

Module for VET Degrees on Gastronomy on “Sustainable Cooking”



Global report on "State of the Art and Good Practices concerning Sustainable Cooking"

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INTRODUCTION

This report is produced under the scope of Result 1 – VET-ECooking Training Framework and Curricula Structure, and contemplates a total of three main activities, namely: Benchmarking; Collection of case studies and good practices; and Roundtable.

The first activity to be carried out by partners was benchmarking, which aimed to identify the existing VET Curricula on sustainable cooking and other relevant related content. Through an intensive desk research, these initiatives were listed and categorised, taking into consideration the goals, target-groups, levels, and a description of the curricula.

The collection of case studies and good practices on Sustainable Cooking was the activity that followed. The interviews for this result targeted: restaurant owners, managers and consumers; producers (agriculture, fisheries, or cattle breeding); experts in sustainability; retail professionals (grocers, restaurants, vendors, etc.); and VET trainers in the area of gastronomy. The core aim of the interviews was to collect information on case studies and good practices in eco-friendly/sustainable cooking. It was intended that the information gathered could serve as inspiration for the definition of a training framework and curricula structure on “Sustainable Cooking” for VET Cooking Courses.

Thirdly, roundtables were organised in order to promote a debate about sustainable cooking and its future and, as such, participants were selected taking into account their expertise and background: restaurant owners, managers, and consumers, producers (fisheries, or cattle breeding), experts in sustainability, retail professionals (restaurants, vendors, etc), VET trainers in the area of gastronomy.

The present report summarises the activities described above by making a general overview of the materials collected and conclusions reached. Thus, the “State of the Art and Good Practices concerning Sustainable Cooking” resumes its main findings.





1. MAIN FINDINGS OF THE BENCHMARKING OF EXISTING CURRICULA ON SUSTAINABLE COOKING AND OTHER RELEVANT RELATED CONTENT

1.1 Summary of the benchmarking

Country	Portugal
Title	Complete course on Natural and Healthy Cooking
Type of training	Complimentary education / Informal certification
Type of institution	Online Cooking School
Duration	3 months (minimum) – 12 months (maximum)
Target-group	Anyone interested who wants to: <ul style="list-style-type: none">● Learn how to cook in a healthy way using natural and wholesome ingredients;● Learn how to add flavour, texture and colour to their meals with simple homemade spices;● Gain confidence to prepare well-balanced meals;● Simplify cooking in order to save time and always have healthy alternatives at hand;● Learn how to recycle and organise the kitchen in order to avoid food waste;● Consume more plant-based ingredients taking advantage of the best each season has to offer.
Relevance	This practice can be used as a benchmark for the project because it focuses on different and diverse topics that will help students learn how to prepare meals with various ingredients in a sustainable way, throughout the year. Therefore, it can be inspirational for the creation of the VET-ECOoking training curricula. <ul style="list-style-type: none">● Very complete curricula with diverse topics;





	<ul style="list-style-type: none"> ● Online course that can be done anywhere (face-to-face format had been available before but, because of the COVID-19, only the online course is available at the moment); ● It offers a lot of support material per module, including synchronous and asynchronous sessions; ● Students have 1 week to complete each module which means they can advance at their own pace, without rushing and within their availability;
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Country	Portugal
Title	Sustainable Cooking Practices
Type of training	Part of a VET Course
Type of institution	VET school
Duration	50 hours
Target-group	VET trainees
Relevance	<p>This practice can be used as a benchmark for the project because this course covers a new approach to learning incorporating the best international practices and experiences and a growing approach to the needs and expectations of the business market.</p> <ul style="list-style-type: none"> ● It is free of charge; ● An internship is included; ● The curricular is designed to be adapted to new profiles and competencies; ● The curricular incorporates socio-emotional components (soft skills) of business, management and leadership; ● The school has a strong relationship with the market/companies and public entities in the Tourism sector, through curricular internships.





Country	Portugal
Title	Sustainable and Responsible Tourism
Type of training	Part of a VET Course
Type of institution	VET school
Duration	25 hours
Target-group	Level 5 students
Relevance	<p>This practice can be used as a benchmark for the project because this course covers a new approach to learning incorporating the best international practices and experiences and a growing approach to the needs and expectations of the business market.</p> <ul style="list-style-type: none"> • It is free of charge; • An internship is included; • The curricular is designed to be adapted to new profiles and competencies; • The curricular incorporates socio-emotional components (soft skills) of business, management and leadership; • The school has a strong relationship with the market/companies and public entities in the Tourism sector, through curricular internships.

Country	Greece
Title	“Sustainable food systems: a Mediterranean perspective”
Type of training	VET Course
Type of institution	Education Platform
Duration	20hours (2/Module)
Target-group	<ul style="list-style-type: none"> • Students at the undergraduate or graduate level interested in the main challenges facing the Mediterranean region; • Current and future practitioners in the agriculture, food and beverage sectors who wish to gain useful insights about current and future trends and business opportunities; and





	<ul style="list-style-type: none"> ● Policymakers and regional stakeholders who want to deepen their knowledge of agricultural policy, investment, and decision making in the region and globally.
Relevance	<ul style="list-style-type: none"> ● The main strength of the course is that it is easily accessible to all as it is free of charge and online; ● The curricula offer a variety of topics; ● The trainers are well established professionals with expertise on the subject; ● There are no prerequisites.

Country	Greece
Title	“Feeding a hungry planet”
Type of training	VET Course
Type of institution	Educational Platform of SDSN
Duration	3-5 hours/Module
Target-group	<ul style="list-style-type: none"> ● Nutritionists, agriculture professionals, and other practitioners interested in the latest developments in the field; ● Sustainable development practitioners – including those who work for international aid organisations and non-profits in the realms of poverty, nutrition, and agriculture – who want to understand the lifecycle of food production and food security; ● Private actors, such as those engaging in or investing in social entrepreneurship and the support of local agriculture; ● Graduate students and advanced undergraduate students in agriculture, economics, international development, and other fields who are learning about the intersectional factors impacting agriculture and food production/consumption.
Relevance	<p>This course can be used as a benchmark for the VET-ECooking Project as it provides knowledge on:</p> <ul style="list-style-type: none"> ● How the field has developed and shifted over time, and how recent developments like advanced technology impact farming; ● What food security is and how do poverty, inequality and other factors affect the nutrition of not just individuals, but entire countries;





	<ul style="list-style-type: none"> • All about regulations influencing production, trade and other aspects of agriculture; • Examples from industries ranging from rice to livestock, and the experiences of smallholder farmers.
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Country	Greece
Title	Executive Seminar “F&B COST CONTROL MANAGEMENT restaurant sustainable growth”
Type of training	Seminar
Type of institution	NGO-Institution
Duration	4 days
Target-group	<ul style="list-style-type: none"> • F&B and Hotel Business Owners • F&B and Hotel Business Managers • F&B Managers/ Ass. F&B Managers • Executive Chefs • Supply Managers
Relevance	The webinar can be used as a benchmark for the VET-ECOoking Project as it highlighted the key factors for the effective interconnection of agri-food, gastronomy and tourism in Greece and laid the foundations for a comprehensive strategic and business plan in the near future.

Country	Greece
Title	“Food chemistry, nutrition and health, circular economy and future food sustainability”
Type of training	Webinar
Type of institution	University Alliance
Duration	10 hours
Target-group	<ul style="list-style-type: none"> • Bachelor's students; • Master's students; • PhD students; • Under and post-graduate students and professional who are looking to learn basics or update their knowledge and skills about nutrition; • People working in the food industry with a non-nutrition





	<p>background (such as food technology, legal, marketing, HR and communication staff);</p> <ul style="list-style-type: none"> Health care professionals that have interactions with patients and clients.
Relevance	It can be used as a benchmark for the VET-ECooking Project as it focuses on health, the exploration of the human nutrition, bioactive compounds in health and disease and the interaction between food, diet, and nutritional therapies.

Country	Greece
Title	“Education and Training of Food Business Staff in Food Hygiene and Safety”
Type of training	Professional training & Certification
Type of institution	National Education and Certification Body
Duration	10 hours
Target-group	The staff of businesses that produce, process, store, transport, distribute food or engage in retail, food distribution, mass catering and confectionery or are food production or processing laboratories.
Relevance	These courses can be used as a benchmark for the VET-ECooking Project because EFET is a public entity supervised by the Ministry of Reconstruction of Production, Environment & Energy market, responsible for setting the quality standards and principles on Food Control.

Country	Germany
Title	Training and education of food business staff as cooks, restaurant specialists, specialist kitchen, hotel clerk, specialist hospitality
Type of training	Part of VET course, at the end of the course the students are professional chefs
Type of institution	Vocational college Nelly-Pütz Düren, VET school
Duration	<p>The dual training in a company and school lasts 3 years (training contract IHK). Under certain conditions, with correspondingly good performance, the training can be shortened to 2 years and ½ with the consent of the company and the Chamber of Industry and Commerce. The professional practice is imparted by the training company, the theoretical knowledge is mainly taught in the vocational school. The lessons take place part-time on 1-2 weekdays alongside the on-the-job training. (14 hours per week)</p> <ul style="list-style-type: none"> 1st year: 2 school days per week, (14 hours per week);





	<ul style="list-style-type: none"> • Year 2: 1 school day per week, (7 hours per week) and 1 school day per month (7 hours); • Year 3: 1 school day per week, and 1 school day per month.
Target-group	<ul style="list-style-type: none"> • VET trainees; • People with or without a qualified graduation; • School dropout, college dropout; • Disadvantaged people; • Minimum B1 German level; • Apprenticeship courses for restaurant specialists, specialist kitchen, hotel clerk, specialist hospitality.
Relevance	<ul style="list-style-type: none"> • Recognized degree in all of Europe; • Practical training in a realistic work context in companies, restaurants, hotels, kitchens etc.; • Training for disadvantaged people; • Free of charge; • Official certification of the Chamber of Industry and Commerce • Part-time education possible according to the agreements with companies (important for specific groups as single parents; • The vocational school certificate is equivalent to the secondary school for students without a school graduation before.

Country	Germany
Title	Workshop for organic food- health supporting nutrition for a more sustainable lifestyle
Type of training	Training and further education offers in the vegan cuisine for beginners, enthusiasts and professionals with workshops, events, restaurant and blogs
Type of institution	BioGenussTeam Training centre, Cooking and product school for organic vegan cuisine
Duration	8 hours
Target-group	<p>Participant profile:</p> <ul style="list-style-type: none"> • Employees + owner; • Specialists in the food trade, gastronomy, hotel and tourism industry; • Career changers and career starters in the organic sector; • Individuals who want to learn new things or refresh existing knowledge.





Relevance	<p>This course can be used as a benchmark for the project as it provides information on the following areas:</p> <ol style="list-style-type: none"> 1. The origin - emergence of the organic branch; 2. The products - added value "ecological"; 3. Tasting + Recipes; 4. Cooking + contemporary forms of nutrition; 5. Climate - What does your food have to do with the climate?
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Country	Germany
Title	training in organic nutrition
Type of training	Training and further education offers in the vegan cuisine for beginners, enthusiasts and professionals with workshops, events, restaurants and blogs, complimentary education
Type of institution	BioGourmetClub, Training and further education offers in the vegan cuisine for beginners, enthusiasts and professionals with workshops, events, restaurant and blogs
Duration	Total hours: 594 hours
Target-group	<p>All people who want to learn to cook and those who want to change their eating habits:</p> <ul style="list-style-type: none"> • Health professionals; • Dietitians; • Nutritionists; • Housekeepers; • Cooks; • Health Advisors; • Employees from the organic food trade; • Cooking Instructors.
Relevance	<ul style="list-style-type: none"> • Instructors offer the possibility of a professional exchange concerning topics to prepare meals with ingredients in a sustainable way; • Diverse topics in the curricula; • Internships.

Country	Austria
Title	Sustainable food management
Type of training	Course of a university of applied sciences degree "Sustainable food management"
Type of institution	University of applied sciences
Duration	6 semesters / 180 ECTS





Target-group	People who have completed the A-levels, who took the university entrance examination or have relevant professional qualifications with additional examinations and who are interested in sustainable food management. German is the language of instruction and its knowledge (at least at level B2) is assumed to be required.
Relevance	<p>There is a combination of theoretical education and three professional internships. In the fifth semester of the Bachelor's program, the students also have the opportunity to study at one of our partner universities. Since the field of study "Sustainable Food Management" is a member of the WACE network, they can also take advantage of this international community to establish contacts and gain experience worldwide.</p> <p>This Bachelor's degree is useful as a benchmark for the VET-ECOoking project as it provides insights into the world of universities of applied sciences and how sustainable food management can be taught at this level.</p>

Country	Austria
Title	Food technology and nutrition
Type of training	Course of a university of applied sciences degree "Food Technology and Nutrition"
Type of institution	University of applied sciences
Duration	6 semesters, 180 ECTS
Target-group	People who have completed the A-levels, who took the university entrance examination or have relevant professional qualifications with additional examinations and who are interested in food technology and nutrition. German is the language of instruction and its knowledge (at least at level B2) is assumed to be required.
Relevance	The degree programme is very practice-oriented. Research is just as important. Research focuses on the characterisation of raw materials, especially fruit and vegetables. The clarification of the prevention of fruit and vegetables at the molecular level is done with the most modern molecular biology, cell biology and biophysics. The nutritional-physiological effect is investigated in clinical studies.





	<p>This Bachelor's degree is useful as a benchmark for the VET-ECooking project as it provides insights into the world of universities of applied sciences and how food technology and nutrition can be taught at this level. It serves as an example of how a Bachelor's degree in this field is set up and functions</p>
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Country	Austria
Title	Course: Vegan and Vegetarian Trained Cook at schools
Type of training	Course at teacher training college
Type of institution	Teacher training college
Duration	The course lasts 1 semester and consists of one module.
Target-group	<p>The general prerequisite for admission to the course is proof of a relevant teacher's certificate for the teaching of nutritional economics and household economics or a diploma degree in nutritional economics and household economics or a bachelor's degree in nutritional education and relevant teaching activity. Teachers of nutritional science or household economics subject teaching at tourism schools as well as the relevant vocational schools also fulfil the admission requirements for the course.</p> <p>Written registration for the course is done through official channels. Assignment to the course after fulfilment of the entry requirements by the responsible head of institute of the of the University of Teacher Education of Vienna. The ranking and admission are subject to the approval of the service authority.</p>
Relevance	<p>Teachers' education: The participants can prepare, reflect and develop further the acquired knowledge in a subject-didactic, target group-oriented way. There is a lot of networking happening with the cooperation partners.</p> <p>The framework of this course can serve as an inspiration for the creation of the VET-ECooking training module. Especially, with regards to the teachers' education on sustainable cooking, this course might offer valuable inputs.</p>





1.2 Summary of findings

1.2.1 VET versus Further education/institutions/target groups

The benchmarking analysis in the four countries of the consortium demonstrates that there are not many options available when it comes to sustainable cooking regardless of the EQF level. For instance, the lack of modules that cover the topic on VET courses is significant, and possibly reflects somehow the resistance of its incorporation in the curricula. Cooking courses content seem still to be marked by a traditional approach, much due to the inflexibility of the training programmes, which are nationally defined and uniformly applied.

The lack of offer and the uprising demand for more sustainable practices and sustainable dishes leads trainees to seek this type of courses and training outside the formal education. In Portugal, other channels were identified through which it is possible to obtain certification, although informal. Nevertheless, these are costly and consequently inaccessible for most. The tendency seems to be similar when compared with the extant curricula in Greece, Germany and Austria. In Greece, for instance, most of the existing curricula (sporadic training) is addressed to professionals with some experience on the topic of Sustainability and there are not many VET courses available on the topic addressed to young people. In Germany, it is possible to corroborate the same practices since the VET courses do not include sufficient information about sustainability in the cooking sector. Institutions offering courses for further education are expensive and mostly not addressed to young people. In Austria, on the other hand, no curricula on VET courses on sustainable cooking were found (at least, they are not available for the public). The only information on sustainable cooking has been identified on university degree; and the content obviously different from the one that is applied to VET schools.

The present demand for sustainable cooking is expected to grow, thus making it of extreme importance the adoption of new techniques and incorporation of new modules to the cooking/pastry courses. In this sense, the overall conclusion from the benchmarking of the countries of the partnership reveals that it is indeed necessary to introduce a training module on sustainable cooking, adjusting the educational content to the needs of VET courses and VET trainees.

1.2.2 Learning methods

The countries of the partnership have identified the online method (online training; asynchronous sessions) as the most common one when it comes to the trainings and courses that were analysed. Nevertheless, the face-to-face sessions are also mentioned. For instance, in





Portugal, the formal educational system favours face-to-face, work-based and student-centred learning, whereas the informal one privileges nowadays the online learning format. In this country in particular, that discrepancy is also symptomatic of the different target-groups. In fact, informal offers tend to be open to all and, as such, the flexible ways of learning are a major concern. Interestingly, even some courses that had a hybrid format before Covid-19 pandemic, remain now only available in this format.

In Austria, the identified courses also privilege face-to-face and work-based-learning. All courses include a combination of a practice-oriented and research approach, but it is very important to bear in mind that these are part of university degrees. Students have access to various laboratories where they can carry out their practical work, helping them prepare seminar papers and bachelor thesis. Trainees are also encouraged to work independently and in a team.

The online format is also very popular for training on Sustainable Cooking in Greece and in Germany. In Greece, some of the curricula are provided as online training on educational platforms and some of them as single seminars or webinars. Those trainings provided on online platforms are free, self-paced, and provide the learner full access to the syllabus and to all the modules. These contain theoretical materials, as well as videos of pre-recorded lectures. Moreover, good practices and case studies are provided, and through these, trainees can actually learn from practical examples. Quizzes and assessment tests allow the students to track their progress, and room for discussion is also provided through an online forum. Other trainings also contemplate an online interactive seminar where live discussions between professionals and the participants are encouraged. The issue of a certification is dependent on the completion of the online assessment tests.

In this respect, one can also conclude that people seem to enjoy the possibility of exploring the materials at their own pace, rather than being obliged to be in an exclusive face to face class system.

The analysis in Germany also underlines the importance of adapting the educational content to the necessities and requirements of the labour market. In this sense, it seems clear that a mix of methods (hybrid methodology) is important to create different types of lessons. This means the incorporation of face-to-face, work-based learning, teaching and self-study units online, webinars, videos, chats. Regardless of the methodological approach, all curricula must include theoretical and practical units and a final assessment.

It is thus important to note that despite the obligatory in-class methodology in some countries, the Covid-19 era also seems to have underlined the importance of incorporating online





platforms to the training sessions. Pupils and teachers alike are progressively open to combine their face to face classes with online resources.

In this sense, one can conclude and recommend the use of a hybrid system that allows a combined learning approach. The adoption of a mixed system is particularly relevant because the facilities that students have at school to perform the practical components might be lacking at home (equipment, ingredients, and so on and so forth).

1.2.3 Duration

The duration of the courses and modules that were identified by the partnership varies according to the nature of the training itself. This means that there is a considerable difference between a sporadic online seminar and a module that is part of the VET course, for instance. In this sense, it is thus not surprising to note a discrepancy on the duration of these training sessions, which ranges between 10-50 hours, depending on the course/module that is being taught and even the country. In Portugal, 25 to 50 hours are respectively the minimum and maximum duration of the identified modules/courses. In Germany, the average is about 20-30 hours. In Greece, all the listed curricula during the benchmarking ranges between 10-20 hours. In Austria's specific case, since the identified courses belong to university degrees, the duration is calculated in semesters, which does not allow us to have a good comparison term.

It is clear then that the incorporation of a training module on VET courses needs to be consistent and detailed, combining hybrid sessions, with theoretical and practical classes. The range of topics that are listed below (2.1.5) seem to require a training curriculum that covers a lot of learning objectives and outcomes that are not currently incorporated in these courses. It is important to note also that for a significant percentage of trainees and trainers these are new topics which will require extra attention and further practical sessions. For this reason, it is concluded that a VET training module on Sustainable Cooking should be at least 50 hours-long.

1.2.4 Certification

In all partner countries, the benchmarked courses provide certification, either formal or informal, being the latter the most common one.

In Portugal, the modules that are part of the formal education system are only certified once the trainee completes the whole course, i.e., the student needs to complete all the compulsory modules in order to be awarded a certificate. Normally this can take three to four years. The same applies in Austria. This means that no specific certification is given that attests the completion of a module on sustainable cooking.





On the other hand, informal certifications are available for those willing to take a course outside the formal educational system, which is something that is common in Portugal, Greece and Germany.

1.2.5 Most common content/topics

In all partner countries it was possible to identify some common topics regarding sustainable cooking. Food safety, food waste management, circulation of products/circular economy, food system and supply chain, and food preservation are transversal contents. Another important topic is the ecological production of food. In Austria's case, since the courses that were analysed belong to university degrees, advanced contents such as food chemistry, food technology and nutritional physiology are among the syllabus. Still, these are very useful also in our context, allowing us to have a glimpse on what is being taught in a higher education level, providing important guidance and information. For instance, food law might be a relevant aspect to be considered.

Country	Identified Contents/Topics
Germany	<ul style="list-style-type: none">• Ecological production of food;• Texture and value of food;• Storage of food;• Ecological supply chains;• Recycling of food;• Reducing and avoidance of waste;• Preparing of healthy food;• Circular economy;• Preparation of healthy food;• Development of techniques of preparation and recipes;• Preservation of food.
Greece	<ul style="list-style-type: none">• Sustainable Development and the SDGs;• Food systems and the supply chain;• Food safety;• Food waste management;• Circulation of products.
Austria	<ul style="list-style-type: none">• Cooking and sensory science;• Food chemistry;• Food technology;• Prevention and health promotion;• Waste technology;• Nutritional physiology;• Industrial food production;





	<ul style="list-style-type: none"> • Sustainability; • Food law; • (Food) Hygiene management and supply chain management.
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One of the informal courses that was benchmarked by the Portuguese partner seems to have a more oriented and practical approach:

Country	Identified Contents/Topics
Portugal	<ul style="list-style-type: none"> • Natural Cooking Basics (Kitchen organisation; Sustainability; Waste; Cutting Techniques; Ingredients Preparation); • Spices and lots of Flavour (Sauces and Broths; Quick Condiments; Easy, Complete and full of flavour Recipes); • Dairy and non-Dairy (Milk, Cheese, Yogurt, Kinds of Butter, Animal and Plant Origin Creams; Healthy Recipes with high-quality Ingredients); • Live food that protects us (Sprouted, Fermented, Probiotics; Recipes and Techniques to Boost the Immune System); • Preserve and use throughout the year (Preservation Methods; Recipes with ingredients from other seasons); • Whole grains, fibre and flavour (Transformation and Preparation; Grains, Flours and Flakes; Simple Recipes and Techniques; Full Meals); • Vegetables and more Vegetables (Cooking Methods and Techniques for all kinds of Vegetables; Recipes out of the Ordinary, Full Meals); • Animal and Plant Protein (Choose, Prepare and Replace Protein; Varied Meals along the week); • Bread, Dough and By-products (Dough made of rich in nutrients and flavour ingredients; Bread, Pizza, Tarts, Pies, Toasts, Pastries, Pancakes and much more);





	<ul style="list-style-type: none"> • Cakes and irresistible sweets (The best ingredients for special occasions; Cakes, Muffins, Cereal Bars, Cookies, Tarts, Mousses and other desserts); • Planning and Pre-cooking meals (Weekly Planning; Well Balanced Meals; How to Gain Time; Pre-preparing ingredients and meals); • Homemade Detergents (Simple and Eco-friendly recipes for all types of surfaces).
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The formal education courses seem to mostly contemplate organisational skills and control food costs, thus not specifying the exact contents related to sustainable cooking. Thus, based on the informal ones, it is also possible to list important topics. These cover a significant number of aspects that are relevant and together with the previously mentioned ones, they should be considered for our project’s training module, both for the theoretical and practical sessions.

2. MAIN FINDINGS FROM THE GOOD PRACTICES DERIVED FROM INTERVIEWS & DESK RESEARCH

2.1 Summary of the good practices

Country	Portugal
Title	Kitchen Dates
Brief summary	Kitchen Dates is a food and sustainability diet literacy project that shares valuable knowledge, information and tips for a more sustainable lifestyle and diet.
Relevance	<ul style="list-style-type: none"> ○ Clarification of questions related to a vegan and more sustainable lifestyle; ○ Encouragement of the exclusive use of local products; ○ Organisation of workshops on cooking with no waste, fermented food, artisanal slow fermentation bread, natural sweeteners, fresh pasta, dough, more than bread; ○ Packaging free policy





Country	Portugal
Title	Projeto Matéria
Brief summary	The Projeto Matéria is a non-profit project created by Chef João Rodrigues, funded by Turismo de Portugal and supported by ICEL and UNESCO's National Commission. The project aims at promoting national producers who conduct farming and animal production practices that respect nature and the environment as fundamental elements of the Portuguese culture.
Relevance	<ul style="list-style-type: none"> ○ Mapping of the national producers; ○ Storytelling: tell the stories of these people (producers); ○ Boost and participate in initiatives that help reinforce the networks created between producers, restaurant and the broader community; ○ Organise and take part in educational initiatives with children in order to boost their knowledge and curiosity about food and its origin; ○ Promote producers as active part of the gastronomy sector and a fundamental element of the Portuguese culture; ○ Online platform with a collection of Portuguese producers organised by region, product and name; ○ Website with a seasonal calendar organised by product, and respective availability.

Country	Portugal
Title	Too Good to Go
Brief summary	Too Good to Go is an online platform and App for restaurants, supermarkets, grocery stores, hotels and customers that aims at reducing food waste. Through the app, it is possible for customers to buy products that are about to be dismissed.
Relevance	<ul style="list-style-type: none"> ○ Drain of leftovers; ○ Appealing prices for customers; ○ Fight of food waste; ○ Website with educational material about sustainability both for businesses and consumers in general.





Country	Portugal
Title	Fruta Feia
Brief summary	Fruta Feia is a project that aims at reducing food waste, especially fruit and vegetables, by creating an alternative market for fruits and vegetables that are considered 'ugly' according to traditional commercial standards.
Relevance	<ul style="list-style-type: none"> ○ Value fruit that is not commercially appealing; ○ Value the products that are not sold and drain these products to the market; ○ Individual consumers and businesses can register and become part of the movement.

Country	Portugal
Title	EAT4CHANGE
Brief summary	EAT4CHANGE is an international project funded by the European Commission's programme DEAR. It aims to promote sustainable diets by showing people how the transition can be smooth, slow and simple, while working with the companies and political authorities to promote the adoption of more sustainable production practices.
Relevance	<ul style="list-style-type: none"> ○ Raise awareness about the impact of our dietary habits on the planet; ○ Motivate people to adopt a healthy lifestyle; ○ Organisation of initiatives and campaigns on sustainable dishes; ○ Dissemination of sustainable food habits; ○ Calculator that tells the impact of our food habits in the environment; ○ Seasonal calendar and recipes.

Country	Greece
Title	"A Box of Sea"
Brief summary	"A box of sea" is a practise promoted by Greenpeace and is about catching and delivering fresh fish caught in a sustainable way by low intensity fishermen. They fish in ways that are not harmful to marine life as they don't throw dead fish back into the sea and catch the species in season and in the right size.
Relevance	<ul style="list-style-type: none"> ● Mild fishing techniques;





	<ul style="list-style-type: none"> • Creates fish market networks; • Uses a platform to connect fishermen and individuals.
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Country	Greece
Title	“RECOIL”
Brief summary	“RECOIL” good practice promotes the recycling of used cooking oils and their energy recovery through conversion into biodiesel by a simple chemical process.
Relevance	Circular use of oil

Country	Greece
Title	Precision Agriculture
Brief summary	Precision Agriculture is a farming management practices that is based on ICT for optimal measurement, observation and production of goods. The Training and Lifelong Centre of the Hellenic Open University offers a training course on “Precision Agriculture Applications”.
Relevance	<ul style="list-style-type: none"> • Zero Waste; • New technologies; • Sustainable farming.

Country	Greece
Title	“Training and Certification of knowledge and skills of food service workers”
Brief summary	Within the framework of the programme "Training and Certification of knowledge and skills of food service workers", the training programmes "International Food Standards and Restaurant Art" and "International Food Standards and Restaurant Customer Service" are being implemented.
Relevance	Enhance professional competencies on sustainable cooking





Country	Germany
Title	Breuers Häuschen
Brief summary	During training, the restaurant owner makes sure that his trainees always learn and observe the topic of sustainability. His menu is characterised by seasonal and regional products.
Relevance	<ul style="list-style-type: none"> ● The restaurant always offers seasonal products; ● The products are purchased locally; ● The restaurant owner has implemented a deposit system for leftovers; ● The trainer pays attention to a sustainable way of working; ● The trainees in the kitchen learn to process all the food to produce as little waste as possible; ● Portion sizes are adapted to the customers (there are rarely leftovers); ● Own cultivation of spices.

Country	Germany
Title	Neuer Hof Bio Bochröder
Brief summary	The farm operates under the Demeter association, which certifies organic products produced according to biodynamic guidelines and takes into account sustainability aspects. Their daily business and actions are based on sustainability.
Relevance	<ul style="list-style-type: none"> ● The farm uses its own produced products; ● There is a self-sufficient chicken mobile; ● Own farm store with direct marketing; ● Cooperation with local supermarkets; ● Offer farm tours for different target groups; ● They are a Demeter farm.





Country	Germany
Title	Bio Gourmet Club
Brief summary	The Bio Gourmet Club brings people together to experience the love of a healthy diet. Their offer is extensive. All people who want to learn more about sustainable and vegan cuisine are welcome.
Relevance	<ul style="list-style-type: none"> ● Online events to be able to reach a wider audience; ● Use of vegan and regional products; ● Different offers are available (classic cooking classes to event cooking); ● Education in early childhood development as well as their parents up to senior homes; ● Different levels of difficulty (from simple recipes for daily use to elaborate dishes); ● Sustainable utensils are used for cooking; ● Green power; ● Cooking methods that are sustainable; ● Good networking with local and sustainable partners; ● Offer of voluntary ecological year.

Country	Germany
Title	BioLiese
Brief summary	The BioLiese is an online store that supplies local and seasonal products to private and commercial customers. The guiding goal is to keep the CO2 footprint as low as possible.
Relevance	<ul style="list-style-type: none"> ● As far as possible, they use e-mobility for the delivery of goods; ● Sustainable route planning; ● Purchasing from local producers; ● Wholesaler is direct neighbour; ● Delivery to local private customers; ● Delivery to commercial companies that offer their employees fresh fruit for a healthy diet at work; ● Delivery to schools and kindergartens; ● Use of no or recyclable packaging like glass and paper as far as possible.





Country	Germany
Title	VHS RurEifel
Brief summary	The VHS Rur-Eifel offers citizen-oriented services in the field of education at socially acceptable prices to all people in the process of learning by living... In recent years, the topic of sustainability has been further focused.
Relevance	<ul style="list-style-type: none"> ● Local offers to reach also immobile people in rural areas; ● Inexpensive offers to reach all strata of the population; ● Information events (for example: Sustainability Day); ● Mix of permanent staff and freelancers to create a constant exchange of information and to share new knowledge; ● Theme-specific course offerings (men's cooking courses, couples' cooking courses, etc.); ● Use of the latest energy-saving technologies with regard to cooking (induction).

Country	Austria
Title	Rita Bringt's
Brief summary	Rita Bringt's is the first vegetarian delivery service in Vienna. They source 100% of our products from organic farming, preferably from regional farmers and producers. They deliver the fresh food with cargo bicycles. For packaging, they use 100% recycled paper, corn or sugarcane packaging. All of them are completely biodegradable.
Relevance	<ul style="list-style-type: none"> ○ Vienna's first delivery service and catering company for vegetarian organic food; ○ They cook fresh every day, using 100% organic, seasonal ingredients, mainly from the region. In their offer, they pay attention to varied and wholesome dishes that are prepared gently and, above all, with passion; ○ In order to keep their ecological footprint as low as possible, they rely on their cargo cyclists to transport the lunch; ○ Their packaging is made from sugarcane, cardboard or bioplastic, which is made from fully degradable natural materials such as potato, corn starch or cellulose; ○ Certified with the Austrian Ecolabel; ○ Their packaging is made from sugar cane, cardboard or bioplastic, which is made from fully degradable natural materials such as potato, corn starch or cellulose. They are continuously working on a sensible reusable packaging system; ○ They also avoid unnecessary waste in the production of our food. By ordering exact quantities, they can ensure that nothing has to be thrown away;





	<ul style="list-style-type: none"> ○ Offer public cooking courses, workshops, cooking in a team and with friends.
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Country	Austria
Title	Foodsharing
Brief summary	Foodsharing is a very exciting initiative to stop throwing away food. The principle of Foodsharing is very simple: the initiative currently cooperates with 11 000 businesses in Germany, Austria and Switzerland. Trained food savers pick up food directly from the businesses that can no longer be sold.
Relevance	<ul style="list-style-type: none"> ○ Foodsharing is an initiative that promotes the responsible use of resources and a sustainable food system; ○ Their long-term goal is to reduce the throwaway culture of food and other resources; ○ They save food in private households as well as from businesses – communally, sustainably & appreciatively; ○ They see themselves as an educational movement; ○ Numerous food rescuers coordinate and network via the online platform foodsharing; ○ Part of the initiative are the so-called Fair-Dividors. These are – at the moment – 37 refrigerators in publicly accessible places in Vienna where you can put surplus goods at any time and from which you can also take them out; ○ In addition to all these ways of personally countering food waste, there has also been a group at the political level for some time that has been calling for an "anti-disposal law". Such a law, which prescribes that businesses give surplus or unsaleable food to the civilian population or at least reuse it in a sustainable way, already exists in parts of Belgium.

Country	Austria
Title	Food Stories
Brief summary	The Food Stories project makes local and sustainable food options more visible and accessible and promotes more climate-friendly individual food choices.
Relevance	<ul style="list-style-type: none"> ○ It picks up on the importance of civil society engagement to reach more people and initiate sustainable changes in lifestyle and behaviour;





	<ul style="list-style-type: none"> ○ Within the framework of the project, a district-specific "food map" will be developed for a pilot area, which will make local food offers and, among other things, also civil society-based initiatives for common food supply visible; ○ Under the motto "Meet & Cook", approximately 30 interactive formats will be used to impart everyday knowledge to around 300 participants from different target groups, and the impact perceived by them will also be surveyed; ○ "Food Stories" will allow producers, cooks, consumers, civil society initiatives and other stakeholders to have their say and tell stories about food and dishes from different perspectives; ○ Visualisation of sustainable food offers by means of a food map for the pilot area in the south of Vienna; ○ Presentation and communication of the climate impact of selected seasonal recipes; ○ Raising awareness of climate-friendly cooking and the connections between nutrition and climate among diverse groups of the population; ○ Involvement of relevant stakeholders in the city of Vienna.
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Country	Austria
Title	Too Good To Go
Brief summary	<p>Too Good To Go is a mobile app that aims to counteract food waste. The fact is that surplus food is thrown away in retail and gastronomy. In its implementation, the Too Good To Go app connects supermarkets, bakeries, confectioneries, hotels and other catering businesses with customers. The added value for customers and food providers is created by selling surplus food at a lower price.</p>
Relevance	<ul style="list-style-type: none"> ○ Food waste is a topical issue and a worldwide problem. With the help of the app, this problem is to be counteracted by disposing of less edible food. And this is how it works: In principle, supermarkets, bakeries, hotels, cafes and all catering businesses can register as partners. In the app, surplus food can be sold, from individual products such as fruit and vegetables to cakes, sandwiches and lunch menus. Customers, meanwhile, have the choice of which supplier they want to buy food from and pay a third less than the normal price directly via the app; ○ For the partner businesses, this results in added value in that new customers can be reached, profits are increased because food is sold and not thrown away, a positive image is conveyed with regard to environmental protection and social commitment; ○ The problem of food waste is huge and so is the amount of information and literature available. So, Too Good To Go created this knowledge hub where you can find all the information,





	resources and inspiration one needs: https://toogoodtogo.de/de/movement/knowledge .
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Country	Austria
Title	Ernährungsrat Wien
Brief summary	Ernährungsrat Wien is a platform for shaping a sustainable food system for Vienna. It enables a wide range of actors to come together, from the beginning to the end of the food value chain and beyond. Through this comprehensive and open approach, room for manoeuvre is uncovered and expanded, enabling the food system to be shaped and developed in a socially just and ecologically sustainable direction in the long term.
Relevance	<ul style="list-style-type: none"> ○ Promotes the participation of the Viennese population in shaping the Viennese food system; ○ Bundles the commitment of individuals, initiatives and organisations to actively shape the Viennese food system; ○ Brings together practical knowledge, scientific findings and the needs of civil society; ○ Sensitises all stakeholders to different perspectives, needs and positions and promotes dialogue between business, administration and civil society; ○ Helps to identify and describe complex problems and promotes their comprehensive and differentiated analysis; ○ Enables strategic-coordinated solution finding and the development of proposals for action; ○ Demands the implementation of proposals for action at the political level; ○ Develops and supports actions, projects and initiatives to improve the Viennese food system; ○ Takes special account of the interests of disadvantaged groups of people; ○ Participates in the development of a nutrition strategy for Vienna in the long term.

2.2 Summary of findings

The benchmarking analysis demonstrates that there are not many options available when it comes to sustainable cooking regardless of the EQF level. For instance, the lack of modules that cover the topic on VET courses is significant, and possibly reflects somehow the resistance of its incorporation in the curricula. In Portugal, for instance, cooking courses content seem still to be





marked by a traditional approach, much due to the inflexibility of the training programmes, which are nationally defined and uniformly applied. The lack of offer and the uprising demand for more sustainable practices and sustainable dishes leads trainees to seek this type of courses and training outside the formal education. In fact, in almost all partner countries it was possible to identify other channels through which it is possible to obtain certification, although informal. Nevertheless, these are costly and consequently inaccessible for most.

From the interview activity, suggestions on how a sustainable cooking course should be organised were collected. In Greece, interviewees suggested that that a sustainable cooking course should be broken down into different stages:

- 1) Theoretical background: teaching the general concept of sustainability and nutrition;
- 2) Production of raw materials and how the individual can choose them based on locality and seasonality;
- 3) Sustainable cooking methods (related to materials and energy resources).
- 4) Food waste;
- 5) Application of these practices to real-life conditions.

In Austria, Germany, Portugal and Greece, the participants also shared topic ideas of what should be considered when planning a sustainable cooking course programme:

1) Unprocessed food

- Incentivize the preference for organic food;
- Understand the differences between organic and non-organic products
- Raising awareness of food and its processing;
- Understand the product from its origin until it reaches the kitchen (processing, transportation, etc.);

2) Sustainable agriculture, fishing and husbandry systems:

- Learning of the different farming systems;
- Understanding animal husbandry, agricultural sciences and sustainable fishing (low-intensity fishing practices and respect for the marine environment).
- Development of technical skills (agriculture tools and methods);
- Consider energy, infrastructures, management of organic soils, coastal wetlands, fisheries and aquaculture for a climate mitigation impact;
- Calculate and communicate the economic and environmental benefits;
- Storage capacities;





- Enhance the professional competence of workers by upgrading knowledge and skills, adapted to the constant changes and challenges created in the environment and the labour market.

3) Regional and Seasonal Products

- Explain where the food comes from and which products are local;
- Elucidate about the importance of processing food locally and provide concrete tips (illustrating with successful examples);
- Involve local market actors such as: consumer associations; NGOs; Waste management companies; Business associations; Chambers of commerce; Municipal organisations and businesses;
- Understand the climate impact of selected seasonal recipes.
- Stimulate a hand on-approach: which foods can I easily grow myself?

4) Food packaging and reuse

- Comprehend the importance and impact of preferring unpacked products;
- Favour reusable packaging systems.

5) Food waste

- Realise the importance of not wasting food (for example, favour the practice of cooking less rather than throwing something away);
- Buy the right quantity of food;
- Promote the responsible use of resources and a sustainable food system;
- Encourage waste separation and disposal (composting plant components it is also included: compost bins, organic waste, use of natural fertilisers);
- Learn how to use all parts of the raw product (for example the fruit, the sprout or the leaf) in order to produce less waste;
- Value products that are not commercially appealing but in perfect conditions for being consumed.

6) Energy

- Recommend turning off appliances when not in use;
- Learn how to cook with a minor energetic impact;





- Learn about the energy consumption of specific equipment (both when working or stand by; E.g., washing machine cost: it is not worth washing a glass by itself, but rather when there are enough glasses to fill in the washing machine);
- Advocate for the use of clean energies;
- Understand the energy production methods.

7) Vegetal protein

- Stimulate the preference for meat-reduced or animal-friendly diet;
- Advocate for the use of plants and not animals;
- Encourage the adoption of vegetarian and/or vegan recipes;

8) Nutrition

- Promote the study of a sustainable nutrition;
- Comprehend the high nutritional value of certain food and dishes.

Regarding methods, it was possible to collect some recommendations and ideas that could be adapted to either theoretical and practical classes:

- Presentations and workshops on sustainable cooking in schools involving all school community
 - Workshops on vegetarian/vegan recipes with clarification of questions regarding a more sustainable lifestyle;
 - Disseminate good practices among younger students (early childhood education);
 - Collaborate with associations (nutritionists; vegetarian/vegan associations; sustainability associations, etc.).
- Promote activities with children to boost their knowledge and curiosity about food and its origin;
 - A practical unit in the form of farm visits;
 - Create a seasonal calendar (product's availability during the year) and recipes;
 - Reinforce the networks created between producers, restaurant and broader community (for example, by mapping of regional producers and getting to know their story);
- Organise campaigns on sustainable dishes and food waste avoidance
 - Create a calculator that tells the impact of our food habits in the environment;
 - Incentivize meal planning;





- Transmite techniques that enable the preservation of food;
- Strategies on how to avoid food waste (for example, recipes using leftovers);
- Promote circular economy, reuse and recycling of different products/ materials.

The present demand for sustainable cooking is expected to grow, thus making it of extreme importance the adoption of new techniques and incorporation of new modules to the cooking/pastry courses.

3. CONCLUSIONS FROM THE ROUNDTABLE

The roundtables conducted in each of the partner countries were important to corroborate some of the previously collected information but also to promote a debate in which different professionals could refer to their point of view and exchange of ideas. The organisation of roundtables, 1 per country, contemplated, at least, one representative from each of the following areas: restaurant owners, managers, and consumers; producers (agriculture, fisheries, or cattle breeding); experts in sustainability; retail professionals (grocers, restaurants, vendors, etc.); and VET trainers in the area of gastronomy.

Starting with the “Sustainable Cooking” definition created by the consortium which understands it as *“a cooking method that is free of chemicals and relies on regional and seasonal products. In other words, it means that the food has been regionally produced with clean energies and that it might not be available all year long. Furthermore, it implies that recycling and reusing materials as a whole in the kitchen are necessary in order to have the smallest amount of waste and reduce packaging. When the process of Sustainable Cooking is applied, the available resources are not exhausted, yet all the necessary nutritional elements can still be provided”*, it was possible to realise that some participants on the roundtables do not agree with it 100%. In fact, in Greece, it was noted that when it refers to Sustainable Cooking is not a total “free of chemicals” method and agreed on eliminating it. The Chemical Consultant referred to the existence of “additional chemical ingredients” since in cooking not only raw ingredients are used. It was also suggested rephrasing the last sentence of the definition as it gives the impression that the two terms are contradicting. The Hotel and Farm Owner suggested “When the process of Sustainable Cooking is applied, the available resources are not exhausted and all the necessary nutritional elements can be provided”.





Concerns regarding the definition were also expressed by Portuguese participants. Some of them believe that the definition is focused on ingredients and kitchen work and still fails to highlight the importance of considering production and the distribution chain. According to participants, sustainable cooking must consider shortening the distribution chain by taking into consideration the origin of the products and the impact of their transportation. Another important factor to look at is production. Sustainable kitchen must consider the production methods of the products that it selects, giving priority to items that are produced in a sustainable way. Additionally, it was also pointed out that quantities must also be a factor to consider as production should only respond considering the actual demand. This was said to be something that might ask for a paradigm shift.

The Greek participants underlined the fact that sustainable cooking is currently addressed to only a few people as there is little knowledge over the topic and it is still considered as “premium” food.

In addition to the conclusions above-mentioned in this report, other overall important conclusions in the partner countries that can be relevant for the creation of the module on sustainable cooking can be summarised as follows:

- Important to present the UN Sustainable Development Goals (<https://sdgs.un.org/goals>) and to raise awareness of their importance not only for the environment but also for society.
- Essential to start thinking in a more ethical way rather than following unsustainable mass producing and consuming methods that result in extermination and overspending. In this context, familiarisation with organic and non-intensive farming and animal breeding seems to be crucial;
- Incentivize a reflection on labels that are used only as a pretence (just because something is regional does not mean it is better – the term “regional” is often used as a pretence);
- Promote the replacement of the trend of following advices of telecookers by the proper conduction of related courses;
- Integrate the learning of necessary safety specifications and certifications.

Looking at the roundtable results, it is possible to conclude that sustainable cooking is a much relevant topic to be considered, and that it is lacking and must be covered in Gastronomy related courses. Sustainability is a current affair, a growing societal value and a professional skill on





demand in the food and catering sector, therefore a more structured and deeper approach should be included in training and education curricula. At some point in the future, we will not call it “sustainable” anymore, but consider Sustainable Cooking as normal.

Despite all the progress already achieved, the future of sustainable cooking still depends on a change of mindset, which can only be reached through education and a change of habits, both from professionals and consumers.

For more sustainable cooking practices, professionals cannot focus only on the final product and cooking methods and processes. Professionals must be acquainted with and consider all the cycles that involve food production and consumption, from the ingredient production stage, to after consumption, which includes waste disposal; as well as resources use and management.

In sum, participants agreed that sustainability is the future and that the creation of a training module on sustainable cooking is needed and will make a positive contribution to the food and catering sector.

CONCLUSION

The benchmarking activity in the partner countries gave us the opportunity to analyse the current training modules/courses related to sustainable cooking. It was possible to infer that the current formal education system has a limited approach to the matter, and that the informal courses seem to respond in a more efficient way to the identified demand. Nevertheless, the certification is also informal, and these courses are generally costly.

Concerning the interviews and good practices, it was possible to corroborate the idea of a growing demand for more sustainable practices. In fact, the initiatives that were listed demonstrate that both the consumers and the businesses are more attentive to environmental impact and willing to reduce food waste and to adopt green practices. A more bio, organic cuisine is also becoming popular day-by-day. The interviews also underlined the importance of including sustainable topics in the curricula.

Finally, the roundtables were an important activity to compare opinions and to generate discussion around some topics. It became clear that professionals must be acquainted with and consider all the cycles that involve food production and consumption, from the ingredient production stage, to after consumption, which includes waste disposal; as well as resources use and management. In sum, participants agreed that sustainability is the future and that the





creation of a training module on sustainable cooking is needed and will make a positive contribution to the food and catering sector.

The carried-out activities were crucial to make a state of the art on sustainable cooking in Portugal. The comparison between the extant offer and the current demand is a clear symptom that there is a growing shift in the consumption practices. The market progressively favours a more environmentally concerned cuisine, and low-impact businesses. In this way, the collection of the good practices allowed the consortium to comprehend such discrepancy. This was complemented by the interviews and the roundtables, through which it was possible to gather an updated opinion of experts, producers, retailers, and teachers. The now summarised conclusions will contribute for the planification of a relevant training module that will contemplate the identified necessities in order to respond to the extant needs.

