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ALGAE – ECONOMY BASED ECOLOGICAL SERVICE OF AQUATIC ECOSYSTEMS

AlgaeService for LIFE, No. LIFE17 ENV/LT/000407

COMMUNICATION PLAN

Deliverable of the Action D1

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INTRODUCTION

The aim of the communication plan is to increase awareness of stakeholders concerning management of excessive algal blooms in water bodies, development, production and use of potential bioproducts from algal biomass. Also it aims to transfer information and right messages to involved parties and to encourage them to produce feedback. In general project activities are designed to attract the largest possible number of persons and bodies that are interested and involved in dealing with algal blooms in water bodies. Finally, this communication plan will contribute to the change of knowledge and behaviour of general public, scientists and specialists from different institutions.

I. Logical framework of communication plan. The dissemination of the project activities, results and outputs at national and international levels aims to raise awareness on environmental, water quality and health hazard issues, technologies for harvesting of cyanobacteria scums and macroalgae mats, as the source of phosphorus, nitrogen and hazardous cyanotoxins, in various types of water bodies as well as potential applications of algae biomass for bioproducts. This action is focused on the efficient and comprehensive dissemination and other types of communication in order to assure the social and environmental impact of project results (Table 1). Communication tools are provided in figure 1. All the project partners will participate in dissemination activities to reach as wide audience as possible.

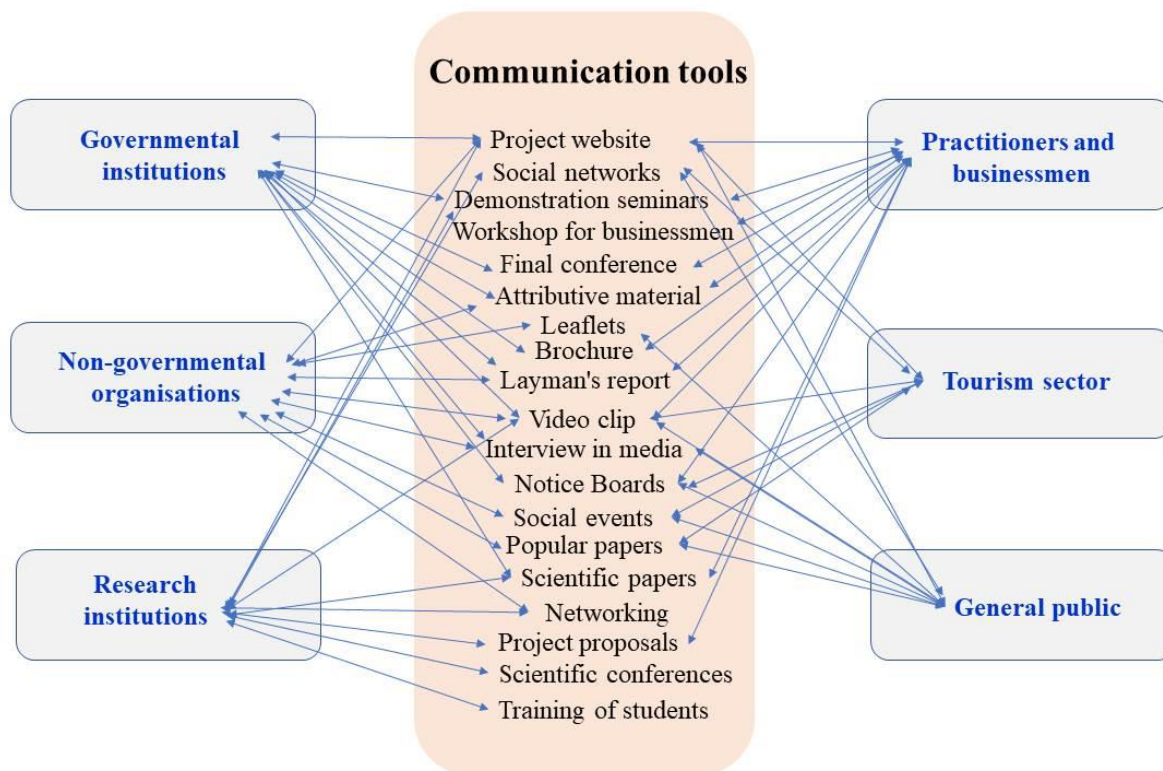


Fig. 1. Communication network for AlgaeService for LIFE project.

II. Target groups. The aim of activities of communication and dissemination is to reach representatives of different target groups, thus it requires various methods and channels to reach them. Project results will be communicated and disseminated to the relevant stakeholders and audiences by different online and face-to-face means (Table 2). Methods and channels that will be used for communication require different activities for marketing of the project that has to be implemented in order to reach foreseen results during and after the implementation of the project.

III. Indicators. For the implementation of actions and activities of dissemination and communication different indicators and their values of reference are foreseen. Such way allows controlling and monitoring the implementation and success of dissemination activities (Table 3). Also time and deadline are fixed for each action and activity.

Table 1. Elements of communication plan for *AlgaeService* for LIFE.

Action. Activity	What	How	Where	When	Who
D1. Project website and social networks (Facebook, ResearchGate, YouTube)	Website <i>AlgaeService for LIFE</i> . All material related with project activities (field works, implementation actions, photos, video, etc.) links to Facebook and project ResearchGate profile as well as YouTube channel will be presented. Project outputs such as Layman’s report, press releases, scientific articles, After-LIFE Plan will be uploaded and will be available online. QR (Quick Response) code will be generated and linked with the project website, and available in project implementation areas. It is aimed to register algae blooms in LT and PL with the help of society. Data will be used for creation of hot-spot database of blooming freshwaters.	Webpage will contain information in three languages (LT, PL, EN) and will serve as the main tool for the informing of the general public and stakeholders about project aims, activities and results. Also LIFE logo, objectives, actions, progress, expected results, beneficiary, co-financiers will be provided. External service will be acquired in order to create and technically maintain the website (software, design, programming, etc.).	Placed at NRC web server and maintained during the entire project’s lifetime and 5 years after the end.	<i>AlgaeService for LIFE</i> website will be online at latest 6 months after the starting date following the LIFE general conditions http://www.algaeservice.gamtostyrimai.lt	NHF, with contribution of NRC and other project partners
D1. Training-demonstration seminars	Outcomes of Training seminars are expected to engage policy makers from other policy sectors to widen the impacts of the project at the regional scale. Four training seminars at the regional scale in LT and PL for representatives of governmental institutions, municipalities’ authorities, administrations of protected areas and other relevant stakeholders will be	Seminar will include demonstration of harvesting prototypes operation, lectures related with project objectives, environmental problems targeted and <i>in situ</i> monitoring of algae agglomerations by distant methods. Summary with recommendations derived from the project activities will be prepared and used as a means of communication	One day training-demonstration in vicinities of River Šventoji (LT), Lakes Tynieckie Circle (PL), Oporzyńskie (PL); 2 days – in the Curonian Lagoon (LT) will be arranged.	River Šventoji (LT) – September-October, 2020; Oporzyńskie (PL) – May-June, 2022; Lakes Tynieckie Circle (PL) – August-September, 2022;	NHF, BE, NRC AMU INC

	organised. Each event will gather up to 30 participants.	towards national and EU policy makers. Such summary considering an EU perspective with the aim to communicate and present project idea, results and outcomes will be distributed by direct communication and through different social networks, conferences.		Curonian Lagoon (LT) – August-September, 2022.	NHF, BE, NRC
D1. Lecture-workshop with businessmen	One seminar-workshop for other policy areas stakeholders, mostly practitioners and businessmen will be organized (up to 30 participants). Project results related with potential applications of algae biomass for bioproducts will be presented and discussed with stakeholders.	It is expected to raise business people interest to produce new ecological products that will have a socio-economic effect due to increased workplaces, provided natural health products for further steps after project implementation. Commercialisation of the bioproducts from algal biomass gives additional value which is important for further steps after project implementation.	Seminar-workshop will be organized in Vilnius, LT (up to 30 participants).	April-June, 2023	NRC, BE, SPILA, NHF
D1. Leaflets	Background information about the project (environmental problem, objective, methodology, description and partnership) will be provided in the leaflet.	300 copies of the leaflet (200 – in Lithuanian, 100 – in English) and 600 copies of the leaflet in Polish will be published and distributed between beneficiaries (institutional authorities, representatives of business, members of communities). The leaflets that have to be distributed will be preferably printed on recycled or ecologically produced paper.	Will be placed on the project website, Facebook, distributed during the project events, sent via e-mail.	February, 2020 – LT, May, 2020 – PL	LT- NHF with contribution of other LT partners; PL- INC, AMU.

D1. Brochure	Preliminary results of the project after Mid-term report will be published in the brochure.	500 hard copies of brochure will be preferably printed on Recycled or ecologically produced paper.	Brochure will be printed and distributed for relevant stakeholders during different project events As well as further spread in electronic format, making it available from the web-site to beneficiaries and general public.	April-June, 2021	LT- NHF with contribution of other LT partners; PL- INC, AMU.
D1. Video clip	Video clip including demonstration of information on the prototypes for harvesting cyanobacteria and macroalgae operation, distant methods for determination of agglomerations and the application of harvested biomass will be produced.	The video clip will be produced in MPEG-4 format to facilitate internet viewing and will last about 10 minutes.	It will be disseminated in online means and during events to wide audience as well as it will be available at project website to all visitors.	September, 2021	LT- NHF with contribution of other LT partners; PL- INC, AMU.
D1. Attributive material	Attributive material (stickers, flags, folders, pens, etc.) and handouts of the project will be produced for different project events.	Attributive material and handouts will be purchased by public procurement procedures.	Attributive materials will be used during different project events (e.g. demonstration seminars, seminars for stakeholders and businessmen, final conference).	October-December, 2019	NHF, INC, AMU
D2. Scientific conferences	Prototypes which will be constructed, tested and demonstrated in the project, new methodology of distant methods for water blooms estimation prepared, harvested biomass application assessed and the other results will be introduced during international events,	This may promote collaboration for finding other technical solutions for the transfer of prototypes or complex technology for other applications (e.g. to use prototypes not only to harvest scums, but also to apply peroxide treating in harmful	Participation at least 10 national and International conferences (5 for LT and 5 for PL partners) for transfer information of project results to broader research audience is	During all the project	NRC, BE, INC, AMU

	conferences for the potential end-users with the purpose of new instruments application in other blooming water bodies.	blooms experiencing small water ecosystems, etc.).	planned.		
D2. Research papers	At least 5 publications in international scientific journals are planned to be prepared for the dissemination of the project results and promote scientific interest of the technology developed and its replication in other EU countries and worldwide.	Applied phycological research that provides technical details, calculation of technology efficiency, and practical suggestions are of higher interest and request to compare with the pure science.	Journals from Clarivate Analytics Web of Science list, Thomson Reuters, etc.	During all the project starting from November, 2019	NRC, BE, INC, AMU
D1. Popular papers	Four popular papers in LT and PL are planned for dissemination of project results.	Explanation on project related environmental problems, their mitigation, proposed solutions and project results, outcomes.	Regional and/or national newspapers	January-June, 2019 and January-June, 2021	LT-NRC; PL-INC, AMU.
D1. Interview in media	At least 2 radio or TV presentations in LT and PL are planned for dissemination of project results. Additionally, press releases and other announcements will be prepared and distributed to the general media with information of interest to reach a wide audience.	Action seeks to raise social awareness on ecological problems, health issues related with the algal blooms and to show new means, approaches to problem solution for the broad scientific audience, especially decision makers and businessmen, also general public.	National radio and regional or/and national TV channels.	During all the project starting from April, 2020.	LT-NRC; PL-INC, AMU.
D1. Notice Boards	Notice boards include short project description for visitors explaining importance of algae harvesting in particular water bodies, QR code, link to the project website.	Five notice boards with LIFE logos will be erected in strategic places accessible to the public close to places where the activities of B1.2 sub-action will be performed.	Strategic places: LT- Šventoji River, Curonian Lagoon, Simnas Lake; PL- Lake Oporzyńskie (Wielkopolska), Lake Tynieckie Circle, Małopolska).	Installation from October of year 2019 till September 2020	LT- NHF with contribution of other LT partners; PL- INC, AMU.

D1. Layman's report	The Layman's report will include the summary of project scope, description of techniques, methods used, results achieved, and the impact of the project on national & European level.	The <i>Layman's report</i> will be prepared by the project team, published in 3 languages (LT, PL, EN) before the final conference.	It will be available in digital form on the website, distributed by email, placed on official website of LIFE-Environment programme, etc. Published hard-copies (in colour, printed on recycled paper) will be distributed to stakeholders.	May of year 2023	NHF
E1. Final conference	One day <i>Final project conference</i> will host 60-70 representatives of state, commercial institutions, scientists, nature conservationists, NGO's and other stakeholders who will take part in the implementation of the project.	Project partners will share main results and achievements, gained experience and exchange knowledge. The events' hosting and catering services will be outsourced. All project outputs in USB's will be distributed for participants.	Vilnius, LT	July of year 2023	NHF
D1. Networking	Aiming to reach an effective communication and experience exchange with other LIFE and non-LIFE projects, the project team will direct its main networking efforts to share and get the advice from other projects, including their experience and how they integrate best practice, or at least take them into consideration during project implementation. Communication will help better understand possible constraints, overcome later drawbacks and maximize the probability of	Networking strategy will include exchange of information and experience of integrated efficient management of nutrients and algal nuisance blooms at the catchment scale by harvesting of cyanobacteria scums and macroalgae mats in different types of water bodies. During networking activities the efficiency of the prototypes-harvesters for mitigation of excess algal biomass, as the source of phosphorus, nitrogen and hazardous cyanotoxins, in	Potential LIFE and non-LIFE projects for networking: NutriBiomass4LIFE, Life EcoSens Aquamonitrix, COST EuAlgae, EOMORES (Horizon 2020), COASTAL BIOGAS, (Interreg South Baltic program). Representatives of those projects and COST Cyanocost, Submariner will be invited to the Final	During all the project starting from July of year 2019	NRC, NHF

	achieving overall project targets. In addition, project results will be provided for at least 20 selected institutions/organisations which are working in relevant field in other EU countries transferring all the information electronically during and after the project. This will contribute to transferability and replication of project results on EU level.	the ecosystems to ensure their applicability and transferability to a high variety of EU aquatic ecosystems will be demonstrated. The active exchange of information is planned between other European projects which work in the field of water ecosystems restoration & management or deal with algae bioproducts & biomass applications. The project will establish links, for example, with state and private employees, staff from nature conservation and scientific institutions, farmers.	conference.		
E1. Internal meetings of the Project Management group	Meeting of the project partners organised every 3 months.	Project partners will update the main results and achievements over the reporting period, raise the troubles that occur and vote for the decisions/solutions. Outputs of meetings will be protocols prepared by NRC and uploaded to project Dropbox.	Nature Research Centre – LT Partners, on-line video conference with PL Partners.	Defined dates (may be adjusted by necessity): end of February; end of May; end of August; end of November.	NRC
E1. Reports	Technical and financial reports provided for 3 months period.	Each Partner sends the technical and financial Progress reports to coordinator every 3 month. NRC will summarise the reports, technical part with the general information will be uploaded to the Dropbox.	Nature Research Centre	A week before Progress meeting (every 3 months).	All partners

E1. Meetings of the Steering Committee (SC)	Meeting of the SC will be organised once a year. The report on the project activities and achieved results will be sent to SC members two weeks before the meeting.	Project Management group/ Project coordinators will share main results and achievements of the project and discuss with the SC members possible improvement and replication and transfer possibilities of the project results Outputs of SC meetings will be protocols prepared by NRC and uploaded to project Dropbox.	Nature Research Centre	Dates and frequency of the meetings will be defined during first SC meeting.	NRC
E1. Communication with NEEMO and EASME experts	1. Attendance in two LIFE informational meetings organised by EASME; 2. Providing project implementation information for advisor from NEEMO; 3. Providing 3 Progress, Mid-term and Final reports; 4. Communication for clarification of questions related with LIFE policy and project implementation.	Attendance in LIFE informational meetings of EASME for acquiring important information, discussion of uncertainties and questions and networking. Each year or under the request NRC will provide information for NEEMO advisor, adjust and discuss all questions raised before sending them to EASME experts. Project implementation results (technical and financial) will be summarised in Progress, Mid-term and Final reports in the form as suggested in LIFE template. The reports will be approved by all Partners. Auditing will be performed before Mid-term and Final reports. Special questions, changes of the project implementation will be adjusted with NEEMO and EASME.	EASME meetings in Brussels; Reports provided via electronic LIFE system; Rest of information will be exchanged via mailing.	At the beginning (November, 2018) and in the middle of the project (to be defined by EASME); Progress reports: 12/219, 12/2021, 12/2022; Mid-term report 12/2020; Final report 10/2023; As appropriate.	NRC All partners NRC NRC

E1. Mid-term meeting	Mid-term meeting in Krakow, Poland	Mid-term meeting will be organised for all partners of the project. Partners will present their achievements up-to time of the meeting and will discuss furthers plans. It will be also time to visit one of the places chosen for cyanobacterial scums collections.	Kraków, Poland	9-10/2020	INC
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Table 2. Target groups, methods to reach them, activities and expected results in AlgaeService for LIFE.

Target groups	Methods and channels to reach them	Activities for marketing the Project during and after implementation	Expected results
General public	Project website, social networks and ArcGIS application “Mark a blooming water body”, on-line questionnaire, popular papers, interview in media, leaflets. Also notice boards in places of Project activities. Consultations, workshops and lectures to the community of various age groups (schools, gymnasiums, 3-rd age university, etc.).	Advertisement in social networks and websites of Project partners as well as publications in popular papers, interviews in media and information on notice boards. Lectures and visits in schools, gymnasiums; direct communication with society.	Awareness and knowledge on eutrophication, water quality and health hazard issues as well as causes and outcomes of harmful blooms.
Research institutions, scientists	Scientific social networks, scientific conferences, seminars, research papers, networking, ArcGIS application “Mark a blooming water body”. Sharing of prepared materials about project and its results (leaflets, brochure, etc.). Training and education of bachelor, master and PhD students.	Active participation of all partners in scientific social networks (e.g. posts and scientific publications on ResearchGate), scientific conferences, thematic seminars, communication with researchers’ groups and projects of similar thematic.	Increased interest of scientific community in the field of ecology of water bodies, technologies for harvesting and production of bioproducts. New project proposals generated.
Tourism sector	Project website, social networks and ArcGIS application “Mark a blooming water body” as well as popular papers and interview in media. Also notice boards in places of Project activities, specialised questionnaire.	Advertisement in social networks and websites of Project partners as well as publications in popular papers, interviews in media and information on notice boards.	Attraction of tourists to the areas. Responses to the questionnaire from representatives of tourism sector.
Governmental institutions, municipalities’ authorities, administrations of protected areas	Training-demonstration seminars, popular papers and interview in media. In addition, summary with recommendations derived from the project activities will be prepared and used as a means of communication towards national and EU policy makers. Final conference. Share of brochure and Layman’s report. Advertisement of the project by emails, providing information to policy makers, suggestions for amendments of water quality legislation for bathing waters.	Seminars will include demonstration of harvesting using prototypes, also lectures related with project objectives, environmental problems targeted and <i>in situ</i> monitoring of algae agglomerations by distant methods. Summary with recommendations will be distributed by direct communication and through different social networks, conferences. Layman’s report and video will be presented during the Final conference.	During training-demonstration seminars and Final conference it is expected to engage policy makers from different policy sectors to widen the impacts of the Project at the national and regional scale.
Practitioners and businessmen	Workshop as well as popular papers and interview in media. Direct communication with relevant stakeholders from business (farmers,	Workshop for other policy areas stakeholders, mostly practitioners and businessmen will be organized.	Stakeholders will get acquainted with project results related with potential applications of algae biomass for

	biogas companies, cosmetics, etc.). Final conference of the project.	Representatives of this target group will be invited to the Final conference.	bioproducts.
Nature conservationists, NGO's	Project website, social networks and ArcGIS application "Mark a blooming water body". Brochure, Layman's report, training seminars and Final conference.	Main results and achievements as well as gained experience and new knowledge will be shared not only via project website and social networks, but also during training seminar and Final conference.	Representatives of NGOs and other specialist working in the field of nature conservation will get acquainted with the results, achievements and new knowledge gained during the implementation of project activities.

Table 3. Indicators of communication activities progress, value of reference, time and deadline.

Action. Activity	Indicator	Value of reference	Time/deadline
D1. Project website	Numbers of visits	>1 000	July 2023
D1. Social networks (Facebook, ResearchGate, YouTube)	Number of visits and views	>5 000	July 2023
D1. Training-demonstration seminars	<ul style="list-style-type: none"> ➤ Number of seminars ➤ Number of attendees 	<ul style="list-style-type: none"> • 4 • up to 120 	October 2022
D1. Lecture-workshop with businessmen	<ul style="list-style-type: none"> ➤ Number of workshops ➤ Number of attendees 	<ul style="list-style-type: none"> • 1 • up to 30 	July 2023
D1. Leaflets	Number of copies distributed	<ul style="list-style-type: none"> • LT – 200 • EN – 100 • PL – 600 	December 2022
D1. Brochure	Number of copies distributed	500	July 2023
D1. Video clip	Number of views	>5000	July 2023
D1. Attributive material	Number of items	up to 220 distributed	July 2023
D1. Popular papers	Number of reads	>400	July 2023
D1. Interview in media	Number of interviews Number of views	at least 2 >200	July 2023
D1. Notice Boards	Number of notice boards	at least 5	September 2020
D1. Layman's report	Number of copies distributed	300	July 2023
D1. Networking	Number of projects Number of events	up to 5 up to 10	June 2023
D1. Social events for the society of various age groups (workshops, lectures)	<ul style="list-style-type: none"> ➤ Number of events ➤ Number of attendees 	<ul style="list-style-type: none"> • up to 4 • up to 200 	July 2023
D1. Visits to education institutions (kindergartens, schools, gymnasium)	<ul style="list-style-type: none"> ➤ Number of lectures/workshops ➤ Number of attendees 	<ul style="list-style-type: none"> • 4 • up to 120 	July 2023
D1. Project proposals submitted	Number of proposals	at least 1	July 2023
D1. Direct communication with target stakeholders (politicians, representatives of ministries, municipalities,	Number of stakeholders	up to 10	June 2023

protected areas, farmers, businessman)			
D2. Scientific conferences	<ul style="list-style-type: none"> ➤ Number of conferences ➤ Number of participants in conferences 	<ul style="list-style-type: none"> • at least 10 • >500 in total 	July 2023
D2. Research papers	Number of reads	>500	July 2023
D2. Training of bachelor, master and PhD students	Number of students	up to 5	June 2023
E1. Final conference	Number of participants	up to 70	June 2023