pilot Class arise from the Workshop organised by UNIBO in Bologna 2022.

Elena Gandolfi, UNIBO, EY – insurance

Dr. Elena Gandolfi is a professional from EY, working daily on ESG topics and their influence on insurance applications; she provided very positive feedback regarding her workshop experience; she found that both the topics and the structure of the workshop were well thought and effective, and that all lecturers were managed to explain with clarity their research subject and results.

According to her opinion, the reviewed material was consistent with her working experience, and provided a good mid-ground between a theoretical approach and the practical application of the methods presented; lecturers provided plenty of technical details, without losing contact with the use of their results in practice.

Dr. Gandolfi stressed the importance of being experienced with ESG and climate-related topics, as the regulatory pressure for including these concerns in traditional finance is gaining momentum, and will likely be



amongst the hot topics for professionals in the next years; she appreciated the effort from the University to investigate the issue of compliance and integration of sustainability concerns in daily practices, and found the workshop experience enriching for both the students and for professionals.

Benedetta Vitale, Banco BPM

Dr. Vitale works for Banco BPM in the liquidity function of the organization. Currently, the firm is not directly including ESG concerns into liquidity management and analysis, as there are no public guidelines of market benchmark approach; they are, however, considering the potential integration of climate risk as a source of liquidity issues, mainly regarding physical events and the related economic losses. However, there's no method officially in place at this moment.

Consistently, she mentioned particularly appreciating the second part of the Workshop, regarding the investigation of climate risk and its effects on economic variables. Despite the models presented being more advanced and complex than what professionals are currently employing during working experience, she does think that presenting these alternatives provides extremely useful knowledge for future application in non-academic contexts. Overall, she found that the workshop investigated frontier topics that will be the challenge of tomorrow and mentioned that being responsive and pro-active towards these issues will be key for future professionals.

Gian Marco Gadini, Banca Akros

Dr. Gadini works for Banca Akros and is mainly interested with equity valuation; including ESG concerns in the valuation process is and has been one of the main goals of the organization for some time now, especially their integration with standard methods employed for valuation (DCF, multiples). As highlighted by Dr. Vitale as well, there's no public guideline available on how to do this, nor a market standard.

Still, ESG issues are of daily interest according to his working experience, and currently one of the main interests for financial professionals, according to his opinion; the market and financial practices seem to still lack best-practices harmonization and formalization of a common approach, which makes working with ESG factors extremely complex, but there's increasing clout around these topics and more and more professionals are recognizing the need to include them in their daily operations.

Giacomo Bressan, Sustainalytics

Dr. Bressan participated to the workshop both as a lecturer and a working professional in the field of sustainable finance; in his opinion, the workshop provided a very comprehensive review of the main concepts that are currently relevant in the ESG framework and in Climate Risk. As highlighted by dr. Gandolfi as well, he appreciated that presentations provided advanced technical results in the field, without leaving the



application side behind; however, he did suggest that in future iterations of workshop it might be a good idea to review and integrate to a higher degree the current industry standards for applying these subjects in a working context.

Amongst the topics presented, in his experience the ones that are currently most relevant for practical use are satellite data integration and investigation of climate risk; the only topic he mentioned that could have been analysed more in depth is stress-testing, which was only briefly reviewed.

Amia Santini, PhD

Dr. Santini participated in the Workshop both as listener and lecturer, presenting her research on Green Bonds. She is currently working on her PhD thesis which is related to the ESG framework and climate risk, so she found really interesting all the presentations, especially as a way to find new potential topics of research and generally to open her mind regarding new approaches and topics in the field.



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

