

(Projects funded under the Call 2014 onwards must use this format)



LIFE Project Number
LIFE17 GIE/IT/000579

Final Report
Covering the project activities from 01/09/2018¹ to 31/08/2022

Reporting Date²
12/06/2023

LIFE PROJECT NAME or Acronym
LIFE FOSTER

Data Project

Project location:	France, Italy, Malta, Spain
Project start date:	01/09/2018
Project end date:	31/12/2021 Extension date: 31/08/2022
Total budget:	€ 1,676,566
EU contribution:	€997,460
(%) of eligible costs:	59.58%

Data Beneficiary

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¹ Project start date

² Include the reporting date as foreseen in part C2 of Annex II of the Grant Agreement

This table comprises an essential part of the report and should be filled in before submission

Please note that the evaluation of your report may only commence if the package complies with all the elements in this receivability check. The evaluation will be stopped if any obligatory elements are missing.

Package completeness and correctness check	
Obligatory elements	✓ or N/A
Technical report	
The correct latest template for the type of project (e. g. traditional) has been followed and all sections have been filled in, in English <i>In electronic version only</i>	✓
Index of deliverables with short description annexed, in English <i>In electronic version only</i>	✓
Final report: Deliverables not already submitted with the MTR annexed including the Layman's report and after-LIFE plan Deliverables in language(s) other than English include a summary in English <i>In electronic version only</i>	✓ ✓
Financial report	
The reporting period in the financial report (consolidated financial statement and financial statement of each Individual Beneficiary) is the same as in the technical report except for any terminated beneficiary for which the end period should be the date of the termination.	✓
Consolidated Financial Statement with all 5 forms duly filled in and signed and dated <i>Electronically Q-signed or if paper submission signed and dated originals* and in electronic version (pdfs of signed sheets + full Excel file)</i>	✓
Financial Statement(s) of the Coordinating Beneficiary, of each Associated Beneficiary and of each affiliate (if involved), with all forms duly filled in (signed and dated). The Financial Statement(s) of Beneficiaries with affiliate(s) include the total cost of each affiliate in 1 line per cost category. <i>In electronic version (pdfs of signed sheets + full Excel files) + in the case of the Final report the overall summary forms of each beneficiary electronically Q-signed or if paper submission, signed and dated originals*</i>	✓
Amounts, names and other data (e. g. bank account) are correct and consistent with the Grant Agreement / across the different forms (e. g. figures from the individual statements are the same as those reported in the consolidated statement)	✓
Mid-term report (for all projects except IPs): the threshold for the second pre-financing payment has been reached	✓
Beneficiary's certificate for Durable Goods included (if required, i. e. beneficiaries claiming 100% cost for durable goods) <i>Electronically Q-signed or if paper submission signed and dated originals* and in electronic version (pdfs of signed sheets)</i>	N/A
Certificate on financial statements (if required, i. e. for beneficiaries with EU contribution ≥750,000 € in the budget) <i>Electronically Q-signed or if paper submission signed original and in electronic version (pdf)</i>	N/A
Other checks	
Additional information / clarifications and supporting documents requested in previous letters from the Agency (unless already submitted or not yet due) <i>In electronic version only</i>	✓
This table, page 2 of the Mid-term / Final report, is completed - each tick box is filled in <i>In electronic version only</i>	✓

**signature by a legal or statutory representative of the beneficiary / affiliate concerned*

Instructions:

Please refer to the General Conditions annexed to your grant agreement for the contractual requirements concerning a Mid-term/Final Report.

Both Mid-term and Final Technical Reports shall report on progress from the project start-date. The Final Report must be submitted to the Agency no later than 3 months after the project end date.

Please follow the reporting instructions concerning your technical report, deliverables and financial report that are described in the document [Guidance on how to report on your LIFE 2014-2020 project](#), available on the LIFE website. Please check if you have the latest version of the guidance as it is regularly updated. Additional guidance concerning deliverables, including the layman’s report and after-LIFE plan, are given at the end of this reporting template.

Regarding the length of your report, try to adhere to the suggested number of pages while providing all the required information as described in the guidance per section within this template.

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2. List of key-words and abbreviations

AB: Associated Beneficiary
CB: Coordinating Beneficiary
CMS: Content Management System
CP: Communication Plan
CT: Communication Team

EaFA: European Alliance for Apprenticeships
ECESP: European Circular Economy Stakeholder Platform
EEA-EFTA: European Economic Area - European Free Trade Association
EfVET: European Forum of Technical and Vocational Education and Training
EU Platform FLW: EU Platform on Food Losses and Food Waste
EVBB: European Association of Institutes for Vocational Training
EVTA: European Vocational Training Association
EWWR: European Week for Waste Reduction
FAO: Food and Agriculture Organization
FB: FaceBook
FLW: Food Losses and Food Waste
FTE: Full Time Equivalent
FW: Food Waste
FWFB: Food Waste Flow Balance
FW: Food Waste
GHG: Greenhouse Gases
Ho.Re.Ca.: Hotellerie, Restaurant, Cafè (or Catering) sector
ICESP: Italian Circular Economy Stakeholder Platform
KA2: Key Action 2
KOM: Kick-Off Meeting
KPI: Key Performance Indicator
LLL: Life-Long Learning Platform
LMS: Learning Management System
MB: Management Board
MOOC: Massive Open Online Course
MoU: Memorandum of Understanding
PA: Partnership Agreement
SC: Steering Committee
ToT: Training of Trainers
TW: Technical Workshop
UNI: Ente nazionale italiano di unificazione (Italian National Unification Agency)
VET: Vocational Education and Training
WG: Working Group

3. Executive Summary (maximum 2 pages)

The project aimed at raising awareness on food waste as a major environmental challenge and contribute to its reduction through food waste prevention methods and tools.

To achieve this goal, LIFE FOSTER implemented actions combining training in food waste prevention with tailored communication for project target groups and stakeholders – i.e. trainers/teachers, students, food service professionals, and policy makers – and measured its impact in terms of reduced food waste, economic assessment of food waste reduction, increased awareness, and social effects.

Main project deliverables and outputs included:

- Food Waste Tools – i.e. food waste prevention methods and tools (Action A1)
- A communication strategy and communication plan, with their visual identity (Actions A2 and D2)
- Training programs and material on food waste prevention methods and tools for trainers and students (Action B1)
- A full support pack for students – i.e. a hands-on manual for students to help them in the application of food waste prevention methods and tools during in work contexts. The deliverable was also extended to professionals (Action B2)
- Guidelines for the EU Platform on Food Losses and Food Waste in the form of recommendations to policy makers based on the project's lessons learned (Action B3)
- 9 meetings with policy makers to inform them on the project's results and suggest possible solutions to prevent food waste (Action B3)
- A web-based application for food waste monitoring – Food Waste Flow Balance – together with food waste environmental as well as economic monitoring outcomes (Actions C1-C2)
- Quantitative and qualitative information on social effects of food waste prevention – including the target of professionals in the sector with an overall improvement of the quality of jobs in catering services (Action C2) (Action C2)
- A LIFE FOSTER Replicability Plan to involve 8 more vocational training providers (Action D1)
- A Memorandum of Understanding for Beneficiaries' to commit disseminating, replicating and transferring project results beyond its lifetime (Action D1)
- A website and social profiles to communicate project's achievements to wider audiences (Action D2)
- A network of projects coping with food issues from various perspectives related to its environmental impact (Action D3)

To produce the above-listed deliverables and outputs, the project featured the following actions:

- Preparatory Actions A1 and A2 built the project knowledge base and overall communication strategy, respectively.
- Action B1 implemented trainings for both trainers/teachers and students. The initial [transnational ToT](#) program and material provided the backbone of all following trainings. They were used for both the development of local trainings and the implementation of e-learning courses as well as webinars that helped reach the project target groups and stakeholders.
- Action B2 engaged with food service companies and professionals through students' traineeships and targeted events. The following activities took place: i) 2,966 traineeships, ii) 14 events in fairs, iii) 3 online events, iv) 8 webinars, v) 2 practical activities, vi) and 3 seminars.
- Action B3 provided recommendations to policy makers based on the project's lessons learnt. Beneficiaries participated in many events and meetings facilitating dialogue with

policy makers, where they provided inputs (e.g. suggestions, opinions) based on the LIFE FOSTER's experience, and information on project's results. Policy makers were approached at both national and EU level.

- Actions C1 and C2 monitored food waste reduction and socio-economic impact, respectively. The project implemented a web-based application ([Food Waste Flow Balance](#)) and carried out 3 monitoring campaigns to assess food waste reduction and its cost. 13 interviews to heads and trainers of VET centres were carried out. A survey took place across food service companies and professionals to have information on the social effects of project's food waste prevention activities.
- Actions D1 and D2 communicated and transferred results to the VET system and disseminated to larger audiences, respectively. The project released 8 issues of its [newsletter](#) and organised 5 technical workshops to favour project replication. 2 TW took place during international meetings organised by VET umbrella organisations. A virtual Food Waste Hackathon took place in April 2021 and a Workshop for EU students in May 2022. The website and social profiles were updated regularly.
- Action D3 developed networking with other projects dealing with issues close to food waste. The project organised collected information in a monitoring tool, drafted 2 reports, and organised a networking meeting on occasion of the Final Event.
- Action D4 organised the LIFE FOSTER final event which took place in Pollenzo to enhance the understanding of food waste prevention and disseminate on project results. The event brought together leaders in food waste prevention, reduction and valorisation, as well as policy makers, public authorities, students and trainers concerned in the food sector. Highlights on policy recommendations were also provided.
- Action E1 dealt with overall project management. The Coordinating Beneficiary (CB) put in place a management system that could meet the programme requirements as well as dealt with specific issues that determined some delays in their accomplishments. CB monitored technical and financial progress every three months through specific tools. A Contingency Plan was submitted to provide solutions to the problems raised by the COVID pandemic. 2 amendments to the Grant Agreement were submitted and approved – 1 to extend project duration and 1 to include ENAIP NET's affiliates.

Major project achievements include:

- Action B1: Training of 405 trainers and 8,211 students. 4,272 awareness questionnaires administered to students showed that the training increased students' awareness on food waste as a major challenge and confirmed the effectiveness of the project approach.
- Action B2: i) 2,966 traineeships could be activated after COVID social distancing measures were removed, ii) 44,649 professionals were reached through both online (e.g. workshops for chefs, webinars, online fairs etc.) and in-presence events (e.g. practical workshops, fairs, seminars etc.), iii) 415 students reached with events targeting both professionals and students attending career courses in food service business. The project also reached 38,900 visitors/online participants – citizens who were interested in the food waste issue. 2,066 questionnaires were collected during events, whose analysis confirmed the relevance of LIFE FOSTER's actions to enhance capacity to prevent food waste in food service.
- Action B3: The project reached 203 policy makers through online and in presence meetings where project's results and lessons learnt could be explained. It drafted "Recommendations for policy makers" drawing from the project's lessons learnt and key messages. LIFE FOSTER was included as best practice of circular economy in the "[Analysis of good circular economy practices for the evaluation of their operation and performances and to encourage their replicability](#)" by [UNI](#). LIFE FOSTER's model was selected by the French Ministry of Agriculture to contribute to the "National pact for the fight against food waste".

- Action C1: 3 monitoring campaigns were carried out to assess food waste quantity generated in VET centres and their economic value. To this purpose a web application was specifically implemented (Food Waste Flow Balance). The tool, which was developed to measure the project's impact on the VET centres – was also tested in 4 food service companies. Cross comparison of FW monitoring results across the 3 campaigns showed a FW reduction by 10.1% between the baseline and the final monitoring, amounting to 535.08 Kg/VET centre. On the economic side, the percentage reduction in food cost was 9.3, corresponding to 4,829.29 EUR/VET centre.
- Action C2: The social impact of the project was investigated through 13 interviews to heads of VET centres and surveys among the target group of food service professionals and individuals participating in events as well as through a website content analysis considering food service companies around the project area. The results indicated that both on the side of VET centres and on the side of food service companies the project increased the individuals' awareness. Although there was information on the FW issue, measures to reduce it were not fully contemplated before the initiative.
- Actions D1 and D2: 8 issues of the newsletter were released and distributed to an average of 132,500 contacts. All events for the involvement of the education system were successful – approx. 20,000 individuals reached via online and in-presence events. The website reached 160,000 unique users, 26,422 sessions and 77,826 page views. Finally, an Erasmus+ KA2 project proposal capitalising on LIFE FOSTER's results was funded because of the effort to transferring LIFE FOSTER's results to the VET system. The new project builds on the LIFE FOSTER's training to develop a revised professional profile and curriculum with a stronger focus on food service sustainability.
- Action D3: LIFE FOSTER established collaboration with 10 EU funded projects. Networking with SU-EATABLE LIFE produced a new LIFE project called LIFE CLIMATE SMART CHEFS whose CB is Barilla Foundation. 7 projects and 2 European platforms participated in the networking event.
- Action D4: The LIFE FOSTER's Final Event was organised on 4th July and had >50 attendees. A zero-waste menu was served by 2 trainers involved by the project assisted by 7 students.

Major deviations and problems encountered were caused by COVID pandemic situation, which had a strong impact on trainings, meetings, and events. Following a list per action of major deviations and problems. In Annex "LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609" detailed information is provided.

- Action A1: The action was completed later than planned (end in January 2020 instead of March 2019). As a suitable monitoring system to collect data on food wastage at EU level was not available at an affordable cost at project start, the definition of possible benefits related to food waste prevention needed a more in-depth study. Results of this preparatory phase were used to implement a food waste monitoring tool in Action C1.
- Action B1: action continued until project end to ensure the achievement of envisaged results, considering the numerous challenges encountered in a pandemic context.
- Action B2: some planned events and seminars/workshops were replaced with online events and webinars due to COVID pandemic. The project organised additional e-learning courses and events to achieve the ambitious target of 10,000 professionals, which was finally outreached.
- Action B3: the start of national working groups was delayed, and the Guidelines were delivered later, due to the difficulties posed by COVID-19 pandemic. However, the delays did not compromise the achievement of the target of involved policy makers and provided useful inputs for the development of relevant policies.

- Actions C1 and C2: The actions started later because of the delay in action A1 to define the quantification system. A specific monitoring system was developed matching FW quantity and cost. Monitoring campaigns accumulated further delays due to COVID-19 pandemic. Foreseen monitoring of social impact was therefore re-modelled to define the social impact of the project. Details on the changes to this action are reported in Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”
- Action E1: Minor changes to project budget were needed to help Beneficiaries undertake the activities in a very challenging period due to COVID-19 pandemic. All deviations are reported in Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”

An Amendment to the Grant Agreement was submitted in August 2021 to have an 8-month extension, until August 2022, which allowed for reaching the expected results.

An additional Amendment was submitted in October 2022, in compliance with an Agency’s request, to include ENAIP NET’s members as affiliates in the Grant Agreement.

4. Introduction (maximum 2 pages)

Background, problems and objectives

LIFE FOSTER tackles food waste as a major environmental problem that causes huge amounts of waste and enormous GHG emissions every year. FAO conducted some research on food loss and food waste that provided the following information:

- One third of edible food produced globally and intended for human consumption is lost or wasted along the food supply chain³
- 1.4 billion hectares of land (28 percent of the world's agricultural area) is used to produce food that is lost or wasted yearly⁴
- 3.3 gigatons of Greenhouse Gases are generated by food waste every year: the third-largest emitter worldwide⁵

“FUSION” project (2016) found that food waste costs 143 million € in Europe every year. , Food service sector produces 12% to the total food waste, according to Lean Path Inc., a producer of food waste management software, meaning that food service companies generate food waste that can be avoided, if they adopt prevention solutions and train their staff on food waste prevention.

The LIFE FOSTER approach relies on the assumption that vocational training can play a pivotal role in increasing individuals’ awareness and capacity for reducing food waste. Consequently, the information and communication strategy focused on both training and events to increase target groups’ awareness and individuals’ skills – especially, trainers’ and students’ skills – as well as information activities for larger audiences (citizens).

The target groups are the following:

- 1) Trainers/teachers – By the end of the project, 502 trainers were trained in food waste prevention. Of these trainers, 405 trained their students afterwards. Trainers are crucial for the sustainability of project results because they are now able to include food waste prevention in their didactic. Training of trainers took place in Action B1.
- 2) Students – The project trained 8,211 students in food waste prevention. After getting their qualification, they will work in food service companies where they will apply food waste prevention solutions learnt with LIFE FOSTER. Training of students took place in Action B1.
- 3) Companies and professionals – The project engaged with more than 30,000 professionals through various activities: a) students’ traineeships; b) Targeted events in fairs; c) Workshops and seminars; d) Cooking-shows.
Awareness raising of food service companies and professionals took place in Action B2.
- 4) Policy makers – The project involved 203 policy makers. Besides the preparation of specific recommendations based on project’s lessons learned, LIFE FOSTER provided inputs to policy makers to define new policy measures. Dialogue with policy makers took place in Action B3.
- 5) LIFE FOSTER stakeholders included:
 - Trade and Consumers’ associations. Communication with these was implemented in Actions B2 and D2.
 - VET providers’ associations and system. Communication with these groups was implemented in Action D1, in targeted events.
 - Larger audience/citizens. Communication to larger audience/citizens took place in Action D2.

³ Report 2011, “Global Food Losses and Food Waste. Extent, Causes and Prevention”. Rome

⁴ Report 2013, “Food Wastage Foodprint. Impacts on natural resources”. Rome

⁵ FAO Report 2013, “Food Wastage Foodprint. Impacts on natural resources”. Rome

The baseline monitoring showed that VET centres involved by the project produced 17.4% waste of all the inputs used for cooking and 19.2% waste of all the inputs purchased. Concurrently, students' training revealed that they did not have an idea of the food waste quantity that they produced either in their training or at home. Therefore, they needed training and monitoring tools and practices to become more aware of how they managed food while cooking (at work and/or at home).

Expected long term results

Training in food waste prevention, food waste monitoring and dissemination to transfer the project methodology continues after project end. CB ENAIP NET and ABs AFPA, CECE, and ITS incorporated food waste prevention into their training programs for the development of both technical green skills and citizenship culture. This gives sustainability to LIFE FOSTER methodology far beyond project end. Therefore, the expected achievement of the targets after 3 years since project end – i.e. 2,000 trainers and 30,000 students is considered as achievable at this stage.

The eLearning courses on food waste prevention that ENAIP NET, AFPA and CECE prepared to respond to the challenges of the COVID-19 pandemic coupled with the replicability and transfer effort also helped to reach trainers, teachers, students, and professionals in countries that are outside the project area (i.e. Greece and Portugal).

Among the expected long-term results, it is to mention that the involvement of Policy Makers featured in Action B3 favoured replicability and transferability of project results. The main achievements include the following:

- In Italy, the project was: i) included in a Technical Report by [UNI](#) on circular economy good practices (UNI/TR 11821 - “Collection and analysis of good practices on Circular Economy”), which aims at favouring the replication of the analysed good practices; and ii) presented to Italian local authorities dealing with food/food waste issues in 2 meetings organised by the Ministry for the environment and energy safety on 26.05.2022 and 13.12.2022 (after project end). The project was also considered among the good practices showcased on the [Knowledge Platform](#) implemented by the Sustainable Development Department (Dipartimento sviluppo sostenibile – DiSS), with the aim of supporting their replication and transfer to public authorities.
- In France, the LIFE FOSTER's approach was approved by the Ministry of Agriculture for its application in the framework of the National Pact for fighting food waste (Pacte National de lutte contre le gaspillage alimentaire) which will be launched in 2023.
- The Working group on VET and the Green Transition will publish in 2023 a Compendium on inspiring practices on VET and the Green Transition in the European Education Area Strategic Framework which includes the LIFE FOSTER practice.

For dissemination to vocational education and training systems, the project featured Action D1 and the active involvement of large umbrella associations – EVTA, EVBB, and EfVET – that spread information among their members and helped organise events aiming at the transfer of the project methodology to other VET providers in many EU countries. The mentioned associations organise numerous events every year and food waste issues continue to be included as part of their work on sustainability. Furthermore, LIFE FOSTER already provided the knowledge base and methodology to prepare a new project proposal “VETLOVESFOOD - Rethink Reduce Reuse” under Erasmus+ KA2, which will further exploit and disseminate LIFE FOSTER's results.

Regarding the after-LIFE period, as 15 VET providers were either interested in applying or already applied the LIFE FOSTER's tools at project end, the achievement of the final number of 30 VET providers after 3 years is deemed to be feasible. This achievement is also supported through the participation of ENAIP NET, CECE, and AFPA in VET umbrella organisations.

At national level, the project can play an important role in increasing the number of VET organisations developing trainings in circular economy, as it is a best practice for the Italian standard and norms organisation – UNI – the only one for training.

Regarding the expected transfer of the methodology implemented to other countries or policy areas, it is to note that, organisations also coming from outside the project area participated in the technical workshops for VET system's representatives. Particularly, INOVINTER, from Portugal, and AKMI, from Greece, used the food waste prevention course resources. AKMI also sent both staff and students to a mobility focused on the LIFE FOSTER's methodology hosted by ENAIP NET. Also, to underline that the involvement of VET umbrella organisations will ensure the continuation of this transfer to other countries, as part of the activities favouring the development of green skills.

The methodology implemented by LIFE FOSTER for the activation of new behaviours in the food service industry is also incorporated into the LIFE CLIMATE SMART CHEFS and the ERASMUS+ KA2 VET LOVES FOOD projects as part of a high-level course for more sustainable chefs' working behaviours and as the core of a more sustainable and innovative VET curriculum for the restaurant industry, respectively.

Regarding the transfer of the web application outside the project partnership to other countries or types of organisations, multiple factors need to be considered first, as the monitoring system was specifically designed to respond to the characteristics of VET organisations. Testing with a limited number of restaurant businesses revealed that further technological implementation is needed to optimise the time for data inputting. To transfer the web application to other organisations it will also be necessary to carry out an assessment of the appropriateness and compatibility of the tool to the new context of reference.

The project featured Action B2 and the specific contribution of AB FIC and AB MBB to involve food service professionals. All VET provider Beneficiaries have close business contacts with sector companies because company traineeships are part of vocational training. Students' traineeships provide occasion to inform and adopt the food waste prevention approach developed by incorporating food waste prevention into vocational training programs will also help to meet new regulations' requirements in the next years. Specifically, the food waste monitoring tool can help respond the requirements that the EU will set in 2023 – i.e. the foreseen definition of country-specific limits for amounts of food waste generated every year. Consequently, not only food service professionals but also citizens will have to deal with the food waste challenge and the tools and training modules developed by LIFE FOSTER can be a good starting point to develop new initiatives addressed to a larger audience.

5. Administrative part (maximum 1 page)

CB ENAIP NET ensured overall project coordination:

- Project planning (complete project GANTT and ABs' tasks)
- Definition of tasks and roles for Management Board, Steering Committee, Communication Team, and Financial Team
- Communication among Beneficiaries as well as between Beneficiaries and monitoring team or Agency

The Management Board and Steering Committee held responsibility for operative and strategic decisions.

Partnership Agreements were drawn between CB and each AB to set obligations and responsibilities.

CB helped ABs in the identification of solutions to specific management problems to prevent project shortcomings.

From October 2018 to August 2022, project meetings took place approx. every 6 months. After COVID pandemic outbreak CB summoned more frequent online meetings: both on general issues and specific issues follow the needs of the project.

During the entire project period, CB kept the monitoring team updated on issues regarding overall project governance and its abilities to address issues and solve them.

After each monitoring visit CB informed ABs on the Agency's reports and their issues and suggestions. Annex "LIFE FOSTER- Deviations _delays _major problems" is the summary of all the issues and suggestions.

All Beneficiaries demonstrated willingness to cooperate and support the identification of solutions to the issues raised.

The criteria used for project related decisions making were:

- Achievement of project KPIs;
- Feasibility in consideration of external context;
- Cost-efficiency of actions, tasks, results.

CB monitored financial progress to ensure cost-efficiency of actions through a specific financial monitoring file and compared it to technical progress every three months.

Additionally, CB collected information on possible ABs' needs for budget line adjustment.

One of the main difficulties that caused initial delays linked to action was a timeline overlapping with the preparation of trainers' training program (Action B1) and the start of monitoring (Actions C1 and C2) – all actions for which UNISG was responsible. This fact combined with the lack of a viable monitoring system to measure food waste prevention benefits determined major delays in Actions A1, C1 and C2.

Further implementation delays of the planned activities were caused by: a. internal organizational problems for some CBs (staff turnover, etc.), b. complicated internal procedures (e.g. for arranging subcontracting) and from March 2020 c. the outburst of the COVID pandemic which impacted severely on all training activities.

For these reasons, Beneficiaries decided to submit a request for a project extension of 8 months and postpone the project deadline to 31st August 2022.

The change of status of the ENAIP consortium member to affiliated has consistently increase the workload to ensure administrative compliance.

The technical progress per Action (Par. 6.1) provides updated deadlines for: Actions, Deliverables and Milestones that are linked to the project extension.

6. Technical part (maximum 25 pages)

6.1. Technical progress, per Action

Technical progress per Action provides a description of implementation. Major deviations, delays, problems, and drawbacks encountered are collected in Annex “LIFE FOSTER Deviations_delays_major problems” together with explanations and justifications of budget modifications, in response to the Agency’s letter of 12th March 2020.

Action A1: Selection of best methods and technologies for food waste reduction and quantification of possible benefits

Beneficiary responsible: UNISG

Foreseen start date: September 2018

Actual start date: October 2018

Foreseen end date: January 2019

Actual end date: January 2020

Action description

Action A1 provided the knowledge base for trainings (Action B1), communication to professionals (Action B2), food waste monitoring (Action C1), and communication as well as dissemination (Actions D1).

It included two sub-actions:

- A1.0: Selection of best methods and technologies for food waste and quantification of possible benefits.
- A1.1 Food experts interviews.

A detailed description of the activities follows below.

A1.0: October 2018 to March 2019. A desk analysis of different types of sources (e.g. scientific articles, best practices, projects etc.) on the topic of food waste with a focus on the food service industry. Overall, 129 items were collected and analysed.

UNISG elaborated and shared a repository which all Beneficiaries contributed to populating. The repository was an EXCEL file with four sheets corresponding to the four areas of analysis:

1. EU-funded and national/regional projects;
2. Scientific literature;
3. Technologies;
4. Best practice/initiatives.

The repository’s structure and its contents are described in Annex “A1.0 A1.1 deliverable” - Chapter 1 Literature and scientific review (A1-0), paragraph 1.1, Work methodology.

Food waste drivers and solutions were identified in the analysis, as illustrated in Annex “A1.0 A1.1 deliverable - Chapter 1 Literature and scientific review (A1-0), paragraph 1.3. Repository data analysis.

A1.1: November 2018 - July 2019. Beneficiaries conducted 25 interviews to sector experts with the purpose of getting in-depth information on food waste’s main causes, to catalyse ideas and inspire actions that could provide:

- A proper framework for food waste prevention/reduction in the food service industry;
- The content for both training to deliver in Action B1 and involvement of sector professionals B2;
- Valuable inputs for monitoring actions (C1 and C2).

UNISG prepared a questionnaire based on a review of the main research papers (Papargyropoulou et al., 2014; Principato et al., 2018; Heikkilä et al, 2016; Silvennoinen et al, 2015; Pirani et al., 2016) on data collected by food chain experts. All Beneficiaries identified experts and carried local interviews in Italy, France, Spain, and Malta.

Interviewed experts included chefs, restaurant owners/managers, trainers for kitchen and dining-room staff, bloggers etc. (an analysis of interviewees is found in Annex “A1.0 A1.1

deliverable” - Chapter 2 Food Expert Interviews (A1-1), in paragraph 2.1 2.1. The panel of the interviewees: composition, role and provenience
Beneficiaries conducted the interviews according to the guidelines prepared by UNISG.

Outputs achieved with Action A1

The following table summarises Action 1 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
Food Waste Tools	03/2019	03/2019	100%	UNISG responsible All Beneficiaries provided inputs
Report of the best important projects related to food waste and a first draft of the method for food waste reduction and quantification of possible benefits that the project FOSTER will use	11/2018	Draft: 12/2018 Final: 01/2020	100%	UNISG responsible All Beneficiaries provided inputs
Food Experts interviews and first draft of guidelines	12/2018	01/2020	100%	UNISG responsible All Beneficiaries provided inputs
Milestone	Planned date	Actual date		
First food expert interview	12/2018	11/2018		

Deliverables Food Waste Tools and “First draft of Guidelines”: Both deliverables were included in the ToTs’ programme (see Annex “TRAINING OF THE TRAINERS-MARCH 08_03_2019_food_waste-tool_last”) that was held in Conegliano in March 2019 (see Action B1 for details on the training).

Deliverable “Report of the best food waste projects and a first draft of the method for food waste reduction and quantification of FOSTER’s possible benefits” was divided into two separate reports – the former serving as the knowledge base for trainings, the latter representing the methodological base to measure the project impact on food waste reduction and related economic benefits.

The two deliverables are:

Deliverable 1: “Rationale of the LIFE FOSTER strategy to prevent and reduce food waste in the restaurant sector” (Annex “A1.0 A1.1 deliverable”). It contains the outcomes from both A1-0 Literature and scientific research and A1-1 Food expert interviews. The report collates all three Action deliverables with specifically dedicated chapters – except for the method for quantification of possible benefits related to food waste reduction.

Deliverable 2: “Method for food waste quantification of possible benefits that the project LIFE FOSTER will use” (Annex "C1.C2.A1. Deliverable Quantification method”). It connects Action A1 to Actions C1 and C2 because it provides the basis for both food waste and socio-economic monitoring.

The document analyses various methods of food waste quantification available to describe a new method that responds to the characteristics of both VET providers educating restaurant professionals and restaurant companies. More details on this food waste quantification method and tool are in the description of Action C1.

Deviations and delays, major problems / drawbacks encountered

See Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_202300609”.

Action A2: Communication strategy

Beneficiary responsible: ENAIP NET

Foreseen start date: September 2018

Actual start date: October 2018

Foreseen end date: December 2018

Actual end date: February 2019

Action description

Action A2 sets the basis to all dissemination and communication activities that the project has been implementing. It consisted in developing the project communication strategy and drafting of the project communication plan.

After the Kick-Off Meeting on 1st-2nd October 2018, all Beneficiaries indicated their Communication Managers in the Project Communication Team.

In November 2018, ENAIP NET identified a communication agency, through a specific selection procedure, to elaborate a project Communication Strategy and Plan.

No other Beneficiary identified an external communicator for the implementation of this Action. The information needed for the Communication Strategy and Plan took place between ENAIP NET – as Beneficiary responsible for implementation of A2 – and all other Beneficiaries.

On the other hand, all Beneficiaries provided inputs for the preparation of this deliverable to ENAIP NET, directly.

The first draft Communication Plan was proposed to the Beneficiaries, in a project meeting held in Pollenzo, in December 2018. This document incorporated the information that all Beneficiaries had already provided about their target groups, their communication channels and tools as well as previous initiatives on food waste and food service. Beneficiaries started joint work in a specific session of the same meeting in Pollenzo and continued afterwards.

The CP was to set the basis for project advocacy and define the project outreach in terms of organisations as well as projects to contact in networking, stakeholders to involve, and audiences to reach. The Beneficiaries jointly worked on a map of priorities considering all above-mentioned elements.

Outputs achieved with Action A2

The following tables summarise Action A2 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
Communication Strategy	12/2018	02/2019	100%	ENAIP NET responsible All Beneficiaries provided inputs
Milestone	Planned date	Actual date		
First meeting of communication team	09/2018	12/2018		
Approval of communication strategy	12/2018	02/2019		

The final deliverable was “Communication Strategy and Dissemination Plan” (see Annex "A2_CommunicationPlan_FOSTER"), a document describing the Communication Plan – objectives, target groups, tools and channels, key messages, monitoring, and visual identity elements. The annexes to the Communication Plan (see attached zip folder “A2_Comm_plan_ANNEXES”) constitute a practical guidance to implement communication in LIFE FOSTER – with visual identity guidelines, databases on stakeholders/events/networking/media, GANTT, editorial plan, and map of priorities. An

extract of working documents and resources about the project visual identity shared with partners is included in the zip folder “A2_VISUAL IDENTITY”.

Deviations and delays, major problems / drawbacks encountered

See Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”.

Action B1: Training the trainers of professional centres and students' training

Beneficiary responsible: ENAIP NET

Foreseen start date: 12/2018 Actual start date: 12/2018

Foreseen end date: 08/2022 Actual end date: 08/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

Action B1 demonstrated that vocational training could play a crucial role in the development of an environmental problem awareness and positive behaviours to contrast it.

It included two sub-actions:

- B1.1: Training of trainers
- B1.2: Training of students

Managing and monitoring the progress of each sub-action was a great challenge: the high numbers of VET centres and people involved in different Countries with different restrictions during the pandemic made the adoption of a strict monitoring of the trainings necessary. From July 2020 on, every 3 months, ENAIP NET collected updated data through a dedicated monitoring file used both for the planning/forecast of activities and for informing about what had been done. The data periodically collected from each AB were then consolidated in a whole file, whose last version is attached to this report (Annex "LIFE_FOSTER_B1_training_recap_ALL").

B1.1: Training of trainers (ToT)

The objective of LIFE FOSTER ToT was to build trainers' common knowledge base, tools and experience.

The training of trainers' programme was discussed by project Beneficiaries in a meeting held in Pollenzo in December 2018 (see Annex "TRAINING OF THE TRAINERS-MARCH 08_03_2019_food_waste-tool_last (1)"). This training programme represented the backbone of all trainings held in the LIFE FOSTER project, since all subsequent courses (for both trainers and students) were based on the same Food Waste Tools and Guidelines.

The first ToT was in Conegliano (March 2019) and attended by **16 trainers**. The composition of the group combined technical trainers (cooks and head-waiters) and training designers who could contribute to preparing local ToT and student training.

For more details on the training, see Annex "B1.1_1st_TrainingTheTrainers_Report". A list of training participants is also annexed to the report (Annex "Signed Presence Sheets_ToT_20190311").

Afterwards, trainers attending the training in Conegliano developed learning contents to deliver ToT to their colleagues in their respective organisations and, later on, to students.

Overall, ToT reached **498** trainers in all 4 countries between March 2019 and July 2022.

In Italy: 116 trainers

In France: 182 trainers

In Spain: 162 trainers

In Malta: 38 trainers

The number is slightly higher than planned for this sub-action (487), because trainers' involvement was particularly challenging during COVID pandemic. To achieve these results additional activities were put in place. More details on this aspect are provided in Annex "LIFE_FOSTER- Deviations_delays_major problems".

ENAIP NET prepared a Report on this sub-action per each region (see Annexes "[LIFE_FOSTER_B1_training_of_trainers_ENAIP_Veneto_2019-2022_DEF](#)", "[LIFE_FOSTER_B1_training_of_trainers_ENAIP_Piemonte_2019-2021_DEF](#)" and "[LIFE_FOSTER_B1_training_of_trainers_ENAIP_Lombardia_2019-2022_DEF](#)").

In France, AFPA prepared a Report on this sub-action per each region (see Annex "[LIFE_FOSTER_B1_students_training_AFPA_2019-2022_DEF](#)").

In Spain, CECE prepared 2 Reports on this sub-action per each region (see Annexes "[LIFE_FOSTER_B1_training_of_trainers_CECE_2019-2021_DEF](#)" and "[LIFE_FOSTER_B1_training_of_trainers_CECE_2021-2022_DEF](#)").

In Malta, ITS prepared a Report on this sub-action (see Annex "[LIFE_FOSTER_B1_training_of_trainers_ITS_2019-2022_DEF](#)").

An assessment of trainers' increased awareness of food waste took place via administered questionnaires, which provided the following results:

1) The trainers considered the course very relevant to their professional development, 2) The training activities have directly impacted the teachers' actions, 3) The training has influenced and improved the level of collaboration between colleagues. The assessment results are available and described in the Annex "[LIFE_FOSTER_B1_Trainers_feedback_analysis_FINAL](#)".

B1.2: Training of students

The objective of student training was to raise their awareness of the food waste challenge and develop skills for food waste prevention.

As vocational education and training systems as well as qualifications differed from country to country, LIFE FOSTER student training programmes had to be elaborated according to the various reference systems, especially in view of their sustainability after project end. Therefore, for the preparation of the LIFE FOSTER student training, each Beneficiary considered those contents on food waste problem and prevention that could complement the training they already offered.

Finally, also the different students' age groups determined the need for varied programmes. While ENAIP NET (IT), CECE (ES) and ITS (MT) mainly involved under-21 y. o. students who must get a qualification to enter the labour market, AFPA (FR) involved employed adults who wanted to change their job and unemployed adults looking for a job. AFPA also involved vocational training centres for young apprentices (Centre de Formation d'Apprentis - CFA) to increase the number of students aware of food waste related issues. AFPA opened its Learning Management System (METIS) to 10 centres around the country.

To overcome the restrictions to in presence activities and maximise the impact of the knowledge and teaching materials developed during the project, at the end of 2021 an e-learning platform was developed in Italy, which made it possible to increase the numbers of trainees reached, both trainers and students (more details in the report "[LIFE_FOSTER_action_B1_e-learning_course_ENAIP_Veneto_2021-2022_DEF](#)").

Overall, **8,211** students were reached – a higher number than expected (7,520):

In Italy: 4,483

In France: 2,878

In Spain: 424

In Malta: 426

To measure their awareness, 4,272 questionnaires were administered in Italy (3,088), France (932), and Spain (252). Assessment results showed that the training increased students' awareness of food waste, as reported in Annex "[LIFE_FOSTER_B1_students_awareness_analysis_FINAL](#)".

More details on this sub-action are provided in the following reports:

Italy: Annexes "[LIFE_FOSTER_B1_students_training_ENAIP_Veneto_2019-2020_DEF](#)"

"[LIFE_FOSTER_B1_students_training_ENAIP_Veneto_2020-2021_DEF](#)"

"[LIFE_FOSTER_B1_students_training_ENAIP_Veneto_2021-2022_DEF](#)"

"[LIFE_FOSTER_B1_students_training_ENAIP_Lombardia_2019-2022_DEF](#)"

[“LIFE_FOSTER_B1_students_training_ENAIP_Piemonte_2019-2022_DEF”](#).

France: Annex [“LIFE_FOSTER_B1_students_training_AFPA_2019-2022_DEF ”](#)

Spain: Annexes [“LIFE_FOSTER_B1_students_training_CECE_2019-2021_DEF”](#)

[“LIFE_FOSTER_B1_students_training_CECE_2021-2022_DEF”](#)

Malta: Annex [“LIFE_FOSTER_B1_students_training_ITS_2019-2022_DEF”](#)

Additional note on the training in France: to the listed numbers and mentioned activities we must add the people trained via the French [MOOC](#) launched in February 2021. 3164 subscribers – inc. students, trainers, professionals, and citizens – completed the entire course. Of these, 570 participants also completed the online survey, which included, among others:

74 students

54 trainers

The MOOC was awarded second-best MOOC of the year in the Open Education Trophy 2022 by [EDFLEX](#).

Details are found in annexes [“LIFE_FOSTER_MOOC_AFPA_report_FINAL”](#) and [“LIFE_FOSTER_MOOC_evidence_in_Excel”](#).

Outputs achieved with Action B1

The following tables summarise Action B1 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
Trainers Training Program – B1.1.1	12/2018	12/2018	100%	UNISG
Teacher Training Materials – B1.1.1 and B.1.1.2	09/2019	05/2019 in Italy and France 06/2019 in Malta 07/2019 in Spain	100%	ENAIP NET AFP CECE ITS
Student course program – B1.2	09/2019	11/2019 in Italy 12/2019 in France 12/2020 in Spain 06/2021 in Malta	100%	ENAIP NET AFP CECE ITS
Materials for Students – B1.2	09/2019	11/2019 in Italy 12/2019 in France 12/2020 in Spain 06/2021 in Malta	100%	ENAIP NET AFP CECE ITS

Milestone	Planned date	Actual date
First lesson for trainers	01/2019	03/2019
First lesson for students	09/2019	11/2019

Deviations and delays, major problems / drawbacks encountered

See Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”

Action B2: Development of educational specific activities/workshops for cooks and restaurant owners

Beneficiary responsible: FIC

Foreseen start date: 09/2019 Actual start date: 04/2019

Foreseen end date: 08/2022 Actual end date: 08/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

This Action raised the awareness of food service companies and professionals on the food waste challenge to propose them to adopt LIFE FOSTER's prevention solutions.

The project featured the following sub-actions:

- Traineeships: ENAIP NET, AFPA, CECE, and ITS were responsible for this sub-action
- Participation in fairs: FIC, AFPA, CECE, and ITS were responsible for this sub-action; UNISG was responsible for an event to be held at TERRA MADRE (IT)
- Seminars for restaurant owners/cooks: FIC, AFPA and MBB were responsible for this sub-action
- Practical activities/workshops: AFPA and MBB were responsible for this sub-action

Following, we give an account of the implementation of each sub-action.

Traineeships

Traineeships (or internships) are part of vocational training pathway leading to professional qualification. They represent real work experience aimed at work-based learning and take place in a company. In LIFE FOSTER, traineeships represented the occasion to have closer contact with companies and propose them to become active in food waste prevention.

During the whole project, **2,966 traineeships** could take place (Annex "[LIFE_FOSTER_B2_internship_monitoring_ALL_FINAL](#)").

Final number of traineeships were:

In Italy: 1,065

In France: 1,563

In Spain: 200

In Malta: 138

The implementation of this activity followed an intermittent course, because pandemic measures considerably limited catering companies. Consequently, regular collection of evidence foreseen for traineeships could not always take place in a smooth and orderly manner. To measure students' effectiveness in preventing food waste in their work experience, Beneficiaries developed two Checklists of Observable Behaviours ([Annexes "LIFE_FOSTER_B2_Behaviours_Checklist_COOKS"](#) and ["LIFE_FOSTER_B2_Behaviours_Checklist_WAITERS"](#)).

For traineeships, LIFE FOSTER developed a "Full support pack for students" in the 4 project languages (see [Annexes "LIFE_FOSTER_student_support_pack_EN"](#) + ["LIFE_FOSTER_student_support_pack_ES"](#) + ["LIFE_FOSTER_student_support_pack_FR"](#) + ["LIFE_FOSTER_student_support_pack_IT"](#)), in the form of an interactive booklet, which is both accessible from different devices (PC, tablet and smartphone) and printable. The "Full support pack for students" gives hands-on information to prevent food waste at work. CECE (the AB responsible for this deliverable) sub-contracted the technical implementation of this product to a company. AB AFPA helped CECE to develop the contents, while AB UNISG ensured correctness from the scientific viewpoint.

Participation in fairs/ Seminars for restaurant owners/cooks/ Practical activities/workshops

CB ENAIP NET collected relevant information from Beneficiaries and prepared a complete list of the activities that the project implemented to increase food service professionals' awareness on food waste challenges. The file, which is complementary to the present

paragraph, provides information on the activities implemented by each Beneficiary involved in this sub action and the impact achieved (see Annex “LIFE_FOSTER_B2_fairs-seminars_recap_FINAL”). It also provides a reply to Issue n.6 raised in CINEA’s communication Ref. Ares(2022)5552833 of 03.08.2022 on the fourth monitoring visit.

The overall impact of this action was:

- 30,748 professionals reached against 10,000 planned. The number includes professionals reached with both activities organised in presence (e.g. in fairs) and online events (e.g. webinars), the latter being added to the original plan, to ensure the achievement of the target of professionals planned by the project, after COVID outbreak
- 415 students reached with events which combined the presence of professionals and students attending career courses in food service business
- 58,900 fair visitors (incl. 900 online)
- 3,164 citizens

Of the 30,748 professionals whom the project reached with communication on food waste prevention, 5,056 were made aware of the food waste challenge and the importance of adopting prevention solutions through the events and activities in which they participated.

During the events, Beneficiaries administered questionnaires to participants. The results of their awareness were achieved from 2,066 questionnaires collected during events, with approximately 620 questionnaires completed by food service professionals (see Annex “LIFE_FOSTER_awareness_questionnaire_analysis”).

“Food Waste Manifesto”

To engage more with sector companies and professionals, beneficiaries elaborated a “Manifesto for Food Waste Prevention” to declare one’s own commitments favouring a more sustainable food system. To be more inclusive, the Manifesto approaches 3 target groups – food service companies and professionals, VET providers and trainers, and private citizens. It was realised in the 4 project languages and published on the project website in October 2021, both as online pages and downloadable files (see Annexes “LIFE_FOSTER_B2_Manifesto_EN”, “LIFE_FOSTER_B2_Manifesto_ES”, “LIFE_FOSTER_B2_Manifesto_FR” and “LIFE_FOSTER_B2_Manifesto_IT”), with an online form to collect subscriptions. It was promoted during fairs, seminars, webinars and e-mailing and at the end of the project it collected 500 total Ambassadors for Food Waste Prevention (see Annex “LIFE_FOSTER_B2_Manifesto_Ambassadors_FINAL”). All subscribers’ contributions have been published on a specific page of the website: <https://www.lifefoster.eu/manifesto-ambassadors/>

Additional activities:

In July 2021, ENAIP NET and FIC presented the project at [Fritto Misto](#), a gastronomic festival in Ascoli Piceno (IT). The ENAIP NET’s student who won the Food Waste Hackathon 2021 (see Action D1) was invited to hold a cooking-show in a specific area of the [event](#) that was dedicated to sustainability and food waste reduction. A video [interview](#) of the student had 153 FaceBook views. An [article](#) on this event had 682 views.

Outputs achieved with Action B2

The following tables summarise Action B2 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
Full support pack for students, which will include a comprehensive handbook and copies of all the	09/2020	05/2021	100% publication online	CECE

activities used in the training (7000 paper copies)				
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Milestone	Planned date	Actual date
First students' stage started	09/2020	04/2020
First practical activities realized	11/2019	05/2020
First fair realized	11/2019	02/2021

Deviations and delays, major problems / drawbacks encountered

See Annex "LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609".

Action B3: Preparation of “guidelines” to be promoted at political level

Beneficiary responsible: ENAIP NET

Foreseen start date: 09/2020 Actual start date: 10/2018

Foreseen end date: 08/2022 Actual end date: 08/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

First activities to engage with policy makers started soon after project kick-off meeting (October 2018), since Beneficiaries activated their networks of relations including stakeholders and policy makers.

Overall, Beneficiaries reached 203 policy makers’ representatives.

Activities to enter dialogue with PMs started shortly after project start and continued until project end.

3 types of meetings with policy makers were implemented:

- Participation in events (e.g. expert workshops, expert platforms, working groups) upon invitation, where participants could provide inputs e.g. contributing to policy development processes, position papers etc. drawing from the LIFE FOSTER’s experience, or present the project and its results
- Organisation of events and meetings featuring policy makers’ participation to propose the LIFE FOSTER’s experience and solutions
- Events to obtain insights into the strategies or preliminary studies to policy development which could be considered for drafting the Guidelines

In Annex “ACTION B3_LIST OF MEETINGS AND EVENTS FOR PMs” insights into the events and meetings with Policy Makers are provided.

Additional **highlights** on the project achievements related to the present Action include:

- a) LIFE FOSTER is a best practice included in “[Analysis of good circular economy practices for the evaluation of their operation and performances and to encourage their replicability](#)” by [UNI](#) – the Italian organisation responsible for defining and issuing standard norms. The paper contains an analysis of circular economy best practices of Italian organizations. The good practices are divided into macro-areas of circular economy applications on which the performance and impacts of the selected organizations were analysed. The paper also discusses expected quantitative and qualitative improvements and replicability.
- b) The French Ministry of Agriculture selected AB AFPA to apply the LIFE FOSTER’s approach on food waste prevention in the framework of the “National pact for the fight against food waste” (Pacte national de lutte contre le gaspillage alimentaire). At project end, AFPA was waiting for receiving the formal confirmation, but the application had been approved.
- c) LIFE FOSTER is a best practice for Circular Economy included in the best practice databases of both [ICESP](#) and [Regione del Veneto](#) (regional government, IT).
- d) LIFE FOSTER is an inspiring practice mentioned in “Picking up the Pace: A Compendium of Inspiring Practices on VET and the Green Transition” by the Working Group on VET and the Green Transition of European Education Area Strategic Framework.
- e) CB ENAIP NET has been an [ICESP](#) member since December 2019 and LIFE FOSTER has been included in ICESP database of Circular Economy best practices.
- f) AB MBB participated in consultations leading to the development of the “Farm to Fork Strategy”
- g) AB UNISG provided some input about food waste to the working group on “Losses, agri-food surplus, household food waste and Mediterranean diet” whose result was a paper stating the vision and engagement of Italian agri-food system. Section 3 of this paper regards food waste prevention (see Annex “Agri-food position paper”).

Guidelines

Drawing from the experience acquired and the lessons learned all throughout the project implementation, the LIFE FOSTER beneficiaries delivered some Guidelines in the form of “Recommendations for policy makers on food waste prevention in the food service industry” (see Annex “Recommendations for policy makers”). To this end, CB ENAIP NET launched a discussion with all ABs to identify the key messages that underpin the achievements of the project and constitute valuable knowledge and reflections to be made available and passed on to policy makers and stakeholders, students, trainers, professionals – as well as the overall society.

This discussion culminated in the Management Board and Steering Committee meetings held on 3-4 May 2022 in Marseille. During the first meeting, all beneficiaries exchanged their views in some working group sessions, which were aimed at finalising a set of key messages grouped under 3 different categories:

- Food waste prevention measures in food service businesses
- Initial and continuous Vocational Education and Training for food service professionals
- Food waste measurement and quantification

On the following day, the outcomes of the working groups were presented to and approved by the project’s Steering Committee, which also agreed on the Guidelines document’s structure proposed by CB ENAIP NET. Subsequently, ENAIP NET further developed the key messages, starting from the lessons learnt and introducing the recommendations coherently, and integrated the contributions coming from all partners on their national legislations on food waste prevention (all annexed to the Guidelines), with a focus on the EU perspective and strategic policy documents as well. In a final step, the Guidelines were shared with a selection of the most relevant policy makers and stakeholders with whom the Beneficiaries established connections during the project implementation.

Bilateral Policy Dialogue Meetings

10 Policy Dialogue Meetings were held, including 4 in Italy, 2 in Spain, 1 in Malta, and 3 with EU Platform FLW, with the aim of raising policy makers’ awareness on the food waste challenge and the solutions proposed by LIFE FOSTER.

Outputs achieved with Action B3

The following tables summarise Action B3 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
10 Bilateral Policy Dialogue Meetings to be held	06/2022	07/2022	100%	ENAIP NET and all ABs
Guidelines at EU Platform on Food Losses and Food Waste	03/2022	08/2022	100%	ENAIP NET and all ABs

Milestone	Planned date	Actual date
First meeting of French working group	09/2020	01/2022
First meeting of Italian working group	09/2020	01/2022

First meeting of Spanish working group	09/2020	01/2022
First meeting of Maltese working group	09/2020	01/2022
Presentation of Guidelines at EU Platform on Food Losses and Food Waste	09/2021	08/2022

Deviations and delays, major problems / drawbacks encountered

See Annex [“LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”](#).

Action C1: Set of indicators for project monitoring

Beneficiary responsible: UNISG

Foreseen start date: 10/2018 Actual start date: 07/2019

Foreseen end date: 08/2022 Actual end date: 08/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

This Action concentrated on the impact of project actions implementing food waste reduction solutions, to provide reliable quantitative information on the environmental dimension.

The impact on food waste awareness was considered as part of project Actions B and D, to measure the impact of trainings and communication (see also comments to relevant actions).

This deviation completed the monitoring of those actions and results an facilitated the collection of data.

The action featured:

- An internal monitoring involving overall 18 VET centres in collecting data on food waste produced in their laboratories for work simulation;
- An external monitoring involving 5 restaurants in food waste data collection.

INTERNAL MONITORING

The issue of monitoring assumed a strategic importance for the project. Measurement represents an integral part of the Food Waste Tool – i.e. the LIFE FOSTER training model (see Annexes "B1.1_1st_TrainingTheTrainers_Report", and "A1.0 A1.1 deliverable").

Action A1 highlighted that the project needed a specific tool for data collection that had to be functional to vocational training centres and could also be tested by a limited number of restaurants which could provide reliable and comparable data. UNISG defined a methodology for food waste data collection to monitor the environmental and economic starting point (baseline) and trend of evolution. The result was an input-output methodology, called Food Waste Flow Balance (FWFB – see Annex "C1.C2.A1. Deliverable Quantification method"). Initially, FWFB was an EXCEL matrix, associated with a calculation tool, where all the operations of data entry and their processing were carried out in order to calculate the food flows that contribute to the creation of food waste. It contained 3 data entry sheets (one per each relevant phase of the restaurant process). By weighing of the incoming and outgoing material, quantity of water and energy used, FWFB tracks the stream of matter (plus energy and water) and calculates the amount of waste generated for the main food categories across the temporal phase of storage, preparation, and consumption. The tool combines the quantitative scope of environmental monitoring detected through the amount of waste produced with the economic monitoring referred to the economic value of the waste produced, and which was originally part of action C2. Starting from September 2019 the data entry tool was illustrated to the trainers who were to collect relevant information in their laboratories with students.

Three monitoring campaigns were held all along the project timespan, involving ENAIP NET, AFPA, CECE and ITS in data collection through the Food Waste Flow Balance monitoring tool, that is, through the application of a suitable monitoring system, fit for the specific VET context:


“Ex-ante” monitoring to set the baseline between November 2019 and April 2020

“In itinere” monitoring to assess first improvements through the application of food waste prevention solutions between November 2020 and May 2021

“Ex post” monitoring to assess further progress in food waste reduction between October 2021 and May 2022.

The following figure 1 provides an overview of the 3 campaigns:

RATIONAL OF THE ANALYSIS OF THE FINAL MONITORING REPORT



EX-ANTE	IN ITINERE	EX-POST
MACRO ANALYSIS All menus from 15 VET centers	MACRO ANALYSIS All menu from 13 VET centers	MACRO ANALYSIS All menu from 13 VET centers
MESO ANALYSIS single menu/VET center 45 input-output matrix	MESO ANALYSIS single menu/VET center 54 menu	MESO ANALYSIS single menu/VET center 33 menu
MICRO ANALYSIS single recipe/VET center 165 sheets in the input-output matrix for 1000 ingredients	MICRO ANALYSIS 227 Single recipe/VET center for 1500 ingredients	MICRO ANALYSIS 128 Single recipe/VET center for 884 ingredients

Figure 1. Source Annex "C1-C2 Final report.docx-2"

The results of "Ex ante" monitoring campaign (baseline) were reported in "Internal report of the ZERO situation concerning environmental issues" (see Annex "Deliverable_ex-ante_C1_C2_report"). The analysis of the data at an aggregate level showed that VET centres wasted 17.4% of all the inputs they used for cooking and 19.2% of all the input they purchased. These rates were higher than what the scientific literature showed for the restaurant sector with a rate of 12% of food cost attributable to food waste (REFED, 2018).

Food waste was mainly generated in the preparatory and cooking phases (72%). The remaining part of the waste (28%) was in consumption. The largest share of waste concerned the "vegetables, starch roots and salad" category followed by the "fruit" category. Moreover, the issue of overproduction was a constant in the training centres, probably because the laboratories needed to cook a certain quantity that was functional to the demonstration and learning of practical activities; however, there was room to intervene with more upstream planning.

Together with the baseline data analysis and the definition of their return in graphic form through the construction of an input-output matrix, AB UNISG started the design and implementation of the FWFB data entry system and graphic display of the results as a web application, with the assistance of an expert company.

The work took the following steps:

- Constructing the data warehouse and data mart for food waste flow traceability in the process of elaborating the menu;
- Defining the user access structure that was to be doubled for training and catering centres to cover the economic (cost) and environmental (quantitative) information of the relationship between production inputs (food, water and energy) and output (food waste).
- Creating the dashboard section.

The release and a first test of the web application was in September 2020. The application was completed with a tutorial (see Annex "Manual FOODwasteFLOWbalance_May2021_DEF"). During the "In-itinere" monitoring campaign the app usability was improved in response to feedback collected from trainers.

In-itinere monitoring aggregated data showed that VET centres still wasted 12% of all inputs used for cooking – equal to a reduction of 5.4% compared to the baseline – and 16.5% of all purchased input – equal to a reduction of 2.7% compared to the baseline.

The results comparison between "Ex-ante" and "In-itinere" monitoring showed a reduction of waste not only at aggregate data level, but also at level of individual training centre. Due to some discrepancies between the baseline and first monitoring campaigns, as some VET centres were not able to upload complete data to the app, the comparative analysis was carried out on 10 centres. The reduction in percentage terms between the two periods calculated on the average waste values (OUTPUT/INPUT ratio) of the menus prepared for the monitoring (i.e.

saved food quantity indicator) was 5.18% for those VET centres for which it was possible to compare the two periods. The result was in the value range expected by the project (5.1 and 14%).

Regarding the economic component the reduction in percentage terms between the two periods calculated on the average waste values (OUTPUT/INPUT ratio) of the menus (i.e. saved food money indicator) was 3.95% for the VET centres for which a comparison was possible.

Monitoring results cross comparison and reconstruction of the volumes and economic values related to the quantity of food processed during a year by each training centre also allowed estimating the amounts of saved food and its economic value. Although VET centres differed in dimension and types of activities (ranging from laboratories held only for training purposes to laboratories also providing meals to external customers), the estimated reduction was 444.513 kg/vocational training centre. In economic terms, this corresponded to an average saving of 3,919.24 EUR/VET centre. This result was slightly below what the project expected (450kg/VET centre) (see Annex “Deliverable_in-itinere_C1_C2_report”).

“Ex-post” monitoring was the final campaign to assess the improvement achieved and measure the change between the initial (baseline) and final situation. Aggregated data showed that VET centres wasted 7.3% of all inputs used for cooking – equal to a reduction of 4.7 % compared to in itinere monitoring and of 10.1 compared to the baseline – and 9.7% of all purchased input – equal to a reduction of 6.3% compared to in itinere and 9.3% compared to the baseline.

This decreasing trend was common to the different training centres.

The comparison between in-itinere and ex-post monitoring was carried out on the 12 VET centres providing complete data. It revealed a reduction in percentage terms between the 2 periods calculated on the average waste values (OUTPUT/INPUT ratio) of the menus prepared for the monitoring (i.e. saved food quantity indicator) of 7.71%. The result was in the established value range (5.1-14%).

The economic component of the monitoring revealed a reduction in percentage terms between the two periods calculated on the average waste values (OUTPUT/INPUT ratio) of the menus realized for the monitoring (i.e. saved food money indicator) of 11%.

The final comparison between the 3 monitoring campaigns provided the data summarised in the following table:

	Ex ante 35 menus	In itinere 40 menus	Ex post 33 menus	Percentage decrease of the average value from ex ante to ex post
Average value Waste Amount Ratio for Menu OUTPUT/INPUT	17.4%	12%	7.3%	10.1%
Average value Waste Amount Ratio for Menu OUTPUT/INPUT	19%	16%	9,7	9.3%

Table 1 Trend of average Waste Amount Ratio and Waste amount cost during the 3 monitoring

Regarding the FW reduction percentage, the average reduction value from ex ante to ex post was in line with the foreseen value indicated in the KPI description – 10.1% vs. 10%. The economic value of food waste also decreased from ex ante to ex post by 9.3%.

Cross comparison of the results and reconstruction of the volumes and economic values related to the quantity of food processed during a year by each training centre also allowed estimating the amounts of saved food and its economic value, which amounted to a reduction of 535.08 Kg/VET centre of food waste whose value was 4,829.29 EUR/VET centre – a result exceeding

the annual objectives set by the project (450kg/VET centre). Full details on the Ex-post monitoring are available in Annex “Deliverable ex-post_C1_C2__report”.

A detailed comparison of the results between Ex-ante and Ex-post situation is in Annex “C1-C2 Final report.docx-2”.

External monitoring

The monitoring method developed and tested by the vocational training centres was also tested externally in 4 food service businesses and 2 thematic events organised during the project. The application of the monitoring tool to other contexts responded to the purpose of understanding the versatility of the tool and the feasibility of its use in a market context.

Food service businesses where FWFB was tested included:

- Tavole Accademiche in Pollenzo, Bra, Italy (the canteen of the University of Gastronomic Sciences);
- restaurant One80 in Mellieha, Malta;
- restaurant Antica Cascina San Zago in Salò Italy
- restaurant Locanda La Bastia in Valeggio sul Mincio, Italy.

Although AB UNISG provided some assistance in the use of the application, restaurants were not able to provide complete data from the 2 data collections that were requested. Reliable results were therefore not available for monitoring. External monitoring hence focused on testing the web application’s feasibility of use and ability to adapt to a different context than that of a vocational training centre. Feedback is reported in Annex “Deliverable ex-post_C1_C2__report”.

The 2 thematic events where FWFB was applied included:

- The Food Waste Hackathon organized in 2021 by FIC;
- The Circular Recipes-Zero Waste Brainstorming Challenge organized by UNISG in 2022.

Both cases were competitions where FW reduction was crucial for the final score. The use of the application was limited to the environmental component, without any assessment of the economic dimension. The quantification was evaluated in the absolute sense and not as a change. In both contests, the tool proved to be suitable for detecting food waste. The average percentage of waste is to be considered of a good level, limited to 6.2% in the FIC Hackathon and 5.7% in the Pollenzo competition.

Outputs achieved with Action C1

The following tables summarise Action C1 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
Internal report of the ZERO situation concerning environmental issues (highlight of the situation at the beginning of the FOSTER project) (ex ante)	03/2019	11/2020	100%	UNISG with data collected by ENAIP NET, AFPA, CECE and ITS
Progress Report	12/2019	06/2021	100%	UNISG with data collected by ENAIP NET, AFPA, CECE and ITS
Midterm Report	03/2022	06/2022	100%	UNISG with data collected by ENAIP NET,

				AFPA, CECE and ITS
Final Report	08/2022	08/2022	100%	UNISG with data collected by ENAIP NET, AFPA, CECE and ITS

Milestone	Planned date	Actual date
End of the first environmental collection data	12/2019	05/2021
End of the second environmental collection data	08/2022	08/2022

Deviations and delays, major problems / drawbacks encountered

See Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”.

Action C2: Socio-economic monitoring

Beneficiary responsible: UNISG

Foreseen start date: 01/2019 Actual start date: 07/2019

Foreseen end date: 12/2021 Actual end date: 08/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

This Action was to measure the economic value of wasted food in order to highlight the economic and social benefits related to food waste prevention.

Monitoring of the economic benefits

[Food Waste Flow Balance](#), the food waste monitoring system elaborated by the project, incorporated economic monitoring, to measure the economic value of wasted food and quantify the economic benefits (saving in Euro) related to actions of food waste prevention and management.

For economic monitoring please refer to the description of Action C1 above.

Monitoring of the social benefits

Assessment of the social impact generated by project actions to reduce food waste was a challenge, considering the immaterial nature of the social dimension, which becomes even more evident when compared to the quantitative side of the economic and environmental dimensions. Unfortunately, with no established framework against which to evaluate or assess the social dimension, current social benefits of food waste prevention and management are often quoted, but they lack evidence, consistency, and comparability.

Furthermore, the lack of valid, comparable, and quantifiable social indicators reduced the importance and value of the social dimension. Although vocational training providers and restaurant operators could identify its value and relevance, they could hardly describe it accurately. Particularly difficult for them was to describe direct and internal benefits. This emerged from the interviews carried out in activity A1-1 as reported in deliverable “Rationale of the LIFE FOSTER strategy to prevent and reduce food waste in the restaurant sector/Section 2.3.1-An asymmetry in the relevance of the dimension of the triple bottom line related to the challenge of the food waste (p.45-46).

To assess the impact and benefits of the LIFE FOSTER project on the social dimension, a social life cycle assessment (S-LCA) was performed, a method that can be used to assess the social and sociological aspects of products or measures, their actual and potential positive as well as negative impacts along the life cycle (Unep Setac Life Cycle Initiative, 2009).

The following categories of analysis were selected for their relevance/strategic importance for training and communication undertaken by the project, as well as based on what emerged from the preliminary activities and their results:

- Creation of relationships at a territorial level and in particular with suppliers and local communities
- Marketing strategy and corporate reputation in the relationship with customers
- Internal organization processes and awareness
- Level of recognition / demand by the labour market of food waste prevention / minimization skills.

This featured two targets with two specific activities:

- a qualitative in-depth interview of managers of the vocational training centres involved in the activities of the FOSTER project (carried out by UNISG)
- a closed-ended questionnaire to collect quantitative information about the above categories of analysis for food service companies and professionals (carried out by ENAIP-NET through a specifically selected external consultant)

The qualitative part of Action C2 featured 13 interviews to responsible persons of vocational training centres and restaurants involved by the project carried out in May-June 2021.

The interviewees were identified with the support of ENAIP-NET for Italy, AFPA for France, CECE for Spain and ITS for Malta.

The interview included a series of open questions starting from the macro-themes listed above and a rating system to assess the impact of the project through a comparison before and during/after the project implementation.

The social impact assessment showed an increase in all categories. To underline that:

- The project helped interviewees realise how actions to reduce food waste had also a reputational value and could be part of the communication/promotion of their business (VET centre or restaurant).
- Interviewees were not aware of the value and quantity of waste produced during the activities of the training centre/ restaurant, at the beginning of the project.
- The evaluation of the recognition of food waste prevention competences from a professional point of view was completely absent.

Below the results of the ratings – baseline vs. ex-post

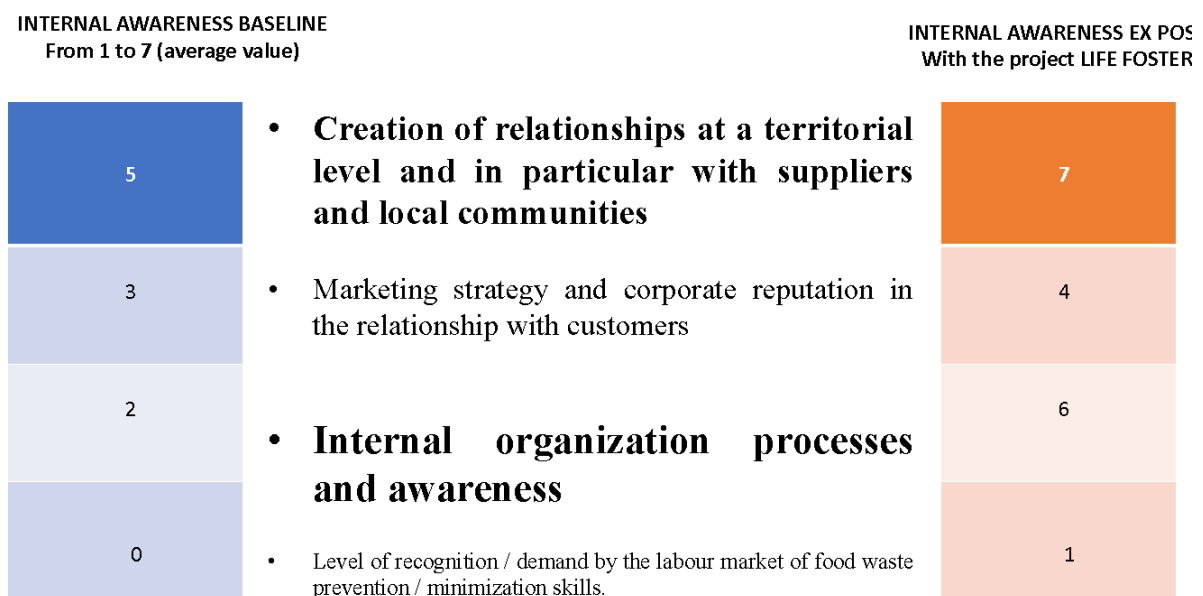


Fig. 1 Ratings of the social impact assessment categories for baseline and ex post analysis

Conclusions from the qualitative interviews include:

- Food waste management and reduction had a positive social impact in the context of the vocational training centres/restaurant;
- Internally, food waste prevention fallout was transversal to the individual dimension of the trainer and the student. It also had a more collective dimension, identified by the class or by the staff of the vocational training centre, as well as at the entire training centre.
- Externally, food waste prevention can be a good opportunity for strengthening communication with all local stakeholders and support the creation of new alliances as well as increase the reputation.

The quantitative survey was to involve restaurants that hosted the students' internships after the training in food waste prevention. A first group of restaurants hosting traineeships would be joined with a second randomly chosen group of the same size. The two groups would have been given a questionnaire (see Annex "LIFE_FOSTER_socio-

economic_monitoring_concept”), to test the hypothesis that there was a greater sensitivity to food waste in the restaurants that welcomed the students.

A questionnaire which considered the same categories of the qualitative interviews was prepared to test the assumption that restaurants hosting students’ internships would have a greater sensitivity to food waste.

The persistence of measures to contain the pandemic undermined the possibility of reaching many companies, because a lower number of internships could be activated, than planned.

As the survey could no longer rely only on "food waste management ambassadors" (i.e. LIFE FOSTER course students) to involve companies, to increase the number of responders, a second target group for the survey was added, namely food service professionals who participated in Action B2 activities (fairs, seminars, workshops, and practical activities). The questionnaire was uploaded to the website and disseminated on occasion of both online and in presence events. Unfortunately, the response was not as high as expected. As this survey was deemed to provide useful information also for the project aftermath, CB ENAIP NET decided to add a new analysis based on the restaurant website content analysis. This technique allowed to collecting data without asking restaurant staff to fill in a questionnaire. ENAIP NET found a subcontractor with the necessary experience to carry out this survey.

Below an account of the main findings is provided:

- Of the 574 professionals participating in the survey, 38% collaborated with local associations. Interesting to note that almost three out of four food service professionals who did not collaborate with local associations to redistribute food surplus declared themselves interested in doing so.
- Industry professionals who participated in the events were already sensitive to the issue of food waste and were activating collaborations with local associations.
- Industry professionals reached through the students' internships, declared a lower rate of participation in partnerships with local associations but a higher percentage of willingness to activating them in the future than the average. This result could be explained with the work done by the students during their internships (i.e. the effects of their “ambassador” role).
- 61.6% of respondents said that they agreed that food waste reduction techniques should be mandatory in every training course for restaurant staff
- 51.2% declared that in the future, they would prefer hiring workers with skills in food waste reduction, 50.7% (totally) agreed with the idea that a certification system of workers' skills on the ability to manage food waste was needed, and 46.5% (totally) agreed that workers should include food waste experiences in their CV.
- 29.6% of the companies ever advertised on the activities they carried out for food waste prevention or for the management of food surpluses with local associations. 49.5% had not thought about it but would do so.

The survey also provided interesting insights into restaurant organisations which revealed that much work needs to be done to improve food waste prevention in this sector:

- 35.2% of food service professionals conducted awareness campaigns and communication on food waste for their employees. In 18.5%, the workers took part in courses. 16.9% of the restaurants adopted continuous examples.
- Only 4.9% of restaurants had codified procedures concerning the reduction of food waste.
- 21.3% of respondents said that they had no internal policies to reduce food waste, while 16% had internal organizational procedures for customer relationships.

Also, the analysis of 2,598 website content provided some interesting results summed up here below:

- 92.2% included at least one of the selected words to describe the topic of "sustainability", with no significant differences among the countries.

- The percentage of websites mentioning at least one selected words referred to the food waste topic dropped to 27%, with Spanish restaurant websites reporting less frequently the topic of food waste (22%). In Italy and France, words selected for food waste which appeared more frequently were related to the shortening of supply chains and product seasonality, while in Spain these words were closer to the food waste concept. In Malta, the vocabulary used on restaurant websites appeared balanced between words referring to seasonality and proximity to suppliers and those more related to food waste.
- Words referred to the use of food waste monitoring applications, cooperation with organizations or initiatives that deal with food waste, and production certifications were hardly found in restaurant websites. In Italy, France, and Spain few cases mentioned Protected Geographical Indication products and cooperation with food surplus distribution initiatives, while no Maltese website contained the selected words.
- Words referred to the social impact were also selected. Of these, the most frequently found terms referred to solidarity, qualified staff, staff training, and local markets.

More details on the quantitative survey are available in Annex “Socio-economic monitoring_Final Report”.

Outputs achieved with Action C2

The following tables summarise Action C2 deliverables and milestones:

Deliverable	Planned date	Actual date	Progress status	Done by
Report of the situation “ZERO” (Current situation) for socio economic aspects	03/2019	12/2020	100%	UNISG with data collected by ENAIP NET, AFPA, CECE and ITS
First socio-economic monitoring Report	12/2019	06/2021	100%	UNISG with data collected by ENAIP NET, AFPA, CECE and ITS
Second socio-economic monitoring report	08/2020	06/2022	100%	UNISG with data collected by ENAIP NET, AFPA, CECE and ITS
Analysis and final socio-economic report	08/2022	08/2022	100%	UNISG with data collected by ENAIP NET, AFPA, CECE and ITS

Milestone	Planned date	Actual date
End of the first socio-economic collection data	12/2019	03/2022
End of the second socio-economic collection data	12/2021	08/2022

Deviations and delays, major problems / drawbacks encountered

See Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”.

Action D1: Dissemination of results to other vocational training centres and replicability

Beneficiary responsible: ENAIP NET

Foreseen start date: 12/2019

Actual start date: 11/2019

Foreseen end date: 12/2021

Actual end date: 08/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

Sub-Action D.1.1: Didactical materials and videos online

The didactical materials of the training of the trainers were uploaded on the website (section <https://www.lifefoster.eu/didactical-materials/>). The training units for students are not on the website, as they are different from Country to Country (see Action B1 for explanations). The guidelines and first materials elaborated by UNISG were uploaded on the website in February 2020.

After the Food Waste Hackathon, participants' recipes were collected into a booklet. The original 'cookbook' will be uploaded on the project website and is attached to this report (see Annex "FWH_Zero_Waste_Recipes_FIC_April_2021").

Video tutorials: To shoot their video-tutorials, CB ENAIP NET, and ABs CECE and ITS selected video-makers with specific tender procedures. AB AFPA has not selected its video-maker yet. ENAIP NET prepared guidelines to shoot videos in July 2020 (see Annex 'LIFE_FOSTER_D1_VIDEO_GUIDELINES_v7').

Video making started at the end of 2020 and produced 16 official project videos instead of 13, that are available on the project YouTube channel and in the project website:

- LIFE FOSTER OFFICIAL PROMOTIONAL VIDEO (by ENAIP NET), released in April 2021 and done in 2 versions (long and short):
 - <https://www.youtube.com/watch?v=UIHfGfEpRIg&t=191s> (long)
 - <https://www.youtube.com/watch?v=pnlgbh7z0WY&t=2s> (short)
- VIDEO ON LIFE FOSTER MODEL (by CECE), released in February 2022 and splitted in 2 videos:
 - <https://www.youtube.com/watch?v=K9OMJlcvlIE> (context)
 - <https://www.youtube.com/watch?v=Rv8BpCbTOTY&t=300s> (training model)
- VIDEO FOR PROFESSIONALS AND RESTAURANTS (by AFPA), released in May 2022:
 - <https://www.youtube.com/watch?v=vNDrvB5hgHw&t=2s>
- VIDEO ABOUT LIFE FOSTER FOOD WASTE MANIFESTO (by ITS), released in August 2022:
 - o <https://www.youtube.com/watch?v=5YQdni4SMn4&t=2s>
- VIDEO WITH TIPS TARGETING CITIZENS (by ITS), released in August 2022:
 - o <https://www.youtube.com/watch?v=qRWUbgHgjvfc&t=3s>
- 9 LIFE FOSTER VIDEO TUTORIALS ON RECIPES AND ANTI-WASTE TIPS (2 by ENAIP NET, 2 by CECE, 2 by AFPA, 3 by ITS), regularly released from May 2021 until the end of the project:
 - <https://www.youtube.com/watch?v=0xBWogBGP1Q&t=16s>
 - <https://www.youtube.com/watch?v=H8KX41wDyY0>
 - <https://www.youtube.com/watch?v=iREoHJZTwLM&t=13s>
 - <https://www.youtube.com/watch?v=EXr8Ix88Q4g>
 - <https://www.youtube.com/watch?v=2cSlAK9THkk>
 - <https://www.youtube.com/watch?v=cElFbBLv-48>
 - <https://www.youtube.com/watch?v=nnZP1tvuuLA>
 - <https://www.youtube.com/watch?v=EYSqGiyZCC8>
 - <https://www.youtube.com/watch?v=CTUkpbq5YaM>

Additional videos were produced for dissemination purposes by Beneficiaries and are available on LIFE FOSTER [YouTube channel](#).

Sub-Action D1.2: Newsletters

As not all Beneficiaries have a newsletter, the project used various ways to convey information: news for teachers, institutional websites, social media and targeted e-mails. The newsletter reached European VET professionals, decision-makers, experts, and internal staff of the Beneficiaries, restaurants owners and chefs. It was issued in 4 languages (EN – IT – FR – ES) and regularly uploaded on the project’s website in the specific section NEWS → NEWSLETTER: <https://www.lifefoster.eu/newsletter-foster/>. The umbrella associations for vocational education and training - EVTA, EVBB and EFVET - were also involved in the circulation of newsletter. AB ITS, as responsible of the website management, collected contents from all Beneficiaries and prepared the releases in collaboration with CB ENAIP NET. The calendar of newsletter releases, originally included in the editorial plan attached to the Communication Plan, was updated separately during the project lifespan (cfr. Annex “[LIFE_FOSTER_newsletters_new_schedule_16-09-2021](#)”).

All the foreseen 8 newsletters have been published and circulated by August 2022. A report template was delivered to all partners after each issue, to collect numbers and evidence of each issue. The final impact, calculated in aggregated data per channel, is the following:

1st newsletter sent in December 2019

Channels: beneficiaries’ channels + umbrella associations (EVTA – EVBB)

IMPACT: **49,986** contacts reached through emails, social media and news on website.

2nd newsletter sent in July 2020

Channels: beneficiaries’ channels + umbrella associations (EVTA – EFVET)

IMPACT: **65,544** contacts reached through emails, social media and news on website.

3rd newsletter sent in October 2020

Channels: beneficiaries’ channels + umbrella associations (EVTA – EVBB)

IMPACT: **158,743** contacts reached through emails, social media and news on website

4th newsletter sent in January 2021

Channels: beneficiaries’ channels + umbrella associations (EVTA – EFVET)

IMPACT: **191,124** contacts reached through emails, social media and news on website.

5th newsletter sent in July 2021

Channels: beneficiaries’ channels + umbrella associations (EFVET)

IMPACT: **127,462** contacts reached through emails, social media and news on website.

6th newsletter sent in December 2021

Channels: beneficiaries’ channels

IMPACT: **171,690** contacts reached through emails, social media and news on website.

7th newsletter sent in March 2022

Channels: beneficiaries’ channels

IMPACT: **171,908** contacts reached through emails, social media and news on website.

8th newsletter sent in August 2022

Channels: beneficiaries’ channels + umbrella associations (EVTA – EFVET)

IMPACT: **124,692** contacts reached through emails, social media and news on website.

The analysis of the newsletters impact, by channel and by partner at each issue, is attached to this report (Annex “[LIFE_FOSTER_D1_newsletters_impact_recap_FINAL](#)”).

Sub-Action D1.3: International meetings and technical workshops

In November 2019, CB ENAIP NET presented the format and materials for the 4 international meetings and Technical Workshops.

The first 2 technical workshops were held by ENAIP NET in November 2019 at JOB&ORIENTA fair in Verona. These TWs were also part of the VET WEEK 2019 events.

- 28.11.2019: 7 participants (Italian secondary school teachers)

- 29.11.2019: 15 participants (Italian secondary school teachers)

The deliverable ‘Materials of first technical workshop’ is annexed to this report (Annex “[LIFE_FOSTER_D1_first_technical_workshop_materials](#)” + zip folder with annexes “[D1_first_technical_worksop_ANNEXES](#)”). Concurrently, ENAIP NET had a stand in the fair and promoted LIFE FOSTER to visitors also through 2 live cooking-shows.

In January 2020, the third Technical Workshop for project’s replicability was organised during the Joint Staff Training of an ERASMUS+ project (ETTE – European Trainers’ Training for Excellence), with 38 participants including VET teachers, trainers and tutors from European vocational training centres (the signatures of attendees are in the Annex “[LIFE_FOSTER_D1_TW_jst_ETTE_January_2020_signatures](#)”).

Beside TW, a kitchen laboratory on food waste provided hands-on experience on how to deal with this issue effectively. This cooperation between the 2 projects was the result of a meeting (March 2019) with EVTA, an umbrella organisation for vocational training, which supports the transfer of LIFE FOSTER strategy and model to other vocational training entities.

During the pandemic and the related restrictions, ENAIP NET held a workshop for schools during Job&Orienta 2020 digital edition/VET week, titled “I DON’T waste: cooking laboratory with LIFE FOSTER project”: in November 2020, 2 ENAIP NET’s trainers provided a live streaming workshop about how to prevent food waste (in Italian language), both on theoretical and practical side. This webinar was mainly targeted to VET trainers and students. The event was also registered in the European Week for Waste Reduction 2020. A complete report of the activity with its evidence is in Annex “[LIFE_FOSTER_D1_TW_Job-Orienta_ENAIPNET_26-11-2020_report_DEF](#)”.

2 more technical workshops were organized in 2022, during 2 international meetings, where LIFE FOSTER results were presented, that took place in France:

- 04.05.2022: EVTA’s conference in Marseille – IMPACT: 21 participants - The report of the activity, including evidence and impact data, is in [Annex” LIFE_FOSTER_D1_workshop_EVTA_Conference_Marseille_04-05_2022”](#)

- 05.05.2022: The Thematic Teams Seminar organised by EFVET in Lyon –IMPACT: 12 participants - The report of the activity, including evidence and impact data, is in [Annex “LIFE_FOSTER_D1_workshop_Lyon-EFVET_05-05-2022_DEF”](#)

On both occasions, LIFE FOSTER team members reached new European VET institutions for replicability purposes (action D1.6).

Locally, an additional TW with a social dinner was realized in Italy (by ENAIP NET) on 20th July – IMPACT: 40 participants (VET providers, policy makers and associations). The report of the activity, including evidence and impact data, is in Annex “[LIFE_FOSTER_D1_workshop_ENAIP_Lombardia_20-07-2022](#)”.

Sub-Action D1.4: Food Waste Hackathon

The Food Waste Hackathon (AB responsible: FIC) took place on 13th April 2021 as a digital event. It was broadcasted from 9 am to 3.30 pm as a real marathon and had considerable success in terms of audience: more than 10,500 people followed the international competition through the project social channels and the digital platform of the Italian Cuisine Championships. ENAIP NET and AFPA selected 15 competitors aged between 14 and 23 and from among the best students of attending LIFE FOSTER courses in Italy and France. Participants challenged each other to create a recipe that, in addition to being well cooked and well served, used the largest possible edible quantity of food. The competition, won by Gabriel Diaconovici Rares

from ENAIP NET's training centre in Alessandria, was evaluated by an international jury and used a simplified version of Food Waste Flow Balance to quantify produced food waste.

The complete recording of the event is available at the following links:

<https://www.youtube.com/watch?v=46KFdYq2EIU&t=1s>

<https://www.youtube.com/watch?v=CjtEjkwMDuo&t=2619s>

<https://www.youtube.com/watch?v=tgr22QDHxPM>

The report of the activity, including evidence and impact data, is in [Annex "Food_Waste_Hackathon_13-04-2021_report_DEF"](#).

Sub-Action D.1.5: Workshop for EU students

From January 2022 UNISG started the organisation of 'Circular Recipes – A zero waste brainstorming challenge', the first international culinary competition based on circular economy that took place in the Pollenzo Food Lab on 24 and 25 May 2022.

The competition was open to all students from VET centres that have joined the LIFE FOSTER project in Italy, France, Spain and Malta and have received a training on food waste prevention.

The focus of the challenge was on demonstrating the problem-solving skills of the participating students in designing recipes that are zero-waste but with a correct nutritional intake.

Each participant was required to present the recipe of a main dish for the pre-selection phase according to the Healthy Eating Plate from the nutrition expert for School of Public Health from Harvard. After a first preselection based on an online brainstorming, 10 circular recipes have been selected and the proposing students have been invited (1 from France, 1 from Malta, 8 from the Italian regions of Veneto, Lombardy and Piedmont) to make their recipes live at the UNISG Food Lab in Pollenzo by using a maximum of 6 ingredients within an hour of realization.

During the two-day zero-waste event, the 10 participants also had the opportunity to take part in a specific training through workshops on the theme of circular cooking provided by UNISG lecturers, with one theoretical and one practical session at the Food Lab of the University.

The preparations were evaluated by a jury composed of Johnny Drain, Carol Povigna e Franco Fassio according to some sustainable criteria and three recipes were chosen as the best circular dishes.

A complete report of the activity with its evidence is in [Annex "LIFE_FOSTER_D1_Workshop_EU_students-Brainstorming_competition_may_2022"](#)

Sub-Action D.1.6: Replicability Plan

For the preparation of this Sub-action, a first meeting was held with EVTA in March 2019 to see how the umbrella association could contribute to its implementation.

The Replicability Plan was ready in July 2022 instead of March 2022 (see "LIFE FOSTER Deviations_delays_major problems" for an explanation).

For the preparation of the Transferability and Replicability Plan, ENAIP NET sent to all Beneficiaries a questionnaire that inquired into the options and opportunities to extend the adoption of LIFE FOSTER's outputs – e.g. training model, monitoring tool, awareness raising tools, and held a specific session during the project meeting of 03.05.2022.

Beneficiaries' answers were then organised into a plan that is provided in Annex "FOSTER_D.1 Replicability Plan_last". After illustrating the methodology for project replication, the document illustrates the proposed toolkit for replication. For replication, it is intended the adoption of some of the project outputs according to the type of organisation and target group – schools/VET providers, businesses, politicians.

On 30.06.2022 ENAIP NET was invited to present LIFE FOSTER to the members of the [ETF GRETA](#) network, an initiative involving 18 Centres of Vocational Excellence (CoVEs), engaged in the green transition.

On 12.07.2022 a LIFE FOSTER replicability workshop was held in Brussels, during the executive committee meeting of EVTA (European Association of Institutes for Vocational Training). 10 persons representing 6 VET providers participated.

As a follow-up of activities and tools for project’s replicability:

In June 2022 [AKMI](#) organised a staff’s mobility to Italy to be trained in food waste prevention by ENAIP NET

In June 2022 [INOVINTER](#) started the application of the Train the trainers’ didactical material.

In July 2022 [EFFEPI](#) members – a network including **12 VET providers** from Friuli Venezia Giulia (IT) – declared their readiness to adopt LIFE FOSTER’s training on food waste prevention in food service;

In July 2022 AKMI organised a mobility to Italy for students to be trained in food waste prevention by ENAIP NET

Additionally, AFPA established a collaboration with one of the CFA that used the contents of its LMS – METIS.

ADDITIONAL ACTIVITIES

Many additional activities targeting the VET system were implemented from the beginning of the project:

- VETLOVESFOOD, an Erasmus+ KA2 project capitalising on LIFE FOSTER’s results, was financed and started in April 2022
- “#MonChoixPro” an event on the culture of innovation in the sector of vocational training that took place in Lyon in December 2019. The event was attended by 350 participants (for details, see Annex “[MonChoixPro_seminar_AFPA_December_2019_report_DEF](#)”)
- The organisation of ‘Settimana Spreco Zero’ in February 2020 at ENAIP NET VET centre in Conegliano (TV), to face the topic of sustainability with trainers, students and families (<https://www.lifefoster.eu/events/zero-waste-week-settimana-spreco-zero/>)
- In November 2020 ENAIP NET managed 2 online roundtables on LIFE FOSTER during the EfVET Conference 2020, targeting European VET providers.
- In Italy on 25-26-27 November 2021 the whole day ENAIP NET held “LOVE FOOD REDUCE WASTE – LIFE FOSTER cooking show, in the framework of the Italian fair Job&Orienta 2021 in Verona (>10.000 visitors per day): ENAIP NET’s trainers and learners provided several cooking shows applying the techniques acquired through the LIFE FOSTER training. An entire area of ENAIP NET stand (hall n° 7) was set up as a Food lab where visitors could participate and taste. A complete report of the activity with its evidence is in [Annex “LIFE_FOSTER_D1_cookingshow_JOB_ORIENTA__november_2021_report_DEF”](#).
- LIFE FOSTER was mentioned among the success stories that inspired the [European Vocational Skills Week 2022](#). ENAIP NET provided inputs for the article, which was also relaunched in [Scienza e Governo](#) and [Canale Energia](#).

Outputs achieved with Action D1

The following tables summarise Action D1 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
Materials of first technical workshop	12/2019	11/2019	100%	ENAIP NET
Replicability Plan	31/03/2022	07/2022	100%	ENAIP NET

MoU	31/08/2022	08/2022	100%	ENAIP NET
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Milestone	Planned date	Actual date
Technical workshop during training centres' meetings (first event)	12/2019	11/2019
Technical workshop during training centres' meetings (second event)	12/2020	01/2020
School workshop for students	12/2020	05/2022
Food Waste Hackathon	02/2021	04/2021
Technical workshop during training centres' meetings (third event)	12/2021	08/2022

Deviations and delays, major problems / drawbacks encountered

See Annex "LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609".

Action D2: Information and dissemination of project's results

Beneficiary responsible: ENAIP NET

Foreseen start date: December 2018 Actual start date: November 2018

Foreseen end date: December 2021 Actual end date: 08/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

1. Production of compulsory information tools

a. Project visual identity was ready in December 2018 and presented during the 1st Communication team meeting in Pollenzo (18.12.2018). The Visual Identity was officially validated the 05.02.2019 together with the Communication Plan. It is included as an annex of the Communication Plan (action A2), available on the project's website and attached to this report in the zip folder "[D.2.1 PROJECT LOGO](#)". The logo was ready in November 2018 (29.11.2018) and validated during the 1st CT meeting in Pollenzo (18.12.2018).

b. Notice boards were ready the 31.01.2019, first printout 6 March 2019. Translated in 4 languages (EN, ITA, FR, ES) and available on the project's website in the section 'download' (<https://www.lifefoster.eu/download/>).

c. Project's website was online on 10.02.2019, available in 4 languages (EN, ITA, FR, ES). The evidence of the publication is attached to this report in the zip folder "[D2.1 WEBSITE ONLINE](#)". The website was regularly updated with news, events, pictures, and new pages and in 3 years and a half of activity it has registered approx. 160,000 visitors, 18,696 unique users, 26,422 sessions and 77,826 page views. A reserved area (password protected CMS) was available among all project's Communication Managers for implementation. Contact and subscription at the website contact form: approx. 150 contacts. An updated editorial plan for the managing of the website news and events is annexed to the Communication Plan and to this report (Annex "[8.7 ANNEX EDITORIAL_20210901](#)"). The complete analysis of the website performance so far (number of visitors, most visited pages, bounce rate, etc.) is included in attached Annex "[LIFE_FOSTER_D2_web-social_REPORT_2019-2022](#)". Every quarter the external communication agency produced a similar report to monitor website and social performances.

d. Layman's report: the processing of the report was carried out during the summer of 2022 to include final data. The graphic drafts for printing were sent to partners between late July and early August. It is downloadable at <https://www.lifefoster.eu/download/> and annexed to this report in "[D.2.1 LAYMAN'S REPORT](#)".

2,500 copies per country were then printed whose distribution is still ongoing (see Annex "[LIFE_FOSTER_D2_materials_produced-distributed_ALL](#)").

2. Brochure and posters

a. Tri-fold leaflet brochure was ready in December 2018, after the logo's validation. Official validation 31.01.2019 and first printout 6 March 2019. It is available in 4 languages, uploaded on the project website in the section 'download' (<https://www.lifefoster.eu/download/>) and attached to this report in the zip folder "[D2.2 BROCHURE](#)".

b. Posters: The CT decided to focus on 1 poster to be displayed in the VET centres/schools (the noticeboard is not enough to cover the high number of centres taking part of the project) and in restaurants. The final graphic version of the poster was approved by all the partners in November 2020 but the printing started in April 2022 due to the COVID situation. The final versions in 4 languages are attached to this report in the zip folder "[D.2.2 POSTER](#)".

The recap of the printouts and the copies distributed is available in the Annex "[LIFE_FOSTER_D2_materials_produced-distributed_ALL](#)").

3. Press conference

First press conference: 3 out of 4 first press conferences were organised. French press conference was replaced by some press releases (see Annex “LIFE_FOSTER-AFPA-Press-Review-2019-2022”).

Main impact results:

Italian press conference (13.03.2019); Participants: 12; Awareness raising questionnaire collected: 11; Press releases issued: 4; Radio presentation: 1

Maltese press conference (05.02.2019); Press releases issued: 10; Presentation at TV show: 3

Spanish press conference: (06.09.2019)

Total participants: 75.

Second press conference: The project final event of 05.07.2022 (Action D4) providing information on the project’s final results and lessons learnt represented an opportunity also to disseminate to various media information on the project’s achievements. Considering the approaching summer break and the tight deadline of project end, Beneficiaries preferred concentrating their efforts in ensuring good media coverage to the final event. Many journalists were therefore invited to assist at the live streaming online by partners, especially in Italy and in Malta.

Total event participants: 66 of which 53 in presence and 13 online (VET centres staff, teachers, stakeholders, policy makers).

Impact: 62 newspapers. Impact results and the press review are available in the Annexes “LIFE_FOSTER_D2_Italian_final_press_conference_report” and “LIFE_FOSTER_D2_Maltese_final_conference_promotion”.

Moreover, in Spain AB CECE presented the project results to 19 attendees at the Acofesal VI International Congress on Food Quality And Safety on 16/06/2022 (see Annex “LIFE_FOSTER_D2_Spanish_press_conference_at_ACOFESAL_Congress”).

4. Social media (Facebook, Instagram, Youtube)

Facebook and Instagram were online the 28th of February 2019 (released before the project deadline) while YouTube channel the 28th of May 2019 (project deadline: May 2019).

An editorial plan for the managing of the social pages was regularly updated, annexed to the Communication Plan and to this report (Annex “8.7_ANNEX_EDITORIAL_20210901”). A methodology for the social media was also shared with Communication Managers and annexed to the CP. The complete analysis of the social media performance so far (number of followers, most liked and shared contents, type of visitors, etc...) is included in the Annex “LIFE_FOSTER_D2_web-social_REPORT_2019-2022”, but we mention here that all the social media channels registered a good response among the public with the following numbers: Facebook profile 735 followers, Instagram profile 354 followers, YouTube channel 121 followers. Every quarter the external communication agency produced a similar report to monitor website and social media performances.

Outputs achieved with Action D2

The following tables summarise Action D2 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
Project logo	12/2018	11/2018	100%	ENAIP NET responsible All Beneficiaries provided inputs
Brochure	12/2018	12/2018	100%	ENAIP NET responsible All Beneficiaries provided inputs
Website online	01/2019	02/2019	100%	ENAIP NET responsible

				All Beneficiaries provided contributions
Posters	12/2019	11/2020	100%	ENAIP NET responsible All Beneficiaries provided contributions

Milestone	Planned date	Actual date
First press conference	09/2018	02/2019
Notice boards printed	12/2018	01/2019
Social media pages online	05/2019	02/2019
Final press conference	08/2022	08/2022

Deviations and delays, major problems / drawbacks encountered

See Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”.

Action D3: Networking with other projects

Beneficiary responsible: ENAIP NET

Foreseen start date: 07/2019 Actual start date: 10/2018

Foreseen end date: 08/2022 Actual end date: 08/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

For a full account of the implementation of action D3, see Annex “LIFE FOSTER_Final Networking Activities Report”.

Management of the action

Action D3 supported networking with other EU-funded projects (LIFE, H2020, Interreg, Erasmus+) or national/local initiatives that deal with the similar or complementary topics to foster the creation of mutual synergies to maximise the projects’ impact.

Shortly after LIFE FOSTER was launched, all beneficiaries started carrying out preliminary networking-related actions – despite the official start of Action D3 being foreseen only in July 2019 –, exploiting fruitful networking opportunities arising from their own networks or from contacts by new interested parties. A list of potentially interesting projects and organisations for networking purposes was also developed as an attachment to the official LIFE FOSTER Communication Plan.

By means of later SC meetings and regular communication on the topic all throughout the project duration, the beneficiaries gave action D3 an increasingly well-detailed structure and defined its core methodological aspects, following some key steps:

- I. Choice of thematic priority – a focus on food waste was identified as the first criterion for project selection. Secondly, it was agreed to also include topics related to sustainable food and (circular) bioeconomy, as well as Erasmus+ projects that could provide useful educational insights, transfer of training contents and replicability of project results.
- II. Delivery of supporting materials – including: operational guidelines accompanied by a sample letter, a checklist of tasks to be followed when establishing networking relations, and a sample attachment to the networking letter containing the project’s general presentation and leaflet. The final versions of the supporting materials are attached as Annex I of the “LIFE FOSTER_Final Networking Activities Report_DEF + all Annexes”.
- III. Development of monitoring tools - ENAIP NET developed a comprehensive monitoring tool for networking projects -the Networking Database- made available in a designated folder of the project’s repository, which also served as a collector for any additional material or information that beneficiaries gathered on the developed relations. The final version of the database is attached as Annex II of the of the “LIFE FOSTER_Final Networking Activities Report_DEF + all Annexes”.

In order to reach its scope, action D3 was implemented around three main types of activities: monitoring, contacts, and collaborations.

Monitoring

The Networking Database served a threefold purpose as a monitoring tool:

- 1) mapping out networking opportunities to be pursued and make a complete recap of the most relevant information concerning the projects identified by means of the MAPPING sheet;
- 2) comparing networking opportunities and ranking them according to indicators of relevance and importance using the networking MATRIX sheet. The indicators included in the LIFE FOSTER networking matrix are: Best Practices, FW measurement systems, Education & training on food waste, Tools (e.g. recommendations, guidelines)

for policy makers/stakeholders, Awareness campaigns, Technologies, By-product & FW Upcycling, Competitions, Targets.

- 3) keeping track of inputs on possible ways to develop a networking activity, as well as tracing the contacts and collaborations created through the actions undertaken, in the RESULTS and NETWORKS sheets. While the first one focuses mostly on providing information on other EU-funded projects, the latter includes a variety of platforms, groups of interest, associations with which LIFE FOSTER created the opportunity to network.

As part of the MAPPING activity, 53 projects were researched and preliminarily examined to understand whether networking activities would be appropriate/useful; all mapped projects were evaluated based on the networking matrix, and 44 of them reached the minimum threshold score to be considered of interest for LIFE FOSTER networking (8 of which were given low priority being older projects that were either closed or about to be);

Contacts and collaborations

According to the outcomes of the application of the networking matrix, various types of networking activities were carried out to different extents with 30 of these projects/initiatives, considering the specific features and possibilities that each of them presents; in more detail:

- TOTAL NUMBER OF ESTABLISHED CONTACTS (excluding those that led to collaborations) = 21
- TOTAL NUMBER OF ESTABLISHED COLLABORATIONS = 10
- TOTAL NUMBER OF EXCHANGE VISITS = 8
- TOTAL NUMBER OF PROJECTS THAT TOOK PART IN THE LIFE FOSTER NETWORKING EVENT = 7
- connections with 7 networks were initiated, leading to a varied set of outcomes
- Networking with SU-EATABLE LIFE produced a new LIFE project called LIFE CLIMATE SMART CHEFS whose CB is Barilla Foundation.

The exhaustive list of the achievements collected in terms of contacts and collaborations is included in the “LIFE FOSTER_Final Networking Activities Report_DEF + all Annexes”.

Networking event (milestone)

To complete the implementation of action D3 of the LIFE FOSTER project, a networking event was organised on 5 July 2022, following its final conference.

In that context, a total of 7 projects (LIFE IP CARE4CLIMATE, GEN B, LIFE CLIMATE SMART CHEFS, LIFE FOODPRINT, LIFE-REthinkWASTE, Transition2BIO, SU-ETABLE LIFE) and 2 platforms (EuBioNet, FoodSafety4EU) were represented, drawing on the networking actions that were previously carried out with them.

For a full account of the networking event, please refer to the report attached as Annex III of the “LIFE FOSTER_Final Networking Activities Report_DEF + all Annexes”.

Outputs achieved with Action D3

The following tables summarise Action D3 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
First networking activities report	12/2020	05/2021	100%	ENAIP NET
Final networking activities report	08/2022	08/2022	100%	ENAIP NET

Milestone	Planned date	Actual date
Project event for networking with other Life projects	06/2022	07/2022

Deviations and delays, major problems / drawbacks encountered

See Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”.

Action D4: Final FOSTER Event

Beneficiary responsible: ENAIP NET

Foreseen start date: 03/2022 Actual start date: 04/2022

Foreseen end date: 08/2022 Actual end date: 07/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

This action was implemented by ENAIP NET and UNISG with contributions of all beneficiaries. For the promotion of the event the Communication Agency contracted by ENAIP NET was activated.

The Life Foster Final Event was blended (online and in presence) and took place on the 5th July 2022, with the aim of carrying out awareness raising actions on the subject of food waste prevention in the food industry sector. The event showed the opportunities to prevent food waste and strengthen sustainability of the food chain.

In line with the general objectives of the project, the aims of this major event were:

1. to enhance the understanding on food waste prevention;
2. to disseminate LIFE FOSTER's food waste prevention solutions and to encourage their application in a wider number of VET centres, schools and restaurants;
3. to reinforce stakeholders' commitment on food waste prevention through the exchange of information and the sharing of experiences.

LIFE FOSTER Beneficiaries presented the project achievements and actively participated to the event, that brought together leaders in food waste prevention, reduction, and valorisation, as well as policy makers, public authorities, students and trainers concerned in the food sector. Documentation of the conference including the invitation and the recorded video are available for download in the Annex "LIFE FOSTER_Final_Event_Report".

TARGET:

- Businesses in food industry
- Policy makers
- Public authorities across Italy and Europe that have competence in the field of waste prevention
- Educational establishments
- Students and trainers concerned in the food industry sector

73 PARTICIPANTS:

13 Online

53 In presence

7 Students for "Zero waste menu" preparation, presentation and tasting from ENAIP NET UNISG campus, in Pollenzo (Piedmont, Italy) hosted the final event, that was structured as follows:

1. Half day Panel Discussion structured in two parts (09.30-13.10)
 - presentation of the theme by prestigious testimonials
 - the presence of a scientist with a speech related to food waste (UNISG)
 - illustration of project results (Enaip NET)
 - Panel Session
2. Zero waste menu preparation and tasting (13.10-15.00)
 - a lunch buffet, directly prepared and cooked by trainers and students from ENAIP NET, following the application of food waste prevention solutions. Students explained to the participants how the "zero food waste" menu was designed, underlining the importance of 0 km and seasonal products.

For a full account of the implementation of action D4, see Annex "LIFE FOSTER_Final_Event_Report".

Management of the action

For the planning and management of the final event, specific management tools were created to assign the preparation activities to the entire working group involved, with team members from CB ENAIP NET and AB UNISG.

A working plan with the pre-during-post event tasks was created for a clear communication among the team members involved in the event organisation.

The files, shared on a common platform, were implemented day by day, refining all areas of work. Regular communication among team members ensured the achievement of results in the Final Event, with all materials ready and the audio/video technical check for remote data transmission.

To manage the invitations to the final conference, a digital attendance registration tool was set by the Enaip Net general secretariat, and in the planning stage, the external Communication Agency produced a press release to promote and disseminate the event.

For the promotion of the event, the following material was created:

-a save the date jpg file sent to a mailing list of potential participants selected by the general secretariat;

-press release describing project results and providing the registration link to the event was published on the Enaip Net (<http://www.enaip.net/i-risultati-del-progetto-life-foster/>) and Life Foster (<https://www.lifefoster.eu/the-results-of-the-life-foster-project-to-prevent-food-waste/>) websites.

The promotion of LIFE FOSTER Final Event was considered as an opportunity to inform media on the project results; therefore the media coverage replaced the Final Press Conference, foreseen in Action D2. See Annex “LIFE_FOSTER_D2_Italian_final_press_conference_report_DEF”

Outputs achieved with Action D4

The following tables summarise Action D4 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
List of participating to event	08/2022	08/2022	100%	ENAIP NET
Photo gallery in the website	08/2022	08/2022	100%	ENAIP NET

Milestone	Planned date	Actual date
Final Event	08/2022	07/2022

Deviations and delays, major problems / drawbacks encountered

See Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”.

Action E1: Project management by ENAIP NET

Beneficiary responsible: ENAIP NET

Foreseen start date: 09/2018 Actual start date: 09/2018

Foreseen end date: 08/2022 Actual end date: 11/2022

After GA amendment, the action was extended until 31/08/2022.

Action description

Kick-off Meeting

The project KOM took place in Milan, on 1st-2nd October 2018. CB ENAIP NET organised the meeting and all materials for ABs with relevant information to start project implementation from both the technical and administrative as well as financial viewpoint.

ENAIP NET illustrated:

- The Grant Agreement
- Administrative and reporting procedures with main deadlines
- The project GANTT together with main ABs' tasks and responsibilities
- Roles and functioning of: Steering Committee, Management Board, Communication Team, and Financial Team. This explanation was to facilitate the ABs' identification of persons responsible for the requested roles.

Partnership Agreement

CB ENAIP NET commented on a draft Partnership Agreement during KOM and afterwards prepared copies for ABs with specific information on each AB. Between November and December 2018, CB and each AB individually signed relevant Partnership Agreements. PAs included main conditions of the Grant Agreement signed by CB with the Agency and defined roles as well as obligations of CB and AB together with deadlines, modalities concerning Project management, deadlines for the presentation of technical as well as financial information to submit with technical and financial reporting.

Finally, PA sets the roles and tasks of the Steering Committee and Management Board, respectively. For further details, see Annex "Partnership Agreements ALL".

Steering Committee

Partners appointed one member to represent them in this decision-making body chaired by the CB's representative. 3 SC meetings were foreseen. Given the reduced number of project meetings in presence due to COVID pandemic restrictions, SC meeting were held:

- in Pollenzo in December 2018 to discuss on project priorities in terms of relationships to develop to give strength to project results
- in Marseille in May 2022 to provide inputs on the draft Recommendations for policy makers

SC was consulted in February 2019 to validate the project's Communication Strategy. All throughout the project, SC members were kept informed and consulted by Beneficiaries' teams, especially when the project was dealing with strategic issues, such as the activities to indicate in the Contingency Plan January-June 2021 and request for project extension.

Management Board

The operational body of the project ensured its sound implementation.

In the project's lifetime, MB held 6 instead of 9 in-presence meetings:

- Pollenzo (IT), December 2018
- Madrid (ES), July 2019
- La Valletta (MT), November 2019

- Milano (IT), February 2020
- Marseille (FR), May 2022
- Pollenzo (IT), July 2022

After COVID pandemic outbreak, CB ENAIP NET organised online meetings more frequently:

- 5 project meetings with all Beneficiaries in 2020
- 3 one-to-one calls on a specific Beneficiary's issues in 2020
- 6 project meetings with all Beneficiaries in 2021
- 4 meetings with a limited number of Beneficiaries on specific activities in 2021
- 7 one-to-one calls on a specific Beneficiary's issues in 2021
- 3 project meetings with all Beneficiaries in 2022

“One-to-one” calls on specific AB's technical as well as financial issues were particularly necessary to CB ENAIP NET to collect information and inputs from ABs to prepare the “Contingency Plan_2021_January-June” to define alternative and or additional activities that could help the project achieve its results, despite the delays and challenges posed by the COVID pandemic. The Contingency Plan was approved by the Agency.

CB regularly collected information on project progress through both quarterly reports that were sent to the monitoring team and other specific tools that measured the advancement of actions where many people were to be reached – e.g. trainings (Action B1), awareness raising and communication events (Action B2, and all Actions D).

Beneficiaries shared both technical and financial information via a repository that ensured suitable capacity in terms of space and data safety.

Administrative & Financial Management

Each Beneficiary appointed a Financial Manager at the project's start.

Administrative and financial management followed Beneficiaries' procedures, according to the conditions of the Grant Agreement (e.g. keeping separate books, admissibility of costs, accounting methods etc.). CB informed on programme rules concerning tender procedures and checked them based on the information each AB provided.

CB collected information on progress of ABs' expenditure every 3 months through a financial monitoring tool and concurrently collected evidence of expenditure.

CB also monitored ABs' needs for budget modifications and ensured that the 20% threshold was not exceeded. To this purpose, ENAIP NET checked as well as the compliance with 2% rule were respected by interested Beneficiaries – AFPA (FR) and ITS (MT).

Budget modifications are described and justified in Annex “LIFE FOSTER Deviations_delays_major problems”, Part 2.

Because of lower expenditure in other cost categories, both AFPA and ITS had to decrease the reported Personnel costs compared to the actually incurred expenditure to comply with the 2% rules applied to Public Bodies. A more detailed account is provided in Annex “LIFE FOSTER Deviations_delays_major problems”.

Technical Reports

A Progress Report was submitted in February 2020 and received a positive evaluation by the Agency.

Quarterly Reports were sent to the monitoring team regularly. CB collected information from ABs to prepare them.

4 monitoring visits took place in February 2019, February and December 2020, and July 2022. CB considered the requests raised by the Agency after the monitoring visits and submission of the Progress as well as Mid-Term Reports, and prepared replies as well as evidence accordingly. Relevant information is available in Annex “Replies_to_Agency_with_annexes”.

Issues raised after the 4th Monitoring Visit in July 2022 are replied in Annex 4TH MONITORING VISIT ISSUES_REPLY_20220131.

2 Amendments to the Grant Agreement were submitted to and approved by the Agency:

- In August 2021: request for project prolongation until 31/08/2022 and administrative changes of one Associated Beneficiary (AFPA, France). The project extension permitted to overcome the difficulties and delays experienced in the past, allowing to gradually reach the main objective of the LIFE FOSTER.
- In October 2022: request for involvement of ENAIP NET’s affiliates, as requested by the Agency in its communication Ref. Ares (2022)5552833 “LIFE FOSTER – 4th Monitoring Visit”, issue n.24.

The project prolongation ensured the achievement of project targets, especially in Actions B1, B2, B3, and D1.

Independent auditor

Considering the changes in the programme rules concerning the auditor’s certificate, CB ENAIP NET did not appoint an auditor. The budget amount was moved to personnel costs, to cover CB’s efforts for overall project management, which had proved to be stronger than expected (for a series of circumstances: e.g. some partners needed more support in the project management than expected, the COVID pandemic impacted strongly in the training activities and in the sector addressed by the project activities – food service – thus requiring to rethink and plan all project activities and so on).

After-LIFE Plan

The After-LIFE Plan is presented in Annex to the Final Report.

Outputs achieved with Action E1

The following tables summarise Action E1 deliverables and milestones

Deliverable	Planned date	Actual date	Progress status	Done by
Partnership Agreement	02/2019	02/2019	100%	CB ENAIP NET with all ABs
Audit report	03/2022	n.a.	--	--

Milestone	Planned date	Actual date
Kick-off Meeting	09/2018	10/2018

Deviations and delays, major problems / drawbacks encountered

See Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”.

6.2. Main deviations, problems and corrective actions implemented

The main deviations and delays are reported in the present summary table, along with technical issues. For details and minor changes, see Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”.

Action	Type of problem	Problem description/issue	Impact on project outcomes	Adopted measures
A1	Delays in implementing the activities	The “Rationale of the LIFE FOSTER strategy to prevent and reduce food waste in the restaurant sector” was completed in February 2020 instead of November 2018.	The action A1 took longer to complete than planned (end in January 2020 instead of March 2019)	The first draft of the report was already made available in 12/2018, allowing to proceed with the identification of food waste tools and prepare the Training of trainers syllabus
A1	Delays in implementing the activities	25 food expert interviews were completed in July 2019 instead of January 2019, as some interviews by AFPA and CECE were missing to have the complete picture of the entire project area.	Action A1 took longer than planned (end in January 2020 instead of March 2019)	The already available interviews provided sufficient information to prepare the Guidelines for the implementation of the food waste tool and move on to the preparation of the syllabus for the training of trainers.
B1	Error in the application form	In the project timetable, Action B1 was planned to be carried out between December 2018 and June 2020.	NONE	When analysing the deadlines set for this action deliverables and milestones, it is unequivocal that the correct final deadline is June 2021.
B1	Insufficient internal training personnel	AB CECE had no internal training personnel available to hold neither the training of trainers nor the student training. Due to national labour law, CECE could not hire schoolteachers as temporary staff either	ToT and student training in Spain started later than originally planned, the first in July 2020 and the second in December 2020	CECE externalised training and food waste monitoring activities to 2 vocational training schools through a call for expression of interest in January 2020. Consequently, the budget amount for External Assistance in Action B1 was increased and 2 contracts were drawn with ESHBI and ALTAVIANA, respectively
B1.2	Differences between national VET systems	A shared programme for student training was not feasible, as vocational education and training systems greatly differ from	The 2 common deliverables ‘Student course program’ and ‘Materials for students’ are not	LIFE FOSTER student training programmes enhanced and respected the various national reference systems and the different age of the training targets, especially in view of their

		country to country, and students' age groups were also different	available in a common format. However, all programmes based on the initial ToT	sustainability after the project's end.
B1.1	COVID-19 pandemic	The entire education and training system made a huge effort to keep students' education going; therefore, trainers had less time to dedicate to their own training.	Risk of not achieving the KPIs regarding trainers	To increase project outreach in terms of number of trainers, students and restaurant professionals involved in Italy, France and Spain; ENAIP NET, AFPA, and CECE set up e-trainings on Food Waste Prevention. This measure was proposed in the later approved Contingency Plan January-June 2021.
B1.1	Number of trainers trained	The number of trained trainers was 405 vs. 487 expected	NONE	Student training has been implemented as planned. The overall number of trainers reached in this Action by the project was higher, as: 74 additional trainers attended AFPA's MOOC 19 additional trainers used AFPA's LMS
B1.2	Misunderstanding in the interpretation of students' data to be indicated in the project proposal	AB ITS declared that the target for students to reach in Malta (970) was unrealistic	Risk of not achieving the KPIs regarding students in Malta	ITS extended the ToT to 28 secondary school teachers, to reach out to their students afterwards. Notwithstanding project extension, ITS reached 424 instead of 970 students. The secondary school teachers involved did not hold classes on food waste, partly because of the pandemic issues, partly because their organisations were not directly involved by the project. This shortcoming did not compromise project's achievement, as the number of students reached was higher than expected in other countries
B1.2	COVID-19 pandemic	LIFE FOSTER student training could not be held face-to-face due to the restrictions issued by Health Departments in all project countries.		LIFE FOSTER student training was partially or completely replaced with online training, between late February 2020 and May 2021, according to the local situations and restrictions.

B1.2	COVID-19 pandemic	Education systems in all the project countries were strongly impacted by COVID-19 pandemic and the related lockdown measures.	Risk of not achieving the KPIs regarding students	ENAIP NET, AFPA and CECE developed tailored e-training on Food Waste Prevention, meant for vocational trainers, students, and food service professionals, but also open to all citizens. The extension of the project by 8 months favoured the achievement of project targets
B2	COVID-19 pandemic	In general, this action was the most impacted by the pandemic, because of social distancing measures that blocked the organisation of fairs	Risk of not achieving the KPIs regarding food service professionals	The Contingency Plan January-June 2021 included measures to replace some physical events with online solutions such as: - Webinars (in the case of FIC, MBB, ITS and UNISG) - E-learning (in the case of ENAIP NET, AFPA and CECE)
B2	COVID-19 pandemic	The implementation of traineeships followed an intermittent course due to COVID measures impacting on food service companies.	Risk of not achieving the KPIs linked to students' traineeships. The total number was lower than expected – 2,966 vs. 6,940	Traineeships were the means to transfer LIFE FOSTER's results to food service companies and professionals. However, through online/in-presence events and e-learning courses the project reached nearly 31,000 professionals. The target of companies to reach was 3,600 and the final number achieved is 2,966. Considering the pandemic situation, the result is quite positive.
B2	Insufficient internal resources of a Beneficiary	The first project presentation during a fair was in October 2021 instead of November 2019. This milestone could not be kept, as FIC needed a dedicated project manager to coordinate activities	Risk of not achieving the KPI regarding professionals	In January 2020, FIC contracted a new project manager and promptly rescheduled its activities. The selection procedure for the Project Manager was issued for a temporary direct employee, but the final selection confirmed a resource whose contract type was conformed as External Assistance, with a related budget transfer from personnel costs to external assistance costs.
B2	COVID-19 pandemic	Social distancing measures prevented the organisation of events during fairs.	Risk of not achieving the KPI regarding professionals reached by the project	Some events for food service companies and professionals were replaced with online events. A complete list of both online and in presence events is provided in Annex

				“LIFE_FOSTER_B2_fairs-seminars_recap_for_Issue_6”. The KPI ref. n. of professionals was outreached.
B2	COVID-19 pandemic	Pandemic outbreak in February 2020 prevented the organisation of physical meetings. Seminars for restaurant owners/cooks and Practical activities/workshops could not take place in Italy, France, and Malta.	Risk of not achieving the KPIs regarding professionals	Webinars targeting cooks and food service professionals were organised in 2020 and 2021 in Italy, France, and Malta (see Annex “LIFE_FOSTER_B2_fairs-seminars_recap_for_Issue_6”). The KPI ref. n. of professionals was outreached.
B3	Delay in the first WG meeting and deviation in the set-up of the WG	The first WG meeting was in January 2022 instead of September 2020.	Impact on drafting national frameworks and Guidelines	As national frameworks often depend on EU strategies and of policy frameworks, Beneficiaries decided on establishing a transnational WG to coordinate the work done by national teams. This group met for the first time in Jan. 2022. The transnational WG facilitated the definition of shared key messages to convey to policy makers.
B3	Delays in drafting the Guidelines at EU Platform on Food Losses and Food Waste	The Guidelines were already in August – as per new deadline set with the Amendment to GA	Possible impact on the dialogue with Policy Makers	As described in 6.1, Project Beneficiaries participated in many events where they shared the project’s solutions and lessons learnt with policy makers. This helped prevent a possible shortcoming due to this delay. During the final event, the main recommendations were illustrated.
B3	Different organisation of Bilateral Policy Dialogue Meetings	Due to COVID pandemic there were some delays in drafting the Guidelines which were to be discussed with policy makers	Possible impact on the development of the dialogue with policy makers	Beneficiaries started to engage with policy makers soon after project start. They activated their networks, participated in many events held by policy makers, and organised events as well as meetings where they invited policy makers, to raise this target group’s awareness on food waste and propose the project’s solutions.

				10 Policy Dialogue Meetings were organised until July instead of June 2022 to avoid overlapping with the organisation of the final event.
C1	Delays in implementing the activities	In the absence of a food waste quantification system, it was necessary to dedicate time to the study and implementation of a measurement method valid in all VET centres' laboratories and to test in restaurants afterwards.	Delays in starting food waste monitoring campaign and in finalising the first deliverable (Internal report of the ZERO situation ready in 12/2020 instead of 03/2019)	UNISG developed a new food waste monitoring tool incorporating both environmental and economic dimensions of the food waste challenge.
C1	COVID-19 pandemic	The closure of the training centres due to the pandemic between March and June 2020, caused delays in data collection campaign, which had to be extended	Delays in the finalisation of the first deliverable finalisation (Internal report of the ZERO situation ready in 11/2020 instead of 03/2019)	To ensure proper data collection the timeline was extended. The first monitoring was carried out between November 2019 and April 2020 except for 1 VET centre in Valencia which held the last monitoring lab in October 2020. Therefore, the deliverable was ready in Nov. 2020.
C1	COVID-19 pandemic	The organisation of practical laboratories for food waste monitoring was slower than planned, because of the rules for social distancing, frequent lockdowns, and shifting to online training.	Delays in the finalisation of the First Environmental Monitoring Report (corresponding to deliverable ready in 06/2021 instead of 12/2019)	Processing of collected data was improved through the implementation of a web application (Food Waste Flow Balance) based on the monitoring system already tested in the first monitoring campaign. This achievement went beyond the project expectations, as it allowed complete data collection and accelerated the data analysis phase of "in-itinere" campaign. The deliverable was ready in June 2021.
C1	Rescheduling of previous monitoring campaigns carried out in VET centres	The start of the last monitoring campaign could not be earlier than October 2021, due to the rescheduling of previous monitoring campaigns and VET	Risk of not completing the last collection campaign	Concurrently with the submission of the mid-term report, a request for project extension was also submitted, which allowed for an extension of the last monitoring campaign until May 2022.

		centres' summer break in 2021		
C1	Rescheduling of previous monitoring campaigns carried out in VET centres	The delayed start of the last monitoring campaign and the overlapping of many activities implemented in VET centres had a strong impact on their organisation.	Possible inaccuracy in data collection and consequent poorer data quality	The last monitoring campaign was extended until May 2022. Consequently, the report ex-post monitoring was ready in June instead of March 2022.
C2	Delays in implementing the activities	The overlapping deadlines of Actions A1, C1 and C2 combined with the related milestones and deadlines of the related outputs were needed a new planning to ensure sound scientific reliability. The absence of a food waste monitoring tool and the complexity of defining useful indicators for social monitoring added further challenges.	Delays in starting the social monitoring.	Economic monitoring was incorporated into the food waste monitoring system. For social monitoring, UNISG and ENAIP NET elaborated a quantitative and qualitative framework that provided coherent information on the social impact of food waste prevention. ENAIP NET subcontracted this activity to an external experienced consultancy company.
C2	COVID-19 pandemic	The course of the traineeships was irregular due to the social distancing measures with strong impact on food service companies. The persistence of measures to contain the pandemic undermined the possibility of administering the questionnaire to the foreseen number of companies, because a lower number of internships could be activated, than planned.	The collection of sufficient information to measure the project's social impact was at risk	The survey questionnaire was adjusted for online delivery and promoted during events organised for food service companies and professionals in Action B2.
C2	Food service companies' and	After lock-down measures were released, food service	A poorer amount of processed information	The quantitative survey was backed with a new survey based on restaurant website content

	professionals' work overload	companies and professionals experienced a sudden work peak that was hard to manage. Therefore, they had little time to dedicate to survey questionnaires.	coming from a lower number of questionnaires than expected might undermine the reliability of survey results	analysis. This choice would make it possible to collect data without involving restaurant staff. CB ENAIP NET engaged an experienced subcontractor.
D1	COVID-19 pandemic	Social distancing measures interrupted, delayed or replaced with online activities.	Delays in implementing /starting some activities	AB FIC organised Food Waste Hackathon as a digital marathon competition on zero waste cooking. ENAIP NET organised an additional online workshop for students as a class on food waste prevention
D1+D2	Subcontracting procedures	There was a 21-month delay in the tender evaluation process for external communication consultants, vetted by the Maltese Procurement Unit within the Ministry of Tourism and Consumer Protection and appointed by AB ITS.	Delays in website updating and release of newsletters	To speed up the process two smaller tender procedures for lower amounts were issued, as requests for quotations for smaller amounts do not need the Ministry's approval
D1	Overlapping of many activities in the last project year	To reach the high project KPIs, all Beneficiaries were much concentrated on completing trainings and events which had been strongly delayed by COVID-19 restrictions. The Replicability Plan was ready in July 2022, instead of March 2022	Involvement of the VET system and achievement of the KPI for replication/transfer (8 VET centres)	The involvement of the VET system was ensured with a larger number of technical workshops – 7 instead of 4 – and dissemination through VET umbrella organisations which favoured contact with other VET providers.
D2	Delays in implementing activities COVID-19 pandemic	The production of the poster for the in-person activities was delayed for a year, both because of initial organisational	NONE	Printing of posters took place in April 2022, to be distributed to VET centres as registered in annexed distribution list.

		problems and of pandemic restrictions.		
D2	Final press conference	The final press conference was replaced with media coverage	NONE	Many events took place in the last project's months which had been delayed due to COVID-19 restrictions. Therefore, there were many occasions to communicate on project results through press releases and information targeting media.
D3	COVID-19 pandemic	Due to travel and safety restrictions, beneficiaries were unable to organise in-person study visits.	NONE	Remedial measures were taken in terms of transforming said visits in online meetings.
D3	Re-scheduling of the reporting periods	The first and final networking activities reports were submitted later than what was foreseen by the project's proposal. The networking event was organised later	NONE	The reports were delivered concurrently with the submission of the LIFE FOSTER mid-term and final reports, meeting their respective new deadlines. Also, the milestone of the networking event was delayed due to the re-scheduling requested in the amendment.
D4	Re-scheduled date for Final event	The new project timeline after the extension of the project combined with the significant number under implementation in the last project semester led to set the Final event in July 2022, after school year end. No laboratories could be held	NONE	The format of the Final event was rearranged, and the project's Networking event was organised on the same location and date. Only few students could hold the presentation of the zero-menu that they had prepared and served with their trainers.
E1	Impact of COVID-19 pandemic on overall coordination of project activities and difficulties in reaching ambitious KPIs	The overall Project Management by the CB was more demanding than expected, due to constant interruptions, modification and rescheduling of measures contrasting COVID-19 pandemic	Increased CB's workload and consequent insufficient budget for Personnel costs	CB ENAIP NET substantially increased the number of hours and number of staff members involved in the project to ensure proper coordination and implementation of all Actions and, in particular, of Action E1 (see technical description of action E1 in Annex "LIFE FOSTER-Deviations_delays_major problems" for further details).

E1	COVID-19 pandemic	Project meetings could not be held because of travel and safety restrictions. This situation made coordination of activities more challenging	Delays in implementation of activities and preparation of deliverables	CB prepared monitoring tools to collect information on targets reached. CB organised online meetings (see also technical description of Action E1 in Par. 6.1 and Annex “LIFE FOSTER-Deviations_delays_major problems”).
E1	AFPA’s changed administrative data	Following to changes in relevant national rules, AFPA changed administrative data and had a new PIC number. This represented a substantial modification.	Risk of losing an AB	ENAIP NET started the procedure for amendment in March 2020, gathering the information and documents requested. However, due to the pandemic permanence and the related uncertainties for the project prolongation, it was completed and submitted together with the request of project extension and the Mid-Term Report.
E1	Delays caused by COVID pandemic	COVID pandemic restrictions prevented the implementation of all activities that needed mass events – e.g. fairs and festivals	Achievement of project KPIs, especially those related to professionals	Beneficiaries decided to submit an Amendment request to extend the project until 31 st August 2022. The Amendment request on project’s duration was submitted with the Mid-Term Report in August 2021.
E1	Issue n.24 contained in CINEA’s communication of 03.08.2022, after 4 th Monitoring Visit	After the 4 th Monitoring Visit in July 2022, the Agency raised Issue n.24 requesting an explanation on the relationship between ENAIP NET (“Consortio”) and ENAIP members (“Consortiati”) together with explanation and supporting documents for costs incurred by ENAIP “Consortiati”, with the indication of amending the GA to include ENAIP members as affiliates	Eligibility of costs incurred by ENAIP NET’s members	The request of Amendment was generated under circumstances that were wholly beyond the control of the Beneficiary and were not known before the signature of the Grant Agreement, which took place after all Revision Points had been declared resolved by the Agency’s evaluators, including RP n.24 enquiring on the involvement of “affiliates”. In reply to RP n.24, ENAIP NET explained that its “Consortiati” would implement project activities and bear related costs, and the RP was declared “completed”. Consequently, the GA did not include any affiliate. After the 4 th MV, the Agency resumed the issue asking for clarification on the role of

				<p>ENAIP NET’s “Consortiati” and objected that their incurred costs were not foreseen in the ENAIP NET’s budget.</p> <p>During multiple rounds of explanation between August and September 2022, ENAIP NET explained the nature of the relations between ENAIP NET and its “Consortiati”, and it provided exhaustive information on the legal framework in which an Italian “Consortio”.</p> <p>As doubts on the eligibility of ENAIP NET “Consortiati” costs persisted, CB consented to perform the request for amendment to the Grant Agreement, which was finally submitted in October 2022 and approved in November 2022.</p> <p>The workload for the submission of the amendment caused delay in the provision of the Final Report.</p>
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6.3.Evaluation of Project Implementation

Methodology applied:

a) For overall coordination

CB ENAIP NET ensured overall project coordination in cooperation with all ABs. It also supported ABs that were responsible for specific Actions in coordination and planning.

The Management Board and Steering Committee were responsible for operative and strategic decisions, respectively. All Beneficiaries demonstrated willingness to cooperate and find shared solutions. Their evaluation of the overall coordination and cooperation has been positive.

The most important criteria considered for decisions to take were:

- Achievement adherence to project KPIs
- Careful assessment of the external factors – especially on consideration of the pandemic situation
- Cost-efficiency

When changes to the original planning were deemed necessary, the CB submitted the foreseen deviations to the external monitor and, eventually, to the Agency.

b) For scientific consistency

AB UNISG ensured scientific robustness of the project results, considering their expertise on the topic of food systems and food waste. UNISG was responsible for Actions A1, C1, and C2. The definition of a food waste monitoring specifically conceived to measure the impact of LIFE FOSTER on food waste reduction and its costs represented an added value to the project. The web application was also an additional project deliverable, which ensured scientific relevance of project outcomes. The tool can also be adopted by VET providers

outside of the partnership, provided that a necessary training is undertaken. Finally, considering the food waste dimension and the economic dimension in the same monitoring system enhanced the efficacy of the monitoring itself. This choice was also very helpful for trainers, to measure both the quantities of wasted food and their economic value. In this way, trainers and – most importantly – students could also understand the economic effects of food waste and increase their awareness on the importance of undertaking contrasting measures.

c) For training

The training model based on scientific evidence was shared by all Beneficiaries to plan trainings and provide key messages during events for food service professionals. The food waste prevention approach and tools incorporating food waste monitoring and its cost produced was innovative compared to previous initiatives on food waste reduction that the Beneficiaries analysed in the preparatory phase (Action A1), which aimed at reducing or reusing wasted food.

The strategy, based on a ripple effect – from training of trainers to training of students – and systems thinking – with targeted activities for the project’s stakeholders – ensured the increase in the number of individuals reached by the project.

The outcomes of the surveys carried out by the project highlighted the effectiveness of vocational training as an instrument to tackle environmental challenges and support the transition to more sustainable economic patterns. To be underlined that the inclusion of food waste prevention practices, as well as economic monitoring, into the experiential laboratories embedded in VET curricular courses further raised students' awareness of their active role and responsibility in preventing food waste in their future job careers.

Comparison of the results achieved vs. expected:

Action	Foreseen in the revised proposal	Results achieved	Evaluation
A1	<p>Objectives:</p> <ul style="list-style-type: none"> - Set the project scientific knowledge base - Define the benefits related to food waste prevention <p>Expected results:</p> <ul style="list-style-type: none"> - Knowledge base to use in the following project actions - Food waste tools and guidelines to use in LIFE FOSTER trainings and define the project’s key messages 	<ul style="list-style-type: none"> - Knowledge base to use in following project actions - Food waste tools and guidelines to use in LIFE FOSTER trainings - Preliminary analysis for the identification of FW prevention benefits 	<p>Action objectives were met, and results proved to be very useful for concrete Actions.</p> <p>The extension of the Action duration helped to bridge results of Action A1 with the preparation of Action C1, since it provided the necessary information to develop a new food waste monitoring system.</p> <p>Deliverable “Rationale of the LIFE FOSTER strategy to prevent and reduce food waste in the restaurant sector” (Annex A1.0 A1.1 deliverable”) reflects this distinction between preparatory work for training and quantification of benefits (see also Par. 6.1, Action A1) – the latter being incorporated into deliverable “Method for food waste quantification of possible benefits that the project LIFE FOSTER will use” (see Annex "C1.C2.A1. Deliverable Quantification method”)</p>

A2	<p>Objectives: To organize in detail all communication and dissemination activities</p> <p>Expected results:</p> <ul style="list-style-type: none"> - A communication team - A project communication plan 	<ul style="list-style-type: none"> - A communication team - A project communication plan 	<p>Project communication plan follows what was foreseen by the approved project proposal. It is completed with annexes that are kept updated – e.g. as regards editorial plan and networking (see annexes to the Communication Plan in the zip folder “A2_Comm_plan_ANNEXES”).</p> <p>The Communication Team is led by CB and only includes Beneficiaries’ staff.</p>
B1	<p>Objectives:</p> <ul style="list-style-type: none"> - To increase food waste awareness of trainers and students - To promote the development of students’ food waste prevention skills <p>Expected results:</p> <ul style="list-style-type: none"> - Training of 487 trainers in food waste prevention - Training of 7,000 students in food waste prevention 	<p>Results achieved from March 2019 to August 2022 are:</p> <ul style="list-style-type: none"> - 498 trainers trained on food waste prevention - 8,211 students trained in food waste prevention. 	<p>Overall evaluation of this Action has been positive, especially considering the considerable efforts requested by the pandemic context.</p> <p>The training produced a remarkable spill-over effect, increasing the impact of the project and reaching not only the target audience, but also other groups, such as students from other VET courses (e.g. electricians, tour operators, bakers, etc.), apprentices, and families, sometimes incorporating the issue of food waste into Citizenship Culture school programmes. For details see annexes to Action B1 mentioned in Par. 6.1, but, for illustrative purposes:</p> <ul style="list-style-type: none"> - Students' awareness survey showed that training increased this target’s FW knowledge and skills (ref. annex "LIFE_FOSTER_B1_students_awareness_analysis_FINAL"). Overall, 4,272 questionnaires were administered to students. Before the training, half of the students scored lower or equal to 0.48, while after the training this value increased to 0.53. - AB AFPA (FR) has cooperated with 10 apprentice training centres (CFA - Centre de formation des Apprentis), as it gave them access to the LIFE FOSTER’s training material available in its LMS (METIS). - Trainers from CB ENAIP NET (IT) reported that, during the pandemic, their students (all teenagers) applied LIFE FOSTER’s practices at home and transferred them to their families, this

			<p>increasing their families' awareness on food waste.</p> <ul style="list-style-type: none"> - A considerable result was the 1-week event (Settimana spreco 0) organised in Conegliano (IT) in February 2020 which reached 300 students, 30 trainers, and 120 involved families, and inspired sustainable living practices. The event was not planned by the project. - AB CECE (ES) reported about a student who spontaneously shot a Tic-toc video-tutorial on how to prevent food waste.
B2	<p>Objectives: To increase food waste awareness in food service companies and professionals</p> <p>Expected results:</p> <ul style="list-style-type: none"> - Involvement of approx. 3,600 companies and 10,000 professionals 	<p>Results achieved until August 2022:</p> <ul style="list-style-type: none"> - 30,748 professionals reached through online and in-presence events - 2,966 traineeships activated in food-service companies 	<p>This Action was the most hit by COVID-19 pandemic. Beneficiaries promptly faced this challenge. Many workshops and seminars for professionals were replaced with webinars (see Action B2 in Par. 6.1 and the list of events in Annex “LIFE_FOSTER_B2_fairs-seminars_recap_for_Issue_6”).</p> <p>The number of professionals outreached the target set by the project initially. This achievement was the result of a considerable effort to recover the activities that had to be postponed due to social-distancing measures.</p> <p>Moreover, in a persisting time of uncertainty, ENAIP NET, AFPA, and CECE implemented e-training courses (see also Annex “Contingency Plan January-June 2021”) that aimed to increment the number of professionals reached. These courses will remain available also after project end.</p> <p>2,966 traineeships took place. The number is lower than expected due to the intermittent availability of companies to host interns during the pandemic.</p> <p>A survey on 2,066 questionnaires collected during events for food service professionals revealed that the project's aim of drawing the professionals' attention towards food waste is particularly important to the new generations of food service employees.</p> <p>The action met the sector companies' and professionals' interest in finding food waste solutions.</p> <p>Also, to underline the inclusion of criteria related to food waste reduction in regulations of Chef's competitions</p>

			introduced by AB FIC – e.g. during the Italian Culinary Championship 2022.
B3	<p>Objectives:</p> <ul style="list-style-type: none"> - Raise Policy Makers’ awareness on the need for measures for food waste prevention - Develop and share guidelines for Policy Makers <p>Expected results</p> <ul style="list-style-type: none"> - Involvement of 200 Policy Makers - Involvement of the EU Platform on Food Losses and Food Waste 	<p>Results achieved until August 2022:</p> <ul style="list-style-type: none"> - Involvement of 203 policy makers through participation in and organisation of events favouring the transfer of project results and communication on the project’s lessons learnt - Participation in a EU Platform FLW session - Webinar on FW monitoring with the participation of a EU Platform FLW member 	<p>Beneficiaries started to engage with Policy Makers nearly 2 years earlier than foreseen, shortly after the project start.</p> <p>The project strategy anticipated EU policies in the following aspects:</p> <ul style="list-style-type: none"> - The adoption of a FW prevention approach translated into vocational contents and key messages for the project’s target groups as well as into recommendations for policy makers - The incorporation of food waste monitoring as a component of the strategy for and training in food waste prevention. Additionally, the project underlined the importance of adopting monitoring tools that are fit to specific contexts, to have more precise data – which reflects the decision of developing a specific food waste monitoring tool in this project. - The emphasis on the contribution of vocational education and training to tackle environmental issues. <p>During the project’s timespan, the Beneficiaries’ participation in many EU and national experts’ groups – dealing with e.g. circular economy, VET and the green transition, education for sustainability, bioeconomy, urban food systems – constituted occasion for delivering the project’s key messages. At the same time, those opportunities favoured the Beneficiaries’ acquaintance with the strategic framework under development, especially on EU scale.</p> <p>Moreover, the following major project’s achievements in this Action are significant: LIFE FOSTER was the only best practice in vocational training included in “Analysis of good circular economy practices for the evaluation of their operation and performances and to encourage their replicability” by UNI.</p> <p>LIFE FOSTER’s best practice was included in “Picking up the Pace: A Compendium of Inspiring Practices on VET and the Green Transition” by the Working Group on VET and the Green Transition of European</p>

			<p>Education Area Strategic Framework supported by DG Employment, Social Affairs & Inclusion (the document is under revision and will be published soon).</p> <p>The French Ministry of Agriculture selected AFPA to apply the LIFE FOSTER’s model on food waste prevention in the framework of the “National pact for the fight against food waste” (Pacte national de lutte contre le gaspillage alimentaire).</p> <p>LIFE FOSTER was included in ICESP Circular Economy best practice database.</p> <p>Dialogue with EU FLW Platform was favoured by ABs MBB and UNISG through platform members HOTREC and SlowFood Europe, respectively.</p> <p>LIFE FOSTER was presented in the event organised by the Italian Ministry for the green transition on Circular Economy in May 2022 in the framework of “Mettiamoci in RIGA” – a project managed by the Ministry favouring replication of national CE best practices.</p> <p>UNISG provided relevant input about food waste to the working group on “Losses, agri-food surplus, household food waste and Mediterranean diet” whose result was a paper stating the vision and engagement of Italian agri-food system submitted in June 2021.</p>
C1	<p>Objectives: To demonstrate the impact of project actions in terms of food waste reduction and increased individuals’ food waste awareness</p> <p>Expected results: Development of an effective system to monitor and evaluate food waste reduction</p>	<p>Results achieved until August 2022: 3 food waste monitoring campaigns carried out: 1) Ex-ante monitoring to set the baseline of food wasted in participating VET centres before the adoption of food waste prevention solutions. Results:</p>	<p>This Action concentrated on the impact of food waste prevention activities implemented in Action B1, to provide reliable quantitative information.</p> <p>The impact on food waste awareness was considered as part of project Actions B and D, in which awareness questionnaires were administered (see also comments to relevant actions).</p> <p>As there was no food waste monitoring system available at the start of the project, a specific monitoring system – Food Waste Flow Balance – was developed to measure food waste in training centres in laboratories held to provide work-based learning. This system matched the environmental and economic dimensions of wasted food. This deviation compared to the proposal, which included the economic monitoring in economic monitoring Action</p>

		<p>17.4% average food waste generated corresponding to 19% of purchased food cost</p> <p>2) In-itinere monitoring to measure FW reduction through the application of FW prevention solutions. Results: 12% FW generated, corresponding to 16% of purchased food cost.</p> <p>3) Ex-post monitoring to measure further FW reduction through more advanced application of FW prevention solutions. Results: 7.3% FW generated, corresponding to 9.7% of purchased food cost.</p> <p>The comparison across the 3 monitoring campaigns showed that VET centres providing monitoring data had reduced food</p>	<p>C2, enhanced the tool’s effectiveness and completeness, and also improved users’ awareness. The tool, which provided data per each type of wasted food (e.g. vegetables, meat etc.) and the segments of the process where it occurred (e.g. purchase, preparation, service), also helped to identify process weaknesses, which helped to identify possible corrective actions. In this sense, FWFB could be held as a decision-support system.</p> <p>The implementation of a new monitoring system was a challenge for AB UNISG and all involved Beneficiaries (ENAIP NET, AFPA, CECE, and ITS), as it requested much effort on one hand for the development of a reliable tool and on the other hand for the organisation of dedicated laboratories and the retrieval of all information. However, the implemented web-based application and its tests were quite encouraging.</p> <p>Monitoring was also part of the training model (see Action B1). The use of a food waste monitoring tool in educational contexts has been very innovative and added value to the LIFE FOSTER training, as it gave a tangible quantitative dimension that both trainers and students appreciated.</p>
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		<p>waste with an average percentage decrease by 10.1% and a corresponding cost decrease by 9.3%. The Results:</p> <p>A 5.18% food waste reduction compared to baseline and 3.95% reduction of expenditure. In absolute terms, these reductions correspond to 444.513 kg/vocational training centre of reduced food waste; 3,919.24 EUR/vocational training of reduced expenditure</p>	
C2	<p>Objectives: To assess the socio-economic impact of project actions and their social implications for local communities</p> <p>Expected results: Two social monitoring campaigns (ex-ante and ex-post) One or more of the following results: - creation/maintenance of jobs in the field of scientific divulgation for the concrete realization of project activities</p>	<p>Results: 3 campaigns to measure the economic value of food waste. The monitoring was performed with the FWFB (see Action C1). Results related to the social dimension of the project: - creation/maintenance of jobs in the field of scientific divulgation: 1 job place at UNISG - increased in technical skills:</p>	<p>The economic monitoring was incorporated into the food waste monitoring system (see Action C1), the awareness monitoring was incorporated into Actions B and D (see relevant descriptions of Actions B and Actions D), while Action C2 only focused on social monitoring. From the interviews carried out in Action A1 it became clear that social monitoring of food waste had an intangible nature that was difficult to describe and, even less, quantified. The investigation fields identified were considered for the development of both interviews to carry out with persons responsible for guiding vocational training centres and questionnaires to administer to food service companies and professionals. Interviews provided significant insights into the VET centres' relation networks and the cultural change that the project had activated: in all 4 interview macro-areas the comparison between before and after the</p>

	<ul style="list-style-type: none"> - increase of technical skills - social benefits linked to the well-being of the population - saved food - economic savings - creation/maintenance of jobs in restaurants - customers' awareness on food waste 	<p>students' FW awareness grew, and their improved technical skills could be indirectly measured through the laboratories providing data on food waste reduction</p> <ul style="list-style-type: none"> - 13 interviews to responsible persons of vocational training centres and restaurants - A survey based on 574 questionnaires collected from food service professionals - A survey based on web-content analysis 	<p>project implementation showed increasing values.</p> <p>To measure the project social impact in terms of creation/maintenance of jobs in restaurants a quantitative survey was planned, whose results confirmed that the project approach and activities were increasing this target group's interest and sensitivity towards food waste. They also revealed that much work is needed to help food service professionals adopt prevention solutions, especially digital solutions, as they have considerable time constraints.</p> <p>The pandemic situation coupled with professionals' limited time to provide relevant information for the survey induced to find a new solution to have more robust information on food service companies' attitude towards food waste. A website content analysis was therefore carried out, which revealed that the sustainability topic is mentioned in food service companies' websites quite frequently. Seasonality and short supply chain also were mentioned but less frequently. However, no specific focus was set on food waste prevention measures. This survey findings revealed that much work is needed to increase food service companies' and professionals' awareness on the relevance of the food waste issue as a communication asset.</p>
D1	<p>Objectives:</p> <ul style="list-style-type: none"> - Disseminate project results to the VET system - Transfer project results to VET providers to favour project replication <p>Expected results:</p> <ul style="list-style-type: none"> - 13 videos - 8 newsletters distributed through umbrella associations (outreach approx. 1000 	<ul style="list-style-type: none"> - 4 videos released - 4 Newsletter issues with an average of 133,000 contacts - 6 Technical Workshops with 133 attendees from the VET system - 1 online workshop for students with 198 registrations 	<p>A LIFE FOSTER YouTube channel contains:</p> <ul style="list-style-type: none"> - 16 videos (instead of 13 foreseen) - Additional videos which were shot on occasion of online and in presence events, and campaigns. <p>The Newsletter impact has been good, with an average number of nearly 133,000 contacts reached. The result was achieved thanks to the collaboration with VET umbrella associations – EVTA, EfVET and EVBB –, of which ENAIP NET, AFPA and CECE are members, as they facilitated the contact with other VET providers.</p> <p>7 technical workshops were held during the project's timespan. It is worthwhile mentioning:</p> <ul style="list-style-type: none"> - 2 TWs held at Job&Orienta 2019 fair, as they were hosted by the stand of the

	<p>recipients per association)</p> <ul style="list-style-type: none"> - international meetings with 80 participants - 3 technical workshops to be with 20 participants each - Food Waste Hackathon with 29 students from all countries - 1 workshop for 10 EU students - 8 VET providers involved in replicability 	<ul style="list-style-type: none"> - 1 digital Food Waste Hackathon with 15 competitors and 10,000+ visualisations - subscriptions (see comments here beside) 	<p>Italian Ministry of Education (MIUR), which assigned to the participating teachers, 4 training credits. They were also promoted through the European VET week 2019;</p> <ul style="list-style-type: none"> - 1 local TW held in July 2022 opened the dialogue between VET providers and policy makers. <p>VET umbrella associations also contributed to project's replication, as they favoured the organisation of LIFE FOSTER technical workshops on occasion of their members' meetings. 2 workshops for VET providers held in France in May 2022 during the international meetings of EVTA and EfVET conveyed important contacts with VET providers. 2 of them adopted LIFE FOSTER's tools afterwards.</p> <p>All these workshops delivered approx. 1150 questionnaires from students and approx. 235 questionnaires from trainers, which provided some interesting data on these target groups. They showed that students below 20-y.o. were less informed and less aware on the relevance of the food waste issue. Therefore, the project approach was correct, as it was filling an important information gap. On the teachers'/trainers' side, information and awareness on food waste was higher, and was coupled with high interest in initiatives against food waste.</p> <p>To be mentioned also:</p> <ul style="list-style-type: none"> - LIFE FOSTER's results for the VET system were presented during an ETF-GRETA network meeting in June 2022. - 1 Joint Staff Training for trainers and 1 Mobility for teachers and students were also organised in the framework of replicability in June 2022. - The endorsement of LIFE FOSTER's tools by EFFEPI members – a network including 12 VET providers from Friuli Venezia Giulia (IT). <p>If we compare this result with results from awareness questionnaires of students attending LIFE FOSTER courses, we can see the positive effects that vocational training initiatives can produce in terms of</p>
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			<p>increased attention and positive behaviours towards an environmental problem.</p> <p>Further benefits were related to the FW Hackathon held in April 2021. As pandemic social distancing forbade the organisation of fairs and travelling, the Food Waste Hackathon took place as a digital event broadcasted from 9 am to 3.30 pm as if it were real marathon. 15 competitors aged 14-23 demonstrated how to use the same ingredient – artichoke – in a wide variety of local recipes. The aim of preventing waste as much as possible was achieved: only 6.2% wastage was generated. The event had 10,600 visualisations and, considering this success, FIC prepared a recipe book collecting the recipes participating in the competition.</p>
D2	<p>Objectives: Raise awareness on food waste in a wider audience</p> <p>Expected results:</p> <ul style="list-style-type: none"> - Compulsory communication tools - Brochure and posters (40000 copies) - Posters (4000 copies) - 8 press conferences - Social media pages 	<ul style="list-style-type: none"> - All compulsory communication tools - Brochure: 6,950 printed copies and approx. 11,728 copies distributed (including digital versions in the final number) - 3 press conferences: total participants: 75 - FB, Instagram and YouTube profiles 	<p>Impact of project communication and dissemination is described below under “Indicate the effectiveness of the dissemination activities and comment on any major drawbacks”</p>
D3	<p>Objectives: Create a network to exchange information and favour stakeholders’ awareness raising</p> <p>Expected results:</p>	<ul style="list-style-type: none"> - A database for networking that collects major information on relevant projects - A networking matrix that facilitates 	<p>The networking major result was the LIFE CLIMATE SMART CHEFS project coordinated by Barilla Foundation started in January 2022, which builds on the results of both LIFE FOSTER and SU-EATABLE LIFE.</p> <p>Networking with other projects provided many benefits, especially referred to reaching out to complementary topics – e.g. bioeconomy, urban food systems. Building</p>

	<p>1 network with other LIFE projects on topics that are close to food waste</p>	<p>comparison among projects with the aim of identifying possible networking areas and rank them</p> <ul style="list-style-type: none"> - 53 projects scanned - Contacts established with 21 projects - 7 project participating in LIFE FOSTER networking event - 2 agreements signed - 1 LIFE project approved 	<p>on networking contacts, new opportunities for dissemination and transfer of project results came, for example, through project networks – like, EU BioNet – which can convey new opportunities for initiatives taking stock of LIFE FOSTER’s results.</p>
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Results that were immediately visible fell in Actions B1, B2, C1, and D1.

In Action B1:

- The increasing number of trainers and students who were trained in food waste prevention – 498 and 8,211, respectively (see description of Action B1 in the table above and technical description of Action B1 in Par. 6.1 “Technical progress, per Action”)
- The trained trainers’ and students’ increased food waste prevention awareness and skills. The course had a direct impact on trainers’ activities, as they enhanced the focus on and increased the frequency of the food waste topic in their classes. Students’ awareness before and after the LIFE FOSTER training also revealed an increase (see description of Action B1 in Par. 6.1 and Annex “LIFE_FOSTER_B1_Trainers_feedback_analysis_FINAL”). This increased food waste awareness will become more apparent in future, as the VET partners will continue to offer training in food waste prevention to both trainers and students after project end. Therefore, the number of individuals made aware among trainers and students will increase up to 2,000 and 30,000, respectively, after 3 years since project end, as well as it will further increment in the subsequent years as an effect of the incorporation of food waste prevention in the training programmes.

In Action B2:

The considerable effort to overcome the difficulties caused by the pandemic restrictions achieved a much higher result than expected. LIFE FOSTER’s online and in-presence events reached out to 34,304 professionals. This result will become more considerable considering the incorporation of criteria related to food waste into the evaluation of culinary competitions held by FIC. Therefore, the total number reached after 3 years since project end could increase by further 8,000 individuals.

In Action C1:

- The implementation of a new food waste monitoring tool, a web-based application called [Food Waste Flow Balance](#), which was not foreseen by the project, allowed for the collection of reliable data.
- Monitoring campaigns showed a constant decrease in the food waste released in VET centres. The comparison between baseline and final measurements revealed an average 10.1% decrease in wasted food amounting to 535.08 Kg/VET centre. Concurrently, the cost of food waste also decreased by 9.3%, equal to a saving of 4,829.29 EUR/VET centre.
- The application of Food Waste Flow Balance for measuring food waste generated in VET represented an opportunity for increasing trainers' and students' awareness through direct observation of collected data.

In Action D1:

The VET system demonstrated great interest in LIFE FOSTER's results. TWs facilitated by VET umbrella associations gave impulse to additional, unforeseen activities, like the workshop held during ETTE JST, the presentation of LIFE FOSTER's results and impact on VET centres held for ETF-GRETA network, LIFE FOSTER's training during AKMI mobility (see details in Par. 6.1).

The continuous engagement of ENAIP NET, AFPA, and CECE inside the VET umbrella organisations will lead to an increase in the number of organisations up to 30, 3 years after project end.

– Project amendment

During the project timespan a project amendment was submitted (August 2021). The requested project amendment concerned an 8-month project extension – until 31.08.2022, since COVID pandemic determined delays affecting most Actions either directly or indirectly.

This project extension was fundamental to achieve the ambitious project KPIs, which were mostly reached and, in some cases, outreached.

An additional Amendment to the Grant Agreement was submitted after the project end, as requested by the Agency in issue n.24 included in its communication of 03.08.2022 about the results of the 4th Monitoring Visit. More details are provided in Par. 6.2 and in Annex “LIFE FOSTER- Deviations_delays_major problems_Master Copy_20230609”.

– Describe the results of the replication efforts.

Replicability was considered already at the time of the project submission, since the project proposal entailed Action D1 for the transfer of the LIFE FOSTER results to other organisations from the VET system. Moreover, the project featured the involvement of relevant umbrella associations of the VET system – EVTA, EVBB and EfVET – which contributed to achieve positive results.

Besides contributing to circulating the LIFE FOSTER Newsletter among their associates, these organisations also provided occasions to propose the LIFE FOSTER training model on food waste prevention to other VET providers:

- During a Joint Staff Training of an ERASMUS+ project (ETTE – European Trainers' Training for Excellence) in January 2020, with 38 participants including VET teachers, trainers and tutors from European vocational training centres
- During 2 round tables held by EfVET in November 2020 with the aim of favouring information exchange among actors of the VET system
- During 2 TWs held in France in May 2022 involving 33 attendees.

TWs facilitated by VET umbrella associations gave impulse to a workshop held during ETTE JST, the presentation of LIFE FOSTER's results and impact on VET centres held for ETF-GRETA network (involving 18 VET providers), LIFE FOSTER's training during AKMI mobility approx. 50 individuals.

AFPA gave access to its LMS containing LIFE FOSTER’s training contents to 10 Apprentice Training centres (CFA – Centre de formation des Apprentis) and accredited training centres for younger students.

Thanks to the participation in the LIFE FOSTER project, the topic of food waste has become a taught subject within the courses in “Systemic design for Circular Economy”, “Designing Sustainability” and “Ecodesign of Gastronomy” at UNISG. Furthermore, a group was set at UNISG dedicated to the issues of applications and effects of the circular economy in the catering sector. These results were not foreseen in the project, and they therefore represent an additional effect on higher education.

To be underlined that LIFE FOSTER’s best practice was included in “Picking up the Pace: A Compendium of Inspiring Practices on VET and the Green Transition”, a study by the Working Group on VET and the Green Transition of European Education Area Strategic Framework supported by DG EMPL. This result achieved in Action B3 has significant replication potential as this publication, which is currently under revision, will be spread through the communication channels of the European Commission.

– Effectiveness of the dissemination activities.

Project dissemination actions were:

- Action D1 Dissemination of results to other vocational training centres and replicability
- Action D2 Information and dissemination of project’s results
- Action D4 Final FOSTER event

Regarding Action D1, major achievements include:

1. The transfer of LIFE FOSTER’s training to 14 VET organisations which either attended project’s TWs or encountered the project via the network of Beneficiaries’ relations – e.g. through VET umbrella associations.
TWs and trainings for VET trainers involved 447 trainers and 393 students. More details on these activities are provided in relevant the Annexes mentioned in the description of Action D1 provided in Par. 6.1.
2. The capitalisation of the LIFE FOSTER training in a Erasmus+ KA2 project – VET LOVES FOOD – which started in April 2022. The project builds on LIFE FOSTER’s experience to develop a new curriculum incorporating green skills related to food waste prevention to favour the sustainability of restaurants.
3. The impact of project Newsletter (8 issues), which reached a high number of contacts through emails, social media, and news on website:
 - N.1: 49,986 contacts
 - N.2: 65,544 contacts
 - N.3: 158,743 contacts
 - N.5: 127,462 contacts
 - N.6: 171,690 contacts
 - N.7: 171,908 contacts
 - N.8: 124,692 contacts

The progressive increase in the audience reached was the result of both Beneficiaries’ engagement, conveying the newsletter through many communication channels, and the involvement of VET providers’ umbrella associations – EVTA and EVBB — in the project’s dissemination to this important project target group.

An analysis of the newsletter impact, by channel, is attached to this report (Annex ‘LIFE_FOSTER_D1_newsletters_impact_recap_FINAL’).

4. The challenges held during the project had high impact:
 - [Food Waste Hackathon](#) (April 2021): Over 10,600 visualisations (more details are provided in Annex “Food_Waste_Hackathon_13-04-2021_report_DEF”)

- [Zero Waste Brainstorming Challenge](#) (May 2022) which had a significant media coverage and was included in the programme of [events](#) celebrating 30 years of LIFE programme

Regarding [Action D2](#), major results achieved included:

1. Website impact:
 - 160,000 unique users until project end
 - 26,422 sessions
 - 77,826 page views
 - 46.62% bounce rate
 - 2m 32s average duration session
 - 150 contacts through the website
2. Press conferences:
 - 75 participants in 3 press conferences
 - The final press conferences were replaced with press releases on the Final event – 62 newspapers.
3. Social media (Facebook, Instagram, YouTube) impact:
 - Facebook profile 735 followers
 - Instagram profile 354 followers
 - YouTube channel 121 followers

Trends of website and socials were positive, with a steady increase since their first release in 2019.

Further detailed information is found in Annex “LIFE_FOSTER_D2_web-social_REPORT_2019-2022”.

Regarding [Action D4](#) on the organisation of LIFE FOSTER Final Event, the number of event participants met the expected target (53 in-presence + 13 online participants), but it could not involve many students with the foreseen laboratories. Due to the changed timeline after the amendment, the event took place in July 2022, after the end of the school year. Consequently, few students (7) were still available for participation in the event. The event could not have been organised earlier as the Conference part had to give resonance to the project results, which otherwise would have been incomplete.

The KPI for [communication and dissemination](#) was:

Website bounce rate/average time on page. Regarding bounce rate, the percentage 46.62% was higher than expected (30%), while the average time on page 2m 14s was longer than expected (> 40 sec.). One of the possible reasons why the bounce rate was higher could be due to the frequent use of the acronym VET (Vocational Education and Training) which led to LIFE FOSTER website also people seeking information on “vet” (veterinary).

– Policy impact

The project has certainly contributed to defining EU and national policies on Circular Economy, food waste, and bioeconomy. Considering the importance of the bottom-up process in the definition of EU policies, LIFE FOSTER’s contributions represented an EU added value, since the project Beneficiaries often acted in EU contexts where they provided inputs for policy development based on the project lessons learnt. Particularly, they provided recommendations to policy makers on:

- Rewarding mechanisms for food service businesses preventing FW
- Training of food service professionals in FW prevention
- Customised FW monitoring systems for different types of businesses.

Regarding the food waste challenge, the context was favourable to the project, considering that it certainly contributed to strategic policies that were launched after its start – such as, the

European Green Deal (December 2019), the New Circular Economy Action Plan (March 2020) and the Farm to Fork Strategy (May 2020).

The “Waste Framework Directive” (May 2018) also recommended that Member States should take measures to promote prevention and reduction of food waste in line with the UN 2030 Agenda for Sustainable Development (2015). The same Directive also indicates that measures should be designed to meet the targets of FW reduction – 30% by 2025 and 50% by 2030 – in each segment in the food value chain, including restaurants and food services. Prevention is considered as the most appropriate approach to reduce FW and the project represents a best practice of how to face this challenge through the adoption of correct behaviours. The [FW Hierarchy](#) has identified prevention measures as the most preferable options.

LIFE FOSTER’s contribution to tackling the issue of FW data collection has been meaningful as FW quantification has become of strategic importance considering:

- The proposal of legally binding targets to reduce food waste across the EU, by end 2023, defined against a baseline for EU food waste levels set following the first EU-wide monitoring of food waste levels as called for by the new Farm to Fork Strategy;
- The 2015 Communication on Circular Economy, which called on the Commission to elaborate a common EU methodology to measure food waste to support achievement of the Sustainable Development Goal 12.3 target on food waste and maximize the contribution of all actors in the food value chain;
- The Delegated Decision establishing a common EU methodology to measure food waste, as supplement to Directive 2008/98/CE. With this regard, the monitoring tool can contribute to develop a [food waste monitoring framework](#);
- The progress of the sub-group on [food waste measurement](#) of the EU Platform on Food Losses and Food Waste.

On a national scale, LIFE FOSTER:

- Was identified as a [best practice](#) for circular economy by ICESP and was selected by UNI as the only circular economy best practice for the vocational training area whose results were included in “[Analysis of good circular economy practices for the evaluation of their operation and performances and to encourage their replicability](#)” (see Annex “UNI1608977”)
- Was presented in the events organised by the Italian Ministry for the green transition on Circular Economy in May 2022 and by the Ministry for the environment and energy safety in December 2022 (after project end) in the framework of “Mettiamoci in RIGA” – a project managed by the Ministry favouring replication of national CE best practices. As a follow-up of this presentation, in December 2022 LIFE FOSTER was selected for a more insightful presentation held for representatives of Piemonte regional government who were interested in finding new methods to communicate to citizens about food waste. The project was also considered among the good practices showcased on the [Knowledge Platform](#) implemented by the Sustainable Development Department (Dipartimento sviluppo sostenibile – DiSS) of the same Ministry, with the aim of supporting their replication and transfer to public authorities.
- Was selected by the French Ministry of Agriculture to contribute to the implementation of the “National pact for the fight against food waste” (Pacte national de lutte contre le gaspillage alimentaire).

It also contributed to:

- The implementation of the Italian plan for food waste prevention (Piano Nazionale di Prevenzione degli Sprechi Alimentari – PINPAS) of June 2014. Particularly, it contributed to action n.1 – Education – and action n.2 – Communication, awareness raising and sharing;
- The development of a circular economy model for food waste in Malta, which is a new topic in this country, with a recently dedicated agency to Circular Economy Malta.

Regarding Vocational Education and Training policies, the adoption of the same training model in all 4 project countries and consequent preparation of localised vocational training materials set the basis for a future revision of EU food service curricula through the incorporation of food waste prevention skills, which will be implemented through the Erasmus+ KA2 project VET LOVES FOOD.

LIFE FOSTER:

- supported “the development of a core green skills set for the labour market to guide training across the economy with a view to creating a generation of climate, environment and health-conscious professionals and green economic operators”
- and helped to “integrate environmental and climate considerations into school, higher education, vocational education and training, as well as professional training”

as envisaged in Action 6 “Skills to support the twin transitions” of the “European Skills Agenda”. It also provided a model and tools for learning for the green transition and sustainable development, in line with Council Recommendation 2022/C 243/01 of 16 June 2022.

The project contributed to the “[Osnabrück Declaration](#) on vocational education and training as an enabler of recovery and just transitions to digital and green economies”, endorsed by the ministers in charge of vocational education and training from EU Member States, Candidate Countries, EEA-EFTA countries, European social partners and the European Commission in November 2020 and is supported by [VET providers’ associations](#).

6.4. Analysis of benefits

a. Direct / quantitative environmental benefits

The project met the target of reducing food waste in VET centres, as established in the KPI. Data comparison between the 3 monitoring campaigns held in the project timespan revealed:

- An average **10.1% decrease in the FW quantity**, corresponding to **535.08 Kg/year/VET centre**
- An average **9.3% decrease in FW cost**, corresponding to **4,829.29 EUR/year/VET centre**.

Both in percentage and in quantitative terms the FW reduction results were in line with the expected impact of the KPI – 10% and 450 Kg/year per each VET centre.

LIFE FOSTER demonstrated how vocational training can develop behaviours contrasting an environmental problem, food waste.

To achieve this major objective, the project developed the Food Waste Tool – i.e. the LIFE FOSTER training model with the FW prevention solutions adopted for every training and demonstrative activity implemented by the project (see Annex "A1.0 A1.1 deliverable") – and the Food Waste Flow Balance, a web application to measure the effectiveness of the FW Tool in the involved VET centres.

FW monitoring was embedded into the training model, following the principle that “Only what can be measured, can be managed”. A specific quantification method was therefore elaborated by AB UNISG in cooperation with VET Beneficiaries – the **Food Waste Flow Balance** describe in Annex “C1.C2.A1. Deliverable Quantification method”. The quantification method was translated into a web application, which, although not foreseen by the project, improved data analysis. The application was employed in dedicated experiential laboratories where trainers and students measured the effectiveness of FW prevention solutions. It also contributed to enhance their FW awareness and understanding of the importance of their contribution to FW reduction, as reported by one of ENAIP NET’s trainers involved, during the [webinar](#) “Food Waste in the catering sector: why measure it and how” held by UNISG in the framework of “Terra Madre Salone del Gusto” 2020.

To measure project target groups' FW awareness as well as of all individuals reached through events, the project delivered awareness questionnaires.

Students' awareness activated through training was measured in a survey whose questionnaires were administered twice – before and after the training. By the end of August 2022, 4,272 questionnaires were collected – including 2,394 before and 1,878 after training.

Comparison of mean values before and after the training showed an increase after the training (see fig. 1 below), thus confirming the effectiveness of the training programme.

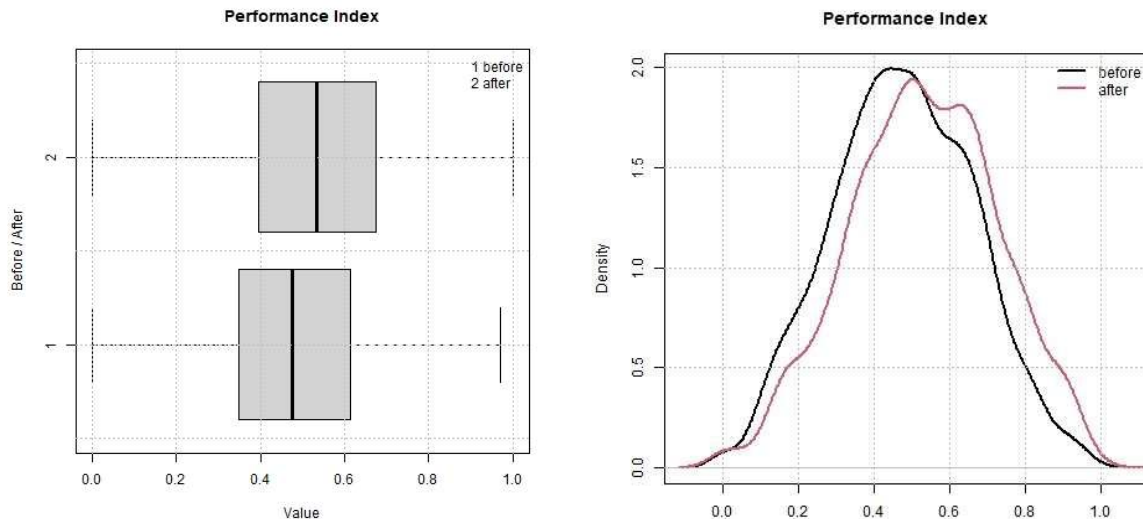


Fig. 1 Boxplot of the overall score before and after the program (left) and distribution of the estimated density.

A survey considering **individuals reached** through project online and in-presence **events**, showed that a wide majority of them (88.8%) were aware of the FW challenge. The knowledge increased in the case of food service professionals (Cooks 95.1%, Chef de cuisine 95.2%, Business owner 94.2%, Chef Patron 95.0%, Director/manager/administrative, 90.6%, Commis chef 100%, Consultant 100%, Chef de partie 100%, Pastry chef 100).

The lowest percentages of respondents who considered FW as a "very relevant" issue were found among young people (up to 20 y.o. – 59.6%) and, therefore, among students (62.3%). The young respondents, those under 20, were also the least interested (30.9%) in having information on the LIFE FOSTER project, while the most interested were found in age-range >60 (79.1%).

If we compare data on young students' awareness after training (Action B1) with data on students attending events (Action D1), we can infer that training and education are key to raise this stakeholder group's awareness, which also confirms the effectiveness of the project initial assumption.

Regarding the **increased awareness** of individuals attending LIFE FOSTER's events and activities, some information was collected during events organised for Actions B2 and D1. Overall, 2,066 questionnaires were collected. The number of collected questionnaires was lower than the number of individuals reached as Action B2 events reached 34,304 individuals (professionals) and Action D1 reached approx. 21,440 individuals (trainers and students). This was partly due to the context in which many events took place – e.g. fairs, festivals – where visitors collected the questionnaire's QR-code postcards, but afterwards did not fill them out, a situation which happens quite frequently.

However, the survey results revealed that:

- 88.8% of respondents stated that they knew about food waste. Lower values were scored by job categories less linked to the food service sector (n.d. 85.3% and other 87.7%) and

students still in training (85.4%), thus confirming the importance of the training for young students.

- Sector professionals showed high knowledge of food waste issues - Cooks 95.1%, Chef de cuisine 95.2%, Business owner 94.2%, Chef Patron 95.0%, Director/manager/administrative, 90.6%, Commis chef 100%, Consultant 100%, Chef de partie 100%, Pastry chef 100.
- 69.5% of respondents considered the issue of food waste in the catering sector as "very relevant".
- The most sensitive to food waste were commis chef (90%), business owners (84.6%), teachers (84.3%) and chefs de cuisine (84.1%).

The lowest percentages of respondents who considered food waste as a "very relevant" issue were found among young students (up to 20 – 62.3%). This aspect is even more important if we consider that respondents under 20 were the least interested (46.3%) in having information on the LIFE FOSTER project. If we compare these results with the increased students' awareness achieved with LIFE FOSTER training (see Action B1), we can see how education – and more specifically vocational training – can be crucial in increasing this target group's awareness (see also Annex "LIFE_FOSTER_professionals_awareness_analysis").

b. Qualitative environmental benefits

The following elements of the project anticipated recent EU policies:

- The adoption of a prevention approach
- The use of a specific tool to measure food waste in vocational training laboratories and restaurants
- The development of green skills for food waste prevention.

The analysis of students' awareness questionnaires collected before and after training in food waste demonstrated that the training increased their awareness of this problem (see Annex "LIFE_FOSTER_B1_students_awareness_analysis_FINAL"). It therefore confirmed the effectiveness of the project strategy relying on:

- A food waste prevention approach to tackle the food waste issue
- A shared vocational training model based on scientific evidence, showing that vocational education and training can develop correct behaviours to tackle an environmental issue
- The implementation and use of a FW monitoring tool to enhance food waste awareness as well as to facilitate the identification of solutions to reduce amounts of wasted food and related cost.

The project delivered training to 498 trainers and 8,2011 students, outreaching the foreseen target – 487 and 7,520, respectively.

The training contents on FW were incorporated into the didactic material for food service careers.

The food waste challenge was considered as a citizenship topic and was therefore included into relevant programs in ENAIP NET's VET centres with success. Therefore, CECE already prepared a training module on food waste for wider teachers' and students' involvement, and it will start holding training sessions in more schools in September 2021.

In France, 30 AFPA training centres and their trainers all over the French territory intensively worked to address the issue of food waste and raise their students' awareness of food waste. Additionally, AFPA collaborated with Apprentice Training centres (CFA – Centre de formation des Apprentis) and accredited training centres. It opened its resources to a larger number of students to increase the impact of the project.

All these activities resulted in transferring the methodology to other VET providers and schools and therefore in an increase in the numbers of people exposed to it. More specifically, the methodology implemented was transferred to other countries on occasion of the technical

workshops that facilitated the transfer to the VET system, in which organisations also coming from outside the project area participated. Particularly, INOVINTER, from Portugal, and AKMI, from Greece, used the food waste prevention course resources. AKMI also sent both staff and students to a mobility focused on the LIFE FOSTER’s methodology hosted by ENAIP NET. Also, to underline that the involvement of VET umbrella organisations will ensure the continuation of this transfer to other countries, as part of the activities favouring the development of green skills.

The methodology implemented by LIFE FOSTER for the activation of new behaviours in the food service industry is also incorporated into the LIFE CLIMATE SMART CHEFS and the ERASMUS+ KA2 VET LOVES FOOD projects as part of a high-level course for more sustainable chefs’ working behaviours and as the core of a more sustainable and innovative VET curriculum for the restaurant industry, respectively.

Regarding the transfer of the web application outside the project partnership to other countries or types of organisations, multiple factors need to be considered first, as the monitoring system was specifically designed to respond to the characteristics of VET organisations. Testing with a limited number of restaurant businesses revealed that further technological implementation is needed to optimise the time for data inputting. To transfer the web application to other organisations it will also be necessary to carry out an assessment of the appropriateness and compatibility of the tool to the new context of reference.

Regarding economic benefits, the project measured its impact in terms of reduced food waste cost through its web application – Food Waste Flow Balance. The measurement took place along the three monitoring campaigns, which revealed a continuous decrease in the values of food waste cost corresponding to the concurrent reduction in the values of food waste.

The following table illustrates the trend of the average Waste Amount Ratio (i.e. the ratio between the total output food waste amount and the total input food amount) expressed and Waste cost ratio (i.e. the ratio between the total output food waste value and the total input food value) during the 3 monitoring campaigns.

	Ex ante 35 menus	In itinere 40 menus	Ex post 33 menus	Percentage decrease of the average value from ex ante to ex post
Average value Waste Amount Ratio for Menu OUTPUT/INPUT	17.4%	12%	7.3%	10.1%
Average value Waste Amount Ratio for Menu OUTPUT/INPUT	19%	16%	9,7	9.3%

Table 1: Trend of average Waste Amount Ratio and Waste amount cost during the 3 monitoring campaigns

Although VET centres differed in terms of size and types of activity (ranging from didactical laboratories catering open to external public), the estimated reduction in food waste was 535.08 Kg/VET centre/year, corresponding to a saving of 4,826.29 EUR/VET centre/year.

Measurement of **social benefits** was quite challenging due to both the nature of the difficulties in identifying a direct relationship between FW and the social dimension and the COVID-19 pandemic which impacted on both food service companies and VET centres quite significantly.

The KPI for the social impact referred to the **Employment** indicator and was 1 FTE and 2% change. 1 FTE was reached, as UNISG assigned the foreseen research grant. The 2% change had to be considered in a different way. Although VET Beneficiaries collected data on their students yearly, their data collection could not ensure a direct connection between their employment situation and the project effects. Additionally, it must be considered that many students can not be reached because they e.g. changed address, do not respond to questionnaires etc. Additionally, food service job careers are frequently characterised by high mobility, which determined further difficulties in reaching out to LIFE FOSTER's trained students.

Assessment of the social impact generated by project actions to reduce food waste was also challenging, considering the immaterial nature of the social dimension, which became even more evident when compared to the quantitative side of the economic and environmental dimensions. With no established framework against which to evaluate or assess the social dimension, current social benefits of food waste prevention and management are often quoted, but they lack evidence, consistency, and comparability.

As revealed by the interviews carried out in Action A1, VET providers and food service professionals could identify the relevance of the social dimension, but they could not describe it accurately. Particularly difficult for them was to describe direct and internal benefits. To partly fill this gap of information, Beneficiaries decided to add a survey among food service companies and professionals beside the interviews to heads of VET centres already foreseen by the project. The survey was completed by a smaller number of individuals than planned – 574 against 3,600 – for the following reasons:

- The persistence of measures to contain the pandemic undermined the possibility of reaching many companies, because a lower number of internships could be activated, than planned;
- Once social distancing measures were mitigated, food service companies and professionals were too busy to dedicate time to fill out questionnaires – the staff had been previously reduced while the number of customers was high.

Beneficiaries then decided to add one more survey – a website content analysis – to overcome poor professionals' availability.

Both interviews and survey questionnaires investigated the following categories of analysis of the social impact:

- Creation of **relationships at a territorial level** and especially with suppliers and local communities
- **Marketing** strategy and corporate **reputation** in the relationship with customers
- **Internal organization processes and awareness**
- Level of **recognition / demand** by the labour market of food waste prevention / minimization skills.

These categories of analysis were also selected for their interconnections with the categorization of the solutions addressed during the training of the trainers, especially during the explanation of food waste in the restaurant sector as a wicked problem (Action B.1).

Interviews **highlighted** that:

- The project helped interviewees realise how actions to reduce food waste had also a reputational value and could be part of the communication/promotion of their business (VET centre or restaurant).
- Interviewees did not know the value and quantity of waste produced during the activities of the training centre/ restaurant before the project started. Consequently, it was a negligible variable in the organizational dynamics, internal and external to the company, which in practice has resulted in a total or almost total lack of procedures aimed at preventing-reducing waste in the procurement, transformation, and consumption phases.
- The evaluation of the recognition of a food waste prevention competence from a professional point of view was absent because, on the one hand, food service job market

was not able to clearly recognise this competence, on the other hand, until recently, staff recruitment had not considered it as a priority competence.

Below the results of the **ratings** illustrate the situation before and after the project start:

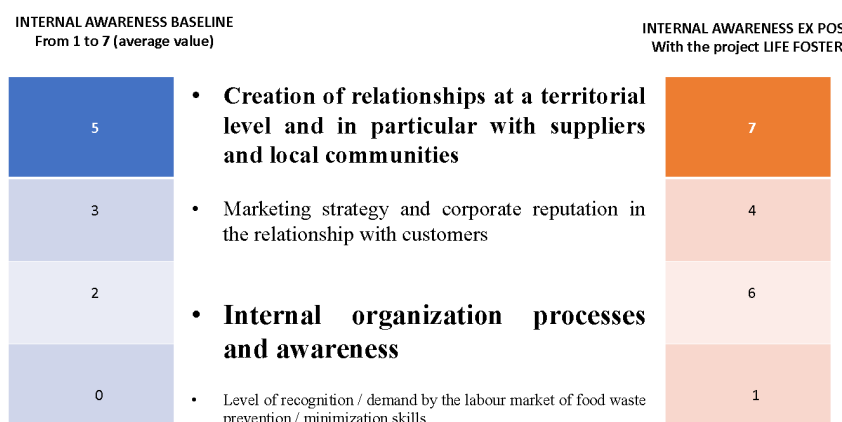


Fig. 2 Ratings of the social impact assessment categories for baseline and ex post analysis

The 574 questionnaires collected for the **quantitative survey** provided **very interesting insights** into the analysed categories referred to this target group:

- Most importantly for the nexus between FW prevention competence and **employability**, 61.6% of food service professionals said that they agreed that food waste reduction techniques should be mandatory in every training course for restaurant staff, 51.2% declared that in the future they would prefer hiring workers with skills in food waste reduction, 50.7% (totally) agreed with the idea that a certification system of workers' skills on the ability to manage food waste was needed, and 46.5% (totally) agreed that workers should include food waste experiences in their CV.
- 38% of respondents collaborated with local associations
- 48% of the food service professionals who said they had no partnerships with local associations declared that they had never thought about it, but they may do it in the future
- 25.8% said that there were no such organizations in their area to collaborate with; otherwise, they would
- 13.2% believed that this was not interesting for their business and that the reduction of waste had value only from an internal point of view regarding the company itself
- 9.8% declared they would only activate collaborations with local associations if this would become mandatory.

The answers revealed that almost three out of four food service professionals who did not collaborate with local associations to redistribute food surplus declared themselves interested in doing so. The result was interesting from the viewpoint of an attitude to the FW issue. The percentage grew among food service companies that hosted interns, thus confirming the project's assumption that students' internships were an effective means to influence food service companies.

Regarding communication on their engagement in food waste prevention, only 29.6% of the companies ever advertised the activities they carried out for food waste prevention or for the management of food surpluses with local associations. Half of them (49.5%) had not thought about it but would do so. 9.1% believed that it was an internal activity and was not interesting for people outside the business. 6.4% believed that they could not raise any interest or improve the reputation of the business.

Restaurants that communicated their food waste reduction activities most frequently relied on customers' word of mouth (74.7%), followed by social networks (68.8%), website (49.4%),

posters/billboards (22.4%), the local newspaper (18.2%), advertising placemat (18.2%), and specialized magazines (11.2%).

More related to FW reduction solutions, the survey revealed that 35.2% of food service professionals conducted awareness campaigns and communication on food waste for their employees. In 18.5%, the workers took part in courses. 16.9% of the restaurants adopted continuous examples. 4.9% of restaurants, on the other hand, had codified procedures concerning the reduction of food waste. Nonetheless, 16.6% of restaurants had never conducted awareness campaigns and communication on food waste. However, 7.7% did it through involvement of their suppliers, and 9.2% addressed their campaigns towards their customer, while only 5.7% involved local communities.

To reduce food waste along the supply chain, 49.7% of restaurants declared that they had internal organizational procedures for food preparation. 45.6% adopted stock reordering and replenishment procedures, while 35.4% used internal systems for raw materials management. However, 21.3% of respondents said that they had no internal policies to reduce food waste, while 16% of respondents had internal organizational procedures for customer relationships.

Website content analysis considered **2,598 websites**, which provided the following highlights:

- 92.2% included at least one of the selected words to describe the topic of "sustainability", with no significant differences among the countries.
- The percentage of websites mentioning at least one selected words referred to the food waste topic dropped to 27%, with Spanish restaurant websites reporting less frequently the topic of food waste (22%). In Italy and France, words selected for food waste which appeared more frequently were related to the shortening of supply chains and product seasonality, while in Spain these words were closer to the food waste concept. In Malta, the vocabulary used on restaurant websites appeared balanced between words referring to seasonality and proximity to suppliers and those more related to food waste.
- Words referred to the use of food waste monitoring applications, cooperation with organizations or initiatives that deal with food waste, and production certifications were hardly found in restaurant websites. In Italy, France, and Spain few cases mentioned Protected Geographical Indication products and cooperation with food surplus distribution initiatives, while no Maltese website contained the selected words.
- Words referred to the social impact were also selected. Of these, the most frequently found terms referred to solidarity, qualified staff, staff training, and local markets.

Details on the quantitative survey and website content analysis are available in Annex "Socio-economic monitoring_Final Report".

Based on the above-mentioned survey results Beneficiaries expect that food service companies will appreciate more and more employees who can adopt correct behaviours to face the food waste challenge, because this will provide benefits in terms of economic return (as the project monitoring demonstrated) and company's reputation linked to its environmental engagement. Therefore, VET providers will have to focus more on the development of green skills both in VET courses for both young and adult individuals who are going to work or are working in food service companies.

For replicability, transferability and cooperation, the project featured Action D1.

LIFE FOSTER provided the basis for the submission of an Erasmus+ KA2 project. The new project proposal called "VETLOVESFOOD - Rethink Reduce Reuse" represented the result of cooperation between ENAIP NET and CECE. Starting from the LIFE FOSTER experience, this new project, started in April 2022, is building a food service professional profile incorporating FW prevention and sustainability competences and foresees closer connections between food suppliers and food service companies.

Cooperation with some umbrella associations representing the VET system at EU level – namely, EVTA, EVBB and EfVET – was also key to activate very important contacts with other 14 VET providers which were interested in LIFE FOSTER training model and tools (see also 6.3 and technical description of Action D1).

Regarding LIFE FOSTER's effects on policy, it is important to underline that it did not apply an existing best practice. On the contrary, it **created a best practice** on Circular Economy, which was recognised by:

- The Italian organisation for norms and standards – UNI
- The Italian Platform of Circular Economy Stakeholders (ICESP)
- The Veneto Regional Government

Additionally, the French Ministry of Agriculture included the LIFE FOSTER model in its national strategy to contrast food waste.

All above-mentioned achievements are likely to influence national policies. Moreover, the project networking and dialogue with policy makers has opened significant collaborations with EU initiatives leading to the definition of new policies. Particularly, after the project end, the Coordinating Beneficiary will be involved in an expert workshop in the framework of the Food 2030 initiative by DG Research and Innovation, leading to the definition of future research and innovation needs in the 2030 outlook.

The collaboration with the EU Platform FLW, with particular regard to the [sub-group on food waste measurement](#), is also expected to continue considering the relation between UNISG and SlowFood Europe.

Obviously, the Food Waste Tool – LIFE FOSTER's training model – and Food Waste Flow Balance – the project's food waste monitoring tool – started from an analysis of already available measures to reduce food waste. However, the final outputs were new and LIFE FOSTER Beneficiaries first tested them.

Main innovative aspects of LIFE FOSTER include:

- An approach based on prevention of food waste. At project start, in September 2018, initiatives on prevention of food waste were still few, as the preparatory phase (Action A1) showed
- A strategy based on the ripple effect of training – from training of trainers to training of students. This strategy applied to the development of correct behaviours to contrast an environmental issue in a systematic way had not been employed before – or, at least, there was no such experience in the project area
- The implementation of a new web-based food waste monitoring tool – Food Waste Flow Balance – to apply in VET centres and with good potential to be easily adjusted for restaurants
- The inclusion of food waste monitoring into vocational training laboratories. This experience was new. Measuring food waste produced in the laboratories enhanced students' awareness of their role inside food service companies with effects on both an environmental challenge and its economic implications.

7. Key Project-level Indicators

Contexts: territorial extents and specific contexts were split by 7 countries including the 4 project countries (IT, FR, ES, MT) and 3 additional replication countries (EL, PT, CY), on account of the geographical location of the concrete action of FW prevention carried out during the project and of the replication plans. A single comprehensive context was created for the 3 replication countries.

Area: for KPI 1.5, it was considered that the average surface of a VET centre is 1,215.44 m².

Humans influenced: for KPI 1.6, it was assumed the number of persons with improved capacity or knowledge due to project actions (13,337). The project outreach was higher: 67,012 among students, policy makers, and professionals.

Waste management:

KPI 3.1 for Waste management is Waste reduction through prevention by 5.85 tons/year – 450 kilos/year/VET centre – corresponding to a FW reduction range between 5.1 and 14%, and 10% average.

To collect data on food waste, ENAIP NET, AFPA, CECE and ITS involved, overall, 18 VET centres in 3 monitoring campaigns – ex-ante monitoring to set the baseline, in-itinere and ex-post monitoring to assess FW reduction through the application of FW prevention solutions.

In every VET centre involved each monitoring campaign featured 3 experiential learning laboratories for the preparation of a complete menu (4 recipes), with a total of 132 menus prepared.

FW reduction was assessed according to the Food Waste Flow Balance monitoring system elaborated by UNISG for the project (see Annex “C1.C2.A1. Deliverable Quantification method”).

From the second campaign, data were collected with a web-based application, which processed data automatically.

Complete set of end-impact data could be eventually referred to 13 VET centres, out which 5 in Italy, 2 in Spain, 3 in France and 3 in Malta. Food-waste reduction specific contexts could then be created and baseline, end-value and beyond-3-years value could be geographically split by country, namely:

- Baseline: average 4,500 kg/year FW per centre. Rationale: the beneficiaries planned to extend in three years the adoption of food waste prevention solutions to an overall number of 73 VET centres, through 14 VET providers (see below ‘Replication/Transfer’), distributed as follows: 28 in Italy, 12 in Spain, 18 in France, 5 in Malta, 9 in Greece, 1 in Portugal, and 1 in Cyprus. The baseline is therefore calculated multiplying the FW-per-centre by the number of centres in each country. Total = 328.5 tons/year.
- End value: average 10% reduction per centre in the 13 project centres = 450 kg/year x 13 = 5.85 tons/year, which is the total end-impact. The total end-impact is in line with the forecast of the 1st data snapshot where, however, the values could not be split by country. No end-impact is present in the replication countries not already involved in the project. This gives a trend warning, to be accepted as it is consistent with the project achievements and replication plans.
- Beyond end-value: average 10% reduction per centre in 73 project centres = 450 kg/year x 73 = 32.85 tons/year, which is the total beyond-end-impact. Further food waste reduction would be achieved if the residual food waste would be upcycled to produce biobased products. However, this type of actions was not in the scope of LIFE FOSTER.

Employment

The indicator was Jobs created and the expected target was 1 full-time job.

The expected target of 1 FTE was met since AB UNISG assigned 1 research grant since project start.

Regarding the impact on employability rate (2% increase), establishing a direct connection between FW reduction and increased employability was quite challenging and the result was

not as successful as expected. The monitoring systems collecting data on students' jobs after achieving their qualifications could not provide reliable information for the project purposes, as a direct link between the students' attendance of the LIFE FOSTER course employment situation after their final qualification was not possible. For a detailed explanation and description of the activities implemented to assess the project social impact, see Par. 6.3 and Annex .

Replication/transfer

The indicator was N. of replication / Transfer whose target was the engagement of 8 VET centres outside the partnership in the replication of the LIFE FOSTER's experience.

The target achieved was 14 VET providers:

[EFFEPI](#) – an Italian network of **12 VET organisations** providing training also for the food service industry – declared their interest in adopting LIFE FOSTER's training model and tools. Training on FW prevention was delivered to 2 additional VET providers which were interested in the LIFE FOSTER's experience in countries outside the area covered by the Beneficiaries – i.e. [AKMI](#) in Greece and [INOVINTER](#) in Portugal.

To also underline that:

- AB ITS trained 28 teachers from secondary schools who will be able to train their students on food waste prevention
- AB CECE trained trainers of a major VET provider from Bilbao – TKNIKA –
- AB AFPA opened its learning management system to 10 Apprentice Training centres (CFA – Centre de formation des Apprentis), which started ongoing collaboration with one of them.

Awareness raising

The indicator for Awareness raising was Number of entities/individuals reached/made aware.

The indicator referred to the following target groups:

- 1) **Students reached:** the project trained 8,2011 students against 7,520 to reach in Action B1. The KPI target – 15,000 students – which referred to students reached through all project activities, was achieved especially because of demonstration activities in fairs targeting either the food service industry or the VET system. Therefore, the following numbers could be considered:
 - a. 8,2011 trained students
 - b. 10,808 students reached through demonstration activities in fairs and events. This number includes an average of 10,000 students which visited LIFE FOSTER's cooking shows at Job&Orienta 2019 and 2021 fairs (on average the fair accounts for 10,000 visitors per day)
 - c. 10,600 visualisations of LIFE FOSTER's FW Hackathon in April 2021, considering that participants were young students and the target of the promotion (schools).

It should also be underlined that the achievement was the result of considerable Beneficiaries' effort, since COVID pandemic sensibly slowed down in-presence training and communication activities for many months.

The result was obtained notwithstanding AB ITS did not meet the project targets set in Malta (970 students). ITS considered that target as not corresponding to the actual situation. The reason behind the inconsistency was that, upon project submission and due to misinterpretation of the requested data, the total number of students eligible to be trained were taken as the entire student cohorts, while only 25% of the students were trained in the kitchens. This challenging situation worsened due to the restrictions imposed by the Health Authorities due to Covid-19.

- 2) **Trainers reached:** the project trained 498 trainers against 487 envisaged in Action B1. The KPI target was 500 trainers reached at project end. To be underlined that more trainers were

reached was increased through Technical Workshops, mobility trainings, and communication targeting the VET system, thus achieving the final result of 945 trainers involved by the project.

Training of trainers will continue after project end through both specific VET beneficiaries' internal ToT programmes and financed projects so to reach the total number of 2,000 trainers after 3 years since project end.

- 3) **Professionals reached:** Overall the project reached out to 34,304 food service professionals – 3 times over the expected result (10,000). This result could be achieved thanks to the Beneficiaries' considerable effort to overcome the challenges posed by the COVID-19 restrictions, which prevented the organisation of in-presence events. The online events which were implemented after the submission of a Contingency Plan in March 2021, aimed at increasing the number of individuals reached in this target group.

Following an overview of the individuals reached in Action B2 through awareness raising communication and events as well as through students' internships:

- 34,304 professionals
- 415 students
- 58,000 fair visitors
- 3,164 citizens
- 900 online fair visitors

A detailed list of events and targets reached is provided in Annex “LIFE_FOSTER_B2_fairs-seminars_recap_for_Issue_6”.

Traineeships totalled 2,966 companies reached. The number was lower than expected because of the intermittent activity of food service companies due to COVID-19 lockdown and social distancing measures.

- 4) **Policy makers reached:** The project reached 203 policy makers through both meetings organised by the project where policy makers took parts and meetings organised by policy makers where project Beneficiaries participated. A complete list of the meetings is provided in Annex “ACTION B3_LIST OF MEETINGS AND EVENTS FOR PMs”.

Regarding the website:

The indicator is bounce rate: 30% / average time: > 40 sec.

The bounce rate percentage 46.62% was higher than expected (30%), while the average time on page - 2m 32s – was much higher than expected (> 40 sec.).

One of the possible reasons why the bounce rate is higher than expected is that the frequent use of the acronym VET (Vocational Education and Training) could lead to LIFE FOSTER website also people seeking information on “vet” (veterinary).

Regarding the behavioural change:

The indicator was Number of entities/individuals changing behaviour and set target numbers per each major target group:

- Students and trainers: 11,000 students (75% of students and trainers reached by the project) and 475 trainers (95% of trainers reached)
- Food service professionals: 2,500 (25% of food service professionals reached by the project)
- Policy makers: 50 (25% of policy makers reached by the project)

To acquire information on target groups' awareness, the project carried out the following surveys:

- **Awareness questionnaires administered to trainers and students** to assess the increased number of didactic contents on food waste and increased awareness, respectively;

- **Awareness questionnaire administered to professionals** and other individuals attending in-presence and online events and fairs.

Trainers completed 234 questionnaires. Although all trained trainers received the questionnaire, the target number was not reached because questionnaire completion needed some time and the numerous trainers' tasks did not always leave them enough time. Moreover, some trainers moved after attending the course.

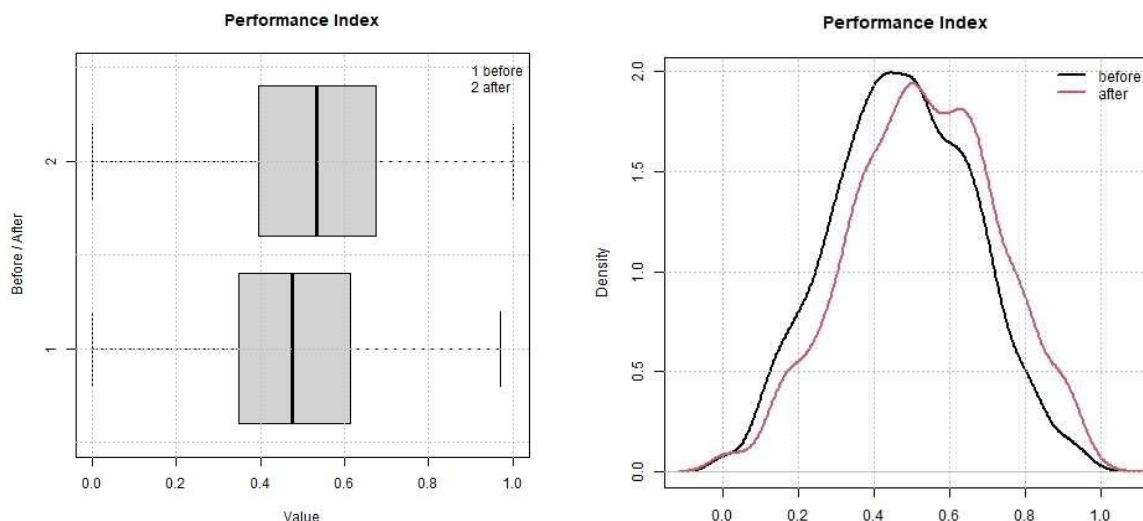
The survey questions favoured a self-assessment by the trainer. Through the questionnaire, trainers realised the changes in their levels of awareness towards preventing food waste due to the training course as many questions were qualitative. The 3 quantitative questions in the survey provided the following information:

1. The trainers considered the course very relevant to their professional development – average rating at 4.3 on a 1-5 scale.
2. The course had a direct impact on the teachers' activities. For example, the importance of food waste prevention in trainers' usual lectures increased after attending the course – with an average rating attributed to the question at 4.2.
3. The courses improved the level of collaboration between colleagues. The average rating of 3.9 indicated that, on average, the participants considered that the training had significantly increased the collaboration between colleagues.

Considering the trainers' positive feedback on the training which they had attended, it is reasonable to assume that all 498 trained trainers became more aware and emphasised more the food waste topic in their classes.

Students were administered an awareness questionnaire twice – at course start and end. They completed 4,272 questionnaires. This number was lower than the number of trained students – 8,211. The response rate in survey is usually lower than the number of administered questionnaires. In this case, one reason for this difference is that between March and June 2020 training was held online. It was therefore very difficult to have students complete the questionnaires, although they were frequently reminded to do so.

Results from collected questionnaires were encouraging, though, as they demonstrated a general increase in students' FW awareness, as shown by the figures below, showing students' awareness mean values before and after the training, which is represented by the shift towards the right hand of the purple curve.



This shift not only represented students' change, but it also demonstrated the training's effectiveness.

An additional questionnaire administered to individuals attending online and in-presence events and fairs provided further 415 students' responses. In this case, the questionnaire was administered only once and was more focused on individuals' knowledge and interest.

The 415 collected students' questionnaires revealed that they were less prone to considering FW a very relevant issue compared to other individuals attending the same events and fairs (e.g. food service professionals) and less interested in receiving information on LIFE FOSTER. The comparison between the 2 student groups – trained students and students attending events and fairs – highlights the training's effectiveness in exposed individuals. It is therefore reasonable to assume that all the students attending the courses (8,211) increased their awareness of food waste, thus reducing the difference between the set and achieved targets.

Regarding the target of the professionals (2,500 to change their behaviours), the **survey** considering **individuals reached through online and in-presence events and fairs** was even more challenging because of the nature of the events, which featured very high numbers of individuals reached. During these events, visitors were only seldom available to complete questionnaires therefore the response was lower than the individuals reached.

Overall, the events targeting professionals through dedicated events in Action B2 reached out to **30,748 individuals**, as reported by Annex "LIFE_FOSTER_B2_fairs-seminars_recap_for_Issue_6".

The 2,066 questionnaires collected revealed that food service professionals already knew about food waste in percentages >90%. They also considered food waste as a very relevant issue in a percentage between 84.1% (chefs de cuisine) and 90% (commis chef). Restaurant managers and chefs de partie were the professionals who mostly considered initiatives against food waste as very useful. Further insights into the survey results are described in Par. 6.3 and in Annex "LIFE_FOSTER_awareness_questionnaire_analysis".

Through the traineeships 2,966 professionals were also reached, i.e. staff that in the hosting companies' tutored trainees. Information collected through the survey on social impact showed that professionals working in companies hosting trainees trained in food waste prevention tended to be more interested in building collaborations with local associations redistributing food surplus. The findings confirmed that traineeships were an effective means to convey positive behaviours. It can be therefore assumed that these professionals would also change their behaviour in dealing with food waste, thus reaching the final target of the KPI.

Regarding policy makers, no specific survey was carried out. Considering policy makers' numerous engagements, Beneficiaries preferred to create occasions to build dialogue with representatives of this target group. On consideration of the results reported in Par. 6.3 and Par. 6.4, the project had positive effects on this target group as well.