
BIO-FLEXCLC

**Flexible chemical looping combustion for combined heat and power production from
biogenic residues with negative emission**

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WP7 -Exploitation, Dissemination and Communication

D7.5 Dissemination and Communication Plan M3

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Dissemination Level		
PU	Public	X
SEN	Sensitive, limited under the conditions of the Grant Agreement	

(*) indicate the acronym of the partner that prepared the document

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1. EXECUTIVE SUMMARY (3 pages max. all points)

1.1. Description of the deliverable content and purpose

This document is the first version of the communication plan and activities of the Bio-FlexCLC project. The report reports a master plan for all communication activities to be implemented during the project and it includes all the possible communication activities and actions.

This deliverable contributes to the task 7.5 “Dissemination and communication plan” of the Work Package 7 “Dissemination and Communication”. The task is led by 1CUBE and sees the contribution of all partners. This communication plan will define the communication objectives, as well as the channels and target audience.

The communication channels as well as the communication objectives have been selected taking into account the different targeted audiences to be reached during the Bio-FlexCLC project: institutions (public, private and policy makers), other Horizon Europe projects, scientific community, industrial partners and companies, investors, and society.

In this document, different phases have been identified and a timeline defined to reach full coverage of the target audience through a detailed communication strategy. The document is an update of version 1 with update of some tables.

1.2. Brief description of the state of the art and the innovation brought

N/A

1.3. Deviation from objectives

No deviations were observed.

2. Introduction

This document defines the strategy and the concrete actions required for an efficient dissemination and communication of the project's results, as part of the WP7 – Dissemination & Communication. The development of the Dissemination and Communication Plan and its updates, is the basis to maximize the impact of the Bio-FlexCLC project and its results.

All the activities described in this deliverable aim at informing, engage, create awareness of and promote information about the project, its aims, its funding source, and its outputs.

To this aim, it is important to build and maintain effective communication channels, to identify the stakeholders and to inform them in the most appropriate way.

This activity will run through the entire lifespan of the project (48 Months).

The plan will be revised during the project to fine tune the dissemination & communication objectives in line with project results. The current plan should address the following important points

1. Define the target groups and identify stakeholders;
2. Establish the communication objectives and the strategy to achieve those;
3. Create and maintain a list of targeted events, scientific conferences and fairs;
4. Create a list of dissemination and communication activities.

For each Bio-FlexCLC partner, this Master plan will be the basis for their outreach and dissemination activities and in particular to:

1. inform the public and targeted audiences about the communication actions;
2. serve as a guide for the project partners to plan their individual communication actions
3. define the related management, monitoring and reporting activities
4. serve as a guide for any media and public relations activities in which the Bio-FlexCLC consortium is engaged.

3. Background of the Bio-FlexCLC project

The Bio-FlexCLC consortium aims to develop and demonstrate a full-chain technology that utilizes biogenic residues and wastes for flexible CHP production with the possibility of cost-effective CO₂ capture.

The concept is based on the chemical-looping technology and has the main features of i) low cost and energy for CO₂ capture, as there is no gas separation equipment needed, ii) 100% CO₂ capture possible while having low emissions of NO_x, SO_x and other harmful components, iii) low corrosion with improved steam data for improved electrical efficiency, iv) flexible system with respect to the heat/power ratio and v) flexibility to operate the system as a normal circulating fluidized bed without CO₂ capture if conditions are not amiable for this. With such a flexible system we believe that end-users would be more willing to invest in CHP systems with BECCS even without current policy instruments in place.

The idea is to combine the break-through chemical-looping combustion (CLC) technology with conventional circulating fluidized bed (CFB) boilers, a technology widely used in Scandinavia and Europe for combined heat and power production. Bio-FlexCLC concept operating in CLC mode enables CHP production with negative emissions at low-cost while the concept is flexible to switch to CFB boiler mode to produce CHP with net-zero emissions.

Investing in CHP technologies utilizing biogenic and waste fuels, as developed in the Bio-FlexCLC project, offers a range of enduring advantages:

- A fuel combustion facility which can achieve negative emissions with CO₂ capture.
- Facilitating the utilization of challenging-to-exploit or low-value bio resources like organic wastes.
- Creating new employment opportunities, particularly in biomass or residue-rich regions, such as rural areas.
- Reducing reliance on fossil fuels and mitigating the need for oil imports.
- Enhancing local and regional production autonomy and supply security.
- Most notably, contributing to the principles of the circular economy, particularly when resources like agricultural residues are effectively harnessed.

4. Dissemination and Communication Strategy

Dissemination and communications activities are very important and vital tasks for the Bio-FlexCLC project.

Dissemination activities are dedicated to specific target audience and require specific channels, while communication is related to the general public.

To be efficient in both dissemination and communication activities, a specific strategy is required that starts with the identification of the target groups.

4.1 Target Groups and Stakeholders

An analysis of the relevant stakeholders of the Bio-FlexCLC solutions is required to identify the target groups as well as the position of the different stakeholders towards the project's results in order to set up engagement strategies; to establish links and develop synergies with on-going EU projects for mutual benefit.

While the stakeholders analysis is a continuous exercise, a very preliminary list of target groups was already identified in the proposal writing phase, refined in the last months and can be found below:

- Science community
 - ✓ Fellow researchers, PhD students, School graduates, Students & professionals
- RDI community
 - ✓ Hydrogen RDI community
 - ✓ Ammonia RDI community
 - ✓ Sorbents and gas transportation RDI community
 - ✓ Process technology RDI community
 - ✓ Other RDI project consortia, including the ones granted in the same call
- Plant community
 - ✓ Plant owners and Operators
 - ✓ EPC community
 - ✓ European plant building & equipment
- Research admin. and funding authorities
- Policy makers
- Investors
- Banks
- General public

The Bio-FlexCLC partners will be asked to further define and refine the list of Target groups. The contact list being developed will serve as a dissemination tool and later on as a forum for potential future cooperation.

Target groups that can be directly involved in the project activities at different levels were initially identified. Mapping and fine-tuning of the list will be performed continuously to also fine-tune the communication activities. After identification of the target groups, within the communication plan particular actions are determined to follow the appropriate communication paths to each target.

4.2 Dissemination strategy

After the identification of the audience, and the purpose of the dissemination and communication are clear, we can define the key messages to be communicated.

In Bio-FlexCLC communication strategy four main guidelines are followed to define the messages:

1. The message should be tailored to the target groups; each target group should know different parts of the project. It is possible to send the same message to different target groups, but the content of the message should be revised and tailored every time.
2. Be clear, simple and to the point. The language should be appropriate for the target audience.
3. Information should be correct and realistic. Scientific integrity should be leading also in communication.
4. We should coordinate as much as possible with running projects on the same topic to enhance the impact of the message on the same subject.

Using the above guidelines and target groups, we can define the dissemination goals of the Bio-FlexCLC project as:

- To realize impacts on specific target groups
- Developing an innovation platform related to flexible CHP systems with CO₂ capture
- Improving public perception and societal image related to Bio-FlexCLC technologies
- Remove external Barriers towards Application
- Improving Competitiveness and Market Uptake

The following table summarizes the stakeholders, target groups, objectives and channels (including media used) of the dissemination and communication strategy of Bio-FlexCLC project. While this is a first draft of the table, some groups still need to be identified, as such this is a living document to be updated constantly by 1CUBE with the help and contribution of all partners.

Table 1 Stakeholders identified with their respective target group, communication objectives and communication strategy for the Bio-FlexCLC project

Stakeholder	Target group	Detailed target group	Communication objectives and benefits	Communication strategy and tools	Responsible Partners
Research Community	Academia & Research organizations	EFCE CHP association Combustion association High T solid looping group	1. Inform on research results 2. Receive feedback 3. Facilitate knowledge sharing. 4. Disseminate results	1. Articles in specialized journals 2. Conferences. Posters/Oral presentations. 3. Connections through LinkedIn.	All research partners. 1CUBE for LinkedIn posts
	Process technology RDI community	Scientific and academic community focused on: Chemical looping, gasification, CHP, CO ₂ capture	1. Inform on research results 2. Receive feedback 3. Facilitate knowledge sharing. 4. Disseminate results	1. Articles in specialized journals 2. Conferences. Posters/Oral presentations. 3. Connections through LinkedIn.	All research partners. 1CUBE for LinkedIn posts and newsletters

	School graduates, students & young professionals	High schools students, young professionals from EU companies, SMEs employees	1. Attract young people to RDI 2. inform about job opportunities 3. improve technical skills 4. lifelong learning	4. Newsletters 1. Training material 2. Open days 3. presentations at universities 4. internal placements 5. Internships	All Universities Companies for internships
	Other consortia	All other projects related to the same call and similar topics	Use synergies joint resources uptake of suitable external developments, exchange of results, cooperative work.	1. Joint workshops 2. cross-project partner network 3. Social Media	Coordinator and 1CUBE
Society	General Public	1. European citizens 2. other citizens	1. Communicate about the project and its impact; 2. Make the wider community aware of impact of EU Research 3. improve public image related to CHP, waste recycle and CO2 capture; 4. Enable the community to contact the project	1. Project website. 2. Press releases. 3. Social media. 4. Communication material. 5. Local media. 6. Project Video.	1Cube All scientists
	Associations and networks	To be identified	1. Communicate about the project and its impact; 2. Make the wider community aware of impact of EU Research 3. improve public image related to CHP, waste recycle and CO2 capture; 4. Enable the community to contact the project	1. Project website. 2. Press releases. 3. Social media. 4. Communication material. 5. Local media. 6. Project Video.	1Cube All scientists
Decision makes	Investors banks,	Breakthrough Energy and other investors	1. Provide awareness for sustainable	1. Direct contacts	All partners

and funders	insurance		financing and life cycle cost efficiency. 2. Improving competitiveness and market uptake	2. establishing projects 3. focused articles and presentations	
	Policy makers	EU representative s. Others to be defined	1. Provide awareness for sustainable financing and life cycle cost efficiency and ensure the establishment of the policies required for the realization and application of the technology. 2. Remove external barriers to application.	1. White papers 2. project reports 3. organizations bilateral meetings.	All partners
Business and providers	Gasification system producers	To be refined during the project	1. Communicate the existence of the project and its potential impact. 2. Improving competitiveness and market uptake 3. inform potential consumers	1. direct contacts 2. Project website. 3. Press releases. 4. Events/seminars/workshops. 5. Project communication material	All partners coordinated by 1CUBE
	CHP distributors	To be refined during the project	1. Communicate the existence of the project and its potential impact. 2. Improving competitiveness and market uptake 3. inform potential consumers	1. direct contacts 2. Project website. 3. Press releases. 4. Events/seminars/workshops. 5. Project communication material	All partners coordinated by 1CUBE
	CO ₂ capture system users	To be refined during the project	1. Communicate the existence of the project and its potential impact. 2. Improving competitiveness	1. direct contacts 2. Project website. 3. Press releases.	All partners coordinated by 1CUBE

			and market uptake 3. inform potential consumers	4. Events/seminars/workshops. 5. Project communication material	
	CO ₂ reuse owners	To be refined during the project	1. Communicate the existence of the project and its potential impact. 2. Improving competitiveness and market uptake 3. inform potential consumers	1. direct contacts 2. Project website. 3. Press releases. 4. Events. 5. Project communication material	All partners coordinated by 1CUBE
	Plant owners	To be refined during the project	1. Communicate the existence of the project and its potential impact. 2. Improving competitiveness and market uptake 3. inform potential consumers	1. direct contacts 2. Project website. 3. Press releases. 4. Events. 5. Project communication material	All partners coordinated by 1CUBE
	Cross industry	To be refined during the project	1. Communicate the existence of the project and its potential impact. 2. Improving competitiveness and market uptake 3. inform potential consumers	1. direct contacts 2. Project website. 3. Press releases. 4. Events. 5. Project communication material	All partners coordinated by 1CUBE
	End users	To be refined during the project	1. Communicate the existence of the project and its potential impact. 2. Improving competitiveness and market uptake 3. inform potential consumers	1. direct contacts 2. Project website. 3. Press releases. 4. Events. 5. Project communication material	All partners coordinated by 1CUBE
	Plant builders	To be refined during the project	1. Communicate the existence of the project and its potential impact. 2. Improving competitiveness	1. direct contacts 2. Project website. 3. Press releases. 4. Events.	All partners coordinated by 1CUBE

			and market uptake 3. inform potential consumers	5. Project communication material	
	EPC	To be refined during the project	1. Communicate the existence of the project and its potential impact. 2. Improving competitiveness and market uptake 3. inform potential consumers	1. direct contacts 2. Project website. 3. Press releases. 4. Events. 5. Project communication material	All partners coordinated by 1CUBE

According to this provisionally defined strategy, the dissemination means/channels in the table below will be exploited:

Table 2 Dissemination means/channels for Bio-FlexCLC

Means / channel	Objective, target and quantifiable indicators
Project technical epublication	A project e-publication will be produced during the second phase of the project in order to collect relevant results in the form of data and observations from the validation site and from Business simulation activities, thus giving comprehensive evidence of the advantages of the developed enabling technologies and of the concept as a whole. Technical project e-publication downloads: <25 = poor; 25-50 = good; >50 = excellent
Scientific/technical publications and oral/poster presentations at conferences, symposia, seminars, workshops, etc.	The project's results will be published in the international scientific/technical literature, such as Chemical Engineering Journal, ACS Sustainable Chemistry & Eng., Renewable Energy, AIChE Journal, Fuel, Int. J Greenhouse Gas Control, Energies as well as in relevant scientific/technical literature at national level mainly in the member states where the partners are established. Results will also be presented at relevant conferences, symposia, seminars, workshops, and other events, such as European Biomass Conference & Exhibition (EUBCE), CLC conference, Negative CO ₂ emission conference, Energy Conference, AIChE Annual Meeting,ACHEMA, GHGT, either through oral or poster presentations. The project will furthermore promote its results at the national level in the various Member States of the partners. The highest impact open access journals within the relevant sector will be identified. <ul style="list-style-type: none"> • At least 8 papers will be published on Open Research Europe OA platform. • All publications will be collected in a dedicated space within the project website for open access/download. Open Access to peer-reviewed scientific publications will be provided. • Number of published papers: <6 = poor, 6-10 = good, >10 = excellent
Education sessions	Education sessions integrating the knowledge developed within the project will be offered at local as well as international level to students (undergraduate and postgraduate)

	- At least 1 seminar/workshop year
Liaison with EU communities	The consortium will seek liaison with most relevant EU communities on Bio-FlexCLC topics, including the relevant EU Technology Platforms (ETPs) such as DCH+, and RHC. We also seek collaboration with IEAGHG, IEA Bioenergy (not EU).
Liaison / collaboration with relevant projects	The consortium will seek liaison and collaboration with other bioenergy projects that could complement project activities and provide synergies , also to effectively disseminate project results.

The communication tools already identified are reported in the table below

TG	Main activities and channels	When	Means of verification
All	A dedicated, user- and mobile-friendly website. The open part of the website is used for both communication and dissemination of results. Public deliverables can be downloaded from the website.	M3 (update d by 1CUBE)	At least 10,000 website views, 3,000 unique visitors' views by M48
	Strong project identity, including the logo, branding style and templates (PowerPoint, Word) for all internal and external communication materials	M3	Logo and branding style and templates are used by all partners in communication materials and deliverables
	Proactive use of social media networks (LinkedIn, YouTube, Twitter, etc.) for distributing contents and enlarging Bio-FlexCLC community	M2- M48	300 social media followers by M48
	2 videos presenting Bio-FlexCLC objectives and results. Also, videos of KERs will be available on YouTube	M3- M48	1 video at project's launch & a 2nd video at end of the project no later than M48
	Participation in events (physical and/or online), including distribution of leaflets and positioning a poster, roll-up.	M6- M48	At least 25 events where materials are distributed by M48
	Non-scientific articles, interviews in sector journals	M1- M48	At least 4 by M48
	Learning programmes at Bio-FlexCLC UNIs are designed together with local and regional educational organisations	M1- M48	Integration of learning solutions in at least 3 programmes
A&I	Newsletters about the progress of the activities and achievements, news updates, events, etc.	M6- M48	8 newsletters (2 per year)
C	Bio-FlexCLC press releases: dedicated press releases to a network of journalists in Europe who are active in CHP, gasification, CLC and CO2 capture. Non-scientific articles and open days/lectures at schools/trainings will be organised to create awareness.	M6- M48	4 press releases dedicated to a network of journal active in chemical processes and decarbonization of industries. Non-scientific articles: 4

			Open days/lectures/trainings organised: 8
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I: Industry; A: Academia; P: Policy; S: Society and media

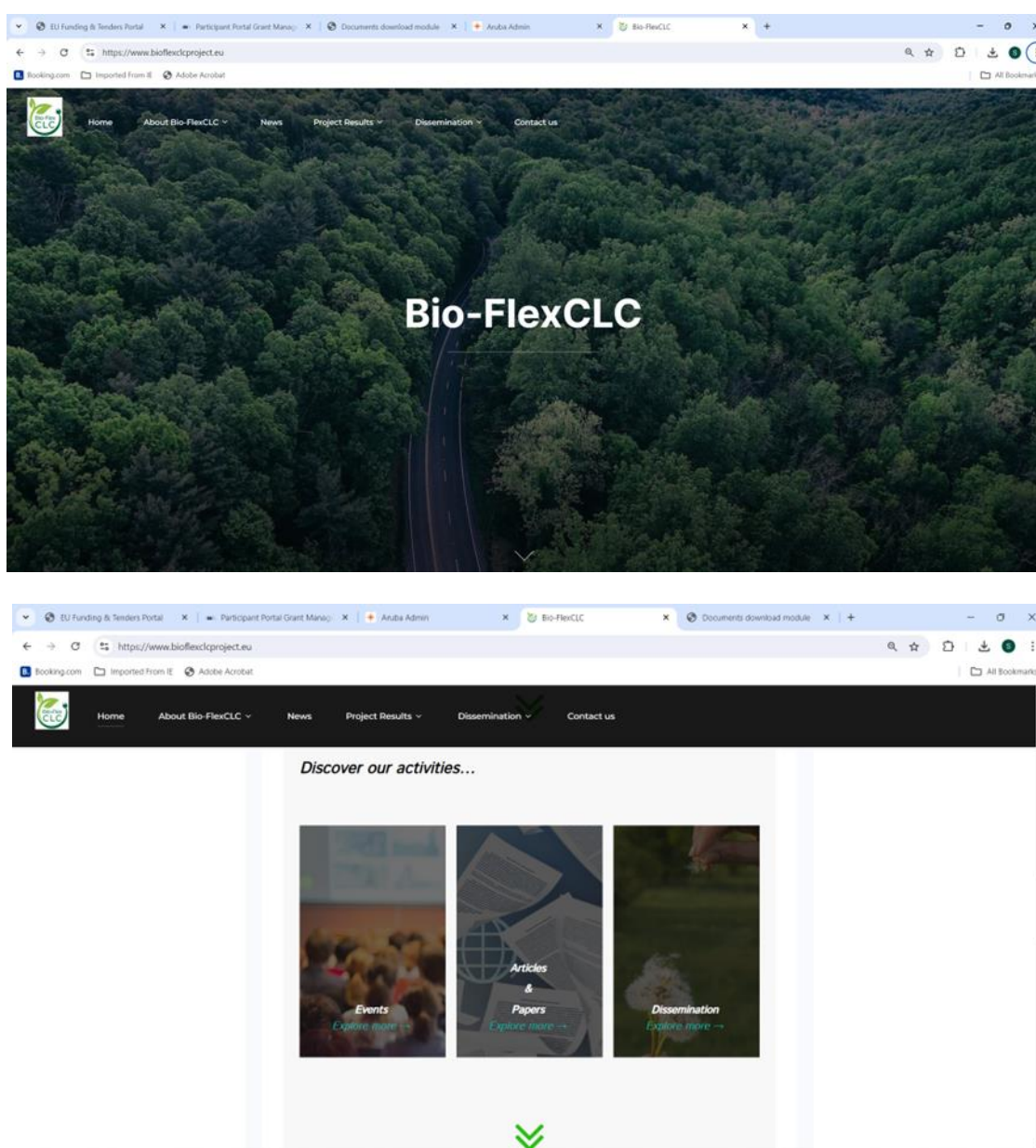
4.2 Communication activities

The communication strategy of Bio-FlexCLC will be adapted to the main target groups and stakeholders listed in Table 2 to ensure that the relevant progress of the project is properly communicated.

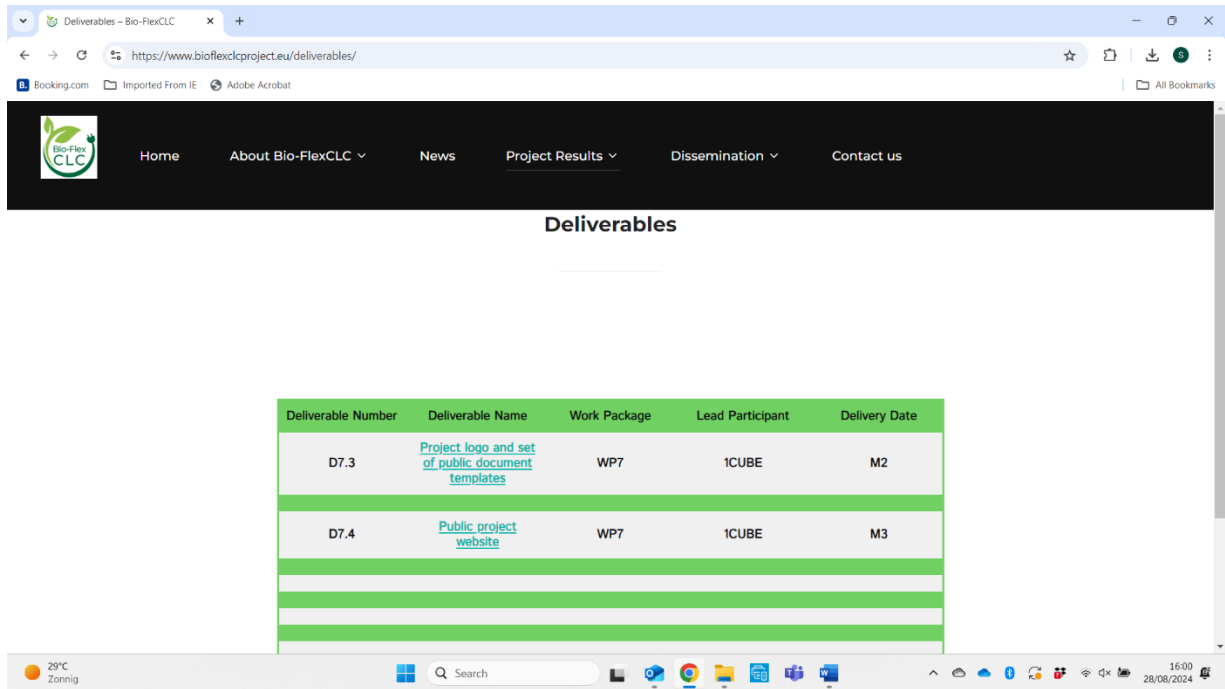
Actions will be designed and shaped accordingly, using different channels of communication (website, events, leaflets, newsletters, social media, video, webinars, etc.).

The overall project objective will transpire in all communication activities, raising awareness about the improving affordability and reliability.

- A dedicated, user- and mobile-friendly website. The open part of the website is used for both communication and dissemination of results. Public deliverables can be downloaded from the website. Public website is already available and the deliverable about it is also submitted (see Deliverable D7.4)



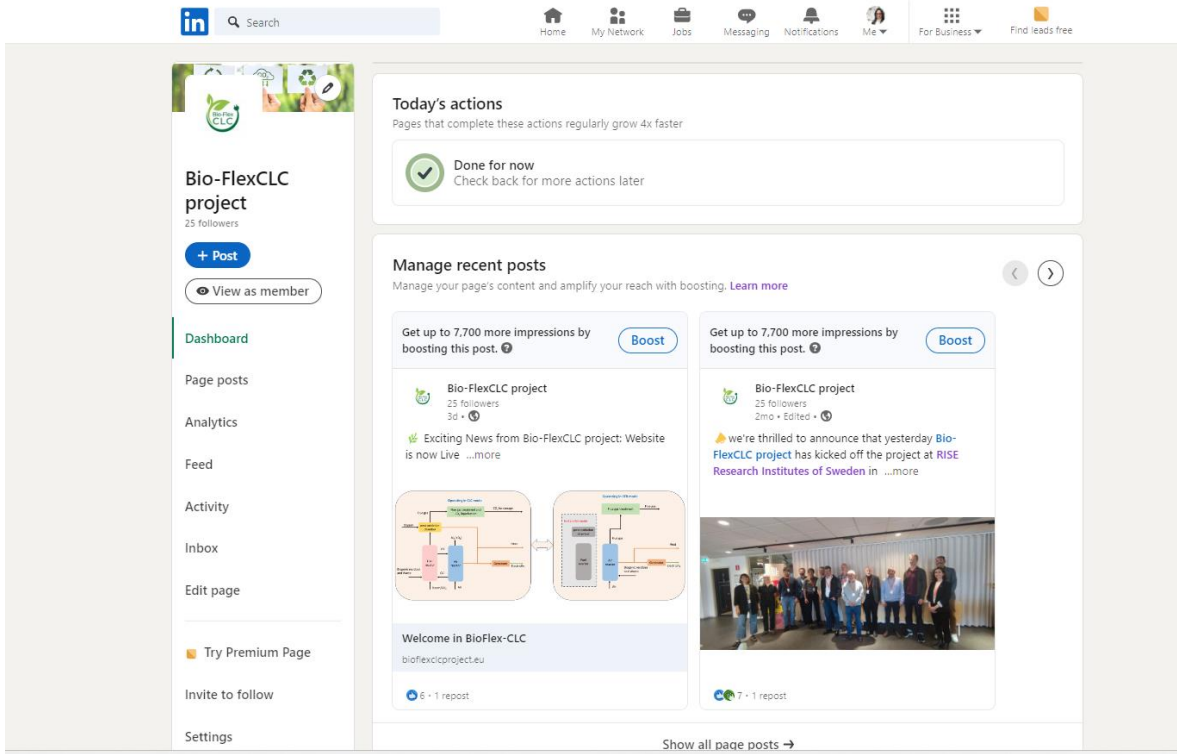
Screenshot: Public website



Deliverable Number	Deliverable Name	Work Package	Lead Participant	Delivery Date
D7.3	Project logo and set of public document templates	WP7	1CUBE	M2
D7.4	Public project website	WP7	1CUBE	M3

Screenshot: Page “Deliverable” on the website

- Proactive use of social media networks (LinkedIn, YouTube, Instagram, etc.) for distributing contents and enlarging Bio-FlexCLC community.
Below a screenshot of LinkedIn page of Bio-FlexCLC



4.3 Dissemination and Communication Follow up

In the following months, 1Cube is going to create a first 1 video presenting Bio-FlexCLC objectives, concept and expected results. Different flyers, posters and roll up will be created by 1CUBE in coordination with the partners to advertise Bio-FlexCLC in different events. The material will be custom made per event, while some general materials will be also created and printed that can be used in every dissemination event. Also the partners of Bio-FlexCLC project will contribute at the Dissemination part of the project, participating in different events such as conference, symposium, meetings (physical and/or online). Moreover, 1Cube will write Newsletters about the progress of the activities and achievements, news updates, events, etc., and dedicated press releases to a network of journalists in Europe who are active in biofuels, bioenergy and CCS, fluidized bed technology, and alternative energy. At the last but not least, Bio-Flex-CLC project organize open days and lectures at schools.

5. Dissemination and Communication responsibilities

In the Bio-FlexCLC project, 1CUBE is leader of WP7, the communication and dissemination Work Package. However, as in any research project, the Bio-FlexCLC communication strategy foresees and requires the active involvement of all project partners.

1CUBE will take care of communication and will ensure the proper information exchange within the consortium and support the full communication of the project's content and results.

On the other hand, the Bio-FlexCLC consortium partners have an essential role in the communication of project results. As such, all partners are fully committed towards an active dissemination of the project results.

Universities and research organizations are essential in generating new knowledge and provide content for communication and dissemination in the form of scientific papers, poster and oral communications and conference presentations.

It is also important to recall here, that all beneficiary of the Bio-FlexCLC project, as well as any other project granted under the Horizon Europe framework program, are obliged by the grant agreement to publish open access and to correctly acknowledge the support received by the European Commission in all the dissemination and communication activities, as well as in patent applications and any other IP protection activities.

This acknowledgement should be in accordance with the grant agreement, and it is reported here.

“Communication activities of the beneficiaries related to the action (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any infrastructure, equipment, vehicles, supplies or major result funded by the grant must acknowledge EU support and display the European flag (emblem) and funding statement (translated into local languages, where appropriate):



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Apart from the emblem, no other visual identity or logo may be used to highlight the EU support. When displayed in association with other logos (e.g., of beneficiaries or sponsors), the emblem must be displayed at least as prominently and visibly as the other logos.”

Additionally, any communication or dissemination activity must indicate the following disclaimer (translated into local languages where appropriate):

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6. CONCLUSIONS

This first version of the communication plan helps defining the target groups, the communication contents and the implementation of the communication and dissemination strategy. The aim is both to create awareness about the project and its results as well as to engage with the project stakeholders.

The communication activities already started from day one of the project and are expected to continue till M48. This plan will also be updated regularly to include additional channels or target groups identified by the consortium.

7. ABBREVIATIONS

N/A

8. REFERENCES

N/A

9. GLOSSARY

N/A

10. ANNEXES

N/A