CONCEPT NOTE

LIFE Environmental Governance and Information

TECHNICAL APPLICATION FORMS

LIFE 2020

FOR ADMINISTRATION USE ONLY

LIFE20 GIE/IT/001395

LIFE Environmental Governance and Information project application

Language of the proposal:

English (en)

Project title:
Disseminating information and best practices to reduce the water footprint of drinking water and wine production.

Project acronym:

WATER IMPACT FOR LIFE

The project will be implemented in the following Member State(s) and Region(s) or other countries:

Italy	Veneto
	Friuli-Venezia Giulia
	Trentino-Alto Adige
	Emilia-Romagna

Expected start date: 01/09/2021 **Expected end date:** 31/08/2024

LIST OF BENEFICIARIES

Name of the **coordinating** beneficiary: University of Udine

SECTOR

Information, communication and awareness raising campaigns in line with the priorities of the 7th Environment Action Programme

Coordinating Beneficiary Profile Information					
Legal Name	University of Udine				
Short Name	UNIUD	**Legal Status**			
VAT No			**Public body**	**X**	
Legal Registration			**Private commercial**		
Registration Date			**Private non- commercial**		
Pic Number					
Legal entity is SME	☐				
Employee number					

Legal address of the Coordinating Beneficiary			
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Member State	Italy		

Coordinating Beneficiary contact person information			
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Town / City	Udine		
Member State	Italy		
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Website of the Coordinating Beneficiary	
Website	https://www.uniud.it/

Brief description of the Coordinating Beneficiary's activities and experience in the area of the

The University of Udine was founded in 1978 as part of the reconstruction plan of Friuli after the earthquake in 1976. Its aim was to provide the Friulian community with an independent centre for advanced training in cultural and scientific studies.
The University is actively involved in student and staff exchange projects with universities within the EU and is currently engaged in close collaboration with several universities from Eastern Europe and other non-EU countries. Moreover the University participates in many research projects at national and international level.
Udine and its University are a point of reference in a region which is historically a meeting place and crossroads of different worlds and cultures. Geographically situated in the centre of the European Union, the University of Udine plays an active role in a close network of relations, committed to sharing its knowledge and ideas. Since its establishment, Udine University has pursued the policy of internationalisation, it collaborates not only within Europe but across the globe.
It has been beneficiary of several European, National and International projects concerning water and wastewater managment, environmental pollution, in freshwaters and groundwaters:
- LIFE + - WATACLIC - Water against climate change. Sustainable water management in urban areas;
- LIFE + - WARBO - WAter Re-BOrn. Artificial Recharge: innovative technologies for the sustainable management of water resources.
The main activity of the departments involved in the project concerns water and wastewater pollution and treatment, considering characterization, testing on bench-top and pilot plants as well as modeling

processes, bio-economy, renewable resources and environmental protection, in the perspective of the circular economy, phenomena related to the vineyard system through the use of simulation models, communication and water mutli-stakeholder platform approach.

SUMMARY DESCRIPTION OF THE PROJECT (To be completed in English)

Environmental problem targeted

The demand for water has been increasing for decades and will increase in the coming years, while water itself will have an increasing cost. According to EU - Competence Centre on Foresight, the water scarcity is a key global megatrends expected to make natural resources increasingly scarce and more expensive in the next decades. The combined effects of increasing demographic imbalances, growing consumerism, and continuing urbanisation will see demand for water rising exponentially, while supply becomes more uncertain under a climate change and pollution.

The increase in water consumption leads to the lower quantity and quality in freshwater ecosystems and aquifers with effects on the ability of ecosystems and soil to absorb nutrients and pollutants. Moreover an excess nitrogen and phosphate use for the intensive production of food and energy give causing severe impacts on aquatic ecosystems and in the availability of drinking water resources.

All this also affects the citizens' quality of life and the soil health. In Italy, in spring and summer, these trends already emerged in terms of competition between users (for example farmers and citizens) and conflicts over withdrawals and availability of water for irrigation between the northern regions.

Even where water is relatively abundant, conflicts between different uses remain (e.g. agriculture, industry, tourism or leisure). The issue concerns the transition from a "treatment and disposal" approach to a "reuse, recycling and recovery " approach, and it is related to other issues such as security of basic resource and inequalities of access in different areas or for different actors.

Usually, there is little attention to the fact that total water consumption and pollution depend on which and how many natural resources the community will consume and to how much the local economic system depends on water resources to provide goods and services.

Hoekstra and Chapagain (2008) showed that visualizing the hidden use of water (virtual water) behind products can help understand the global character of fresh water and quantify the effects of consumption and trade on the use of resources water. A better understanding of the "Water Footprint" can form a basis for better management of the world's freshwater resources, and it can optimize circularity in critical resources productions as food and water

Besides, “green consumerism” is a spreading social attitude and movement in the modern era; thus, green labels and other eco-standards are created and negotiated within a broad continuum between science and politics, by addressing political, regulatory, discursive, and organizational ‘back-stage’ circumstances. Both supply and demand sides could be considered as a holistic and responsible process of management that satisfies, identifies, fulfills, and anticipates the needs of the stakeholders in maintaining the natural resource available in futures, while securing the quality of ecosystems.

The intention of the project is to benefit from and promote this positive attitude by creating reinforcing feedback (or closing the cycle) in terms of orientation of supply and demand in food production and drinking water distribution towards efficient uses and effective water re-use, saving and managment.

Project objectives

The general objective of "WATER IMPACT FOR LIFE" is to reduce water consumption and waste and support the governance of water sustainability through the market leverage founded on the "water footprint" concept and a circular management of the European water resources.

Specific objectives include incorporating long-term perspective in the assessment of local availability and use of water, and creating a collaboration platform for local authorities, problem owners and stakeholders interested in water resources.

The project is intended to integrate the Water Framework Directive into local and national regulations and into market practices, particularly in relation to future water availability and management conditions.

Activities will focus on the construction and testing of water footprint assessment methods in selected areas and for selected services and products to be considered as pilot schemes for further development. In particular, the water footprint assessment schemes will focus on drinking water distribution and grape production, answering questions such as: how many litres of drinking water

have been used to deliver a litre to families in a particular municipality, and how many litres were consumed in the production of this grape (defining two variables: litre used per litre delivered, or litre used per kg produced).

The expected assessment schemes will differ to the existing ones (see WFN) in the addition of a standard classification related to the rate of water saving or reusing and the average water availability in the considered area. Thus, in the processes considered we aim at defining an “A+ drinking water system” or “E” (for the very inefficient systems) and likely we can have an “A+ grapes” or “C grape”, with comparable terms among different regions.

These shared standards on definitions and calculation methods will be helpful for private and public organizations and local governments interested in promoting strategies and policies for sustainable water uses. We believe that making the water consumption inherent in the production of an agricultural product visible can positively influence the two sides of supply and demand and can create virtuous cycles of water saving.

The green and blue water footprint labelling and assessment will inform the citizens on the potential environmental impacts of their consumption choices as well the local organizations or administrations on the priorities for water scarcity adaptation or anticipation.

Actions and means involved

A.- Preparatory actions

A.1 Project partners and the Water Footprint Network expert’s agreement to design and planning courses, didactic laboratories and conferences concerning the water footprint and the principles of circular economy addresses to users of the drink water and agricultural sectors, companies, stakeholders and other interest organizations including schools
A.2 Verification of all the activities planned in the project’s preparation to allow users and stakeholders to make available the dates and sites for the development of the actions/events, to avoid any problem during the project
A.4 kick off meeting

B. Implementation actions

B.1. Water Footprint in the drinking water sector. Activities planned to inform the users about the footprint generated for the delivery of drinking water. Evaluation and management will be developed along the entire integrated water cycle: water abstraction, distribution and use and wastewater treatment
B.2 Water footprint in the agricultural sector. Dissemination of the technologies and data collection and elaboration methods to calculate the footprint generated by typical products with flexible and adaptable calculation methods. The most important parameters of farming and transformation to be modified will included to improve water efficiency by better organization of production
B.3 The project will facilitate the application on a larger scale of the WFD by the sensitization of the school population in respect to the qualitative and quantitative protection of water resources with the dissemination actions of water footprint. At school level, at the moment, the concept of consumed water is based on the personal visualization of the water “to drink, to use for cleaning, to water our garden” and we do not consider the “virtual” water required to use or “visible” water for the production and transformation of goods and products
B.4 Water footprint inside the way of behaving of population. The goods and products used in the EU have a high “virtual” water imported. In Italy this “virtual” water accounts to the 89% of daily water consumption. The knowledge of “imported virtual water” could lead to new more efficient daily actions, use or choice of products to diminish this type of footprint. The Consumer’s pressure could be targeted to political choices to diminish the use of products with high virtual water content

C. Monitoring of project impact

C.1 The Partnership will monitor the project’s risks with a detailed risk analysis and develop a scenario of mitigation
C.2 To guarantee the adherence of the project to the programme and time schedule, the original plan will be updated after the start of activities also to benefit of any new scientific method or advancement in this field. The project’s Team will control any single activity in terms of duration achievements, respect of roles and responsibilities of coordinators and partners
C.3 Detailed evaluation of environmental impact of the project, involvement of Authorities and stakeholders

C.4 Procedures of coordination and internal communications will be implemented by periodic meetings, technical scientific meetings among LP, Partners, stakeholders. Teleconferences and other new tools of communications will be used as much as possible
C.5 The monitoring and assessment of the achieved results will be defined on the basis of the number of evaluation forms and analysis of answers, on a second phase monitoring will be done by experts of Water Footprint Network and public discussions about the results

D.1 Dissemination planning

D.1.1 The goals are the diffusion of competences and knowledge to increase in the population a critical and techno-scientific culture about water footprint as a tool for the protection and management of water resource in accordance to the WFD EU
Communication campaigns will be addressed to stakeholders and end-users, schools and political community
Multi lingual electronic material will be prepared on different supports, memories, CDs, downloadable materials etc
D.1.2 Schools and interested people will have access to thematic presentations, digital and in presence laboratories using the more modern didactic methods
D.1.3 Project web site will be the main tool for the promotion and publication of results, it will also act as a dynamic database to access the scientific results and other information.
Blogs and other social media will be used for discussions inside the project
D. 1.4 A monthly newsletter will be sent to partners, stakeholders and other interested entities. It will contain an abstract of the latest news about the project, achievements and initiatives
D.1.5 Social networking: the project portal and social media will be used to maintain the flow of information toward the on-line community to reach the highest possible number of communities and web-users mostly in the area of students and teachers
D.1.7 E-Learning Platform for schools, Companies and Public institutions will be created to allow a front line courses

Has this proposal been submitted before? Yes [ ] No [X]

If you are resubmitting this proposal, please provide the references and acronym of the previous proposal in the form of reference acronym e.g. LIFE11 BIO/NL/001040 ACRONYM

Quantified expected results and impacts

1) The real impact on water resources of the production or transformation of product is not well known by the largest part of the population. 1L of water is perceived as a bottle but the total amount of water required for its delivery is not accounted. The water must be analysed, pumped, energy consumption and the service and logistics for its delivered apparently are known concept but all these components of water supply are not commonly associated to the water lost. The WF – “Water Footprint” or “entire amount of water involved in a process” is the base of positive actions and choices aimed at decreasing the non-efficient use of water.

2) The grapes are a typical product of the test area of the project so the diffusion of the "Water Footprint in a 1 kg of grape" and in the production and transformation cycle of wine producing farms will be analysed in order to contribute to move investments toward a more efficient and less water-dependent agriculture. This goes beyond the simple irrigation water: it will involve the entire process of producing and transformation of grape into wine. The WF of various grape cultivars at equal price and quality could address the consumers toward a less water-depended product and will drive wine producers toward more water efficient production processes which include water reuse and treatment.

3) In EU the “virtual water“ of products import from Countries in development or Countries where water strategy conservation is not considered of high importance is very high. The WF will leaded to a more responsible behaviour and to the selection of less water demanding products.

4) The tools, didactic modules, laboratories and the competences achieved in other previous water-related projects will be capitalized for the sensitization of the population and it will be implemented at school levels, with teachers actively involved by the offer of a water-dedicate teaching programme. Once the concept and the value of WF is known and perceived, consumers will act positively in their choices triggering a positive effect on the entire production chain. An agreement with school office of the FVG Region to offer formational credits to the Primary and Secondary schools teachers participating into the formational/refresher courses will signed. Three formation courses for the years 2022-23 and 24, each course will involve 15 teachers, 2 courses will be held in Slovenian languages for

the teachers of the schools belonging to the Slovenia minority of the Provinces of Gorizia. An increase of 20% for the teachers and 30% of population - on a yearly base - is expected for the knowledge of the concept of WF. 10 courses for about 15 teachers each for a total of 150 teachers/year are planned and the involvement of at least 2000 students in the first year. The WF in the population will widespread in order to have at least 3500 participants in conferences, workshops, public debates, etc.

Sustainability of the Project Results

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In many countries of the world the "Water Footprint" becoming a fundamental parameter for the water resources protection, as required by UNESCO. The involvement of the competent authorities in the project will speed up the goals to provide equal importance of "CO_2 Footprint" for the "Water Footprint" in management of the resources and to drive its formalization as a necessary parameter for the management, protection and the sustainable use of natural resources. All this actions will continue even after the end of the project.

Actions for the sustainability of the project:

Updates: the technical and scientific developments on the "Water Footprint" are addressed in this project in the water and agricultural sector to update the best practices of the integrated water resource management methodologies.

Stakeholder citizenship: maintain coordination of the network of stakeholders, favouring the enlargement of stakeholders; verify the environmental compatibility and the real participation of citizens in the identified mitigation strategies. They will be constantly updated on the "Water Footprint", on the best practices of the integrated water resource management methodology. Inclusion in the statute of the various consortia of the commitment to the application of the best practices deriving from the project.

In the school will be continuity in updating the teachers and professors and courses will be created for the new teachers. The students of all levels and degrees and postgraduates (technicians, experts, researchers, PhD) will involve in the exchange network and the educational program. A permanent reference observatory to disseminate the methodology used to address the environmental problems related to the water cycle will continue after the end of the project with the objectives to monitoring the effectiveness of the teaching methodology and make suggestions and corrections based on the difficulties encountered.

Institutional and private stakeholders will benefit from support in identifying savings strategies adopted in the medium and long term with evident repercussions on habits and protection of water resources. The recovery and reuse of water will make it possible to empower the population towards the environmental cost of inadequate food supplies (long supply chains and massive imports from abroad). The awareness of water resources with a socio-economic analysis of the water cycle aims to provide solutions to reduce costs not only from an economic point of view but also and above all from an environmental point of view.

The project website will be continuously updated and will remain a reference point for citizenship for promote any initiative or information for at least 5 years after the end of the project; in addition, all partners remain available for specific sectors or for citizenship as a reference point for dealing with relevant activities.

The proposal addresses the following project topic(s)

- Projects raising awareness on environmental problems, EU environmental policies, tools and/or legislation among the relevant target audiences, aiming to change their perceptions and fostering the adoption of environmentally friendly behaviours and practices and/or direct citizen's engagement. Applicants need to provide substantial evidence that a change of awareness levels in the field(s) addressed by the project is a crucial factor supporting correct implementation and/or future development of EU environmental policies tools and/or legislation. The awareness raising activities should have the widest coverage relevant for the specific issue targeted. The environmental problems, EU environmental policies, tools and/or legislation targeted should be directly linked to one or more of the themes listed below:

    - Sustainable consumption with a focus on waste prevention, in particular plastic waste, food waste and marine litter

- Transition to circular economy, in particular implementation of sustainable business models, sustainable production, products and services
- Natura 2000 and the benefits of the implementation of the European nature legislation, in line with the Action plan on nature, people and the economy
- Invasive alien species
- Safe use of chemicals
- Benefits of nature including green infrastructure and related ecosystem services
- Air quality in urban areas and its health effects; and/or
- Benefits of the implementation of water legislation.

Reasons why the proposal falls under the selected project topic(s)

The WFD dictates that an integrated approach must be used for the governance of water able to merge and refers all EU policies behind the already obsolete triad: “water protection/soil protection, water protection and quality objectives, integrated management of water services”. WATER IMPACT FOR LIFE has the main goal to consolidate the WFD, which is considered the most ambitious and detailed legislative act ever approved by the EU. The implementation of this act will be greatly facilitated by a widespread knowledge of WF (Water footprint) and the derived awareness of consumption and bad-use, over-exploitation of this precious PARTLY NOT RENEWABLE (in the short period) resource. To reach a sustainable behavior about water consumption it is mandatory to increase the present levels of knowledge regarding the “hidden” water; this can be done by the calculation of WF of goods and services and a widespread dissemination of this concept. The calculation of the water footprint of a product includes a series of components that are generally unknown (water abstraction, nitrate, waste plans, water pollution, etc.).

What are the Project Partnership details for the Project

1.- Università di Udine - **UNIUD** Leader Partner, is a public reserach body, it coordinates the start, management and end of activities. It will enhance the goals achieved, taking care of the after LIFE communication Plan. Reference point for the Integrated Water Management Plans in the FVG Region, it will coordinate the dissemination of integrated water cycle technologies and methodology. It will take care of administrative and management
coordination activities, ensuring the information to each partner through well-structured protocols, and the progress of the Wp.
2.- Università di Ferrara - **UNIFE** is a public reserach body, it will coordinate the dissemination of geochemical and petrographic survey methodology for water footprint calculation.
3.- Consorzio Futuro in Ricerca - **CFR** is a no-profit organitation, it will coordinate the developing public awareness program and dissemination activity.
4.- Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - **OGS** is a public reserach body, it will coordinate the dissemination of geophysical methodology for water footprint calculation.
5.- Skopìa Anticipation Services - **SKOPIA** is a startup company with the University of Trento, it will take care of monitoring and analyses of environmental impacts of the project.
5.- Livenza Tagliamento Acque - **LTA** is a water company, it will be envolved in the data collection, in the organization of dissemination activity and educational laboratories in the west side area of Tagliamento River.
6.- Consorzio Acque Friuli Centrale - **CAFC** is a water company, it will be envolved in the data collection, in the organization of dissemination activity and educational laboratories in the east side area of Tagliamento River.
7.- Acquedotto Poiana SpA - **POIANA** is a water company, it will be envolved in the data collection, in the organization of dissemination activity and educational laboratories in the Natisone River area.
8.- Consorzio Tutela Vini Friuli Colli Orientali e Ramandolo - **CFOR** is a a consortium of wine producers, it will be envolved in the data collection, in the organization of dissemination activity and educational laboratories in the Collio area.

Expected risks and constraints related to project implementation and mitigation strategy

For many years the majority of the project partners have been engaged in dissemination activities issues related to the environment, in particular to water resources. Those activities are connected both with the development of EU projects, either with the institutional activities of some of the partners, or they do part of initiatives from different sectors of society, NGOs, WWF, municipalities, citizens' associations, etc. The partners were also involved in the dissemination initiatives of UE life programs such as EXPO 2015 and COP 21, and in PON GAT 2007-2013 and “Mettiamoci in Riga” in the dissemination of good practices of the MATTM.

In this context, a series of initiatives have made it possible to continue the disclosure and comparison

on issues related to the environment, EU regulations, etc., as well as the possibility of being in direct and continuous contact with political authorities (councilor, managers, officials, school leaders, etc., regional, municipal and national), sector associations, public and private bodies, environmental associations, etc.

To achieve this type of relationship, already in the preparatory phase, the bodies and associations need to release the necessary authorizations to carry out the project activities, to give one certain guarantee of the realization of all the program activities. In addition, the project involves regional dissemination office as a stakeholder that will provide support for widespread diffusion of the initiative at schools of different degrees in the regional territory. As for hydropower and agriculture sectors - as these are directly involved as partners - are not necessary authorizations. The implementation of the various activities within the consortia is guaranteed for the planned activities, as well as the necessary authorizations for the staff and technicians of the various consortia.

- Deviation of the project budget: another risk factor is the budget as the costs are considered at present value, with a small margin of error that for example can result in changes in expert costs, airline ticket costs, etc.

- A risk to consider is compliance with the Timetable, if delays occur: the possibilities of interchange between sub-units have already been considered in order to accelerate those in delay, e.g. employing more people to increase activities.

EU added value of the project and its actions

The WF - Water Footprint is a tool to promote low water consumption responsible food chains. The aims are to exploit the synergies between partners, stakeholders, managing authorities, the collaboration of experts from the Water Footprint Network to insert the WF in all the productive cycles and promote new management and development methods, based on technological and innovative results, exchange of knowledge and experience gained in previous LIFE projects. Its application will provide intelligent certificates that can be queried with applications for smartphones concerning the Water Footprint of grape and wine. WATER IMPACT FOR LIFE will analyse the entire life cycle of wine from production to packaging, marketing and consumption. The methodologies for calculating the green and blue footprint in the food chain will be applied in educational laboratories to help students and citizens to perceive environmental advantages. A blue and green water budget in the cycle of grape will highlights how the sustainable agronomic practices can reduce the water used, reducing use of fertilizers, and therefore give a lesser introduction of nutrients into the groundwater (nitrates) and it can increase the soil biodiversity. In worldwide the irrigation is the main artificial recharge practice, so it is essential that its water in the interaction with the soil does not take on pollutants that can compromise the quality of the groundwater. The good practice of WATER IMPACT FOR LIFE capitalizes in water saving, the tools of artificial recharge, wastewater management and monitoring that the partnership have developed in previous LIFE + projects (CAMI, TRUST, WARBO) and Italia - Slovenia INTERREG (GEP, ASTIS and GOTRAWAMA). All of these projects have highlighted the considerable vulnerability of surface water, karst aquifer, and alluvial plain aquifers is due to an inadequate use of soil and water resources. All data on the health of rivers and aquifers indicate a diffusion of nitrates and pollutants emerging in aquifers, a progressive salinization of groundwater due to the replacement of freshwater with seawater, and to ingression of fossil water of deep aquifers. These contamination dynamics of aquifer are due to using every day more water than is available and having no attention in the management of wastewater we put in our polluting reserves dangerous for the health of flora, fauna, and human. The risks and mitigation measures will be perceived with the new virtual reality technologies in immersive paths that will involve all stakeholders regardless of their level of education, involvement or sensitivity. The diffusion of the scenarios of future climate changes and of critical issues and repercussions on the availability of the resource will be a useful tool for identifying sustainable mitigation solutions, thanks to an agreement with local authorities to introduce in the management policies of resources the active participation of citizens.

Budget breakdown cost categories	Total cost in €	Eligible Cost in €	% of total eligible costs
1. Personnel	1,268,103	1,268,103	57.98%
2. Travel and subsistence	97,523	97,523	4.45%
3. External assistance	234,100	234,100	10.70%
4. Durable goods			
Infrastructure	0	0	0.00%
Equipment	149,046	149,046	6.81%
Prototype	0	0	0.00%
6. Consumables	141,450	141,450	6.46%
7. Other costs	144,103	144,103	6.58%
8. Overheads	152,738	152,738	6.98%
Total	2,187,063	2,187,063	100.00%

Contribution breakdown	In €	% of total	% of total eligible costs
EU contribution requested	1,197,015	52.56%	54.73%
Coordinating Beneficiary's contribution	257,277	11.29%	
Associated Beneficiaries' contribution	822,833	36.13%	
Co-financers contribution	0	0.00%	
Total	2,277,125	100.00%	