primary

ANNEX 4
Open Call
Applicants' Guide

Open Call for Financial Support to Third parties as a mechanism to test, promote, validate, replicate PRIMARY business model blueprints and develop new value chains

Disclaimer

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Table of contents

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List of abbreviations

Abbreviation	Definition
AI	Artificial Intelligence.
AWU	Annual Work Unit. A standard measure of labour input corresponding to the work performed by one person working full time for one year.
CBMC	Circular Business Model Canvas. A management and visual planning tool used to describe, design, and evaluate circular business models by integrating economic value creation with resource efficiency, circular material flows, and environmental and social sustainability considerations.
DoH	Declaration of Honour. A self-declaration for organizations applying for or receiving EU funding, confirming they meet eligibility criteria, have capacity, and aren't excluded due to fraud, bankruptcy, or other serious issues, ensuring compliance with EU rules before grants are finalized.
EC	European Commission. The executive branch of the European Union responsible for proposing legislation, implementing decisions, and overseeing EU programs.
ESCO	Energy Services Company model. A business model in which an entity designs, finances, implements, and operates energy efficiency or energy supply solutions, with remuneration linked to the achieved performance or savings.
ESR	Evaluation Summary Report. A report that all applicants receive after their proposal has been evaluated. Applicants can submit a request for redress if they believe there was a shortcoming in the evaluation process detailed in their ESR.
EU	European Union. A political and economic union of 27 European countries.
FAQ	Frequently Asked Questions. A set of common questions and answers about the OC to support applicants.

FSTP	Financial Support to Third Parties. A mechanism used by the PRIMARY project to provide funding through its Open Call to beneficiaries.
HE	Horizon Europe. The EU's main research and innovation funding programme.
IA	Innovation Action. A type of Horizon Europe action primarily aimed at bridging the gap between research and market. They build upon earlier research results and move these results toward tangible products, processes, or services that can be rapidly introduced to the market or implemented by public authorities and stakeholders.
IP	Intellectual Property. Creations of the mind (inventions, software, data, etc.) that can be legally protected.
IPR	Intellectual Property Rights. Legal rights that protect intellectual property, such as patents, copyrights, and trademarks.
OC	Open Call. An invitation for proposals through which external beneficiaries can apply for funding to carry out specific activities that support the project's objectives.
OLAF	Office Européen de Lutte Anti-Fraude (European Anti-Fraud Office). The body responsible for investigating fraud, corruption, and other illegal activities affecting the financial interests of the European Union, including the misuse of EU funds.
SDG	Sustainability Development Goal(s). A set of 17 global goals adopted by the United Nations to address social, economic, and environmental challenges, including poverty, climate action, responsible consumption, and sustainable development.
SME	Small-Medium Enterprise.
SSF	Solid-State Fermentation. A biological process in which microorganisms grow on solid substrates with low moisture content, commonly used to facilitate efficient enzyme formation and the utilization of cellulosic waste.
VAT	Value Added Tax number. A unique identification number assigned to businesses for Value Added Tax purposes. It is used in invoices, tax reporting, and financial transactions within and outside the EU.

1. Introduction

This document provides guidance information on the PRIMARY Open Call, describing the eligibility and evaluation criteria. The document in its entirety and all associated documents of the Open Call kit must be read carefully before the submission of an application.

1.1 About PRIMARY

PRIMARY (**New business for farmers and cooperatives in rural areas by local upcycling solutions using underutilized agricultural feedstocks**) is a Horizon Europe Innovation Action (IA) funded by the European Union (Project number: 101180167). The project supports the development, validation, and transfer of bioeconomy solutions that enable the sustainable use of underutilised agricultural residues in rural European regions.

The project focuses on feedstock streams that are widely available but often insufficiently valorised, namely grass, greenhouse residues, cotton by-products, and olive tree prunings. While these resources hold significant potential for producing food and feed ingredients, bio-based materials, bio-energy and bio-fuels, as well as soil-related products, their uptake remains constrained by limited local processing capacity and by the need to further adapt existing technical solutions to specific agricultural feedstocks and demonstrate their feasibility under real rural conditions, together with local actors and value chains.

PRIMARY addresses these challenges by developing and testing value-chain approaches that combine feedstock mobilisation, innovative processing technologies, and viable business model structures. The project works with six (6) main process solutions, including biorefinery concepts, submerged and solid-state fermentation, fibre and foam forming technologies, pelletising processes, and thermal decomposition processes such as pyrolysis and gasification. These processes are developed with a strong emphasis on adaptability and transferability to different regional and operational settings.

An important output of PRIMARY is the development of four (4) preliminary business model blueprints, each associated with one of the targeted feedstock streams. These blueprints provide structured guidance on possible value-chain configurations, roles of actors, governance and cooperation models, indicative cost and revenue structure, operational requirements, and key environmental and social considerations. They are intended as reference frameworks rather than fixed solutions and require validation, adaptation, and refinement through practical implementation.

To support this validation process and extend the project's impact beyond the consortium regions, PRIMARY implements an Open Call providing Financial Support to Third Parties. Through the Open Call, selected consortia of local stakeholders, such as primary producers, SMEs, cooperatives, technology providers, and public or research organisations, will test and adapt PRIMARY processes and business model blueprints in new European regions. The Open Call projects are expected to generate practical evidence on technical feasibility, economic viability, and replicability under real-world conditions.

The insights, data, and lessons generated through the Open Call activities will feed back into the refinement of the PRIMARY business model blueprints and process concepts, contributing to the development of transferable knowledge, best practices, and guidance that can support wider deployment of sustainable bioeconomy solutions across Europe.

1.2 PRIMARY objectives

The overall aim of PRIMARY is to enable the sustainable and economically viable valorisation of underutilised agricultural residues in rural European regions by demonstrating technological and business solutions that can be replicated and scaled across different contexts.

To achieve this aim, PRIMARY pursues the following objectives:

1. **Develop harvesting, logistics and stabilization solutions for agricultural feedstocks**
   Improve feedstock availability and quality by optimising harvesting, logistics, and on-farm stabilisation of agricultural residues using modelling tools and field-based sensing systems.
2. **Develop and pilot processes and technologies to transform the feedstocks to added value products**
   Develop and demonstrate innovative processing solutions that convert underutilised agricultural residues into high-value food, feed, bio-based materials, and bioenergy value chains in rural conditions.
3. **Develop local business models for primary producers and SMEs**
   Design and validate feedstock-specific business model blueprints that enable economically viable, scalable, and replicable bioeconomy value chains for farmers and SMEs.
4. **Assess sustainability and safety of the new solutions piloted in PRIMARY**
   Evaluate the environmental, socio-economic, techno-economic, and regulatory performance of the demonstrated solutions to support safe and sustainable deployment.
5. **Ensure replicability and mobilization of the PRIMARY solutions in Europe**
   Support the replication and wider uptake of PRIMARY solutions across Europe through an Open Call, stakeholder engagement, and targeted dissemination and policy-oriented activities.

1.3 PRIMARY Open Call

The main objective of the PRIMARY Open Call (OC) is to validate the replicability and promote the adaptation of PRIMARY solutions in Europe.

The Open Call invites proposals from **consortia of local and regional actors, including technical partners and public (e.g., public body, university) or private organisations**

(e.g., primary producers, cooperatives, start-ups, SMEs, NGOs), that are active in the sustainable valorisation of agricultural residues. Selected consortia will receive funding to pilot, adapt, and validate processing solutions and business model blueprints within the PRIMARY framework, focusing on underutilised feedstocks and innovative bioeconomy processes. The supported projects are expected to demonstrate technical feasibility, economic viability, and replicability of integrated value-chain solutions under real rural conditions, contributing to the wider deployment of PRIMARY solutions across Europe.

Sub-projects must contribute to the following Objectives:

- **Objective 1:** Validate, adapt, and further improve the four (4) PRIMARY business model blueprints for the feedstock streams of grass, greenhouse residues, cotton by-products, and olive tree prunings. **Each proposal must address at least one (≥1) feedstock**, which may be selected from the PRIMARY feedstock streams or from similar agricultural residues, provided that their characteristics, availability, and valorisation pathways are comparable to the PRIMARY feedstocks and align with the project's objectives on sustainable biomass utilisation. Applicants are expected to structure their business model by specifically addressing the building blocks included in the *PRIMARY Open Call Business Model Template* ([0](#)). The template, based on a circular business model canvas approach, supports Applicants in describing, testing, and refining their proposed value chain, covering the full scope from feedstock sourcing to market uptake. It further guides Applicants in addressing all key elements in a consistent manner and in validating them through practical implementation in the proposed regional context, thereby generating practical evidence on economic viability, operational feasibility, and value-chain governance arrangements.
- **Objective 2:** Demonstrate the replicability and scalability of PRIMARY processes and technologies by enabling third-party consortia to **pilot and adapt at least one (≥1) of the six (6) PRIMARY processing concepts**, namely biorefinery process, submerged fermentation, solid-state fermentation, fibre-forming technology, pelletizing or pyrolysis/gasification of agricultural residues, in European regions where similar pilot or demonstration infrastructure is limited or absent. Indicative examples included in the *PRIMARY Open Call Business Model Template* ([0](#)), such as the Cotton Residues Use Case from Karditsa, Greece, illustrate how these processes can be implemented and adapted in practice.The selected sub-projects will generate practical evidence on technical performance, operational feasibility, and adaptability to local conditions, supporting wider replication across rural European regions.
- **Objective 3:** Enhance stakeholders' opportunities for knowledge transfer on bioeconomy-oriented production by actively engaging local and regional actors in pilot implementation and validation activities. Through this engagement, the Open Call will support mutual learning, capacity building, and the exchange of practical experience across regions, thereby extending the impact of PRIMARY solutions beyond the consortium countries.

1.4 Approach & planned Open Call realisation

PRIMARY will launch one (1) single Open Call providing Financial Support to Third Parties (FSTP) as a mechanism towards the validation of the four (4) PRIMARY business model blueprints on feedstock-specific value chains, as well as to promote and test the processes and technologies replicability and scalability potential to other regions beyond the ones participating to the project (*see Section 2.2.1*). To this end, it will fund 6-9 sub-projects (consortia of 2-3 parties) with the maximum grant budget to be €150,000 per sub-project for consortia of three (3) parties and €100,000 per sub-project for consortia of two (2) parties. The total amount of the Open Call will reach at maximum €900,000.00.

Total amount	No. of projects	Partners per sub-project	Maximum budget per sub-project
€900,000	6-9	2	€100,000
		3	€150,000

To minimise administration and financial errors, each selected consortium (sub-project) will receive the funding on a lump sum basis and according to the terms of the contract signed between the consortium and PRIMARY project. No pre-financing is foreseen and the financial support is provided in the form of pre-defined lump-sum amounts according to the implementation phases of the sub-projects as described below, linked to the successful completion and acceptance of agreed deliverables. Implementing this approach, rather than a payment tied to complex administrative justifications, will decrease the administrative burden of the Open Call.

The expected implementation duration of each funded sub-project is 18-months, which will be divided into three (3) phases:

- **Phase 1** - Design [(November 2026) - (February 2027); Duration: 4 months]: Payment of 20% of the total grant [Deliverable: Activity plan]
- **Phase 2**- Development [(March 2027 - January 2028); Duration: 11 months]: Payment of 50% of the total grant [Deliverable: Report on implemented activities in accordance with the OC requirements]
- **Phase 3** -Impact and validation [(February 2028) - (April 2028); Duration: 3 months]: Payment of the final 30% of the total grant [Deliverable: Report on evaluation of impact and replicability of the tested processes and technologies]

1.5 Submission procedure

PRIMARY Open Call for proposals will be published and submitted digitally through the opencalls.fund platform developed by reframe.food. The opencalls.fund platform is a digital platform for the management of the applications for financial support to third parties and accelerator programmes. Interested Applicants should visit the PRIMARY website (https://primary-project.eu) for any updates and the FAQ section available in the opencalls.fund platform as well as on the project website.

Submissions received through any other channel will not be considered and will be automatically discarded.

Documents required in subsequent phases will be submitted via dedicated channels (e.g., via email or via the opencalls.fund), which will be indicated by the PRIMARY consortium in the contracting phase.

In case multiple versions of the same application are submitted, only the last version will be evaluated. All the previous ones will not be considered and will be discarded.

Throughout the entire process, the confidentiality of Applicants' identities and the contents of their proposals will be strictly maintained. Information related to the selected PRIMARY solution(s) and their planned implementation will be treated with the outmost discretion.

By applying to PRIMARY Open Call, Applicants (consortia) automatically accept the terms and conditions of the Open Call as described in the Open Call Kit.

1.6 Call expected outcome

Through the PRIMARY Open Call 6-9 sub-projects will be funded. Each sub-project should propose the following activities:

- **At least one (≥1) replicated or adapted PRIMARY processing concept, one (≥1) underutilised agricultural residue, and one (≥1) validated business model blueprint** demonstrated and validated per sub-project in European regions beyond those already involved in the project (Finland: Ostrobothnia, Häme, Savo; Greece: Karditsa, Heraklion, Lykovrysi/Regional Unit of North Athens), providing evidence of technical feasibility and operational viability under new regional conditions.
- Improved innovation capacity of local actors in rural European regions, achieved through the **active involvement of local and regional actors**, such as primary producers, cooperatives, start-ups, SMEs, NGOs, public/private organisations, and other stakeholders in the co-development of PRIMARY solutions, supported by the Open Call.
- Learning stories and best practices derived from Open Call activities, **offering technical, organisational, and decision-support guidance** that can be used by actors across EU Member States to inform policy development, investment decisions, and further bioeconomy interventions.

1.7 Language

English is the official language for the PRIMARY Open Call. **Applications submitted in any other language will not be evaluated**. English is also the only official language throughout the whole execution of the PRIMARY project. This means all requested contributions (documents of the OC kit) must be submitted in English to be eligible. In the case of official documents as a proof of the legal existence of the applicant, they can be submitted in original

language, however if it is deemed essential to facilitate the eligibility check, Applicants may be requested to provide additional documentation (i.e., a translation of the relevant sections of the official document into English—this does not have to be a formal, certified translation) in a timely manner.

1.8 Documentation format

Any document requested by the Applicants in any of the phases (e.g. submission, eligibility check) must be submitted electronically in .pdf format without restrictions for printing. The provided proposal template (Annex 5) must be used when preparing the proposal and should **not exceed the limit of 15 pages**. All tables, figures, references, and any other element pertaining to the application must be included as an integral part of the application and are thus counted against this page limit. **Excess pages will not be considered during the evaluation of the proposal.**

The budget tables provided in Annex 6 do not count towards the 15-page limit of the proposal, as they should be submitted as a separate ".pdf". However, please aim to limit the budget section to one (1) page.

1.9 Origin of the funds

All Sub-grantees will sign a dedicated Sub-grant Agreement with the PRIMARY Open Call Treasurer/Manager (RFF). The funds provided to the Sub-grant Agreement originate from the funds of the European Project PRIMARY which is funded by the European Commission under Grant Agreement Number 101180167, and remain therefore, property of the EU until the balance is paid, whose management rights have been transferred to the project partners of PRIMARY. This relation between the Sub-grantees and the European Commission through the PRIMARY project carries a set of obligations to the Sub-grantees with the European Commission. It is the responsibility of the Sub-grantees to fulfil these, and of the PRIMARY consortium partners to inform them on these.

More details on the obligations of Sub-grantees can be found in Chapter 4.

2. Proposal submission and selection

All Open Call selected applicants must meet the eligibility criteria outlined in this section and sign and submit the following documents.

At the time of submission, Applicants must submit the following documents:

- **Declaration of Honour.** The document must be filled in appropriately, signed by each consortium partner's legal representative and stamped (with the institution's stamp if applicable). Partners' scanned documents are then merged in one (1) .pdf file and uploaded as one (1) .pdf file.

- **SME Declaration.** The document must be filled in appropriately, signed by the entity's legal representatives and stamped (with the applicant's stamp if applicable). The declaration must be submitted by both SMEs and start-ups. If more than one (1) partner is an SME, the scanned documents are then merged and uploaded as one (1) .pdf file.
- **Consortium Declaration.** The document must be filled in appropriately, signed by each partner's legal representative and stamped (with the institution's stamp if applicable), scanned, merged in one (1) .pdf file and uploaded as one (1) .pdf file.

Important notice:

As a general rule, all documents that require to bear stamps and signatures must be signed by the legal representatives of the consortia parties. In the case of parties coming from a country where the use of stamps is not mandatory, it is required to provide relevant justification documents in English. E-signatures are also acceptable and in this case the existence of stamps is not required. PadES and CadES are acceptable e-signature formats for the PRIMARY OC.

Although there is no requirement for letters of support/intent, parties can make a reference in their proposal.

During the contracting phase, selected beneficiaries (all consortia members) must submit the following documents:

- Bank account information. The payments will be made directly from the PRIMARY OC treasurer. The payments will be made separately to each partner in the consortium.
- The Sub-grant Agreement (indicative model given as Annex 10) will be sent to selected applicants by the Open Call manager following the evaluation and selection phase. The Sub-grant Agreement will be signed by the lead partner of the consortium.
- Proof of legal existence. Selected applicants will be requested to provide any supporting documentation as proof of their legal existence.

2.1 Open Call publication

The PRIMARY Open Call will be published on the Funding and Tenders portal of the European Commission, and the PRIMAR website (https://primary-project.eu/). It may also be published on the PRIMARY project partners' websites/dissemination portals. It will be published on 9 March 2026 and will remain open until 8 June 2026, 17:00 CEST. The OC will be widely communicated through the PRIMARY social media channels and the PRIMARY partners' networks and channels.

The publication will be supported by the Open Call kit, which includes the following documents:

- **Open Call text (Fiche)**, which provides the scope and objectives of the OC.
- **Open Call Applicant's Guide** (present document)

- **Declaration of Honour (DoH)**, which confirms the ability of all parties to execute the sub-project (if selected), exclusion of conflict of interest, etc. (signed by all parties of the consortium and submitted as .pdf in the submission phase)
- **SME Declaration**, which secures that the Applicants are eligible for the OC (in terms that they are SMEs according to the EC rules). Start ups are also required to fill in the declaration.
- **Open Call Budget template**, excel document to be completed by all parties, saved, merged and submitted as a single .pdf file in the submission phase.
- **Consortium Declaration,** which describes the composition of consortium (signed by all parties and submitted as .pdf in the submission phase)
- **Proposal template,** word document to be completed by the Applicants, saved and submitted as .pdf in the submission phase.
- An indicative **Sub-grant Agreement contract**, just as a reference for applicants. The final official document will be shared with successful Applicants during the contracting phase.
- A **Frequently Asked Questions (FAQs)** document, which will be updated throughout the entire OC duration.

Interested applicants have to regularly check the FAQ section in the opencalls.fund platform and/or PRIMARY website.

2.2 Eligibility criteria

2.2.1   Overall eligibility criteria

An automatic filtering to discard non-eligible proposals will be based on the following criteria:

- Legal entity established in countries eligible for funding through Horizon Europe (as defined in Section 2.2.3).
- Uniqueness of the proposal (one (1) proposal per consortium). Each third party can participate in only one (1) proposal. If any applicant is found to participate in multiple applications, all such project applications will be rejected. In particular for Universities and Research Institutions, the rule applies to each Department. Different departments of the same university or research organisation may participate in different proposals, provided that no single department participates in more than one application.
- In case multiple versions of the same application are submitted, only the last version will be evaluated. All the previous ones will not be considered and will be discarded.
- Parties must establish a consortium of 2-3 partners as described in the Consortium Declaration.
- Proposal includes at least one (≥1) technical partner (process operator, partner testing/applying/validating the technology/process) and at least one (≥1) partner from the public (e.g., public body, university) or the private sector (e.g., primary producers, cooperatives, start-ups, SMEs, NGOs), acting as an end user responsible for implementing, using, or validating the proposed process and business model under real-life conditions.

- Existing members of the PRIMARY project and their affiliated entities[1] are not eligible for the PRIMARY Open Call. In addition, Applicants (including all parties of the consortium) must not be involved in the implementation of the PRIMARY project and must not have any contractual or collaborative relationship with any PRIMARY consortium partner for the provision of services or activities under PRIMARY, including through pilot or demonstration plants. Any such relationship constitutes a conflict of interest that may compromise the impartial and objective implementation of the sub-project; therefore, the Applicant is not eligible under this Open Call.

- The proposal addresses all the Open Call Objectives as described in Section 1.3.

- The proposal is not pre-selected in the other projects' open calls funded under the same topic (HORIZON-CL6-2024-CircBio-02-6-two-stage), e.g., EMBEDED, HARWASTING.

- The proposal should incorporate at least one (≥1) of the defined PRIMARY processing concepts, which include methods such as biorefinery, submerged fermentation, solid-state fermentation, fibre-forming technology, pelletizing or pyrolysis/gasification of agricultural residues (*see Appendix 1. PRIMARY Open Call Business Model Template*).

- The proposals should use at least one (≥1) underutilised agricultural residue either one of the PRIMARY feedstocks or similar ones, including crop residues (cotton stalks, cereal straw), pruning biomass (olive, vineyard), greenhouse by-products (stems/leaves), or grass/silage (*see Appendix 1. PRIMARY Open Call Business Model Template*).

- The proposal must include the development and validation of a business model (farm-centric, cooperative-based or SME-based) in accordance with the Circular Business Model Canvas Framework provided in the *PRIMARY Open Call Business Model Template*.

- Activities should be implemented in rural European regions that are not already involved in the project. A region can refer to a geographical area at sub-national level, a subdivision of a country at different possible levels[2]. Here a region refers to level 3 of the Nomenclature of territorial units for statistics (NUTS)[3]. The regions that are not eligible include:
  - Finland: Ostrobothnia, Häme, Savo
  - Greece: Karditsa, Heraklion, Lykovrysi/Regional Unit of North Athens

- The proposals should be delivered before the defined deadline (8 June 2026, 17:00 CEST), applying the requested submission procedure, and will take place entirely through the opencalls.fund platform.

- All Applicants (consortia) must use the official proposal, budget and Declaration of Honour templates provided. If an Applicant does not use the PRIMARY Open Call templates, the submitted proposal will be disqualified.

- Proposals shall only ask for funding for the part of the work that is not yet accomplished and will be carried out once having been selected for funding. Of course, this does not

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[1] Affiliated entities (formerly called 'linked third parties') are entities with a (usually legal or capital) link to a beneficiary and which implement parts of the action and are allowed to charge costs directly to the grant.

[2] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Region

[3] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Nomenclature_of_territorial_units_for_statistics_(NUTS)

exclude the usage of e.g., results, IP, infrastructures or approaches already held by the Applicants.

- All Applicants must have a valid VAT number and must be active and operational. However, in case having VAT number is not mandatory according to the national legislation of the applicant's country, a registration number from the respective national authority (National business registry, Commercial court or similar) must be provided during the contracting phase.

Only the proposals that comply with these criteria are eligible to move on to the evaluation round.

The PRIMARY Open Call team reserves the right to ask for additional explanations from the Applicants during the eligibility check.

The Monitoring Committee will be formed to run the eligibility check of the submitted proposals and validate the selection of the external experts who will evaluate the proposals.

2.2.2 Types of applicants

The PRIMARY Open Call is open to legal entities from countries eligible for Horizon Europe funding. A legal entity is a registered individual, business or organization that is legally permitted to enter into a contract, own property, sue or be sued and be held accountable for its actions.

The PRIMARY Open Call is open on equal grounds to the following types of legal entities:

- **Start-up:** A start-up is an early-stage business entity that:
  - Has recently been established: Typically, within the past 10 years;
  - Focuses on innovation: develops or leverages innovative products, services, or business models;
  - Is scalable: Has the potential for high growth, market expansion, or significant social impact.
- **SME (Small-medium enterprise):** An SME is considered as such if it complies with the European Commission Recommendation 2003/361/EC[4], and the SME user guide[5]. In summary, the criteria which define an SME are the following:
  - Independent, partner or linked enterprises, with financial and staff figures calculated in accordance with instructions given by the EU Recommendation 2003/361/EC;
  - It is a legal entity established and based in one of the EU Member States or an HE Associated country as defined in HE rules for participation (see Section 2.2.3);
  - Head count in Annual Work Unit (AWU) less than 250;
  - Annual turnover less or equal to €50 million.

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[4] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003H0361&locale=en

[5] https://ec.europa.eu/docsroom/documents/42921

If Applicants are not sure whether they comply with the SME criteria, an online SME self-assessment tool is provided by the EC, for these purposes[6].

- **Public authority and public institution:** such as local[7], regional[8], or national[9] authorities, as well as organisations or bodies providing services to the public on behalf of the government such as universities, research institutions, and municipalities.
- **Civil society organisation:** any non-governmental and non-profit, voluntary citizens' group which is organised on a local, national or international level such as foundations and non-profits.
- **Cooperative:** an autonomous association of people united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise/organization.

2.2.2.1   Technical partner

A technical partner must have the capacity to implement, operate, or adapt processes, technologies, tools, or methodologies relevant to the valorisation of underutilised agricultural residues, in line with the objectives of PRIMARY. The technical partner should enable practical testing and validation of the proposed solution under real or pilot-scale conditions, supporting the assessment of technical feasibility, adaptability, and replicability.

2.2.3   Definition of eligible countries

The association with Horizon Europe is governed by the Horizon Europe Regulation 2021/695[10]. Legal entities from associated countries to the Horizon Europe programme can participate under the same conditions as legal entities from the EU Member States unless specific restrictions or conditions are set in the work programme and/or call/topic text. Such measures could include the limitation of participation in certain actions to legal entities established only in the EU, or in the EU and specified non-EU countries, in order to safeguard the EU's strategic assets, interests, autonomy or security.

Important notice:

The Open Call adheres to the Council Implementing Decision 2022/2506 that stipulates that legal commitments must not be entered into with any public interest trusts established on the basis of the Hungarian Act IX of 2021 or any entity maintained by such a public interest trust, concerning inter alia financial support to third parties. Consequently, the concerned Hungarian entities are excluded from receiving FSTP (financial support to third parties) from this Open

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[6] https://ec.europa.eu/info/funding-tenders/opportunities/portal/sme/public.

[7] 'Local authorities' includes all authorities of the administrative units falling under NUTS 3 and smaller administrative units, as referred to in Regulation (EC) No 1059/2003.

[8] 'Regional authorities' includes authorities listed non-exhaustively in NUTS 1 and 2, as referred to in Regulation (EC) No 1059/2003 of the European Parliament and of the Council.

[9] 'National authorities' refers to government bodies, agencies, or institutions possessing the legal power and legitimacy to regulate, supervise, and enforce laws within a specific sector or territory, ensuring compliance and order.

[10] Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination, and repealing Regulations (EU) No 1290/2013 and (EU) No 1291/2013 (OJ 12.5.2021 L 170/1).

Call. For further information please follow this link. It is important to mention that entities established in Hungary that are not affected with this decision are fully eligible to apply.

Legal entities established in Russia, Belarus, or in non-government controlled territories of Ukraine. Given the illegal invasion of Ukraine by Russia and the involvement of Belarus, there is currently no appropriate context allowing the implementation of the actions foreseen in this programme with legal entities established in Russia, Belarus, or in non-government-controlled territories of Ukraine. Therefore, even where such entities are not subject to EU restrictive measures, such legal entities are not eligible to participate in any capacity. This includes participation as beneficiaries, affiliated entities, associated partners, third parties giving in-kind contributions, subcontractors or recipients of financial support to third parties (if any). Exceptions may be granted on a case-by-case basis for justified reasons.

According to the EU Grants: List of Participating Countries (HE): V3.8 – 12.02.2026[11], all 16 non-EU countries associated to the previous programme, Horizon 2020, have also expressed interest to become associated to Horizon Europe. Other third countries have also expressed an interest in association.

The association agreements with the following countries have now started to produce legal effects (either through provisional application or their entry into force) (listed in alphabetical order): Albania, Armenia, Bosnia and Herzegovina, Canada, Faroe Islands, Georgia, Iceland, Israel, Kosovo[12], Moldova, Montenegro, New Zealand, North Macedonia, Norway, Serbia, Switzerland, Tunisia, Türkiye, Ukraine, and United Kingdom.

Until association agreements start producing legal effects either through provisional application or their entry into force, transitional arrangements may apply if provided for in the particular Horizon Europe Work Programme. The transitional arrangements apply with regard to the following countries and legal entities established in these countries, with which association negotiations are being processed or where association is imminent (listed in the alphabetical order):

1. Egypt (applicable to the entire Programme for award procedures implementing Union budget for the year 2025 and onwards)
2. Japan
3. Morocco (applicable for the entire Programme)
4. Liechtenstein does not intend to associate with Horizon Europe.

Participants from the following low- to middle-income countries are automatically eligible for funding[13]:

- Afghanistan, Algeria, Angola, Argentina, Azerbaijan
- Bangladesh, Belarus, Belize, Benin, Bhutan, Bolivia, Botswana, Burkina Faso, Burundi
- Cabo Verde, Cambodia, Cameroon, Central African Republic, Chad, Colombia,

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[11]https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf.

[12] This designation is without prejudice to positions on status and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

[13] Subject to the respect of EU restrictive measures: Please note that entities subject to EU restrictive measures under Article 29 of the Treaty on the European Union (TEU) and Article 215 of ope Treaty on the Functioning of the EU (TFEU) and entities covered by Commission Guidelines No 2013/C 205/05 are NOT eligible to participate in any capacity (including as beneficiaries, affiliated entities, associated partners, third parties giving in-kind contributions, subcontractors or recipients of financial support to third parties, if any).

Comoros,
- Congo (Democratic Republic), Congo (Republic), Costa Rica, Côte d'Ivoire, Cuba
- Djibouti, Dominica, Dominican Republic
- Ecuador, Egypt (Arab Republic), El Salvador, Equatorial Guinea, Eritrea, Eswatini,
- Ethiopia
- Fiji
- Gabon, Gambia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana
- Haiti, Honduras
- Indonesia, Iran (Islamic Republic), Iraq
- Jamaica, Jordan
- Kazakhstan, Kenya, Kiribati, Korea (Democratic People's Republic), Kyrgyz Republic
- Lao (People's Democratic Republic), Lebanon, Lesotho, Liberia, Libya
- Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Islands, Mauritania, Mauritius,
- Micronesia (Federated States), Mongolia, Morocco, Mozambique, Myanmar
- Namibia, Nepal, Nicaragua, Niger, Nigeria
- Pakistan, Palestine[14], Papua New Guinea, Paraguay, Peru, Philippines
- Rwanda − Samoa, São Tomé and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Africa, South Sudan, Sri Lanka, St. Lucia, St. Vincent and the Grenadines, Sudan, Suriname, Syrian Arab Republic
- Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Tonga, , Turkmenistan, Tuvalu
- Uganda, Uzbekistan
- Vanuatu, Venezuela (Bolivarian Republic), Vietnam
- Yemen Republic
- Zambia, Zimbabwe.

2.3 Eligible costs

The financial support is provided as pre-defined lump-sum amounts per implementation phase, linked to the successful completion and acceptance of agreed deliverables as specified in the Sub-grant Agreement.

As mentioned above (Section 1.4), each selected entity will receive the funding on a lump sum basis. To justify the lump sum, applicants need to provide a detailed explanation with cost estimations. The cost estimations are subject to the basic eligibility rules of Horizon Europe, that is the proposed budget may be adjusted to exclude costs that are deemed ineligible. If the evaluators find overestimated costs, this is recorded in the Evaluation Summary Report and will be reflected in a modified lump sum amount in the sub-grant agreement. If the pre-selected Sub-grantee does not agree with the amount of the grant offered, they are at liberty to withdraw their proposal.

The following cost categories are considered eligible:

- **Personnel costs** – Costs of the personnel realising the work and preparing the deliverables/reports during each of the 3 phases. Applicants must calculate personnel costs according to the rules and regulations of their country and real labour market

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[14] This designation is not to be construed as recognition of a State of Palestine and is without prejudice to the individual positions of the Member States on this issue.

data regarding the relevant positions. For the proposal template, only the final amount allocated to personnel costs is necessary. Personnel costs are considered direct costs and can't be managed as indirect costs.

- **Subcontracting** - Subcontracting should be clearly justified. Costs must be reasonable and comply with the principle of sound financial management. Coordination tasks cannot be subcontracted. Applicants should ensure that there are sufficient details for the action tasks, the estimated budget, and the procedure that will be followed to ensure best value-for-money. Any kind of organisation could be subcontracted, provided that they are not part of the PRIMARY consortium. The evaluators will assess the scope and value-for-money aspects of subcontracting, and their assessment will be reflected in the score of each proposal. Subcontracting is allowed for up to a maximum of 25% of the proposed budget when properly justified. When submitting the proposal, Applicants should only write the total amount for subcontracting. Selected Applicants should follow the standards for subcontracting set by the European Commission, ensuring best value for money and absence of conflict of interest, during the project implementation. Procurement must comply with the national and European regulations or internal rules applicable to each applicant.
- **Purchase costs:**
  - **Travel costs** – Travel costs necessary for the execution of the sub-project.
  - **Equipment costs** – Borrowing or lending the necessary equipment is not eligible. Only depreciation costs for purchased equipment are eligible.
  - **Other goods & services** – Other goods and services include, for instance, consumables and supplies, dissemination (including open access), protection of results, certificates on the methodology, translations, and publications.
- **Indirect costs** - Indirect costs (overheads) could be up to 25% of the direct cost. Subcontracting is not included in the calculation of the 25% ceiling for indirect costs.

Applications should include the costs associated with each partner. The budget must be filled in for each proposal using the excel template available in the OC kit. Applicants will then save the excel sheet as .pdf and upload it on the platform.

Applicants should ensure that an adequate budget is allocated to dissemination activities. As a general guideline, it is recommended that a minimum 7% of the total funding be dedicated to the implementation of dissemination actions, such as organisation of information/field days, workshops and informal events to promote the selected PRIMARY solution(s).

Applicants **should explain and justify[15] the budget (for each budget category separately)**. For personnel costs, indicate the number of person months, and link such personnel effort to the contents (tasks, goals) of the proposal. If Applicants use subcontracting, they must justify it and specify the role of subcontractor.

> **Important notice:**
> In terms of financial monitoring of the sub-projects' implementation, no financial justification is required by the project, however the Sub-grantee shall keep the originals or, in exceptional cases, duly authenticated copies – including electronic copies – of all documents relating to the Contract for at least three (≥3) years after final payment. These

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[15] Budget justification means providing an explanation as to what the budget will go towards and why this cost is necessary.

> shall be made available to the EC when requested during any audit under the Grant Agreement.

2.4 Application process

2.4.1 Applicants' registration

Applicants should register at the PRIMARY Open Call page on the opencalls.fund platform. This will be the central interface for managing the proposal applications for the remainder of the Open Call.

The information on the PRIMARY Open Call will be available on https://www.primary-project.eu/open-call/, as well as on the Funding & Tenders Portal.

It is important to note that only individuals registered on the opencalls.fund platform will be in a position to apply for the PRIMARY Open Call and submit questions on the dedicated FAQ section on the opencalls.fund platform.

Questions can be submitted until 5 June 2026 at 17:00 CEST through email to the PRIMARY support team at primary@opencalls.fund or through the FAQ section of the opencalls.fund platform and responses will be made available as soon as possible.

> **Important notice:**
> Applicants should be aware that the email address that will be used for the submission of the application will be used as the primary contact email for any formal communication during the eligibility and evaluation phases.

2.4.2 Application preparation

Applicants should follow the steps below:

1. Applicants must register on the platform prior to the submission of the proposal.
2. For the application preparation, applicants are requested to apply online and provide all necessary information. Applicants must submit all requested documents on the opencalls.fund platform.
3. Applicants that do not accept the terms and conditions and do not sign and upload to the platform the completed documents (as mentioned in Section 2) in .pdf format, will not be able to submit the application.
4. Applicants must submit the required documents on time after uploading them and confirming that the complete application is online. Late submissions will not be accepted.
   Important notice: The platform supports only files in .pdf format. The size of each file can be up to 10MB. Compressed files (such as .zip, .rar, etc.) are **not acceptable**.
5. In case applicants have any technical difficulties, they should contact the PRIMARY OC support team at: primary@opencalls.fund no later than 3 June 2026 at 17:00 CEST so that the open call support team can have sufficient time to address any technical

issues. Please **do not contact** opencalls.fund Help Center for any technical difficulties with the submission process.

> It is strongly recommended not to wait until the last minute to submit the application. Failure of the application to be submitted in time for any reason, including indicative network communications delays or working from multiple browsers or multiple browser windows, is not acceptable as an extenuating circumstance. The time of receipt of the application as recorded by the submission system will be definitive.

2.4.3   The application reception

Applications will ONLY be submitted via the opencalls.fund platform. The application reception will close at 17:00 CEST (Brussels time) on 8 June 2026.

2.4.4   Use of generative AI in proposal preparation

The PRIMARY project follows the same guidelines regarding generative Artificial Intelligence (AI) in proposal preparation as is stated in the applications for Horizon Europe projects.

Applicants are expected to exercise caution and carefully consider the use of generative AI in the preparation of their proposal. Content generated in such a manner should be thoroughly reviewed and validated by the applicant to ensure accuracy, appropriateness, and compliance with IP regulations. Applicants are fully responsible for the content of the proposal, including those elements generated by AI and must be transparent in disclosing which tools were used and how.

Specially, applicants must:

- Verify the accuracy, validity and appropriateness of AI generated content and citations, and correct any errors or inconsistencies.
- Provide a list of sources used to generate the content and citations. Make sure sources are properly cited.
- Be aware of potential plagiarism. Check original sources to avoid plagiarism.

Acknowledge the limitations of the tool, such as potential of error, bias and/or gaps.

2.5 Evaluation process

2.5.1   Eligibility check

Once the Open Call is closed (8 June 2026) and before assigning the applications to external evaluators, each proposal will be checked against the overall eligibility criteria. During June 2026, the eligibility check will be carried out by the PRIMARY OC Monitoring Committee, consisting of representatives from:

(i)   Project coordinator (VTT);
(ii)   Scientific coordinator (CERTH);
(iii)   Open Call managing expert (RFF)

Please note that only complete applications will be considered, those with missing or incomplete information will be discarded.

This procedural part of the evaluation will check the eligibility of the submitted proposals against the overall eligibility criteria according to Section 2.2.1.

Proposals that do not comply with these criteria are not eligible to move on to the evaluation round.

During the eligibility check, the Applicants might be requested to provide additional explanations if their application raises questions such as, but not limited to, ambiguity of the information, inconsistencies which are obvious errors, among others. In that case, Applicants will have three (3) working days starting from the day after receiving the notification to provide clarifications or additional documents to complete their initial application. If the requested clarifications / documents are not provided in the specified time, their application will be discarded and will not move on to the evaluation round.

> **Important notice:**
> The designated contact person in the opencalls.fund, will be responsible for all communication during the eligibility phase. If further clarification is required, the Open Call team will notify the applicant via the email address provided. Failure by the contact person to respond within the specified deadline for submitting the requested clarifications will result in the rejection of the application, and the OC team will not be held accountable.

2.5.2 Remote evaluation key points

Each proposal will be reviewed by two (2) external evaluators with specific experience and academic, technical and/or industry knowledge surrounding agriculture, bioeconomy, biodiversity, circular economy and sustainability. The evaluators will have to evaluate each proposal under the specific evaluation criteria.

All eligible proposals will be assessed by two expert evaluators against the following **award criteria**:

Alignment [Scoring 1-5; threshold 3]

- **Relevance and alignment with the PRIMARY project and Open Call objectives:** To what extent does the proposal align with the objectives, and expected results of the PRIMARY Open Call? To what extent does the proposal align with the objectives and expected outcomes of the project, particularly regarding the upcycling processes for underutilised agricultural feedstocks?

Excellence [Scoring 1-5; threshold 3]

- **Methodology:** Assess the quality, clarity, and technical soundness of the methodology for implementing the proposed solutions. How effectively the methodology integrates the relevant PRIMARY processes, feedstock pathways, and business model blueprints, and assess how the proposed solution strengthens the PRIMARY project

- **Feasibility of concept:** Is the implementation of the proposed solution(s) practical and achievable within the project's timeline and budget?
- **Community engagement:** How effectively does the proposal engage relevant local and regional stakeholders, and to what extent are communities actively involved in the design, implementation, or uptake of the proposed solution(s)?
- **Ethics and compliance:** Does the proposal address ethical concerns and adhere to relevant legal and regulatory frameworks?
- **Gender and inclusivity:** Does the proposal promote diversity, inclusion, and equal opportunities in consortium composition, stakeholder engagement, and impact assessment?

Impact [Scoring 1-5; threshold 3] Applicants must demonstrate the project's potential to deliver measurable social, economic, or environmental benefits and outline strategies for scaling, sustainability, and stakeholder engagement.

- **Impact and sustainability:** What is the expected social, environmental, and economic impact of the proposed solution(s) implementation? Does the project demonstrate a clear potential for long-term benefits, and does it take into account key aspects of sustainability, including environmental, financial, and social dimensions? How the proposed solution(s) is/are expected to remain viable beyond the end of PRIMARY funding?
- **Demonstration of impact on the PRIMARY ecosystem:** Describe how the proposal aims to create an impact on target stakeholders (e.g., Value chain actors, policy/decision-makers, educational institutions and research organisations, general public, and other initiatives related to similar agriculture/bioeconomy topics).
- **Dissemination and policy uptake:** Does the proposal include strategies to share results, promote the adoption of the solution(s), and inform local or regional policies?
- **Scalability and replicability:** Assess the potential to scale the solutions and replicate them in other rural European regions, contexts, or value chains.

Value [Scoring 1-5; threshold 3] Proposals must include a comprehensive budget definition including the amount of funding requested and how it will be spent.

- **Budget allocation:** Is the budget realistic, transparent, and appropriately allocated to project tasks?
- **Use of resources:** Are the proposed resources, including equipment, data, and expertise, adequate and effectively utilised?

Organizational capacity and sufficiency [Scoring 1-5; threshold 3] Applicants must provide credible evidence that the project delivery team has the necessary skills, resources and capacity to effectively deliver the project in the timeframe and budget as specified.

- **Team expertise and roles:** Does the team have the necessary technical, managerial, and domain-specific expertise?
- **Quality of the team as a whole:** Including complementarity, gender balance and diversity
- **Risk management:** Are potential risks identified, and is there a mitigation plan in place?

All award criteria have the same weight. Each award criterion can be scored from 1 to 5 with a threshold of 3 points in each category, and a minimum of 15 points in total.

Interpretation of scores:

1 - Poor. The criterion is inadequately addressed, or there are serious inherent weaknesses.

2 - Fair. The proposal broadly addresses the criterion, but there are significant weaknesses.

3 - Good. The proposal addresses the criterion well, but a number of shortcomings are present.

4 - Very Good. The proposal addresses the criterion very well, but a small number of shortcomings are present.

5 - Excellent. The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

A 'minor shortcoming' is an issue that relates only to a marginal aspect of the proposal with respect to the criterion and/or can easily be rectified (it will not impact the scoring).

A 'shortcoming' is a problem that relates to an important aspect of the proposal. It impacts the scoring but does not render the proposal inappropriate for funding, i.e. the proposal is still expected to lead to useful results with positive impact.

A 'significant weakness' means that the proposal addresses the criterion in a limited and/or not sufficiently effective way (will lower the score below threshold). This can also be the case when the proposal includes a large number of shortcomings, each one of them not rendering the proposal inappropriate for funding, though all together make the proposal not addressing the criterion sufficiently in an effective way

The evaluators' scores for each criterion will be averaged, and these averaged scores will then be summed to calculate the total score.

Scores must pass the individual threshold AND the overall threshold if a proposal is to be considered for funding within the limits of the available call budget. This means that proposals with an average score less than **3** for any award criterion category will not be selected, regardless of their final score. Proposals with total scores lower than **15** will not be selected, even if they are the highest ranked.

Some specific cases might require the organization of remote (online) consensus meetings between the evaluators to align evaluation reports in case of large discrepancies between the marks given by the evaluators (for example, the difference in total scores between evaluators is significant, e.g., **>5**). In case consensus is not reached after the remote evaluation by the two (2) assigned external evaluators, an interview of the applicant by a third external evaluator will be conducted based on the award criteria described above.

If two or more top-ranked proposals use the same feedstock-processing concept combination, the proposal with the highest overall score will be selected. For example suppose the top three (3) proposals are:

1. Proposal 1: Grass/biorefinery process (Score: **19**)

2. Proposal 2: Grass/biorefinery process (Score: **18.5**)
3. Proposal 3: Cotton by-products/pelletizing process (Score: **18**)

Proposals 1 and 3 will be funded, then continue down the list until we have the desired number of proposals (6-9) with a diverse representation of feedstocks and processes.

If more than one proposal shares the same score and is listed at the last place planned for funding, the proposals will be prioritised according to the scores they have been awarded for 'Impact'. When these scores are equal, priority will be based on scores for 'Excellence'. If the scores are equal, priority will be given to the score for 'Alignment', followed by that of 'Organizational Capacity and Sufficiency'.

Example:

There are two proposals—Proposal A and Proposal B—both achieving an overall evaluation score at the threshold for funding. Suppose that Proposal A and Proposal B have an overall score of **15** (the cut-off for funding). To decide between Proposal A and Proposal B for the final funded spot, the following tie-breaker steps would be applied:

1. First, compare the 'Impact' scores. If Proposal A received a **4** and Proposal B received a **3** in this category, Proposal A would be prioritised.
2. If both proposals had identical 'Impact' scores, then the next step would be to review the 'Excellence' scores. Suppose both proposals scored **4** there as well; then the tie-break would move to the next criterion.
3. Next, the 'Alignment' scores would be compared. If Proposal A scored **3** and Proposal B scored **4** in this area, then proposal B would take precedence.
4. Lastly, if all previous criteria were also equal, the decision would be based on the 'Organizational Capacity and Sufficiency' scores.

This stepwise approach ensures that even when proposals have very similar overall scores, the selection committee can fairly prioritise the proposal that demonstrates the strongest potential in core areas of the evaluation process, as detailed in the Applicants' Guide.

At the end of this phase, all proposals will be ranked based on their scores. If a decision still cannot be made, the Monitoring Committee shall make the final prioritisation decision, taking into account the objectives of the Open Call.

After completing this process, communication with the OC Monitoring Committee will be made by RFF, to present the status and propose the outcome of this process to the members. The PRIMARY consortium, with the approval of the EC, retains the discretion to select a higher or lower number of applications than initially scheduled.

All Applicants will receive their Evaluation Summary Report (ESR).

2.5.3 Redress procedure

2.5.3.1 Process for redress: eligibility results

Applicants (consortia) may submit a written request for redress to the PRIMARY OC Monitoring Committee via email at primary@opencalls.fund **within three (3) working days** of

receiving the eligibility check result notification if they believe the results of the eligibility checks are incorrect. The PRIMARY OC Monitoring Committee will review these requests to ensure coherent interpretation and equal treatment of all applicants. **Requests must relate specifically to eligibility checks, clearly describe the complaint, and include reasons for consideration**. Additionally, they must be submitted within the specified timeframe and by the legal representative of the applicant who submitted the proposal. The Monitoring Committee will examine the requests for redress within a reasonable timeframe taking into account the complexity of the case and the number of requests received. If evidence of a shortcoming is found that could have impacted the eligibility decision, appropriate corrective actions will be taken. The outcome of the redress review will be communicated to the Applicant once the process has been concluded.

2.5.3.2   Process for redress: evaluation results

Applicants (consortia) may submit a written request for redress regarding the evaluation process to the PRIMARY OC Monitoring Committee via email at primary@opencalls.fund **within five (5) calendar days of receiving the Evaluation Summary Report (ESR)**. This request can be made if Applicants (consortia) believe there was a shortcoming in the evaluation that affected the decision. The PRIMARY OC Monitoring Committee will examine these requests, ensuring equal treatment of all applicants. **Requests for redress must relate specifically to the evaluation process, clearly describe the complaint and reasons for potential consideration, and be submitted within the above timeframe by the legal representative of the applicant.** The Monitoring Committee will review the request within a reasonable timeframe taking into account the complexity of the case and the number of requests received. If clear evidence exists that a shortcoming could have affected the final funding decision, partial or full re-evaluation may occur. The outcome of the redress review will be communicated to the Applicant once the process has been concluded.

The final evaluation score following any re-evaluation will be considered definitive and could be lower than the original score. Only one (1) request for redress per proposal will be accepted, and all requests will be treated with confidentiality.

> **Important notice:**
> The PRIMARY OC Monitoring Committee will not question the scientific or technical judgment of the evaluators, and any requests contesting this judgment will be automatically rejected.

2.5.4   Contracting

Based on the evaluator comments in each ESR, the OC Manager and the OC Monitoring Committee will start negotiations for the contract preparation with the representatives of the selected (winning) proposals (if shortcomings were identified and changes are needed in the proposals). If the negotiations do not finish successfully, the proposal will be rejected and the next highest ranked proposal will be selected. Contract preparation will go via an administrative and financial checking. On a case-by-case approach, a phone call or teleconference may be needed for clarification.

reframe.food (RFF) is assigned as the OC Manager and Treasurer and together with the TEKNOLOGIAN TUTKIMUSKESKUS VTT OY (VTT)-Coordinator are committed to ensuring

a competitive and transparent OC process, ensuring confidentiality, equal treatment and no conflict of interest.

The objective of the contract preparation is fulfilling the legal requirements between the PRIMARY consortium and every beneficiary of the call. The items covered will be:

- To validate the status information of the Applicant, the following documents will be required from the Applicant:
  - **Legal existence:** Company Register or other official document per country showing the name of the organisation, the legal address and registration number and a copy of a document proving VAT registration (in case the VAT number does not show on the registration extract) or its equivalent. However, in case having VAT number is not mandatory according to the national legislation of the applicant's country, a registration number from the respective national authority (National business registry, Commercial court or similar) must be provided).
  - **Legal proof** that the applicant's organisation is not under liquidation or has filed for bankruptcy.
  - **Bank Account Information:** The account where the funds will be transferred will be indicated via a form signed by the legal representative and the bank representative. The account should be a business bank account of the beneficiary (legal entity). The financial information should not be older than three (3) months.

The Sub-grantee assumes full responsibility on the bank account info they provided. For instance, if they provide a wrong IBAN, and the Treasurer proceeds with the transfer to that account, they will assume responsibility for any costs related to the transfer (expenses with the return of the amount from the wrong bank account and/or expenses with the new transfer will be deducted from their grant transfer). Ultimately, in a worst-case scenario, if the Treasurer does not manage to recover the amount transferred to the wrong bank account, the beneficiary who provided a wrong IBAN will not be able to claim that payment.

The request, by the PRIMARY consortium, of the above documentation will be done within designated deadlines. The sub-project contract negotiations will be carried out from September 2026 to October 2026. In case negotiations have not been concluded within the above period, the application is automatically rejected and the next application in the reserve list is invited.

After successful negotiations, the legal representative of the open call winner Applicant will be invited to sign a contract, which will then be signed by the PRIMARY Open Call Manager (RFF) and Coordinator (VTT). The final list of accepted proposals will then be published.

3. Implementation of the PRIMARY Open Call

Selected projects will be launched in November 2026 having an implementation timeframe of 18 months (until April 2028). The implementation period will be divided in 3 phases:

- **Phase 1 - Design** [Deliverable: Activity plan] (November 2026 – February 2027) – Payment of 20% of the total grant. During this phase, the selected consortia will develop an activity plan to explain how they will implement their sub-projects and what actions will be deployed towards the achievement of the PRIMARY Open Call objectives.
- **Phase 2 - Development** [Deliverable: Report on implemented activities in accordance with the OC requirements] (March 2027 – January 2028) – Payment of 50% of the total grant. During this phase, the selected consortia will implement the activity plan developed in Phase 1 targeting at the testing and promotion of the replicability and scalability potential of the practical pilot cases to their specific regions. The fulfilment of the KPIs defined in phase 1 will be also evaluated.
- **Phase 3 - Impact and validation** [Deliverable: Report on evaluation of impact and replicability of the tested processes and technologies (February 2028 – April 2028) – Payment of the final 30% of the total grant. During this phase, the selected consortia will provide information about the results of the validation of the PRIMARY processes and business model blueprints that were made in Phase 2. As part of this deliverable, each sub-project shall include a dedicated section on Circular Business Model Development and Validation, structured in line with the PRIMARY business model blueprints and explicitly aligned with the Circular Business Model Canvas. This section will support the systematic documentation of business model development and validation activities and will generate structured inputs that feed back into the PRIMARY business model work. Indicative elements to be addressed in this section may include for example, business model typology and framing, description of the case study and regional context, overview of the circular business model canvas, value chain configuration and value proposition, among others.

In all selected projects, payments are deliverable based, meaning that the Sub-grantees have to deliver a specific report after the end of each phase in order to receive the payment (**no pre-financing is foreseen**).

4. Applicants' responsibility

The selected Sub-grantees are indirect beneficiaries of European Commission funding. As such, they are responsible for the proper use of the funding and ensure that they comply with the obligations set out in HE specific requirements as described in the "From silos to diversity – small-scale bio-based demonstration pilots" (HORIZON-CL6-2024-CircBio-02-6-two-stage) topic. The obligations that are applicable to the beneficiaries include (but are not limited to):

4.1 Conflict of interest

The Sub-grantees must take all measures to prevent any situation where the impartial and objective implementation of the Sub-grant Agreement could be compromised for reasons involving family, emotional life, political or national affinity, economic interest or any other direct or indirect interest ("conflict of interests"). At the same time, Applicants cannot be

affiliated with PRIMARY consortium partners, nor can they be employees of the PRIMARY consortium partners. All potential conflicts of interest will be assessed carefully[16].

The Sub-grantees must formally notify the PRIMARY consortium without delay of any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation. The PRIMARY consortium may verify that the measures taken are appropriate and may require additional measures to be taken by a specified deadline.

If a Sub-grantee breaches any of its obligations, the Sub-grant Agreement may be automatically terminated. Moreover, if the Sub-grant Agreement is terminated due to a breach made by a Sub-grantee, the PRIMARY consortium reserves the right to suspend further payments to the Sub-grantee and claim the full refund of all payments made to the Sub-grantee up to date.

4.2 Ethics, data protection & confidentiality

Prior to granting financial support, PRIMARY will require Applicants to identify and explain any ethical issues that may arise during the sub-project implementation as part of their project proposals. A dedicated chapter in the proposal template will require from the Applicants to describe how they will comply with European Union ethical rules/principles and outline how ethics principles will be integrated into the project, addressing aspects such as participant involvement, informed consent, privacy protection, data management, and any other relevant ethical considerations. All sub-projects should follow an "ethics by design"-way of working, whereby ethical and legal principles, on the basis of GDPR, competition law compliance, absence of data bias are implemented since the beginning of the design process.

Once a project is selected for FSTP funding, regular monitoring and reporting will be conducted to ensure ongoing adherence to ethics principles. This monitoring mechanism contributes to the overall integrity and ethical excellence of the PRIMARY project and reinforces its commitment to ethical research and innovation.

During the implementation of the sub-project and for at least five (≥5) years after the final payment of the sub-project, the beneficiaries must keep confidential any data, documents or other material (in any form) that is identified as confidential at subcontract signing time.

If an OC beneficiary makes a request for a longer period of data protection and confidentiality, the European Commission and the PRIMARY consortium may agree to keep such information confidential for an additional period beyond the initial five (5) years. This will be explicitly stated in the Sub-grant Agreement.

If additional information is identified as confidential during the sub-project execution or through verbal communication, it must be accepted by the PRIMARY Coordinator and confirmed in writing within 15 days of its disclosure. Unless otherwise agreed between the parties, they may only use confidential information to implement the Sub-grant Agreement. The OC

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[16] Conflict of interest: How the Commission addresses the risk of conflicts of interest and the rules that govern it. https://commission.europa.eu/strategy-and-policy/eu-budget/protection-eu-budget/conflict-interest_en

beneficiaries may disclose confidential information to the PRIMARY consortium and to the selected external reviewers, who will be bound by a specific Non-Disclosure Agreement.

Applicants must confirm that all proposed services, including the means of their delivery and upkeep, have been reviewed to ensure compliance with all relevant legislation on data protection, privacy, and fundamental rights.

OC beneficiaries will have to submit three deliverables (1. Activity Plan, 2. Report on implemented activities in accordance with the OC requirements, 3. Report on evaluation of impact and replicability of the tested processes and technologies) during the sub-project implementation. In these deliverables the beneficiaries will report any ethics measures in a dedicated chapter. The deliverables will be reviewed by the PRIMARY OC Monitoring Committee and the OC Manager.

By implementing this proposed mechanism, PRIMARY aims to foster ethical conduct and responsible practices in all projects funded through the FSTP. It establishes a system of checks and balances, providing assurance that the ethical commitments of PRIMARY are upheld by external entities receiving financial support. This monitoring mechanism contributes to the overall integrity and ethical excellence of the PRIMARY project and reinforces its commitment to ethical research and innovation.

Personal data from individuals (such as: name, last name, address, country of residence, phone number, email address) will also be gathered via the Open Call during the process of potential applicants' and evaluators' registration and application on the opencalls.fund platform (to post a question or apply to a specific open call or enter the pool of external evaluators). The majority of the information (if not all of them) that will be required for SMEs and startups as potential applicants, are already publicly available in business registries across Europe (i.e. owners' name, company address and email).

No sensitive personal data will be collected (e.g. health status, race, sexual lifestyle, ethnicity, political opinions, religious or philosophical conviction, receipt of social support, victims of violence, criminal records and sexual life).

Personal information (such as IP address, device type, geographic location, etc.) may also be collected (automatically) for statistical reasons and to better understand the people who visit the opencalls.fund platform, where they come from and what content they are interested in the activities related to the Open Call, since personal information received will not be shared by default.

Access to the opencalls.fund platform is also feasible following a registration process and obtaining user credentials. With respect to the personal data protection collected during the Open Call, all collected data will be anonymised, encrypted and stored on a server, which will have server-side encryption. Only the required personnel (specifically assigned for this project) will have access to the data. GDPR rules will be applied for data protection.

4.3 Promoting the action and giving visibility to the EU funding

The Sub-grantees must promote the sub-projects, the PRIMARY project and its results, by providing the description of their project upon request from the PRIMARY Consortium and highlighting the financial support of the EC.

Unless the European Commission or the PRIMARY Coordinator requests or agrees otherwise or unless it is impossible, 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 results funded by the grant must:

- acknowledge EU support and display the European flag (emblem) and funding statement:
  - For communication activities: "*This sub-project has received funding from the project PRIMARY (Grant Agreement number: 101180167) through its Open Call, funded by the European Union's Horizon Europe research and innovation programme*".
  - For infrastructure, equipment and major results: "*This [infrastructure][equipment][insert type of result] is part of a sub-project that has received funding from the project PRIMARY (Grant Agreement number: 101180167) through its Open Call, funded by the European Union's Horizon Europe research and innovation programme*".
- display the PRIMARY logo

- include the standard disclaimer: *"Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them".*

When displayed in association with other logos (e.g., of beneficiaries), the European emblem must be displayed at least as prominently and visibly as the other logos. This obligation to use the European emblem in respect of projects to which the EC contributes implies no right of exclusive use. It is subject to general third-party use restrictions which do not permit the appropriation of the emblem, or of any similar trademark or logo, whether by registration or by any other means. Under these conditions, the Sub-grantee is exempted from the obligation to obtain prior permission from the EC to use the emblem. Further detailed information on the EU emblem can be found on the European Commission's web page.

Any publicity made by the Sub-grantee with respect to the project, in whatever form and on or by whatever medium, must specify that it reflects only the author's views and that the EC or PRIMARY consortium are not liable for any use that may be made of the information contained therein.

The EC and the PRIMARY consortium shall be authorised to publish, in whatever form and on or by whatever medium, the following information:

- the name of the Sub-grantee,

- contact address of the Sub-grantee,
- the general purpose of the sub-project,
- the amount of the financial contribution foreseen for the sub-project; after the final payment, and the amount of the financial contribution actually received,
- the geographic location of the activities carried out,
- the list of dissemination activities and/or of patent (applications) related to foreground,
- the details/references and the abstracts of scientific publications related to foreground and, if funded within the sub-project, the published version or the final manuscript accepted for publication,
- the publishable reports submitted to PRIMARY,
- any picture or any audio-visual or web material provided to the EC and PRIMARY in the framework of the sub-project.

The Sub-grantee shall ensure that all necessary authorisations for such publication have been obtained and that the publication of the information by the EC and PRIMARY does not infringe any rights of third parties.

Upon a duly substantiated request by the Sub-grantee representative, the PRIMARY consortium, if such permission is provided by the EC, may agree to forego such publicity if disclosure of the information indicated above would risk compromising the beneficiary's security, academic or commercial interests

4.4 Financial audit and controls

The European Commission (EC) will monitor that PRIMARY partners and the Sub-grantees comply with the conditions for financial support to third parties set out in Annex A of the PRIMARY Grant Agreement and may take any action foreseen by the grant agreement in case of noncompliance vis à vis the beneficiary concerned.

Moreover, the EC may at any time during the implementation of the PRIMARY project and up to five (≤5) years after final payments, arrange for financial audits to be carried out, by external auditors, or by the EC services themselves including the European Anti-Fraud office (OLAF), and the European Public Prosecutor's office (EPPO), on the Subgrantee. Such audits will be formally notified to the beneficiary concerned and will be considered to start on the date of the notification.

Such audits may cover financial, systemic and other aspects (such as accounting and management principles) relating to the proper execution of the grant agreement. They shall be carried out on a confidential basis.

The Sub-grantee shall make available directly to the EC all detailed information and data that may be requested by the EC or any representative authorised by it, with a view to verifying that the grant agreement is properly managed and performed in accordance with its provisions and that costs have been charged in compliance with it. This information and data must be precise, complete and effective.

The Sub-grantee shall keep all sub-project deliverables and the originals or, in exceptional cases, duly authenticated copies – including electronic copies – of all documents relating to

the sub-project contract for up to five (≤5) years from the end of the project (or three (3) for grants of not more than €60,000.00). These shall be made available to the EC when requested during any audit under the grant agreement.

In order to carry out these audits, the Sub-grantee shall ensure that the EC´s services and any external body(ies) authorised by it have on-the-spot access at all reasonable times, notably to the sub-project applicant offices, to its computer data, to its accounting data and to all the information needed to carry out those audits, including information on individual salaries of persons involved in the sub-project. For on-the-spot visits, the beneficiary concerned must allow access to sites and premises (including for the external audit firm) and must ensure that information requested is readily available. Information provided must be accurate, precise and complete, and in the format requested, including electronic format.

On the basis of the audit findings a draft audit report will be drawn up and it will be formally sent to the Sub-grantee concerned, which may make observations thereon within 30 days of receiving the notification to make observations. The Commission may decide not to consider observations conveyed or documents sent after that deadline. The final audit report shall be sent to the sub-grantee concerned within two months of expiry of the aforesaid deadline.

Based on the conclusions of the audit, the EC shall take all appropriate measures which it considers necessary, including the issuing of recovery orders regarding all or part of the payments made by it and the application of any applicable sanction.

The European Court of Auditors shall have the same rights as the EC, notably right of access, for the purpose of checks and audits, without prejudice to its own rules.

In addition, the EC may carry out on-the-spot checks and inspections in accordance with Council Regulation (Euratom, EC) No 2185/96 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities.

Audits (including audit reports) will be in the language of the Sub-grant Agreement.

4.5 Sub-project communication

The Sub-grantee representative should:

- Provide any notices in writing to the PRIMARY Open Call manager and Open Call treasurer (RFF).
- Notify the PRIMARY Open Call manager (RFF) immediately of any change of persons or contact details. The address list shall be accessible to all concerned.
- Notify the PRIMARY Open Call manager (RFF) about the dissemination activities that the Open Call beneficiary will organise.

Please note that until the start of the project implementation phase, all communication surrounding the Open Call will be made exclusively through the Open Call Manager via primary@opencalls.fund.

4.6 Originality of the sub-granted projects

It is required that applications submitted are based on original works by the Applicants and that their foreseen developments are free from third party rights. PRIMARY consortium is not obliged to verify the authenticity of the ownership of the foreseen products/services. Any issues delivered from third party claims that arise as a result of the sub-granted projects are on the sole responsibility of the applicant.

4.7 IPR ownership of the sub-granted projects

Each Sub-grantee shall retain ownership of the Intellectual Property Rights (IPRs) attached to the results it generates during the development process, as well as any other results that do not constitute IPRs. Each Sub-grantee is individually responsible for the management and protection of its own IPRs and shall bear any associated costs.

The Sub-grantees funded within the PRIMARY project will be the unique owners of the technologies created within the framework of their sub-granted projects. Parts of their works will be requested to be public for PRIMARY dissemination purposes.

4.8 Liability

The PRIMARY consortium and the European Commission cannot be held liable for any acts or omissions of the applicant in relation to the selected sub-granted project implemented by the Sub-grantee. The PRIMARY consortium shall not be liable for any defaults of any products, processes or services created in the sub-granted project. Including, for instance, anomalies in the functioning or performance thereof.

In case any damage is caused to a third party by the Sub-grantee, the Sub-grantee will assume full responsibility for the damage caused. In no way will the PRIMARY consortium be responsible for any damages caused by the Sub-grantee. Sub-grantees shall bear sole responsibility for ensuring that their acts within the framework of their sub-granted projects do not infringe third parties' rights.

4.9 Do No Significant Harm

Sub-grantees must always respect the "Do No Significant Harm Principle". This means that the sub-project's methodology should be designed in a manner which does not significantly harm any of the six environmental objectives of the EU Taxonomy Regulation. EU Taxonomy is a science-based classification system for determining whether an (economic) activity can be considered environmentally sustainable. It establishes six environmental objectives (as listed in Article 9 of the EU Taxonomy):

- Climate change mitigation
- Climate change adaptation
- The sustainable use and protection of water and marine resources
- The transition to a circular economy
- Pollution prevention and control

- The protection and restoration of biodiversity and ecosystems

While Article 17 specifies what can constitute a 'significant harm' for these objectives. Thus, the regulation provides that no measure should lead to significant harm to any of the six (6) environmental objectives within the meaning of Article 17 of the Taxonomy Regulation.

5. Checklist

- **Is your proposal eligible?** The eligibility criteria are given in Chapter 2 Proposal submission and selection. Make sure that you satisfy the minimum participation requirements. Please check Section 2.2.
- **Is your proposal complete?** Have you completed all mandatory fields on the Open Call Proposal Template?
- **Have you checked all technical details related to submission?** Difficulties with application and submission arising from technical aspects will not be taken into consideration by the PRIMARY project. Applicants should do test rounds and make sure to submit everything on time.
- **Does your proposal fulfill questions requests/comments?** Proposals should be precise, concise and must answer requested questions, which are designed to correspond to the applied evaluation. Omitting requested information will almost certainly lead to lower scores and possible rejection.
- **Have you maximised your chances?** There will be strong competition. Therefore, edit your proposal tightly, strengthen or eliminate weak points.
- **Have you submitted your proposal before the deadline?** It is strongly recommended not to wait until the last minute to submit the proposal. Failure of the proposal to arrive in time for any reason, including network communications delays, is not acceptable as an extenuating circumstance. The time of receipt of the message as recorded by the submission system will be definitive.
- **Have you provided the Declaration of Honour (Annex 8)?**
- **Have you described the dissemination activities as 7% of your budget?**
- **Does your planned work fit with the PRIMARY Open Call?** Ensure that your proposal directly addresses the Open Call objectives.
- **Do you need further advice and support?** You can reach out to the PRIMARY Open Call team via primary@opencalls.fund. The technical team can provide assistance to the extent possible, up until the 3 June 2026, 17:00 CEST.

6. Points of contact

All questions concerning the Call must be in writing and be stated on the FAQ section on the opencalls.fund or sent by e-mail to primary@opencalls.fund. The deadline for asking clarification questions or requesting additional information is 17:00 CEST on 5 June 2026. Until the start of the project implementation phase, all communication surrounding the Open Call will be made exclusively through the Open Call Manager via this e-mail address.

We strongly recommend Applicants to regularly visit the FAQ section to get valuable feedback for the preparation of their proposal.

Appendix 1. PRIMARY Open Call Business Model Template

The PRIMARY Open Call Business Model Template serves as a comprehensive reference framework and guidance tool for potential applicants to the PRIMARY Open Call. Its purpose is to facilitate the transfer of technical knowledge and support the development of viable business plans based on the project's innovations. The content is structured into three (3) distinct sections:

1. **PRIMARY processing concepts:** A detailed technical description of the six (6) core technologies and processes developed within the project (ranging from biorefineries and fermentation to pelletizing and pyrolysis/gasification). This section provides the necessary specifications for stakeholders to identify the most suitable valorization pathway for their specific agricultural feedstocks.
2. **Indicative pilot use cases:** A presentation of indicative examples derived from the project's pilot demonstrations. These use cases illustrate the operational feasibility and expected outcomes of the technologies, serving as benchmarks for replicability.
3. **Business model guidelines and template:** A structured template and methodological guidelines designed to assist applicants in formulating their own business models. This resource aims to ensure that proposed sub-projects demonstrate economic viability, environmental sustainability, and alignment with the specific objectives of Open Call.

By providing these resources, the template supports the co-creation of robust innovation sub-projects that contribute to the scaling of the bioeconomy in rural Europe.

PRIMARY processing technologies descriptions for Open Call

The PRIMARY project presents a portfolio of advanced processing concepts designed to unlock the hidden value of agricultural residues.

These technologies have been adapted from the state-of-the-art to suit specific feedstocks and rural operating conditions, reaching high levels of technical maturity. The following descriptions outline the available pathways for transforming underutilized biomass into market-ready products, serving as the technical foundation for your proposed business models.

Grass biorefinery: Fractionation for protein and fibre

This process transforms grass into a multi-product resource by separating it into two valuable streams: fiber and protein. The process begins with chopping the grass to increase surface area, followed by mechanical pressing. This separates the Materials into:

- **Press Cake** (Fiber-rich): A solid fraction that can be valorized as a raw material for biobased materials or as a substrate for fermentation.
- **Grass Juice** (Protein-rich): A liquid fraction containing soluble proteins and nutrients.

The grass juice can be processed via two pathways to create market-ready products:

- **Feed Protein:** Heat treatment concentrates the proteins, followed by drying to produce a leaf protein concentrate suitable for animal feed.
- **Food & Feed Protein:** A sequence of specific heat treatments and acidification separates the juice into a Rubisco protein concentrate (high nutritional value for food applications) and a green protein side-stream (for feed).
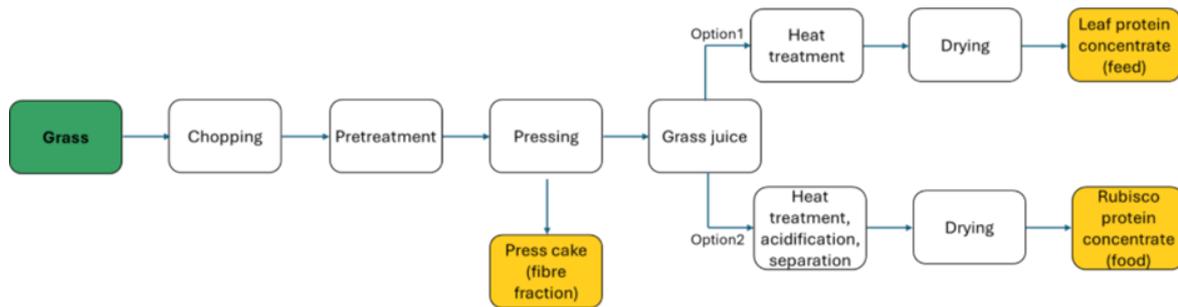

Figure 1: Grass biorefinery

Seasonality is a major challenge for grass utilization. Ensilaging is a biological preservation method that stabilizes grass, allowing your biorefinery or fermentation processes to operate year-round.

The grass is chopped and subjected to anaerobic conditions where lactic acid bacteria ferment the plant sugars. This process, which takes several months, stabilizes the biomass, inhibits spoilage, and preserves protein quality. The result is **Grass Silage**, a stable feedstock that maintains its quality for 2-3 years, ready to be processed into feed or used in the biorefinery at any time.
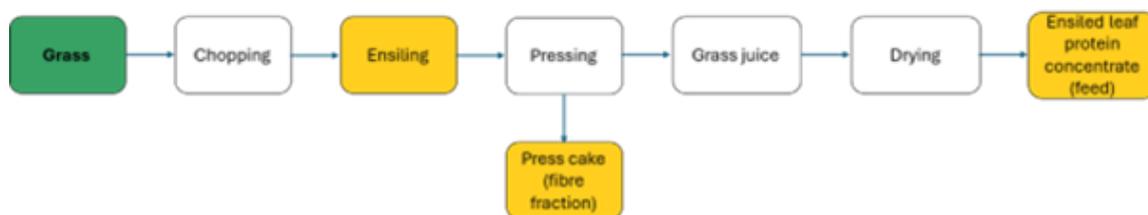
Figure 2: Ensilaging process of grass

Submerged fermentation: Turning agricultural feedstocks into protein

This technology utilizes agricultural feedstocks (lignocellulosic biomass) to produce high-quality microbial protein or biomass in a liquid environment. The process starts with pretreatment (steam explosion and enzymatic hydrolysis) to break down the rigid fibre

structure and convert it into fermentable sugars. This liquid medium is sterilized and inoculated with specific microbial strains. Under controlled conditions in a tank, the microbes consume the sugars to produce:

- **Protein rich microbial biomass:** The microbial cells are harvested, washed, and dried to create a stable product for feed or storage.
- **Recombinant Proteins:** The target protein is secreted into the liquid, separated from the cell debris, and purified through chromatography to achieve high functionality and stability.
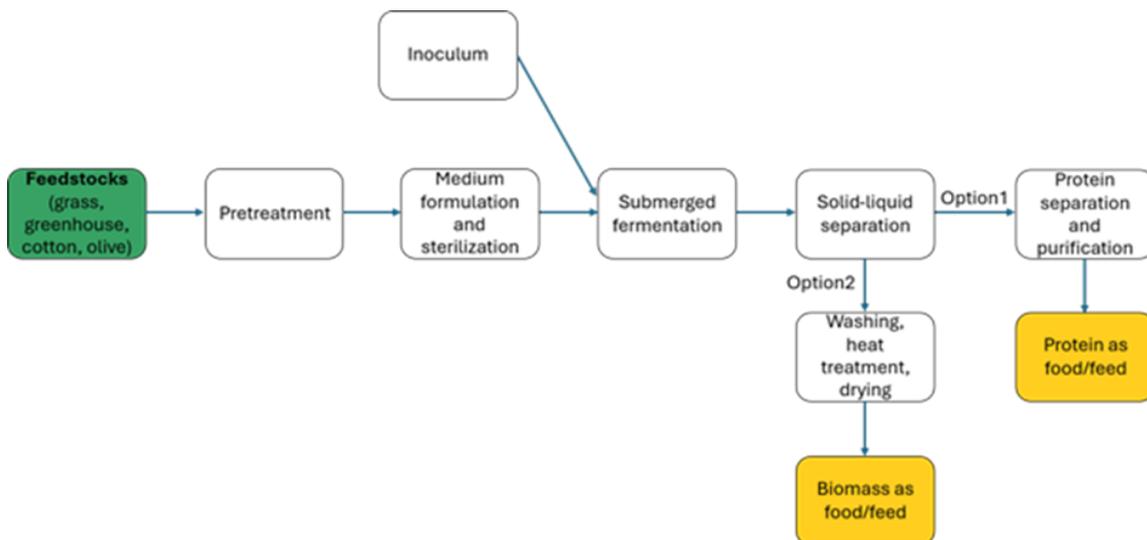
Figure 3: Submerged fermentation for biomass and protein production

Solid-state fermentation (SSF): Upgrading greenhouse residues

This process offers a solution for valorising residues from tomato and cucumber cultivation (stems, leaves, and fruits) by significantly increasing their protein content and digestibility. The residues are chopped, hydrated (if necessary), and sterilized with steam. They are then inoculated with microorganisms and placed in an incubator. Unlike liquid fermentation, microorganisms grow directly on the moist solid solids. After several days, the nutritional quality of the material has improved. The final fermented product can be **dried** for long-term storage or **ensiled** to maintain high moisture content, providing a nutritious feed ingredient.
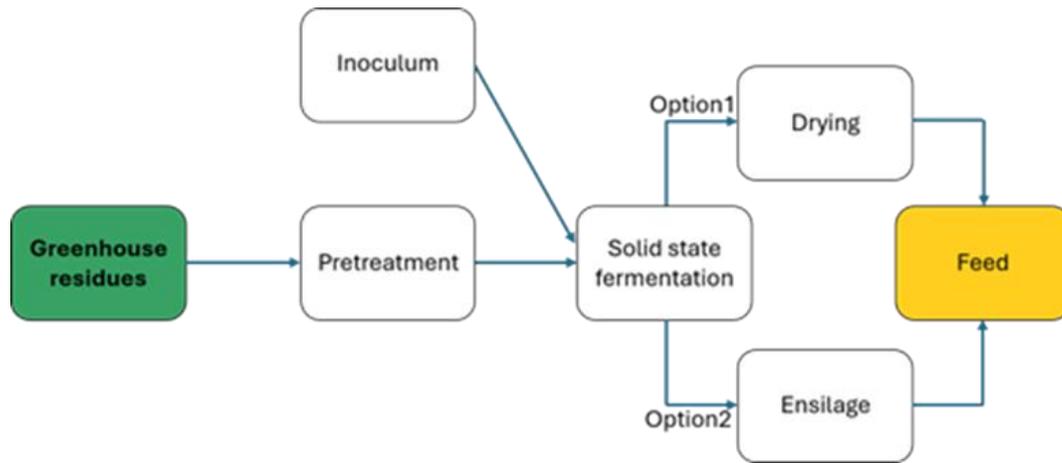
Figure 4: Solid state fermentation for feed production

Foam forming: Sustainable materials from agricultural fibres

This technology converts fibre fractions from agricultural feedstocks into bio-based packaging and construction materials. The process involves preparing the fibres (milling/screening) and blending them with water and surfactants to create a slurry. This mixture is mechanically agitated to generate a stable, uniform **foam**. The foam is poured into moulds or spread onto forming vessels. Water is removed via drainage or vacuum, and the material is dried to solidify the fibrous network. The result is a lightweight, robust material (mats or sheets) that can be finished to precise dimensions, suitable for packaging or insulation applications.
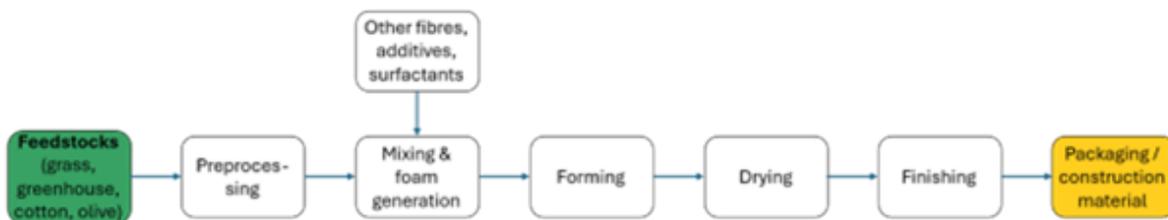
Figure 5: Foam forming for packaging and construction material production

Pelletizing: Biofuels from cotton and olive residues

This process transforms bulky cotton residues and olive tree prunings into a standardized, high-density energy source. After harvesting, the biomass is chipped or shredded to a uniform size. Proper storage is crucial to prevent moisture-related degradation. The material is then fed into a pellet mill, where it is compressed under high pressure (and potentially heat) to form dense, cylindrical pellets.

Pelletizing offers three key business advantages: it increases energy density for efficient transport, ensures consistent behaviour in combustion boilers, and controls moisture content. The final pellets serve as a renewable fuel for heating applications.

Figure 6: Pelletizing cotton and olive tree residues

Pyrolysis: Biochar for soil and materials

This thermochemical process converts cotton and olive residues into **Biochar**, a solid product with high carbon content. The biomass (which can be pelletized first for better efficiency) is heated in the absence of oxygen (pyrolysis). This decomposition yields biochar, which has two primary commercial applications:

1. **Soil Improvement:**
2. **Bio-based Materials:** Mixed with wood particles and binders to produce **particle boards**, enhancing the final product's mechanical strength, durability, and moisture resistance.
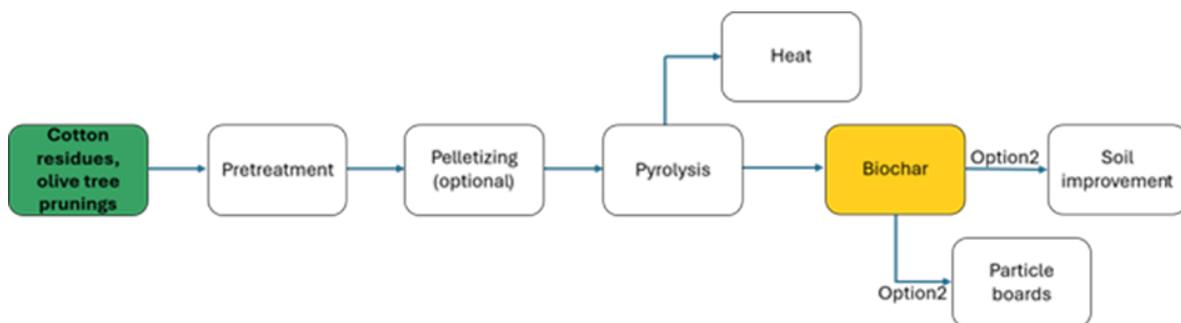
Figure 7: Pyrolysis of cotton and olive tree residues for biochar production

Indicative examples

Process for the Mobilisation and Utilisation of Cotton Residues (Greek Use Case) - Karditsa, Greece

This indicative example describes the process followed in the Greek use case for the mobilisation and utilisation of under-utilised agricultural residues, focusing on post-harvest cotton stalks. The objective of the process is to demonstrate how agricultural residues can be systematically collected, assessed and prepared for integration into multiple value chains, using approaches that are scalable, technically sound and suitable for farmers and cooperatives.

As feedstock identification, cotton residues were selected due to their high availability and limited current utilization. Following the cotton-picking season, stalks typically remain in the field and are often left to decompose or are removed through practices that do not generate added value. The process begins with the identification of suitable fields and the estimation of

available biomass, supported by field observations and remote sensing data to assess crop structure, residue density, and spatial variability.

Two alternative harvesting pathways were implemented and assessed to compare their technical and operational performance. The first pathway involved a forage harvester operating in coordination with a collection truck, shredding cotton stalks and loading the material directly during harvesting. This approach enables immediate processing of readiness and rapid mobilization of biomass. The second pathway involved a baling system, where stalks were cut, raked, compacted into bales, and subsequently transported. Both pathways were selected to represent commonly available and farmer-accessible solutions.

During harvesting operations, systematic monitoring was carried out to record key operational parameters, including working speed, harvested area, process duration, fuel consumption, and delays. GPS tracking and time logging were used to document harvesting paths and operational efficiency. In parallel, sampling plots were established in the fields to estimate collection efficiency and quantify biomass losses remaining after harvesting.

Harvested biomass was transported to a central facility, where loads were weighed to determine collected quantities. Representative samples were taken from harvested fields and sent to specialized laboratories for analysis. These analyses focused on properties relevant to downstream utilization, such as moisture content, particle size and material uniformity, supporting the evaluation of suitability for applications including palletization, gasification, biochar production, soil improvement and construction materials.

To complement technical measurements, interviews were conducted with farmers and machinery operators to gather information on cultivation practices, field conditions, and machinery performance. This qualitative input supports the interpretation of operational results and helps identify practical constraints and improvement opportunities from a user perspective. The process enabled a direct comparison between alternative harvesting pathways and provided insights into their respective advantages, limitations, and suitability under different conditions. By combining field operations, monitoring, biomass characterization and stakeholder input, the use case demonstrates a replicable process that can be adapted to other regions and feedstocks. This approach supports the development of efficient, farmer-friendly value chains and illustrates how under-utilized agricultural residues can be transformed into valuable resources within a circular bioeconomy framework.

Use Case example-diagram

Valorization of Cotton By-products for Energy and Bio-material Production (Karditsa, Greece)
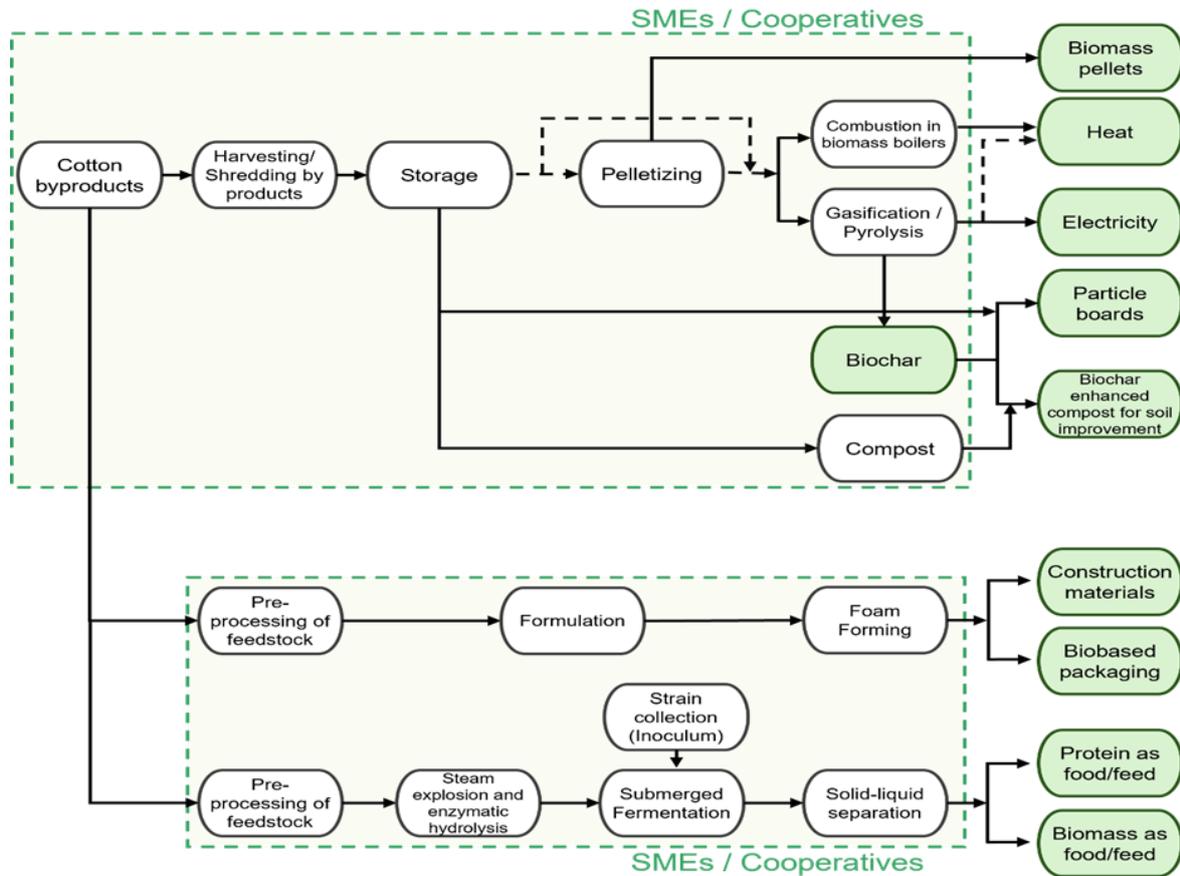
Figure 8: Flow chart Cotton by-products valorisation

Value Chain Architect

The Value Chain Architect serves as a strategic pre-configuration framework designed to ensure technical and operational coherence within the proposed circular business models. Within the framework of the PRIMARY project, applicants must demonstrate a logical continuum between resource availability, technological maturity, and market-ready outputs.

This tool facilitates the preliminary mapping of the biomass-to-value trajectory, enabling applicants to validate the feasibility of their circular loops before proceeding to the full Business Model Canvas.

Whiteboard Canvas

The purpose of providing the Whiteboard Canvas to applicants is to support the **clear and structured presentation of their use case**, focusing on how under-utilised feedstock is transformed into valuable outputs through a defined process. The canvas is designed as a simple, visual thinking tool that helps applicants articulate the core logic of their idea before developing a full business model.
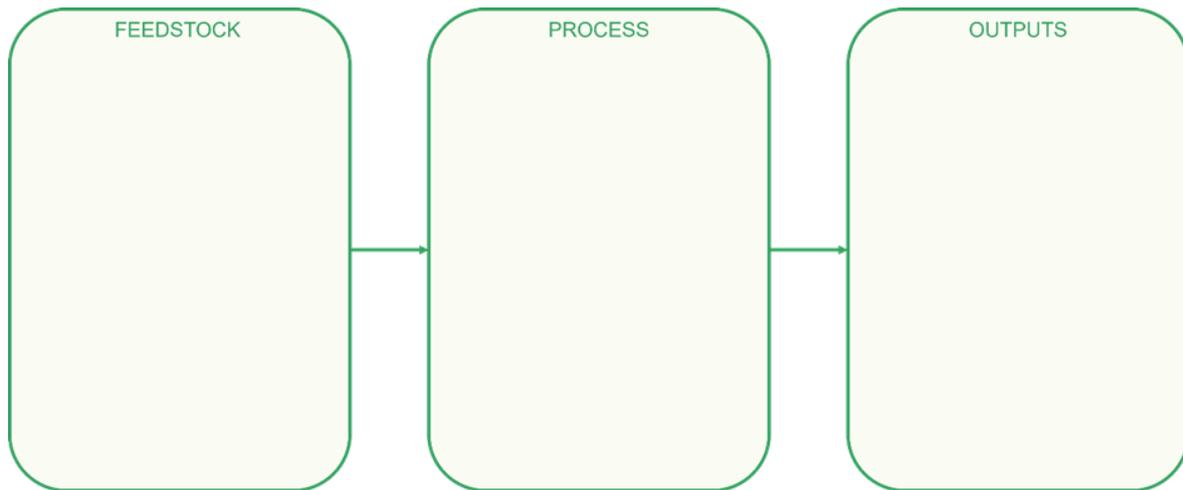
Figure 9: Whiteboard Canvas

- **Feedstock identification:** This stage involves identifying the specific **underutilized agricultural or agro-industrial residue** available in the Applicants' regions. Applicants must clearly specify the biomass origin, estimated annual volume (tons), and seasonality.
    - **Guideline:** The feedstock should be a biogenic waste stream currently treated as waste (burned, landfilled) or low-value compost.
    - **Examples:** Crop residues (cotton stalks, cereal straw), pruning biomass (olive, vineyard), greenhouse by-products (stems/leaves), or grass/silage.
- **Process selection:** This stage involves the selection of a specific valorisation pathway derived from the PRIMARY project portfolio, calibrated to the physicochemical properties of the identified feedstock and the operational scope of the proposed business model. To ensure technical coherence and strategic alignment with the project's innovation objectives, the proposal must integrate at least one (≥1) of the following six core technologies:
    - Biorefinery process: Fractionation for protein and fibre
    - Submerged Fermentation: Turning agricultural feedstocks into protein
    - Solid-State Fermentation (SSF): Upgrading greenhouse residues
    - Foam Forming: Sustainable materials from agricultural fibres
    - Pelletizing: Biofuels from cotton and olive residues
    - Pyrolysis/gasification: Biochar for soil and materials
- **Outputs and Value creation:** Define the targeted **primary and secondary products** resulting from the selected process. The outputs must demonstrate specific economic value (market demand) or quantifiable environmental benefits (e.g., carbon sequestration) and fall within one (1) or more of the following categories:
    - Bioenergy: Heat, electricity, solid biofuels (pellets/briquettes)
    - Biomaterials: Particle boards, insulation foams, packaging
    - Food/Feed:Alternative proteins, mycoproteins
    - Agro-inputs: Biochar, bio-fertilizers, soil conditioners

Business Model guideline

What is a business model?

A business model describes how a company creates, delivers, and captures value to generate revenue and profit. Its key components include the value proposition (the product or service offered), target market (the customers served), revenue streams (how income is generated), cost structure (expenses involved), key activities (essential operational tasks), key resources (assets required), key partnerships (strategic collaborators), customer relationships (how customers are engaged and retained), and distribution channels (how products or services reach customers). A business model canvas is a visual tool that helps map, develop, and refine these components, while a sustainable business model canvas further integrates economic, environmental, and social considerations to support long-term, responsible business strategies.

A **circular business model** is an approach that aims to extend the lifecycle of products, materials, and resources by keeping them in use for as long as possible. It focuses on minimizing waste and environmental impact through regenerative systems that promote reuse, repair, refurbishment, and recycling. Instead of following a traditional linear "take–make–dispose" model, circular business models are designed to recover value from products and materials at multiple stages of their life cycle.

This model has been widely adopted across sectors such as fashion, electronics, and construction to support sustainability objectives and resource efficiency. Revenue generation can derive from innovative mechanisms including product-as-a-service offerings, take-back and recovery schemes, and the development of secondary markets for reused or recycled materials. The success of a circular business model depends on efficient resource management, strong customer engagement, and close collaboration across the value chain to ensure that materials are effectively recovered, reintegrated, and transformed into new value streams.

Key features of the **Circular Business Model Canvas** include:

- **Value Proposition:** Identifies how products or services create value through reuse, repair, refurbishment, or recycling.
- **Circular Flows:** Maps how materials and products move through reuse, recovery, or recycling loops rather than being disposed of.
- **Revenue Streams:** Includes innovative sources such as product-as-a-service, take-back schemes, and sales of secondary materials.
- **Key Activities and Resources:** Focuses on activities and assets needed to maintain circularity, such as collection systems, refurbishment facilities, or material tracking.
- **Key Partnerships:** Highlights collaborations along the value chain, including suppliers, recyclers, and service providers, necessary for closing loops.
- **Environmental and Social impacts:** Encourages explicit consideration of sustainability outcomes alongside economic performance.

primary

Circular Business Model Canvas

Key partners 🔗

• Which farmers, cooperatives, or agricultural organizations will supply your feedstock?
• What technology providers or research partners do you need for processing?
• Which logistics partners can help collect and transport agricultural residues?
• Are there existing bioeconomy networks or rural development organizations to collaborate with?
• What regulatory or certification bodies are critical for market access?

Key activities ✔

• How will you collect and pre-process agricultural feedstock? What cascading processing technologies will you apply?
• What quality control and product development activities are essential?
• How will you engage farmers and cooperatives in the value chain?
• What pilot testing or demonstration activities are needed?

Key resources 🏭

• What processing facilities or equipment do you need (mobile vs. stationary)?
• What intellectual property, technology licenses, or know-how is required?
• What human expertise is essential?
• What land or infrastructure access do you need near feedstock sources?
• What certifications or regulatory approvals are required for your products?

Value propositions 🎁

• What new revenue streams do you create for farmers from underutilized feedstocks?
• How does your solution contribute to climate neutrality and rural economic development?
• What environmental benefits do you provide (waste reduction, carbon sequestration, circular economy)?
• How do your bio-based products compare to fossil-based alternatives (cost, performance, sustainability)?
• What value do you create for different actors (farmers, processors, end-users)?

Customer relationships ♥

• Are you targeting food/feed manufacturers, material producers, energy sector, or agricultural input suppliers?
• Which geographic markets are you focusing on?
• Do you serve B2B (industries), B2C (consumers), or B2G (public sector)?
• What farmer types or cooperative structures are involved?

Channels 🚚

• How will you organize feedstock collection from dispersed agricultural sources?
• What logistics infrastructure do you need for rural-to-processing transport?
• Will you use existing agricultural supply chains or create new ones?
• How will you reach end-customers (direct sales, distributors, wholesalers)?
• What digital platforms or marketplaces could facilitate bio-based product sales?

Customer segments ☺

• How will you build trust with farmers and rural communities?
• What co-creation or participatory approaches will you use with agricultural stakeholders?
• How will you provide technical support for feedstock providers?
• What feedback mechanisms ensure products meet market needs?
• How will you maintain long-term partnerships with cooperatives and SMEs?

Cost structure 👷💲

• What are your feedstock procurement costs (collection, transport, storage)?
• What are the capital and operational costs of processing technologies?
• How do economies of scale affect your unit costs?
• What are the trade-offs between local/decentralized vs. centralized processing?
• What support mechanisms (subsidies, grants, carbon credits) could reduce costs?

Revenue streams 💵

• Can you generate revenue from multiple outputs in a cascading system (food, materials, energy)?
• Will you sell intermediate products (proteins, fibers, biochar) or finished goods?
• Are there premium markets for sustainable/local/circular bio-based products?
• Could you offer processing-as-a-service to farmers or cooperatives?
• What payment mechanisms work for agricultural stakeholders (spot prices, contracts, profit-sharing)?

Environmental and social negatives 👎

What are the key negative impacts that your solution has on people and planet? E.g.:
• Increased energy use
• Negative impact on job creation

Environmental and social positives 👍

What are the key positive impacts that your solution has on people and planet? E.g.:
• Reduced pollution
• Employment

Circular Business Model Canvas (CBMC) Framework

Applicants must structure their Business Model by addressing the following next building blocks.

Building block	Rationale	Key Deliverables (Guidelines)
Value Proposition *Circularity & Sustainability*	Defines the dual value delivered: Economic return and Environmental/Social Impact Reduction (SDG alignment).	Demonstrate quantitative environmental benefits (e.g., CO_2 emissions avoided, waste diversion rates). Specify how the solution addresses current market failures or resource limitations.
Target Market & Customer Segments	Identify the key beneficiaries and the market opportunity for the innovative secondary products.	Define segments based on demand for sustainable/circular inputs (e.g., certified organic farming, green public procurement). Include market size estimation and competitive advantages.
Key Resources *Focus on Bioresource & IP*	Specify the essential assets, primarily the underutilized. biomass/residue and the proprietary technology/knowledge.	Quantify the secured biomass input (Tons/Year) and the Required Investment/IPR (e.g., specific reactor design, process optimization data).
Key Activities *Technical & Operational*	Detail the critical high-risk and high-value steps necessary for efficient resource recovery and loop closure.	Focus on process efficiency (e.g., Conversion Rate %) and Logistics/Collection Systems design.
Circular Flows *Closing the Loop*	The central element, defining the physical and operational mechanisms for regenerative material cycling.	**Flow Diagram Required**: Illustrate the material life cycle from residue input to secondary product output and back to the value chain (e.g., biochar returning to the soil). Must detail minimum material loss.
Key Partnerships *Value Chain Collaborations*	Highlight strategic collaborations crucial for scaling up and ensuring the recoverability of the resources.	Identify critical partners for pre-commercial demonstration and market uptake (e.g., Technology providers, Off-takers, Research Centers for validation, Certification bodies).
Channels & Market Entry Strategy	Detail the route-to-market for the innovative products, emphasizing scalability and	Describe the Go-to-Market Strategy (e.g., direct sales, licensing, ESCO model). Must address regulatory barriers to entry

	replicability across the EU.	
Revenue Streams *Diversification &* *Product-as-a-Service*	Explore innovative revenue mechanisms characteristic of circular models, minimizing reliance on traditional product sales.	Include revenue from Sales of Certified Biofuels/Biochar, Provision of Energy Services (ESCO), or Licensing of the Technology/Know-how.
Cost Structure *Efficiency & Resource* *Focus*	Defines the key cost drivers, demonstrating cost-effectiveness compared to linear alternatives.	Highlight the costs associated with Logistics & Pre-treatment (often the highest variable cost) and R&D/Continuous Process Improvement.

Submission & evaluation guidelines

1. **Focus on the residue**
   - Quantification: Clearly define the type, quantity (tons per annum), and availability of the residues you will manage.
2. **Technological application**
   - Strategy: It must be clear which technology (e.g., pyrolysis, gasification, fermentation, pelletizing) will be used to convert the residues into the new products.
   - Primary Project Example (Karditsa): Gasification was used to produce Energy, and Pyrolysis (as a by-product process) for Biochar.
3. **Dual value creation**
   - The model must demonstrate both economic viability (Revenue Streams > Cost Structure) and environmental benefit (waste reduction, emission reduction, soil improvement).
4. **Scalability**
   - Describe how the model can be applied to other types of residues or expanded geographically, ensuring long-term sustainability.

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primary

New business for farmers and cooperatives in rural areas by local upcycling solutions using underutilized agricultural feedstocks

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