

SCALE-UP Information Package

T2.4 Review and preparation of existing scientific and technological information supporting bio-based solutions

Region: French Atlantic Arc

Organization: AC3A

Biomass stream/value chains: Fibre plants

Bio-based solutions: Insulation, other building material, other markets (textile, chemicals...)

This information package aims at reviewing and collecting information relevant to the SCALE-UP project and for the regional platforms. Relevant studies should aim at supporting the bio-economy rollout in the SCALE-UP regions and of the specific bio-based solutions.

Information on the following topics will be gathered:

1. EU Policies and legislation
2. Research projects
3. Local policies
4. Technical Information on specific biobased solutions
5. Biomass availability & Nutrient recycling



1. EU Policies & Legislation

EU policies and legislation relevant to the SCALE-UP project and bio-based solution.

Other sources of interest:

[JRC Knowledge Centre for Bioeconomy \(English\)](#)

[JRC Knowledge Centre for Bioeconomy \(French\)](#)

List of important EU policies and legislation

	Date	Name	Link	Translation link (English → French)	Summary of contents	Relevance to the SCALE-UP project	Relevance to the specific bio-based solutions
1	02-2012	EU bioeconomy strategy	https://op.europa.eu/en/publication-detail/-/publication/edace3e3-e189-11e8-b690-01aa75ed71a1/language-en/format-PDF/source-149755478	https://op.europa.eu/translate.goog/en/publicati on-detail/-/publication/edace3e3-e189-11e8-b690-01aa75ed71a1/language-en/format-PDF/source-149755478?x_tr_sl=en&x_tr_tl=fr&x_tr_hi=nl&x_tr_pto=wapp	The 2012 European Bioeconomy Strategy paved the way for a more innovative, resource-efficient and competitive society that reconciles food security with the sustainable use of renewable resources for industrial purposes, while ensuring environmental protection. A comprehensive review concluded that it has been a success, notably at mobilising research and innovation, boosting private investments, developing new value chains, promoting the uptake of national bioeconomy strategies and involving stakeholders.	<p>The EU bioeconomy strategy aims at strengthening and scaling-up bio-based sectors, as well as deploying local bioeconomies across Europe. Through:</p> <ul style="list-style-type: none"> -The deployment of the bioeconomy will lead to the creation of jobs, especially in rural areas through the growing participation of primary producers in local bioeconomies. -The bioeconomy strategy sets as one of its main goals to support research and innovation and deployment of innovative solutions for the production of new and sustainable bio-based products. -A Strategic Deployment Agenda will be developed, which will provide a long-term vision on pathways to deploy and scale up the bioeconomy in a sustainable and circular manner. -Enhance synergies between existing EU instruments to support local activities. -CAP to support bioeconomies in rural areas. 	<p>Relevant to the specific bio-based solutions:</p> <ul style="list-style-type: none"> -It aims at increasing the availability of secondary materials (such as feed and biowaste) for further exploitation through conventional technologies (e.g. composting and anaerobic digestion) and innovative ways of extracting valuable substances. Innovation is expected to support markets for bio-based products, where one industry's waste becomes the starting material for another. -It addresses new opportunities for the forestry sector, where non-sustainable raw materials in various sectors are replaced with forestry-based materials and chemicals. -Biowaste and residues can be used as valuable resources and can help reduce food waste by 50% by 2030.
2	2019	European Green Deal	https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en	https://commission-europa-eu.translate.goog/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age_en?x_tr_sl=en&x_tr_tl=fr&x_tr_hi=nl&x_tr_pto=wapp	European Green Deal is a set of comprehensive and integrated to transform the EU into a modern, resource-efficient and competitive economy, ensuring no net emissions of green house gases by 2050 and economic growth decoupled from resource use.	The Green Deal includes measures in agriculture on the reduction of environmental and climate footprint and increase of competitive sustainability from farm to fork (see below). In the energy sector the Green Deal includes measures to promote eco design of products en renewable energy from sustainable biomass resources.	
3		European Digital Strategy	https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age_en	https://commission-europa-eu.translate.goog/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age_en?x_tr_sl=en&x_tr_tl=fr&x_tr_hi=nl&x_tr_pto=wapp	The EU's digital strategy aims to make this transformation work for people and businesses, while helping to achieve its target of a climate-neutral Europe by 2050.	EU's digital strategy recognises that digital technologies are profoundly changing our world, and generate an ever-increasing amount of data, which if pooled and used properly, can lead to completely new means and levels of value creation, leading towards more sustainable solutions which are resource-efficient, circular and climate-neutral.	Real time tracking, new, added-value creations, interconnections, boosting bio-based solutions driven by new, high and/or deep technologies
4	02-2020	European data strategy	https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-data-strategy_en	https://commission-europa-eu.translate.goog/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-data-strategy_en?x_tr_sl=en&x_tr_tl=fr&x_tr_hi=nl&x_tr_pto=wapp	The European data strategy aims to make the EU a leader in a data-driven society. Creating a single market for data will allow it to flow freely within the EU and across sectors for the benefit of businesses, researchers and public administrations.	The EU is creating a single market for data where data can flow within the EU and across sectors, for the benefit of all European rules, in particular privacy and data protection, as well as competition law, are fully respected the rules for access and use of data are fair, practical and clear	By having more information, consumers and users such as farmers, airlines or construction companies will be in a position to take better decisions such as buying higher quality or more sustainable products and services, thereby contributing for example to the Green Deal objectives.

5	01-2023	<u>Common Agricultural Policy (CAP)</u> <u>2023-27</u>	CAP	https://agriculture.ec.europa.eu/translate.goog/common-agricultural-policy/cap-overview/cap-glance_en#cap2023-27	https://agriculture.ec.europa.eu/translate.goog/common-agricultural-policy/cap-overview/cap-glance_en?__tr_sl=en&__tr_tl=fr&__tr_hl=en-US&__tr_pto=wapp#cap2023-27	<p>The CAP 2023-2027 must be oriented more than ever to respond to the specific needs of the agricultural sector and rural areas in terms of equity, distribution of support, instruments and characteristics, after the serious health crisis caused by COVID. To achieve these objectives, the CAP is focusing on innovation, CAP Strategic Plans (in line with the objectives and targets of the "Green Deal"), giving the EU a greener and fairer CAP.</p> <p>The CAP 2023-2027 includes "support for rural development" as one of its focal points through the development of a wide range of tools including: Funding for investment, knowledge creation, innovation and cooperation will in many cases be targeted at environmental and climate-related needs, but will also serve other CAP objectives.</p>	<p>Within the CAP 2023-2027, it is indicated that the improvement of existing requirements is also a necessary condition for the improvement of agricultural sustainability, for this purpose, measures are proposed to improve soil health in the long term, so farmers are required to carry out beneficial crop rotations (among other measures). On the other hand, a wide range of types of action are proposed, including ecosystems that support voluntary actions related to better nutrient management, agroecology, agroforestry, carbon farming or animal welfare (among others).</p>
6	05-2020	<u>Farm to Fork strategy</u>		https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en	https://food.ec.europa.eu/translate.goog/horizontal-topics/farm-fork-strategy_en?__tr_sl=en&__tr_tl=fr&__tr_hl=en-US&__tr_pto=wapp	<p>The Farm to Fork Strategy is a set of measures to accelerate the transition to a sustainable food system that should have a neutral or positive environmental impact help to mitigate climate change and adapt to its impacts, reverse the loss of biodiversity ensure food security, nutrition and public health, making sure that everyone has access to sufficient, safe, nutritious, sustainable food preserve affordability of food while generating fairer economic returns, fostering competitiveness of the EU supply sector and promoting fair trade.</p>	<p>The Farm to Fork Strategy includes measures to promote sustainable food production and processing (including nutrient recycling). This includes measures on the compatibility of the EU food supply sector including use of residues for bioproducts</p>

		2. Research Projects									
		Please add Interreg, Horizon 2020, Horizon Europe projects, and other projects that you find relevant to the SCALE-UP project and for your bio-based solutions.									
				Other sources of interest:		JRC Knowledge Centre for Bioeconomy (English)		JRC Knowledge Centre for Bioeconomy (French)			
List of relevant projects											
Start month	End month	Name	Project website	Translation link (English to French)	Project summary		Relevance to the SCALE-UP project	Relevance to the specific bio-based solutions	Activities of interest	Comments	
1	1-9-2022	1-8-2025	MainstreamBIO	https://mainstreambio-project.eu/	https://mainstreambio-project.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	MainstreamBIO sets out to get small-scale bio-based solutions into mainstream practice across rural Europe, providing a broader range of rural actors with the opportunity to engage in and speed up the development of the bioeconomy. Regional Multi-actor Innovation Platforms (MIPs) will be established in 7 EU countries (PL, DK, SE, BG, ES, IE and NL) to enhance cooperation among key rural players towards co-creating sustainable business model pathways in line with regional potentials and policy initiatives.	Innovation support services, Decision Support System, Multi-actor Innovation Platforms, Digitalisation and Practice abstracts.	Some cases related with our 12 bio-based solutions (potential exchange of good practices and Knowledge)	WP4, WP5	SCALE-UP sister project	
2	1-10-2022	1-9-2025	RuralBioUp	https://www.ruralbioup.eu	https://www.ruralbioup.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	RuralBioUp will strengthen the cooperation among regional key actors and knowledge holders, empowering them to establish an inclusive and long-lasting ecosystem (the RuralBioUp Regional Hubs) to support the mainstreaming of bio-based business models in rural areas. In particular, RuralBioUp will establish 9 Regional Hubs in 6 EU countries, that will co-design and implement 9 Action Plans on 18 value chains.	9 regional hubs (one multi-stakeholder hub) are established in 6 EU countries (France, Romania, Czech Republic, Ireland, Latvia and Italy). 9 Action Plans will be implemented in 18 value chains.	Biomass value chain development: Biomass logistic, Valorisation, Communities. Lessons learnt	WP4, WP5	SCALE-UP sister project	
3	1-9-2022	1-8-2025	BioRural	https://biorural.eu/	https://biorural.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	BioRural's goal is to create a European Rural Bioeconomy Network to promote small-scale bio-based solutions in rural areas and support the transition towards a sustainable, regenerative, inclusive and just circular Bioeconomy across all Europe at local and regional scale.	BioRural focusses on EU-level developments, it does not feature any regional case studies.	Rural Bioeconomy Alliance. Network. Cooperate to promote the currently available small-scale bio-based solutions		SCALE-UP sister project	
4	1-4-2019	1-7-2022	BE-Rural	https://be-rural.eu/	https://1-be-rural.eu.translate.goog/?_x_tr_enc=1&_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	BE-Rural aimed at exploring the potential of regional and local bio-based economies and support the development of bioeconomy strategies, roadmaps and business models. To this end, the project focused on establishing Open Innovation Platforms (OIPs) within selected regions in five countries: Bulgaria, Latvia, North Macedonia, Poland and Romania.	Case study in North Macedonia (focussing on Mycelium-based packaging and insulation material); Case study in Latvia (foussing on wood wool)	D5.1 "Briefing paper: Analysing market conditions and designing business models within BE-Rural's OIPs"; D5.2 "Summary report on small-scale bio-based business models and their market potentials"; D5.4 "Note on the development of a sustainability screening for regional bioeconomy strategies"		Power4Bio sister project	
5	1-10-2018	1-3-2021	POWER4BIO	https://power4bio.eu/	https://power4bio.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	POWER4BIO project aimed at empowering regional stakeholders to boost the transition towards bioeconomy regions in Europe by providing them with the necessary tools, instruments and guidance to develop and implement sound sustainable bioeconomy strategies. POWER4BIO targeted 10 regions with a focus on regions in Central and Eastern Europe.	Case study in Andalusia (focussing on Bioeconomy Strategy and Available Biomass Sources At Regional Level (Olive Biomass, Intensive Horticulture and Seaweed production)) and case study in Mazovia (agricultural residues)	D3.3 "Catalogue with bio-based solutions"; D6.4 "Training design and materials for increasing the bioeconomy capacity of regional stakeholders"	BE-Rural sister project; certain outputs related to the development of bio-based solutions were classified as confidential and are thus not publicly available.		

Other projects

Project details and descriptions									
Start month	End month	Name	Project website	Translation link (English to French)	Project summary	Relevance to SCALE-UP		Comments	
1	09-2022	08-2025	ShapingBio	https://www.shapingbio.eu/	https://www.shapingbio.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	The overall aim of ShapingBio is to support and accelerate bioeconomy innovation and the deployment of new knowledge in the EU and its member states. ShapingBio aims to provide evidence-based and concrete information and recommendations for better policy alignment and stakeholder actions to realize the cross-sectoral potential of the bioeconomy and to reduce the fragmentation across bio-based sectors and food system and policies across regions, domains and governance levels.	Promote innovation in the EU bioeconomy.	ShapingBio focusses on EU macro-regions, it does not feature any rural case studies.	
2	07-2022	06-2025	BioModel4Regions	https://www.biomodel4regions.eu/	https://www.biomodel4regions.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	BIOMODEL4REGIONS aims to support the establishment of the innovative governance models at local/regional level to achieve better-informed decision-making processes, social engagement and innovation to support and strengthen EU and international science-policy interfaces to achieve the Sustainable Development Goals.	Support regional bioeconomies.		
3	09-2022	08-2025	CEE2ACT	https://www.cee2act.eu/	https://www.cee2act.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	CEE2ACT will empower countries in Central Eastern Europe and beyond to develop circular bioeconomy strategies and action plans through knowledge transfer and innovative governance models enabling sustainability and resilience to achieve better informed decision-making processes, societal engagement and innovation, building on the practice of experienced countries serving as role models.	Development of bioeconomy strategies.	CEE2ACT focusses on national-level developments, it does not feature any regional/rural case studies.	
4	09-2022	08-2025	ROBIN	https://robin-project.eu/	https://robin-project.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	ROBIN aims to empower Europe's regions to adapt their governance models and structures in ways that accelerate the achievement of their circular bioeconomy targets while promoting social innovation and accounting for different territorial contexts. In this context, ROBIN will support 5 regional authorities across Europe (Southern Region of Ireland, Central Macedonia, Andalusia, Baden-Wuerttemberg, Zilina) to adapt their governance models to support the scaling up of the bio-based value chains of their ecosystem.	Regional bioeconomy development, as well as social innovation in the bioeconomy, which is covered in WP5 of SCALE-UP.		
5	06-2022	05-2025	RELIEF	https://relief.uop.gr/	https://relief.uop.gr.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	RELIEF aims to develop and deliver an innovative approach for teaching bio-economy in farming, by developing specific learning resources addressing HEIs students and farming practitioners. RELIEF will deliver a training needs analysis and develop two curricula in bio-economy, for HE students, farming practitioners and farmers exploring the key areas that are critical for the implementation of business models and strategies towards bio-economy in farming.	Training courses on bioeconomy, also covered in WP3 of SCALE-UP.		
6	01-2021	06-2023	COOPID	https://coopid.eu/	https://coopid.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	Within COOPID, a network of bioeconomy clusters from 10 European countries has been created, involving a range of stakeholders: primary producers, in cooperatives or associations, within agriculture, forestry and aquaculture; industry; public sector; research and academia. So-called COOPID ambassadors showcased success stories, organised workshops and conducted interactive dissemination and communication campaigns. The focus was on the uptake of sustainable bio-based business models in the primary production sector.	Development of bioeconomy clusters.	D4.2 "Success story factors for biobased Business models"	
7	12-2022	11-2026	P2GreeN	https://p2green.eu/	https://p2green.eu.translate.goog/?_x_tr_sl=en&_x_tr_tl=fr&_x_tr_hl=nl&_x_tr_pto=wapp	P2GreeN will implement and demonstrate innovative N & P recovery solutions based on human sanitary waste from urban settlements and its conversion into safe bio-based fertilisers for agricultural production. The project will test the solutions in three pilot regions on a north-south trajectory.	Nutrient recovery is a part of SCALE-UP.		



3. Regional, National & Local policies

Please add the local policies (including strategies, roadmaps, incentives, subsidy schemes and regulatory information) that you find relevant to the SCALE-UP project and to your bio-based solutions.

List of relevant policies

Year	Regional/Provincial/National Title	Link	Translation link (French → English)	Author/Publisher:	Policies	Relevance to the SCALE-UP project	Relevance to the specific bio-based solutions	
1	November 2018 National	<u>Environnemental policy RE2020</u>	https://www.ecologie.gouv.fr/reglementation-environnementale-re2020	https://www-ecologie-gouv-fr.translate.goog/reglementation-environnementale-re2020?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en-US&_x_tr_pto=wapp	Ministry of Ecological transition	This law is for all new buildings, build from january, the 1st. Its main purpose is to continue to improve energy performance and comfort building, while reducing their carbon impact	to reduce the carbon impact, it is necessary to use biosourced materials, particularly for insulation.	
2	2023/2025 Regional	<u>Bioeconomy Stratégie for Normandie</u>	https://www.bioeconomie-normandie.fr/la-bioeconomie/strategie-bioeconomie/	https://www-bioeconomie-normandie-fr.translate.goog/la-bioeconomie/strategie-bioeconomie/?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en-US&_x_tr_pto=wapp	Conseil Régional de Normandie	The goals of the bioeconomy policy are : • Raising awareness of the bioeconomy among stakeholders economics and research • Complete the regional bioeconomy website : www.bioeconomie-normandie.fr and its actor mapping • Building an observatory of deposits biomass • Continue the structuring of the 5 key sectors of the territory : vegetable proteins, blue bioeconomy, natural fibers for materials and textile uses, bioenergy and biobased chemistry	The strategy sets concrete measures for the development of sustainable value chain for fibre crops, used in the construction sector for insulation material.	
3	April 2021 Regional	<u>Actions Plan for circular economy in Pays de la Loire</u>	https://www.paysdelaloire.fr/transition-ecologique/economie-circulaire/	https://www-paysdelaloire-fr.translate.goog/transition-ecologique/economie-circulaire?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en-US&_x_tr_pto=wapp	Conseil Régional des Pays de la Loire	The action plan has defined 3 strategic axes: succeeding in the transition to the circular economy, supporting the players in the territory, developing the high-potential circular economy,	The action plan is a resource for the evaluation of available biomass and to complete the regional map of the actors of the circular economy.	the region is committed to the circular economy and to using biosourced materials in its equipment
4	December 2020 Regional	<u>Regional Biomass Scheme (SRB)</u>	https://www.pays-de-la-loire.developpement-durable.gouv.fr/schema-regional-biomasse-srb-r1824.html	https://www-pays-de-la-loire-developpement-durable-gouv-fr.translate.goog/schema-regional-biomasse-srb-r1824.html?lang=fr&_x_tr_sl=fr&	Conseil Régional et DREAL des Pays de la Loire	The objectives of the regional biomass plan are to draw up an inventory of the biomass resources likely to have an energy use and to determine the orientations and actions to be implemented at the regional or infra-regional scale to encourage the mobilization of these resources and the development of the corresponding energy sectors (wood energy, methanization, etc.).	This plan helps us for the evaluation of biomass	

5	July 2022	Regional	<u>Regional Biomass Scheme (SRB)</u>	https://www.nouvelle-aquitaine.fr/sites/defaut/files/2021-08/Le%20Sch%C3%A9ma%20%20%20Biomasse%20Nouvelle-Aquitaine%20-%20Rapport.pdf	Conseil régional Nouvelle Aquitaine.	The objectives of the regional biomass plan are to draw up an inventory of the biomass resources likely to have an energy use and to determine the orientations and actions to be implemented at the regional or infra-regional scale to encourage the mobilization of these resources and the development of the corresponding energy sectors (wood energy, methanization, etc.).	The action plan is a resource for the evaluation of available biomass and to complete the regional map of the actors of the circular economy.		
6		Regional	<u>Schéma régional du patrimoine naturel et de la biodiversité en Bretagne (Regional plan for natural heritage and biodiversity in Brittany)</u>	https://www.cbd.int/doc/nbsap/sbsap/fr-sbsap-bretagne-fr.pdf	Conseil régional de Bretagne	The objectives of the regional biomass plan are to draw up an inventory of the biomass resources likely to have an energy use and to determine the orientations and actions to be implemented at the regional or infra-regional scale to encourage the mobilization of these resources and the development of the corresponding energy sectors (wood energy, methanization, etc.).			
7	October 2022	Regional	<u>Regional Biomass Scheme 2030 (SRB)</u>	https://www.normandie.fr/sites/default/files/2023-05/srb-normandie-presentation.pdf	Conseil Régional de Normandie	The objectives of the regional biomass plan are to draw up an inventory of the biomass resources likely to have an energy use and to determine the orientations and actions to be implemented at the regional or infra-regional scale to encourage the mobilization of these resources and the development of the corresponding energy sectors (wood energy, methanization, etc.).			
8	2020	Regional	<u>NeoTerra Regional environment scheme</u>	https://www.nouvelle-aquitaine.fr/sites/defaut/files/2022-05/Green_social_sustainability_bond_framework_Nouvelle-Aquitaine_2022.PDF	Conseil régional Nouvelle Aquitaine.	New Aquitaine is one of the French regions most impacted by climate change: temperature increase of 1.4°C during the 20th century, increasingly frequent extreme weather events (floods, storms, erosion, drought). its roadmap, Neo Terra, articulated around major principles and specific objectives, covering 11 ambitions.	This plan helps the bioeconomy development	It links bioeconomy and climate changes	
9	July 2019	National	<u>Stratégie nationale bas carbone (SNBC) (National low-carbon strategy)</u>	https://www.ecologie.gouv.fr/strategie-national-bas-carbone-snbc	https://www-ecologie-gouv-fr.translate.goog/strategie-national-bas-carbone-snbc?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en-US&x_tr_pto=wapp	French Ministry of Ecological Transition	The national low-carbon strategy (SNBC) is France's roadmap for reducing its greenhouse gas emissions. It includes: -a long-term objective: carbon neutrality; -a trajectory to achieve it; -45 guidelines covering governance at national and territorial levels, all sectors of activity and cross-cutting issues (carbon footprint, investment, spatial planning, R&D, education and training).	It defines the framework for starting the low-carbon transition in France today. Public decision-makers must take it into account	This strategy is supportive for the biobased building sector as it has among its objectives : - halve energy consumption (including energy saving in housing) - increase carbon sinks (plant fibers store carbon while growing)
10	March 2020	National	<u>Label bio-base building</u>	https://www.legifrance.gouv.fr/jorf/id/JORFTEXT_000026810976?x_tr_sl=fr&x_tr_tl=en&x_tr_hl=en-US&x_tr_pto=wapp	French Ministry of Ecological Transition	The certification label guarantees the building is made with bio-based materials. There are 3 levels depending on the numbers of bio-based materials used	Using Fibers plants as bio-based materials allows to have the national label	Specific label for bio-based materials	
11	October 2014	National	<u>Norme de terminologie NF EN 16575</u>	https://www.boutique.afnor.org/fr/norme/nf-en-16575/produits-biosources-vocabulaire/fa178684/1459	AFNOR	This document defines the general terms to be used in the field of biobased products, as well as certain cross-cutting aspects concerning biobased product standards.	Helps you get to know the subject's outline	Specific for biobased solutions	

12	February 2020	National	<u>Loi AGEC</u>	https://www.legifrance.gouv.fr/jorf/id/JORFTEXT0004153759/	https://www.legifrance.gouv.fr/jorf/id/JORFTEXT0004153759/	French Ministry of Ecological Transition	This law is relating to the fight against waste and the circular economy	Link with bioeconomy	Not specific for building sector
13	October 2018	National	<u>Loi ELAN</u>	https://www.ecologie.gouv.fr/loi-portant-evolution-du-logement-lamenagement-et-du-numerique-elan	https://www.ecologie.gouv.fr/translate.google.com/translate?hl=en&tl=fr&prev=/&sl=fr&u=https://www.ecologie.gouv.fr/loi-portant-evolution-du-logement-lamenagement-et-du-numerique-elan?x_tr tl=en&x_tr hl=en-US&x_tr pto=wapp	French Ministry of Ecological Transition	Building more housing, simplifying standards, protecting the most vulnerable and putting the energy and digital transitions at the service of residents	Helps you get to know the subject's outline	Specific for new building



4. Technical information on specific bio-based solutions

Please add technical information, including scientific information, peer-reviewed articles, reports, and other data or research that you find relevant to the bio-based solutions.

List of relevant technical information

Bio-based insulation and other construction materials, using:

- Stream 1: Straw
- Stream 2: Miscanthus
- Stream 3: Hemp
- Stream 4: Flax
- Stream 5: All fiber plants

Date	Author(s)	Title	Link	Translation link (French → English)	Organizations	Summary of contents	Relevant to which solution?	Why is it relevant?
1	2017 Nathalie Fichaux	<u>Hemp sector plan</u>	https://www.interchanvre.org/documents/5.actu_presse/documents_de_reference/201801_Plan_Filiere_InterChanvre.pdf		InterChanvre	the hemp sector plan gives the many advantages of the cultivation and use of hemp, particularly in terms of the bioeconomy.	Hemp	This study describes the various industrial applications of hemp. And hemp is a sustainable biomass
2	2017 Ministère de la transition écologique : Farid BOU CHERIFI, Laure TRANNOY, Nomadeis : Nicolas DUTREIX, Cédric BAECHER, Barbara PIANU, Isabelle MARX, Martin HABASQUE,	<u>Etude sur le secteur et les filières de production des matériaux et produits biosourcés utilisés dans la construction</u> (Study on the sector and production chains biosourced materials and products used in the construction)	https://www.pays-de-la-loire.developpement-durable.gouv.fr/etude-nomadeis-sur-le-secteur-et-les-filières-de-a4670.html?_x_tr_slf_r&_x_tr_t=en&_x_tr_h=en&US&x_tr_pto=wapp	https://www.pays-de-la-loire.developpement-durable.gouv.fr/translate.goog/_x_tr_slf_r&_x_tr_t=en&_x_tr_h=en&US&x_tr_pto=wapp	Ministère de la transition écologique et Nomadeis	Economic overview of the sector and bio-based materials sectors for construction outside the wood sector	All fiber plants	
3	2021 Collectif Biosourcé Pays de la Loire	<u>Collectif bio-sourcés</u> (Bio-sourced collective)	https://www.novabuild.fr/biosource	https://www.novabuild.fr/translate.goog/?_x_tr_slf_r&_x_tr_t=en&_x_tr_h=en&US&x_tr_pto=wapp	Collectif Biosourcé Pays de la Loire	The biosourced collective of the Pays de la Loire brings together construction stakeholders who want to facilitate and promote the use of biosourced materials for construction.	All fiber plants	This collective provide technical knowledge on the subject
4	2022 Cerema	<u>Rapport sur la comptabilisation des flux de matières à l'échelle des pays de la Loire</u> (Report on the accounting of material flows across the Loire region)	https://doc.cerema.fr/Default/doc/SYRACUSE/586482/rappor t-sur-la-comptabilisation-des-flux-de-matières-a-l-échelle-des-pays-de-la-loire/	https://doc.cerema.fr/Default/doc/SYRACUSE/586482/rappor t-sur-la-comptabilisation-des-flux-de-matières-a-l-échelle-des-pays-de-la-loire?_lg=fr-FR&_x_tr_slf_r&_x_tr_t=en&_x_tr_h=en&US&x_tr_pto=wapp	ADEME	This material flow accounting study on the Pays de la Loire scale constitutes the starting point of a vision of the territory through the prism of extracted, transported and rejected materials.	All fiber plants	This study seeks the preservation of resources and circular economy of construction materials, which is the sector that we have chosen.
5	RMT Biomasse	<u>Fiche technique valorisation de la biomasse en miscanthus</u> (Technical sheet valorization of biomass into miscanthus)	https://france-miscanthus.org/resources/fiches-miscanthus-rmt-biomasse/	https://france-miscanthus.org/translate.goog/resources/fiches-miscanthus-rmt-biomasse/?_x_tr_slf_r&_x_tr_t=en&_x_tr_h=en&US&x_tr_pto=wapp	France Miscanthus	RMT Biomasse gives a detailed presentation of miscanthus: its advantages and constraints, its growing cycle, its adaptation to the environment, its yields, its cultivation and many other aspects.	Miscanthus	very partial and technical information to develop the biomass

6	2019	RFCP	Livre vert de la construction en paille (Green paper on straw construction)	https://rfcp.fr/wp-content/uploads/2019/10/Livre-vert.pdf		Réseau Français de la Construction Paille	RFCP gives detailed presentation of straw use in buildings : advantages, restrains and many other aspects	Straw	
7	2021	CNDB	CONSTRUCTION BOIS & ISOLANTS BIOSOURCÉS /WOOD CONSTRUCTION & BIO-SOURCED INSULATION	https://cndb.org/ressources/	https://cndb.org.translate.goog/resources/?_x_tr_sl=fr&x_tr_tl=en&x_tr_hi=en-US&x_tr_pto=wapp	Comité national pour le développement du bois	CNDB gives all avantage of biobased insulation	All fiber plants	technical information for meet low-carbon commitments and
8	2012	Luc Floissac, collection Techniques de PRO	La construction en paille /Straw construction)	https://www.terrevivante.org/boutique/livres/maison-ecologique/la-construction-en-paille/	https://www.terrevivante.org.translate.goog/bo/utique/livres/maison-ecologique/la-construction-en-paille/?_x_tr_sl=fr&x_tr_tl=en&x_tr_hi=en-US&x_tr_pto=wapp	Terre vivante	A complete guide to straw construction.	Straw	It contains all the information professionals and self-builders need to build with straw:
9	jan-24	Cerema	Guide RE 2020	https://www.ecologie.gouv.fr/reglementation-gouvernementale-re2020	https://www.ecologie.gouv.fr.translate.goog/reglementation-gouvernementale-re2020	Ministère de la transition écologique	National guide for biobuilding	All fiber plants	
10	jun-19	Réseau Breton Bâtiment Durable	Prescrire les éco-matériaux dans les marchés publics N°2 - l'isolation paille /Prescribing eco-materials in public markets No. 2 - straw insulation)	https://www.batylab.bzh	https://www.batylab.bzh.translate.goog/?_x_tr_sl=fr&x_tr_tl=en&x_tr_hi=en-US&x_tr_pto=wapp	BATYLAB	As part of the Plan Bâtiment Durable Breton, a guide has been proposed available to professionals to facilitate the prescription of eco-materials, particularly in public procurement.	Straw	
11	mrt-22	BATY.LAB	Prescrire les éco-matériaux dans les marchés publics n°6 - les bétons et mortiers de chanvre (Prescribing eco-materials in public procurement n°6 - hemp concretes and mortars)	https://www.batylab.bzh/prescrire-eco-materiaux/les-betonset-mortiers-de-chamvre	https://www.batylab.bzh.translate.goog/?_x_tr_sl=fr&x_tr_tl=en&x_tr_hi=en-US&x_tr_pto=wapp	BATYLAB	As part of the Plan Bâtiment Durable Breton, a guide has been proposed available to professionals to facilitate the prescription of eco-materials, particularly in public procurement.	Hemp	
12	2020. 03	Virginie Le Ravalec, Pierre Bono, Jean Bausset	Le panorama des marchés « fibres végétales techniques en matériaux » (The overview of the "technical plant fibers in materials" markets)	https://www.frd.fr/etudes/m%C3%A9mento-2020/	https://www.frd.fr/etudes/m%C3%A9mento-2020/	frd & IAR, ADEME	gives the market situation for biosourced materials	All fiber plants	
13	jan-22	François BERT ARVALIS	Lin fibre - Une valorisation de toutes les composantes de la plante (Flax fiber - A valorization of all the components of the plant)	https://www.arvalis.fr/infos-techniques/une-valorisation-de-toutes-les-composantes-de-la-plante	https://www.arvalis.fr.translate.goog/infos-techniques/une-valorisation-de-toutes-les-composantes-de-la-plante?_x_tr_sl=fr&x_tr_tl=en&x_tr_hi=en-US&x_tr_pto=wapp	ARVALIS	Gives the market situation for flax fibre	Flax	
14	feb-17	Service Affaires économiques et prospective Chambre d'agriculture des Hauts de France	Etat des lieux de la filière lin textile dans les Hauts de France (State of play of the linen textile industry in Hauts de France)	https://hautsdefrance.chambres-agriculture.fr/fileadmin/user_upload/National/FAL_common/publications/Hauts-de-France/filieres-vegetales-chapitre10.pdf		Service Affaires économiques et prospective Chambre d'agriculture des Hauts de France	Gives the market situation for flax fibre	Flax	
15	mei-22	Chambres d'agriculture de Normandie POLE FILIERES - EQUIPE ENERGIES ET BIOSOURCES REALISATEUR : ISABELLE GHESTEM	Evaluation des ressources agricoles mobilisables pour la construction en Normandie /Assessment of agricultural resources available for construction in Normandy)	https://www.normandie.fr/consell-agricole-strategique-environnemental-et-economique-cas2e-2024-2026?_x_tr_sl=fr&x_tr_tl=en&x_tr_hi=en-US&x_tr_pto=wapp	https://www.normandie.fr.translate.goog/consell-agricole-strategique-environnemental-et-economique-cas2e-2024-2026?_x_tr_sl=fr&x_tr_tl=en&x_tr_hi=en-US&x_tr_pto=wapp	Chambres d'agriculture de Normandie POLE FILIERES - EQUIPE ENERGIES ET BIOSOURCES REALISATEUR : ISABELLE GHESTEM	Gives the market situation for flax fibre	Flax	
16	mrt-19	Laura BAHEULIERE	Innovation le lin c'est du béton /Innovation: linen is concrete)	https://terres-et-territoires.com/bien-dans-ses-bottes/innovation-le-lin-cest-du-beton	https://terres-et-territoires.com.translate.goog/bien-dans-ses-bottes/innovation-le-lin-cest-du-beton?_x_tr_sl=fr&x_tr_tl=en&x_tr_hi=en-US&x_tr_pto=wapp		Gives the market situation for flax fibre for buidings	Flax	

17	mrt-22	Alain Jeanroy	<u>La filière Miscanthus en France (The Miscanthus sector in France)</u>	<u>https://france-miscanthus.org/</u>	<u>https://france-miscanthus.org.translate.goog/?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hi=en-US&_x_tr_pto=wapp</u>	France Miscanthus	This study gives the many advantages of the cultivation and use of miscanthus, particularly in terms of the bioeconomy.	Miscanthus	
18	dec-21	Pascal Prévot	<u>Lin Fibre résultats et préconisations (Lin Fiber results and recommendations)</u>	<u>https://www.calameo.com/read/007063788afdb09d4cca</u>		ARVALIS	This study gives the many advantages of the cultivation and use of flax, particularly in terms of the agronomy.	Flax	
19	jun-21	Benoit Béchet	<u>Étude sur la formation des prix dans la filière française de production du miscanthus (Study on price formation in the French miscanthus production sector)</u>	<u>https://www.franceagrimer.fr/fam/content/download/65064/document/Etude%20miscanthus%20rapport%20final%202020%20VF.pdf?version=5</u>		France Agri-mer	This study gives the many advantages of the cultivation and use of miscanthus, particularly in terms of economy	Miscanthus	
20	nov-22	Marie Rodin	<u>Sur les traces d'une nouvelle filière dans le secteur du bâtiment : le miscanthus (In the footsteps of a new sector in the construction sector: miscanthus)</u>	<u>https://dumas.ccsd.cnrs.fr/dumas-03855107v1/file/M1820225320_RONDINMarie.pdf</u>		Ecole Nationale d'architecture de Nantes	This study gives a large view of the opportunities of the miscanthus in the Buildings construction	Miscanthus	



5. Biomass availability studies and nutrient recycling

Please add biomass availability and nutrient recycling studies that you find of interest to the deployment of your bio-based solutions.

List of relevant studies

Bio-based insulation and other construction materials, using:

- Stream 1: straw
- Steam 2: miscanthus
- Stream 3: hemp
- Stream 4: flax
- Stream 5: all fiber plants

Year	Author(s)	Title	Link	Translation link (French → English)	Summary of contents	Relevant to which solution?	Why is it relevant?
1	2021	Loïc Monod - France AgriMer	Bioéconomie : Rapport 2020 de l'Observatoire National des Ressources en Biomasse (ONRB) (Bioeconomy: 2020 report from the National Observatory of Biomass Resources (ONRB))	https://www.franceagrimer.fr/Actualite/Filiere/Bioeconomie/2021/Bioeconomie-Rapport-2020-de-l-Observatoire-National-des-Ressources-en-Biomasse-ONRB	The National Observatory of Biomass Resources (ONRB), created by FranceAgriMer in 2009, is a tool for monitoring biomass resources. Its objective is to identify and quantify the available resources and their uses in order, in particular, to anticipate any competition in use.	all fiber plants	This database makes it possible to evaluate the available biomass and its different uses.
2	2022	Sébastien Minette - Chambre Régionale d'Agriculture Nouvelle Aquitaine	Guide des Pratiques de conservation en grandes cultures : Gestion de la matière organique (Guide to Conservation Practices in Field Crops: Management of Organic Matter)	https://www.inrae.fr/sites/default/files/pdf/3/RDF2022_Minette.pdf	"MERC!" method : Estimating the services provided by cover crops on the remobilization of fertilizing elements	straw	Method allows the estimation of the total quantities of carbon returned to the soil and therefore to assess the sustainability of the crop
3	2022	Ministère de la transition écologique et de la cohésion des territoires	Base de données Sitadel2 (Sitadel2 database)	https://www.statistiques-developpement-durable.gouv.fr/base-de-donnees-sitadel2-methodologie	This database makes it possible to estimate the number of new housing constructions in real time	all fiber plants	This database will allow us to develop prospective scenarios for the development of the bio-sourced materials market in relation to the constructions carried out.
4	2022	RFCP : Réseau Français de la Construction Paille	FDES : Fiches de déclaration environnementale et sanitaire (FDES: Environmental and health declaration sheets)	https://www.inies.fr/	FDES is a standardized document that presents the results of the Life Cycle Analysis of a product as well as health information in order to calculate the environmental and health performance of the building for its eco-design.	straw	Gives environmental impact of the use of each bio-based material in building sector

5	2022	Hélène Lenormand, UniLasalle	Faire pousser des isolants thermiques : un panorama des matériaux disponibles en France <i>(Growing thermal insulators: an overview of the materials available in France)</i>	https://www.unilasalle.fr/actualites/faire-pousser-des-isolants-thermiques-un-panorama-des-materiaux-disponibles-en-france	https://www.unilasalle.fr.translate.goog/actualites/faire-pousser-des-isolants-thermiques-un-panorama-des-materiaux-disponibles-en-france?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en-US&_x_tr_pto=wapp	Describe availabilities of vegetables for biobased solutions	all fiber plants	Help to know biomass availability
6	2022	Construction paille	Le panorama de la construction paille (The panorama of straw construction)	http://www.constructionpaille.fr/panorama/	https://www-constructionpaille-fr.translate.goog/panorama/?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en-US&_x_tr_pto=wapp	It's an observatory that provides a detailed, statistical overview of existing and future construction projects.	straw	Provide a real-time statistical tool of buiding in straw
7	2023	France Miscanthus	Les chiffres de la filière française (Figures from the French sector)	https://france-miscanthus.org/le-miscanthus-en-chiffres/	https://france-miscanthus.org.translate.goog/le-miscanthus-en-chiffres/?_x_tr_sl=fr&x_tr_tl=en&x_tr_hl=en-US&x_tr_pto=wapp	Overview of key figures for miscanthus production in France	miscanthus	Gives real figures of miscanthus production
8	2020.06	Benoit BECHET, Agrex Consulting	Étude sur la formation des prix dans la filière française de production du miscanthus (Study on price formation in the French miscanthus production sector)	https://franceagrimer.fr/etude-sur-la-formation-des-prix-dans-la-filiere-francaise-de-production-du-miscanthus/	https://franceagrimer.fr/etude-sur-la-formation-des-prix-dans-la-filiere-francaise-de-production-du-miscanthus/	Studie of miscanthus value chain	miscanthus	Gives keys and figures to understand miscanthus value chain.
9	2022.05	Isabelle GHESTEM, Chambre d'agriculture de Normandie	Evaluation des ressources agricoles mobilisables pour la construction en Normandie (Assessment of agricultural resources available for construction in Normandy)	non public document		Assessment of agricultural resources available for construction in Normandy	all fiber plants	Gives the situation of fiber plant in Normandie
10	2019.02	Karibati & Orialis	Perspectives de développement de la filière chanvre en Nouvelle-Aquitaine (Development prospects for the hemp sector in New Aquitaine)	https://entreprises.nouvelle-aquitaine.fr/filieres-prioritaires/chanvre	https://entreprises-nouvelle-aquitaine-fr.translate.goog/filieres-prioritaires/chanvre?_x_tr_sl=fr&x_tr_tl=en&x_tr_hl=en-US&x_tr_pto=wapp	Explain hemp value in Nouvelle Aquitaine	hemp	
11	2020	Terres Inovia	GUIDE de la culture du Chanvre (GUIDE to growing Hemp)	https://www.terresinovia.fr/o/guide-chanvre	https://www-terresinovia-fr.translate.goog/o/guide-de-chanvre?_x_tr_sl=fr&x_tr_tl=en&x_tr_hl=en-US&x_tr_pto=wapp	Explain hemp culture	hemp	

12	2023	Chambre d'agriculture des Landes	Fiche technique du Miscanthus <i>(Technical sheet of Miscanthus)</i>	https://landes.chambre-agriculture.fr.translate.goog/techniques-et-innovations/productions-vegetales/miscanthus/?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en-US&_x_tr_pto=wapp	Explain miscanthus culture	miscanthus	Gives figures of nutrients need
13	2021	Pauline RIO, FDCIVAM	Transformer et récolter du chanvre à la ferme (<i>Processing and harvesting hemp on the farm</i>)	https://pays-de-la-loire.chambres-agriculture.fr/pei-sante-du-vegetal/	Describe hemp production	hemp	