



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

AGREEMENT NUMBER: 612408
PROJECT NUMBER: 612408 – EPP-1-2019-1-EPPKA2-KA

WP2 – D2.5 Final Survey Report





Work Package (WP)	WP2 - Stakeholders Consultation, Validation Activities and Survey
WP Leader	UNIBO
Deliverable Title and Number	D2.5 – Final Survey Report
Release date	20/07/2022
Version	Final version
Dissemination Level	Public
Author	UNIBO
Main Contributors	UNIBO
Revised and Approved by	All Consortium Partners

INDEX

1. WP2: Leadership division	3
2. Validation activities	3
2.1. Stakeholder’s consultation	4
2.2. First Summer school online, University of Bologna M9	6
2.3. Second Summer School and First Summer Training online, University of Katowice M21	6
2.4. Joint Workshops University Paris-Dauphine, Birkbeck University of London and WU, Vienna University of Economics and Business M20, M26	7
2.5. Local workshop TAURON M25	8
2.6. Local Workshop Ludwig Maximilians Universität München M29	9
2.7. Local workshops SMEs M24 – M26	9
2.8. Umbrella Organization Meeting UNIBO M13 and M30	10
2.9. Full Immersion Experience Bertinoro M32	11

Executive Summary

This report presents the summary of all validation activities and local workshops carried out by the Consortium during the entire life of the project. In addition, this deliverable assesses the results and findings from the validation questionnaire filled in by stakeholders that attended the event. The questionnaire has the goal to help with the progress of the Academic Path and the Professional Module developed by GrEnFln Project.





1. WP2: Leadership division

At the beginning of the Project WP2 Leaderships has changed thanks to the approval of the Amendment n.1 as follows: WP2 leadership is transferred from IMPA to UNIBO and involved as vice leaders the 3 SMEs from Portugal, Spain and Greece.

These changes in the leaderships intended mainly to exploit the experience in stakeholder's engagement, active participation and high commitment in GrEnFin of the SMEs in the partnership, JF-Digital Energy DELAB (Portugal), MIWEnergia (Spain), Speed Development Consultant (Greece), while solving the criticalities emerged relating WP2 coordination. The proposed changes in the Workprogramme were designed to improve the organization and expected outputs and results of the Workpackages devoted to the engagement of Stakeholders and interaction with the Energy Market : these changes have been reinforce WP2 Stakeholders Consultation, Validation and Survey.

The WP2 has been extended until M32 in order to include WP6-WP7 Professional Module, which according to project plan will be concluded in M32, as a result to be validated by Stakeholders in the framework of WP2 Validation Activities; in addition, the deviation has the purpose of organize additional Local Workshops for Validation and Dissemination in Spain, Portugal and Greece, organized by the 3 SMEs Partners above mentioned.

The dissemination activities were strongly impacted by the COVID-19 pandemic. Both national and transnational meetings and conferences were transformed into virtual ones.

However, partners responded by increasing the number of online dissemination events and reviewed scheduled meetings in different forms by converting them into an online event on platforms such as Teams, Google meets and Zoom. The pandemic experience was certainly useful to speed up the digital transition.

2. Validation activities

After the First survey and during the whole project duration, there were several validation's activities involving the whole consortium and also external attendees in order to test methodologies and to make suggestions for further improvements. Below the all the activities carried out are revised.

Meanwhile, Company partners are asked to contribute to an ongoing process of validation focused on the professional module. The aim is to keep on collecting the opinion of the stakeholders in order to highlight their different perception on the expected learning outcome. These activities/events have to be addressed to highlight the desired entrepreneurial abilities, in term of transversal skills and soft tools, following the suggestions of the consulted industries. In terms of GrEnFin Project Road map, SME's are expected to validate the first outcomes of WP6 - ANALYSIS AND DRAFT OF THE PROFESSIONAL MODULE based on WP2 - STAKEHOLDERS CONSULTATION, VALIDATION ACTIVITIES AND SURVEY, in order to adjust and improve WP7 - REVISION PATH AND FINAL PROFESSIONAL MODULE DESCRIPTION. These activities could be finalized to update the results of the GrEnFin Survey.

Also HEIs partners are asked to contribute to validate the draft of the educational path.





In particular, as part of WP4, Birkbeck, Université Paris-Dauphine and WU, not being part of a preexisting double degree agreements with the coordinator, were expected to organize activities aimed to consult the stakeholders in order to validate project's contents and outcomes (CONSULTATION, VALIDATION AND DISSEMINATION).

To sum up, the output of the survey includes the outcomes of the first consultation and also the following validation activities that have been taken into account in the definition of new educational methodologies to be implemented along with the necessary technology (educational supporting activities, e-learning, virtual self-evaluation procedures) after the 2 tested Summer schools.

2.1. Stakeholder's consultation

Survey about the stakeholders' needs (WP2): in order to face the new challenges of a transforming world with an inclusive global view and collect all the necessary information, we elaborate a map of our main target groups and implemented a consultation to catch the needs of the markets and identify the gap in the current educational offer. Despite the difficulties due to the COVID-19 pandemic, we implemented the foreseen consultation thanks to direct contacts of relevant stakeholders provided by the partners and the University Business cooperation network that we used as channel of dissemination to reach a greater number of stakeholders.

The questionnaires for the consultation, as agreed by all the consortium, were implemented in the GrEnFin platform and the invitations to take part to the survey were sent (available for one month, from 11/02/2020, but due to the COVID -19 emergency, we decided to leave the questionnaire until the 5 th of April 2020). The methodology of submission was supported by the GrEnFin platform and its IT tools.

The consortium has decided to leave the questionnaire for the consultation on GrEnFin Platform until the 5 th of April 2020. It was planned to leave the questionnaire available for one month only, but due to the covid emergency it has been available for at least one month longer to give stakeholders more time to give us useful answers

The solution was to give stakeholders more time to provide us with a consistent number of responses by filling in the questionnaire available on GrEnFin Platform from 11.02.2020 – 5.04.2020.

The survey recorded a satisfactory response rate (between 21.50 and 42.95%, depending on the macro-category of the respondents). Responses clearly show that the energy transition is real and is now. Few companies are not impacted or have left the transition behind them, mainly in the Industrials and Policymakers categories.

Main challenges faced are different across stakeholders and can be identified as:

- For Financials, Internal processes;
- For Producers, Competition, Regulation, Strategic planning;
- For Industrials, Investments and R&D decisions;
- For Policymakers, Increased demand.

The balance of opportunities and challenges is unequal across regions, although it tends toward the more opportunities bucket overall. Despite companies seem to be generally prepared for current and past challenges, there are significant skill gaps that should not be ignored.

Future expectations point in the direction of a somewhat greener, but not Paris-aligned, economy, together with an increase in challenges related to the energy transition. Companies feel to be ready for the transition,





or working to get ready, while the fraction of non-ready companies is negligible in the sample. Finally, it is clearly highlighted by respondents that there is a significant need for the professional figure of the Sustainable Energy Expert. Such figure is scarcely available in the market, but part of hiring plans across the board. We believe this is a strong signal for the Academia and important evidence supporting our development plans for the GrEnFin curriculum.

In the overall picture, hard skills in Economics, Sustainability and Environmental Sciences show capital importance. The next bucket by relevance includes Law and Languages, followed by Engineering subjects and relevant, more technical, knowledge. Studies in Political Science and Marketing are generally seen as less important for the Energy expert's profile.

Within Economics and Finance, skills related to cost-benefit analysis and Economics are deemed as more important, while market-related skills are seen as less relevant. This is true for non-financial companies and confirmed by the trends within Financials.

Within Engineering skills, the most relevant are the ones related to Energy networks, Smart grids and Renewable generation. This trend is confirmed by the picture for Producers, where the most significant generation technologies are highlighted as Solar PV, Wind and Biomass – while Nuclear and non-renewable power lack interest. For what concerns programming and IT, Excel still represents the most used tool, followed by programming languages such as MATLAB or Python. Also, the survey has highlighted several suggestions on the need to include AI and IoT in the curriculum.

Soft skills are seen as extremely relevant across the board, with the ones related to Problem-solving, Responsibility and Team working being the most important. In terms of time, respondents see an amount spanning between 10 and 20% of a 40hrs/week constituting the ideal space for soft skills development. Preferred methods for training include Seminars and Specific projects. The most important topics for life-long learning are New regulations and New technologies in the Development phase, followed by Technologies under development and Geopolitical trends. The preferred delivery methods for such trainings are in-company trainings and Intensive programs, covering multiple weekdays during the year. There is a clear preference for longer training days amounts and a clear case against online and weekend learning.

Given the first draft of the academic path, which was expected to be articulated into three different tracks, i.e.

1. Scientific/Technological;
2. Risk and Finance;
3. Social Welfare – Policy and Economics,

we confirmed a similar structure supported by the results about the skills seen as most important by consulted stakeholders, i.e. Economics, Sustainability, Environmental Science, Law and Finance.

Going at a deeper level, i.e. taking a closer look at the specific skills within the tracks, we can go as follows:

- Track 1: Energy networks, Smart grids and Renewable generation; specifically, suggestions point in the direction of Electricity storage, Networks, Smart grids, Solar photovoltaic, Wind energy, Biomass and Waste to power;





- Track 2: mostly corporate finance, especially cost-benefit analysis, and Risk management; specifically, suggestions point in the direction of a crucial role of Risk management, Sustainability (and sustainable investing) and Corporate finance – while traditional Equity and Fixed income analysis are not seen as crucial skills in our sample;
- Track 3: requested Economics skills point in the direction of Environmental and Development Economics, followed by International Finance and Economics.

The tracks can be seen as answering the different challenges highlighted by stakeholders in various parts of the survey, specifically: for Track 1, the need to address challenges related to Investment decisions, R&D priorities and Stranded assets; for Track 2, challenges related to Investments decisions and products, Financing and Pricing; for Track 3, challenges related to Regulation and Sustainable development. Moreover, important soft skills training together with a close collaboration with companies, will complete the final program set-up emerged by the survey.

More details about the survey can be found at:

https://www.grenfin.eu/files/prjresult/WP2_D2.3_Final%20Report_GrEnFin_vFinal.pdf

2.2. First Summer school online, University of Bologna M9

The First Summer School has been organized to test a new formula of academic education where both contents and methodologies are innovative. The first and the second summer school have been organized online due to the COVID emergency hence the involvement of participants have been necessary impacted by the remote submission. Altogether, results showed a general satisfaction from participants with regards to the content of the summer school. There was although significant evidence that the organizational structure could have been handled better. Recurring comments and ratings point in the direction of a need for:

1. Better coordination between lectures;
2. Reduced or better distributed workload;
3. Increase in student engagement.

https://www.grenfin.eu/files/prjresult/WP10_D10.1_Final%20report%20concerning%20the%20internal%20evaluation%20of%20the%20results_Evaluation%20Report%20of%20Project%20Meetings%20and%20Summer%20School.pdf

2.3. Second Summer School and First Summer Training online, University of Katowice M21





The second summer school and training have been organized to test both a new academic and professional educational formula. This was the second test for the academic side and the first one for the professional one. Also this test had been conducted online due to COVID 19 emergency.

The feedback from students clarified the gap that may exist between the lectures and the content expected by students. One respondent found the topics to be too general and not sufficiently focused on the green specificities. Mentioning green bonds, it expresses an interest to learn more about the perception of advantages by issuers and buyers, as well as the concrete environmental impact brought by it. In a similar manner, another student regret not learning more about ESG criteria and the implementation of subsequent measures. On the other hand, some students found the classes to be technical for them, with one mentioning that parts pertaining to mathematical models were a lot to absorb in just a few days in the absence of dedicated background and with no material communicated to them prior to the summer school. As a result, the more qualitative/descriptive parts were seen as having a more important value added because they were more accessible in the summer school format. In line with this, another student expressed particular appreciation for the more practical lectures (*Wind, Solar, Real and Virtual Batteries [...]* and *Energy agents in the electricity market*). Nevertheless, the global evaluation of the school seemed improved with respect to the previous one, especially in the connection between case studies and lectures.

The test of the summer Training Nonetheless, other aspects received milder support, especially due to the desire to have had more communication in advance. In particular, the communication of the precise agenda was mentioned, so as to permit a better organisation of professional participants. Comments also mentioned that prior communication from the organizer and within the case study teams would be have been useful to prepare for it, identify everyone's skill and kickstart the work more efficiently. Sending the case study material in advance was also mentioned in that regard. These comments also partly explain the lower score given to the organization of the project work. More specifically, a respondent mentioned that more interaction and help from the organizing team could have been helpful in the case study. Finally, the case study received similarly mixed ratings. As for students of the summer school, the interest for the topic seems to be the strongest point. However, the time allocated to it seems to have been too short, and in line with previous comments, several respondents suggested that advanced communication and organisation of teams could have addressed this issue, also for members of the teams to get to know each other.

More details about the second summer school and training can be found at:

https://www.grenfin.eu/files/prjresult/WP10_D10.1%20-%20D10.2%20Evaluation%20Report%20of%20Second%20Summer%20School,%20First%20Summer%20Training,%20Local%20workshop%20M20.pdf

2.4. Joint Workshops University Paris-Dauphine, Birkbeck University of London and WU, Vienna University of Economics and Business M20, M26

The aim of the meetings was to share the main features of the project, with particular reference to the design of the academic module and how it will be implemented at Universite' Paris Dauphine, and to gather feedback from the participants via the questionnaire submitted at the end of the event. Subjects of the discussions were the structure of the Master and its length, among others. The meetings have been followed





by a round table format with an introduction by Professor Helyette Geman followed by the presentation by Prof. Rene Aid. Questions were asked throughout the meeting by the participants.

The submitted questionnaires appears to have usefully identified the profile of participants to the event, which seems – as in previous surveys – to be an important factor in the preferences expressed. The survey got a mildly satisfying response rate of close to 50%. The programmes of GrEnFin have received a positive feedback overall, although with some heterogeneity with regard to some aspects.

Furthermore, respondents were then asked how important they think the different tracks of the GrEnFin master are. The three tracks defined in the curriculum were thus assessed, still on a scale from 1 to 5. What comes out is a relative deficit of popularity for the “Technological / Engineering” track, compared to the other two (“Financial” and “Economics / Business”). The discrepancy between tracks is most likely influenced by the profile of participants being more oriented toward finance and economics, and less on the side of technological skills. In practice, those who identified with the field of sustainable finance gave the track an average rating of 4, i.e. somewhat lower than the general average. Thus, although the average grade is still good, and no definitive lesson can be drawn from it, this reflects a lesser attractiveness of the technological track on students with financial profiles.

More details about the meetings can be found at:

https://www.grenfin.eu/files/prjresult/WP1_D1.7%20Local%20Workshop%20for%20validation%20with%20s takeholders%20-%20Dauphine-%20Birkbeck.pdf

https://www.grenfin.eu/files/prjresult/WP1_D1.7%20-%20Joint%20Local%20Workshop,%20BBK,%20PARIS%20Dauphine,%20WU.pdf

<https://www.grenfin.eu/files/prjresult/WP10-D10.2%20~%20Academic%20events%202021.pdf>

2.5. Local workshop TAURON M25

The purpose of the analysis is to identify the key areas that need to be addressed in a program for students and professionals. For this purpose, the project team in TAURON conducted the brainstorming meetings with HR representatives from TAURON Group companies and representatives of the universities. The meetings were aimed to discuss the competences needed by a future sustainable energy expert. After the meetings the questionnaire was prepared on the basis of the conclusions resulting from the brainstorm meetings. The survey was conducted among employees of 14 TAURON Group companies. 45 respondents replied and 42 of them answered all the survey questions.

The survey results showed that rich and broad technical, economic and law knowledge is required. It is important to create competency profiles of people for individual areas, for example competence in the field of offshore, onshore, wind farms, solar farms, biogas plants, hydrogen technology etc. The respondents indicated the importance of acquiring knowledge of modern technologies, as well as long-term thinking about investments and approach to projects implementing the assumptions of sustainable development.

More details about the workshop can be found at:





https://www.grenfin.eu/files/prjresult/WP2-D2.4%20Report%20on%20the%20validation%20activities_final.pdf

2.6. Local Workshop Ludwig Maximilians Universität München M29

It was a local event organized by the Workgroup Financial Mathematics of the Ludwig-Maximilians-Universität München (LMU in the following). The speaker was Dr. Andrea Mazzon, Postdoc at the LMU and project manager for LMU for the GrEnFin project. All the event was held in English. It was addressed to Bachelor and Master students at LMU; and in particular to students of:

- Master Financial and Insurance Mathematics
- Master Mathematics
- Bachelor Business Mathematics
- Bachelor Mathematics

The main goals of the event were:

- Present and promote the whole GrEnFin project
- Present the activities that have been done for the GrEnFin Pilot class at LMU, also asking feedbacks from students P
- Present and promote the GrEnFin Full Immersion Experience that will take place in Bertinoro (Italy) in June 2022.

Similarly, to previous events, the audience was composed of mostly finance students, who had a more focused interest with regards to what GrEnFin offers. Accordingly, some clear preferences towards this field were expressed; here a very clear preference for the financial track, with an average of 4.7, compared to 3.5 for the Economics / Business and 3.4 for the Technological / Engineering. Moreover, although the appreciation for the master programme and the event itself were good, the survey allowed the identification of several weaknesses in the master programme and in the communication around it. In particular, the advertisement of the programme could insist on the content specificities in a more granular fashion, while other aspects such as the international dimension may appear as less of a strong differentiating factor for students.

More details about the Workshop can be found at:

<https://www.grenfin.eu/files/prjresult/D1.7%20Local%20Workshops,%20Ludwig%20Maximilians%20University%20Munich.pdf>

<https://www.grenfin.eu/files/prjresult/WP10-D10.2%20~%20LMU%20event%20March%202022.pdf>

2.7. Local workshops SMEs M24 – M26

There are local workshops organized in Portugal, Spain and Greece by the SMEs partners P12 DELAB (JF-Digital Energy, Portugal), P13 MIWEnergia (Spain), P14 Speed Development Consultants (Greece). It assesses





the results from the validation questionnaires filled in by the stakeholders that attended the events that helped with the progress and improvement of the Professional Module developed by GrEnFin Project.

From the results obtained there seems to be an overwhelming acceptance on the proposed implementation thus indicating that the already used methodology was well planned and should be followed in the future. Around 64% of respondents have a preference for the Blended mode, where Section 1 and 2 are online and the section 3 is in person. On the other hand, there was still a low preference (around 8%) for the course to be entirely face-to-face. Regarding the duration of the course, more precisely for sections 1 and 2, the majority (17 participants) agreed with the proposed duration of 10 to 16 hours, while for section 3 the majority prefer to have a duration of 2 to 3 days, so that their professional activities are not affected. Concerning sections 1 & 2 one important point has to do with the low rates of the topics that are considered to apply mainly for the case study that was offered in the 1st trial implementation. More general topics should be included as the ones specified by some of the responders (sustainable finance, green bond and ESG etc).

As far as section 3 (case study), there seems to be strong interest in topics concerning energy communities, grid connection and demand response and very low interest in very specialised topics such as biomethane and green hydrogen. It should be taken into account the fact that topics related to sustainability and energy efficiency have been proposed by around 17% of the persons that answered the questionnaire thus the selection of topics should be reorganised. Finally, the professionals showed interest in having more than a case study, more precisely a case of study related to renewable energy communities and energy efficiency. In this sense, if the professional module is finally structured to have several case studies with different areas of expertise (namely Renewable Technologies, Environmental Finance and Climate & Business Science), professionals will need prior knowledge of which areas will be covered in the course and should have the opportunity to choose the area they want to specialize during section 3, face-to-face section. In promoting the course, the scope of each area should be highlighted, as well as the competences expected to be developed throughout the module. Taking these aspects into account, it will be essential to ensure attractiveness for professionals.

More details about the workshops can be found at:

https://www.grenfin.eu/files/prjresult/WP2_D2.4_Report%20on%20the%20validation's%20activities%20M24%20-%20M26_%20Final.pdf

<https://www.grenfin.eu/files/prjresult/WP10-D10.2%20~%20Validation%20events%20professionals.pdf>

2.8. Umbrella Organization Meeting UNIBO M13 and M30

The Umbrella Organization Meetings were organized by UNIBO in Bologna: the first edition have been organized in November 2021, as an online event on Teams while the second event took place in the headquarter of Prometeia in Bologna, an Italian consulting, software development and economic research company for banks, insurance companies and businesses.

The main purpose of the events was to collect feedbacks in order to help the GrEnFin Consortium in the progress of the Academic Path and for the improvement of the Professional Module.





The feedbacks obtained, during the event and from the questionnaire are overall satisfactory and positive opinion about the GrEnFin master and its professional module has emerged. The event assessed here covered both the GrEnFin master and its professional module. For both, the feedback received has been mostly positive. As with previous surveys, it appears that the background of the respondents influenced their relative interest for different topics, i.e. giving a preference for themes and skills that relate more closely to finance and business. More importantly, most of the professionals surveyed declared an interest in further taking part to the programme, either as a direct participation in the study plan, or through punctual collaborations.

The collected feedbacks showed a very big interest into the multidisciplinary of the GrEnFin master and highlighted that the three curricula have different level of urgency perceived (as a matter of fact the curriculum in Environmental Finance seems the most appreciated by the consulted stakeholders). The perception of urgency in the education appeared strictly related to the dimension of the firm and especially SMEs could have a consistent delay in getting the grip to face the sustainable transition. In this light an intervention of the regulator could be profitable since incentives for professional education are expected to be a fruitful tool to push them in the right direction. For this reason, a campaign to spread our educational offer to the regulatory agencies is expected to be useful.

More details about the Meeting can be found at:

M13) https://www.grenfin.eu/files/prjresult/WP1_D1.7%20-%20Local%20Workshops,%20Umbrella%20Organization%20meeting,%20MEETS.zip

M30) <https://www.grenfin.eu/files/prjresult/WP2%20-%20D2.4%20Reports%20on%20the%20validations%20activities.pdf>

2.9. Full Immersion Experience Bertinoro M32

This is the last test we implemented for both the educational and the professional module. We point out that this mixed formula will be implemented in the academic path as Summer school and training and will involve a class composed by both students and professionals as well. Based on the evaluation of all questionnaires, we can first conclude that the FIE was overall successful as we have observed a good degree of satisfaction for all the stakeholder groups. We can in particular note that aspects related to the logistics of an in-person event seem to have been fine based on all, apart from a couple of issues pertaining to the venue itself. Thus, the transition from online summer school to the in-person FIE has been successful.

Comments received from students and professionals often echoed one another, and we can identify a few critical points that seem to make consensus and could be further improved:

- the quality of the material produced for students and professionals as well as its timely publication,
- the use of the online platform, which for students extends to the registration process on the UNIBO platform,
- possible optimization of the case studies format, so that students could engage better and allocate their time for it more efficiently, and





- general communication on the programme to set expectations and have participants prepared ahead of time to the different parts that they should engage with.

Finally, let us note that the ratings obtained were generally better than for the 2021 Summer School across all stakeholder groups. Therefore, and in line with comments by students who attended both, the FIE marks a progress for the GrEnFin programme on most aspects.

More details about the Full Immersion experience can be found at:

<https://grenfin.eu/files/prjresult/D1.8%20-%20Full%20Immersion%20Experience,%20Bertinoro,%20June%202022.rar>



Greening Energy Market and Finance



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



The information and views set out in this publication are those of the authors and do not necessarily reflect the official opinion of the European Union. Neither the European Union institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made of the information contained therein.

