

# Questionnaire BIOMASS

## KF1-Long term, stability and availability of feedstock

1- How significant is the amount of forest land that is providing or could supply woody products in your region?

- a) The forest land available for providing woody products only covers from 0 to 10 % of the territory.
- b) The forest land available for providing woody products covers from 10 to 20 % of the territory.
- c) The forest land available for providing woody products covers from 20 to 30 % of the territory.
- d) The forest land available for providing woody products covers more than 40 % of the territory.

Please select the option that best describes your region:

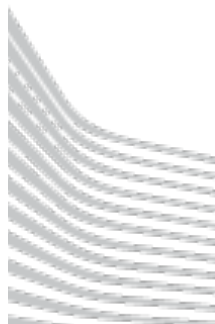
- i. The total forest area available for providing woody products is lower than 100 000 hectares and it is not concentrated in a specific area.
- ii. The total forest area available for providing woody products is around 50 000 - 100 000 hectares but is concentrated in a specific area.
- iii. The total forest area available for providing woody products is higher than 100 000 hectares and it is not concentrated in a specific area.
- iv. The total forest area available for providing woody products is higher than 100 000 hectares and it is concentrated in a specific area.

2- How significant is the amount of utilised agricultural area in your region?

- a) The utilised agricultural area only covers from 0 to 10 % of our territory.
- b) The utilised agricultural area covers from 10 to 20 % of our territory.
- c) The utilised agricultural area covers from 20 to 30 % of our territory.
- d) The utilised agricultural area covers from 30 to 50 % of our territory.
- e) The utilised agricultural area covers more than 50 % of our territory.

Please select the option that best describes your region:

- i. The total utilised agricultural area is lower than 300 000 hectares and it is not concentrated in a specific area.
- ii. The total utilised agricultural area is 200 000 - 300 000 hectares but is concentrated in a specific area.



- iii. The total utilised agricultural area is higher than 300 000 hectares but it is not concentrated in a specific area.
- iv. The total utilised agricultural area is higher than 300 000 hectares and is concentrated in a specific area.

3- Has a specific assessment of the amount of biomass potentially available as an alternative feedstock (different uses than the traditional ones, for example, woody residues for furniture, agricultural residues for cattle feeding and bedding, etc.) already been carried out in your region?

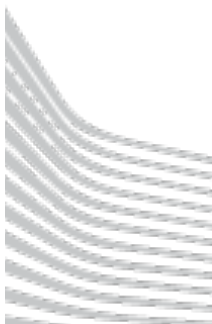
- a) Yes, the assessment has already been performed determining both the amount (tonnes/year) and some characteristics (i.e., moisture content, energy value, etc.) of the available forestry and agricultural resources.
- b) Yes, the assessment has already been performed determining both the amount (tonnes/year) and some characteristics (i.e., moisture content, energy value, etc.) of the available forestry resources.
- c) Yes, the assessment has already been performed determining both the amount (tonnes/year) and some characteristics (i.e., moisture content, energy value, etc.) of the available agricultural resources.
- d) No, such an assessment has not been carried out in the region yet.

For answer a, b or c - Please select the total amount of biomass available for alternative uses different to the traditional ones (cattle bedding and feeding, wood processing, etc.):

- i. < 40,000 tonnes/year;
- ii. 40,000 – 60,000 tonnes/year;
- iii. 60,000 – 80,000 tonnes/year;
- iv. 80,000 – 100,000 tonnes/year;
- v. > 100,000 tonnes/year

For answer d - Please select the statement which best fits your case:

- i. The region has statistical information on both forestry (inventories) and agricultural feedstocks (annual crops –hectares- and yields- tonnes/hectares-) including residues from agro-forestry companies (amounts of wine refuses, sawdust, etc.) which could be used to obtain biomass potential.
- ii. The region has statistical information to obtain biomass resources potential but only for forestry feedstocks. A forest inventory is available and updated.
- iii. The region has statistical information to obtain biomass resources potential but only for agricultural feedstocks. Existing crops and yields are annually registered.
- iv. No, there is not any available statistical information in our region.



4- Which of the following options best describes the biomass situation in your region?

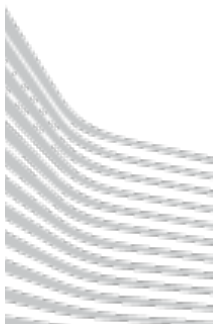
- a) Biomass is actually not available in the region since it is currently already used for industrial applications.
- b) Biomass is available in the region but resources are quite scattered and no initiatives to take advantage of the potential have been launched yet.
- c) Biomass is available in not very accessible areas and no initiatives to take advantage of the potential have been launched yet.
- d) Biomass is available even though some installations are already using some of it or no demanding installation is taking advantage of these resources yet.

5- Is there any information in the region about the format in which the biomass products would be available or are being supplied?

- a) Yes, there is information about the formats in which biomass is or would be supplied.
- b) No, there is no information on the region's currently available biomass supply formats.

For answer a - Please, select the available options that your region has:

- Branches (loose material left in the forest)
- Chips
- Shredded material
- Sawdust
- Logs
- Briquettes
- Pellets
- Loose straw (not collected and left on the soil)
- Bales
- Others



6- Is there any large-scale biomass plant in your region (liquid biofuels, thermal power plant, electric power plant, district heating, co-generation, etc.) using more than 10,000 tonnes of biomass feedstocks per year that is already utilising local biomass feedstocks?

- a) No, there are no biomass plants in our region.
- b) Yes, there are a large number of biomass plants distributed homogenously across the region but there are still unused biomass feedstocks available.
- c) Yes, there are only a few biomass plants (<5) distributed homogenously across the region but still there are unused biomass feedstocks available.
- d) Yes, there are a few biomass plants (<5) concentrated in the area of the region where the biomass resource is mainly located but there are still unused biomass feedstocks available.
- e) Yes, there are biomass plants in the region and no additional biomass feedstocks are available because the existing biomass plants use them.

For answers b, c, d, e - Which is the current technology status of these installations?

- i. All the installations are working properly; no short-term changes that might vary their biomass consumption are expected for the moment.
- ii. The installations work properly although some technology improvements would be required (their biomass demand might vary in the short-term).
- iii. The installations need a reconversion due to poor market share, high operation costs and other operational issues (their biomass demand is quite likely to change).

For answer a - Is there any biomass plant project planned in the region?

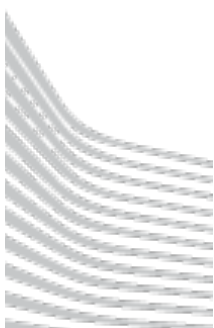
- i. No, there are no biomass plant projects planned in our region.
- ii. No, there are no biomass plant projects planned in our region but some projects were assessed in the last years.
- iii. Yes, there are some biomass plant projects currently being evaluated.

For subanswer i. Please select the statement that best fits your region's situation:

- Biomass availability in the region has not been interesting for these types of initiatives.
- Although biomass availability in the region is or might be significant, these types of projects have not been planned.

For subanswer ii. Please select the statement that best fits your region's situation:

- No further action was taken because of a lack of resources at competitive prices during that time.
- No further action was taken because resources were especially scattered and transport costs were too high during that time.
- No further action was taken because biomass resources were more expensive than other fuels and no grants or premium for renewables were available during that time.



- No further action was taken because all the stakeholders involved in the biomass chain couldn't come to an agreement

7- Is there any chemical company or installation in your region close to applying biorefinery concepts with biomass resources or that could use biomass?

- a) No, this does not exist in our region.
- b) Yes, at least one chemical industry could apply sustainability measures by using biomass as a fuel.
- c) Yes, at least one chemical industry is using biomass as a fuel but no further applications other than energy production have been assessed yet.
- d) Yes, at least one company is close to applying biorefinery concepts with biomass resources.

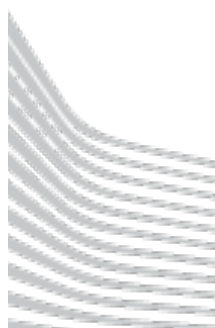
8- Is there any company or installation in your region using or producing algae or microalgae for biorefinery concepts?

- a) No, this does not exist in our region.
- b) No, but there is at least one company interested in algae production.
- c) No, but there are several companies interested in algae production.
- d) Yes, at least one company produces algae or microalgae.
- e) Yes, several companies produce algae or microalgae.
- f) Yes, at least one company use algae or microalgae in their process but for different applications than energy.
- g) Yes, several companies use algae or microalgae in their process but for different applications than energy.



## KF2- Infrastructure to handle feedstocks and production

- 1- Is the region well connected by road with biomass feedstocks producers?
  - a) Motorways and main or national roads could be used to transport biomass resources from the production areas to the industrial sites.
  - b) Main or national roads connect biomass production areas and industrial sites.
  - c) Secondary or regional roads are the main road infrastructure to transport biomass resources in our region.
  - d) Paved roads only represent a percentage of the total road network that should be used to transport biomass resources.
  - e) No information available at region level.
  
- 2- Is the region well connected by rail with biomass feedstocks producers?
  - a) Yes, there are goods trains to transport biomass resources to industrial destinations.
  - b) There is no information about goods trains but there is a railway route available for train services to transport biomass resources.
  - c) No information available at regional level.
  
- 3- Does the region have ports that could be used to transport (even import) biomass feedstocks from productive areas to industrial destinations by ship?
  - a) Yes, there are docks that could be used to transport biomass resources to industrial destinations.
  - b) This possibility does not exist in our region (no coast or no ports available for biomass trading).
  - c) No information available at regional level.
  
- 4- Is there a logistics centre working with biomass feedstocks in your region or close to it?
  - a) Yes, it is in the region but more than 50 km far away from potential biorefineries or bio-based industries.
  - b) Yes, it is in the region and less than 50 km from potential biorefineries or bio-based industries.
  - c) No, it is in other region but less than 50 km away from potential biorefineries or bio-based industries.
  - d) No, it is in other region but and more than 50 km far away from potential biorefineries or bio-based industries.
  - e) There is no logistic centre in the region or surrounding regions
  - f) No information available about these installations at regional level.



For answers a, b, c, d – Please select the type of logistics centre

- Specific biomass logistics centre
- Agroindustry
- Forestry: sawmill
- Agriculture cooperative
- Forest cooperative
- Waste logistics centre
- Others

5- Is there any interesting location close to biomass resources production and to possible users (distance between the collection point and end users less than 30-50 km and also well connected (national or regional roads, with transport through forest-agricultural roads not exceeding 10-20 km, etc.) available in the region to set up a biomass logistics centre?

- a) No, there is no such place in our region.
- b) Yes, there is at least one interesting location in our region.
- c) Yes, there are several interesting locations in our region.
- d) Yes, a biomass logistics centre even could be placed in the chemical industries surroundings.

6- Is there any industrial park or industrial site providing supply of utilities (water, electricity, natural gas network, industrial truck weighing, etc.) which could be used to set up a biomass logistics centre?

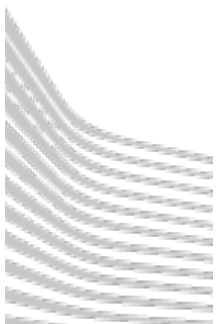
- a) No, there is no such place in our region in which a biomass logistics centre could be set up.
- b) Not yet but the construction of this type of installation is already planned within the region.
- c) Yes, there is such a place though permits for working with these types of goods should be obtained.
- d) Yes, these types of sites are available in the region.

7- Are there transport companies in the region that currently transport biomass or that would be interested in transporting these materials?

- a) Yes, there is at least one company that already transports biomass.
- b) Yes, there is at least one transport company that would be able to transport biomass feedstocks (using equipment that will not affect the quality of biomass resources by incorporating exogenous materials).
- c) No, there are no transport companies in the region able to transport biomass feedstocks (using equipment that will not affect the quality of biomass resources by incorporating exogenous materials).



- 8- Is there any old industrial installation (wood production plant, agro-industries, paper mills, biogas plants, waste water treatment plants, etc.) ready or nearly ready to host a biorefinery?
- a) No, there is no such place in our region.
  - b) Yes, there is at least one interesting location in our region.
  - c) Yes, there are several interesting locations in our region.
- 9- Regarding electricity grid quality: what was the total duration of unforeseen system interruptions (system average interruption duration index - SAIDI)?
- a) Below 1 minute.
  - b) Between 1 and 20 minutes.
  - c) Between 20 and 60 minutes.
  - d) Over 60 minutes.
- 10- Does your region have any bottleneck related to water supply?
- a) No, there are no problems in our water supplies.
  - b) Yes, we have some water supplies restrictions but they only affect part of the region.
  - c) Yes, we have had certain water supplies bottlenecks in some areas of our region that could affect these types of initiatives.





### KF3- Access to finance

- 1- What do you see as the most important limiting factor to get financing for the industry in your region?
  - a) Insufficient collateral or guarantee.
  - b) Interest rates or price are too high.
  - c) Reduced control over the enterprise.
  - d) Too much paperwork is involved.
  - e) Some of the previous answers together.
  - f) There are no major obstacles, private and public finance are available.
  - g) Financing not available at all.
  
- 2- What is the public financial situation of your region?
  - a) The region has a public deficit higher than 2 % and a high debt ratio (regional public debt).
  - b) The region has a public deficit higher than 2 % and a low debt ratio.
  - c) The region has a public deficit lower than 2 % and a high debt ratio.
  - d) The region has a public deficit lower than 2 % and a low debt ratio.
  - e) The region's public balance is positive but holds a high public debt.
  - f) The region's public balance is positive and its public debt is low.
  
- 3- Are there public financing entities in your region with specific financing lines for direct or intermediated investment in sustainable industry:
  - a) Yes, there are national and/or regional public banks in our region with specific financing lines in that area.
  - b) No, but there are national and/or regional public banks in our region with financing lines with a broader scope that could be used to finance investments in sustainable chemicals production.
  - c) No, there are national and/or regional public banks in our region but no financing lines can be used to finance investments in sustainable chemicals production.



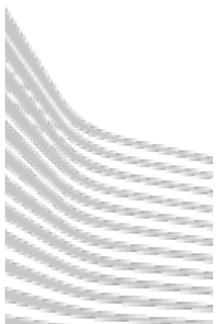
- 4- Are there financial intermediaries of the EIB (European Investment Bank) and the EIF (European Investment Fund) established in your region<sup>1</sup>?
- Yes, there are both private and public EIB/EIF financial intermediaries established in the region.
  - There are either public or private EIB/EIF financial intermediaries established in the region.
  - No, but there are public or private EIB/EIF financial intermediaries established in neighbouring regions which our companies can access.
  - No, there are public or private EIB/EIF financial intermediaries established in neighbouring regions which our companies cannot access.
- 5- What is the current situation of the private banking sector in your region/country?
- Most of the banks have a high ratio of doubtful loans and lending to the private sector is very low.
  - Some of the banks operating in our region have financial problems and lending to the private sector is low, particularly for the SMEs.
  - Some of the banks operating in our region have had financial problems in the past but lending to the private sector, although still low, is increasing.
  - Most of the banks operating in our region are in a good financial situation and lending to the private sector is good.
  - The banking sector in our region is in a very good financial situation and lending to the private sector is high.
- 6- Are there private investment/equity funds with a specific focus on sustainable industry active in your region?
- Yes, there are national and/or international private investment/equity funds that have financed projects/companies in our region's chemical sector in the past 4 years.
  - Yes, there are national and/or international private investment/equity funds but they have not financed projects/companies in our region's chemical sector in the past 4 years.
  - No, there are no national nor international private investment/equity funds active in our region.

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<sup>1</sup> A list of intermediaries can be found in the following links:

- For the EIB: <http://www.eib.org/products/lending/intermediated/list/index.htm>
- For the EIF: [http://www.eif.org/what\\_we\\_do/where/index.htm](http://www.eif.org/what_we_do/where/index.htm)

- 7- Is there a consolidated network between private sector, public sector and financing institutions to create an investment framework with incentives for sustainable industrial projects?
- Yes, the region is part of a sustainable network including banking regulatory bodies, environmental regulators and industry associations.
  - Yes, the region has an important mechanism of collaboration between the public, private and financing sectors.
  - There is not much interconnection between the different public, private and financing stakeholders.
- 8- How much foreign investment is there in your region?
- It is not significant, representing less than 1 % of the region's GDP.
  - It is somewhat significant, representing between 1 and 3 % of the region's GDP.
  - It is important, representing between 3 and 5 % of the region's GDP.
  - It is very important, representing more than 5 % of the region's GDP.
- 9- Do you know if alternative financing instruments for new sustainable projects such as venture capital, investment equity funds or microfinancing are available in your region?
- Yes, we are working with the organisations that provide them in the area of sustainable industry.
  - Yes, but they are not active in the field of sustainable industry.
  - No, these types of instruments are not available in the region.
  - No information.
- 10- Are there any subsidies or grants related to the biomass use for energy/transport purposes that the region has implemented or can take advantage of?
- Yes, there are specific subsidies or grants assigned to biomass use for energy/transport purposes.
  - Yes, there are specific subsidies or grants assigned to any kind of biomass use application that biorefineries and sustainable chemical industry can apply for.
  - No, there are no subsidies for biomass use in the region.



## KF4- Skilled workforce, technical expertise, training

1- Does your region have information on an appropriate and skilled workforce for biomass procurement activities (forestry workers, chainsaw operators, harvester operators, drivers, etc., for harvesting, collecting, handling and transporting biomass resources)?

- a) Yes, we have a complete database of an appropriate workforce for these types of activities.
- b) Yes, we have certain information about an appropriate workforce for biomass procurement activities.
- c) No, we have not any specific information about an available appropriate workforce for these types of activities.

For answers a, b – Please select the statement that best fits your case

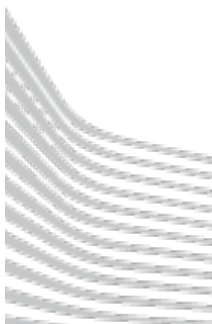
- i. An appropriate skilled workforce for biomass procurement activities is currently unemployed in the region (number of unemployed skilled workers is around 100-200).
- ii. An appropriate skilled workforce for biomass procurement activities is currently unemployed in the region (number of unemployed skilled workers is lower than 100).
- iii. An appropriate skilled workforce for biomass procurement activities exists in the region but no unemployment in these types of jobs has been registered.
- iv. There is currently no skilled workforce for biomass or biorefinery plants available in the region.

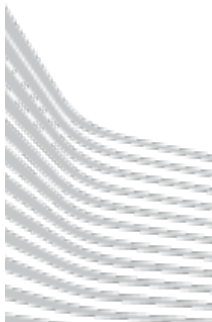
2- Does your region have information on an appropriate and skilled workforce for biomass or biorefinery plants (plant operators, engineers, laboratory operators, etc.)?

- a) Yes, we have a complete database of an appropriate workforce for this type of projects.
- b) Yes, we have certain information about an appropriate workforce.
- c) No, we have no specific information about an available appropriate workforce for these types of projects.

For answers a, b – Please select the statement that best describes your case

- i. An appropriate skilled workforce for biomass procurement activities is currently unemployed in the region (number of unemployed skilled workers is around 100-200).
- ii. An appropriate skilled workforce for biomass procurement activities is currently unemployed in the region (number of unemployed skilled workers is lower than 100).
- iii. An appropriate skilled workforce for biomass procurement activities exists in the region but no unemployment in these types of jobs is registered.
- iv. There is currently no skilled workforce for biomass or biorefinery plants available in the region.



- 3- Does your region offer high-level education in the field of biomass use for chemical applications or bio-based industries?
- a) Yes, there is a renewable energies campus where biomass concepts are embedded in the University curricula.
  - b) There are some specialisation post-graduate/master degrees directly related to renewable energies/forest and agriculture biomass concepts.
  - c) In addition to answer a or b, vocational/professional training also supports biomass conversion pathways/storage/bioeconomy/biomass raw material/biomass supply chain.
  - d) The concepts underpinning biomass are not included in any of the university degrees or vocational/professional training programs.
- 4- Do your region or other public entities (e.g., municipalities or territorial bodies) organise courses or training sessions to develop a new or upgraded workforce that can be employed in new biomass resources procurement chains (forestry workers, chainsaw operators, harvester operators, drivers, etc., for harvesting, collecting, handling and transporting biomass resources)?
- a) Yes, training actions are regularly planned.
  - b) No training actions have taken place yet, but they are planned for the near future.
  - c) No training actions undertaken or foreseen.
- 5- Do your region or other public entities (e.g., municipalities or territorial bodies) organise courses or training sessions to develop a workforce that can be employed in innovative (bio) chemical projects (plant operators, engineers, laboratory operators, etc.)?
- a) Yes, training actions are regularly planned.
  - b) No training actions have taken place yet, but they are planned for the near future.
  - c) No training actions undertaken or foreseen.
- 6- Researchers in research and development (R&D) are involved in the conception or creation of new knowledge, products, processes, methods, or systems and in the management of biomass projects. Does the region know the number of researchers in R&D per million inhabitants? (Postgraduate PhD students engaged in R&D are included).
- a) More than 6,000.
  - b) Between 6,000 and 4,000.
  - c) Between 4,000 and 2,000.
  - d) Below 2,000.
  - e) The region does not have that information.
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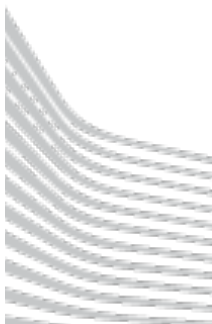
- 7- Is there a centre of excellence in your region (team, shared facility or an entity) that provides leadership, best practices, research, support and/or training in the field of biomass conversion pathways/storage/bioeconomy/biomass raw material/biomass supply chain or biorefineries?
- a) Yes, there is such a centre in that field.
  - b) Yes, there is such a centre but not in those specific areas.
  - c) No, there is no such centre in my region.
- 8- Does the vocational education and training in your region adapt to the economic trends and productive system needs?
- a) Curricula are examined and adapted to the current needs of industry and society when needed.
  - b) Curricula usually remain the same for long periods of time.
  - c) Education and training are not adapted to the current trends. They are not a driving force for change.
- 9- Does the industry in your region have the possibility to be involved in or contribute to curricula design at universities or vocational education?
- a) Yes, industry is actively engaged and there is some participation in the curricula design or renewal, contributing to the formation of graduates with more appropriate employable skills.
  - b) There are some participation mechanisms for companies such as student and research grants, chairs, specific training courses, etc..
  - c) No, in general, industry is not engaged in the educational field at all.
- 10- Is there any knowledge in the region of mature technologies (local developments, existing installations, etc.) capable of successfully processing locally available biomass resources?
- a) No, no installations have been developed or set up to process local biomass resources yet.
  - b) Yes, some technology has already been developed, tried or proven.
  - c) Yes, the region has deep knowledge in this field.

*For answers b or c – Please, select the technologies for which initiatives have been developed:*

- Combustion plants
- Biogas plants
- Pellet manufacture plants
- Cogeneration/electricity plants
- Torrefaction
- Pyrolysis/gasification plants
- Others

## KF5- Existence of support institutions

- 1- Does the region have a research and innovation strategy (RIS3) on key enabling technologies (KETs)
  - a) Yes, and one of the focus areas is industrial biotechnology.
  - b) Yes, and one of the focus areas is developing more sustainable processes and industries, including bio-based industries.
  - c) Yes, but there is no focus on the aforementioned issues.
  - d) No, there is no RIS3 at the moment.
  
- 2- Does your region have R+D+I infrastructures or business incubator/accelerator centres developed under triple helix (universities + companies + government hybridisation) collaboration initiatives to support companies in the transition to a circular economy, bio-based economy or sustainable processes? (Testing new raw materials, new formulations, designs, products or business models support, studies, etc.).
  - a) Yes, there is an infrastructure or centre like this.
  - b) Yes, but without a specific target such as circular economy or bio-based economy.
  - c) Yes, but with a completely different target.
  - d) No, there is no such an infrastructure or centre.
  
- 3- Does the regional government have an institute or other kind of body with objectives such as:
  - Promotion of public and private investments
  - Grant loans
  - Promoting the participation of other financial partners
  - Management support and monitor projects implementation
  - Promotion of industrial infrastructure, equipment and collective services for businesses
  - Promoting and participating in market research
  - Foreign promotion and business location in the region, as well as raising capital
  - Technical assistance and financial advice for companies
    - a) Yes, a public body covers most of the targets,, with a specific focus on biomass, circular economy or biobased economy or sustainable processes.
    - b) Yes, a public body covers most of the targets, but no specific focus on the circular economy/bioeconomy/sustainable process areas.
    - c) No, there is no such body.



4- Does the region have any support institution or advisory service for business plans, risk assessment and finding investments in new industrial, sustainable projects?

- a) Yes, we have a public integral service at our disposal that supports new sustainable projects investments.
- b) Yes, but it is not only for this field.
- c) Not at the moment.

*For answers a, b* - Is this service offered by any financial institutions?

- i. Yes, most of them offer it and it is easy to access the service.
- ii. Yes, most of them offer it, but it is difficult to access the service.
- iii. Yes, a few of them offer it and it is difficult to access this service.

5- Are certification and standardisation bodies in your region involved in the biomass-to-energy or in the biomass-to-biocommodities chains?

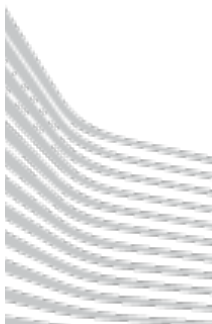
- a) Yes, there is at least one institution that can certify standards in the biomass-to-energy or in the biomass-to-biocommodities chains.
- b) Yes, these types of bodies exist, they are even participating in the development of standards and procedures to regulate biomass uses (biomass-to-energy or in the biomass-to-biocommodities chains) .
- c) No.

6- Do universities in the region provide programs for start-up companies?

- a) Yes, there is a specifically tailored unit for supporting start-up companies in the incubation and acceleration of new businesses. Support in terms of: legal, financial and technical advice, market analysis, business plan design, economic assessment, organisation of workshops, common infrastructures, etc..
- b) No, there is no such body in my region's university.

7- Are there specific regional programs for initial investments in start-ups?

- a) Yes, in the regional grant program there is always a call for innovative start-ups and supporting programs for 'business angels'.
- b) No, they have to apply for general grant programs, in competition with other companies.





- 8- Does the region have any biomass (residues) information service / agency / consultancy platform, improving market knowledge, transparency, analysis and advice to companies, in the spirit of raw materials diversification?
- a) Yes, and it does not only provide information regarding availability, but also indicates opportunities for integrated biorefineries.
  - b) Yes, in as a database, with no extra information related to biorefineries or biomass residues valorisation opportunities.
  - c) No, there is no such platform.



## KF6 –Strength and availability of regional markets

1- Does your region have a well-established biomass resources market (wide commercialisation across the region from different suppliers of different types of biomass-agriculture waste, agroindustry waste, forestry residues, energy crops, etc.)?

- a) Yes, but only for domestic applications.
- b) Yes, both for domestic and industrial installations.
- c) No, there is not a stable biomass market yet.

2- Does your region have any potential biomass suppliers for biorefineries or bio-based industries?

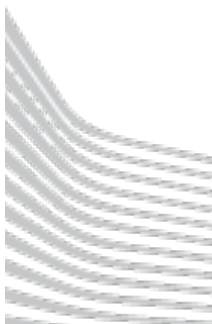
- a) No, there are no possible biomass suppliers in our region.
- b) No, but there are potential biomass suppliers in neighbouring regions.
- c) Yes, there is at least one potential biomass supplier.
- d) Yes, there are several potential biomass suppliers.

*For answers b, c or d* – Please select the type of biomass supplier distributing biomass in the region:

- Specific biomass logistics centre
- Agroindustry
- Forestry: sawmill
- Agriculture cooperative
- Forest cooperative
- Waste logistic centre
- Others

3- Does the region have information about companies interested in investing in the establishment of a biomass resources market?

- a) Yes, there is already a critical mass of companies working on biomass procurement and transport seeking to expand their activities.
- b) Yes, there is already a critical mass of companies, in which chemical industry is represented, willing to use biomass as an alternative raw material.
- c) Yes, there is already a critical mass of companies, but without representation of chemical industry, willing to use biomass as an alternative raw material.
- d) Yes, there is a critical mass of companies working on biomass procurement activities and companies willing to use biomass as an alternative material that are interested in establishing this market.
- e) There is no significant movement in the region in that sense.



4- Does your region have any information (published scientific articles/research programs/conferences/technical journal/ carried out projects) about potential markets or clients for biorefineries products?

- a) No, we have not conducted specific studies for this yet.
- b) No, but it is an issue in the region. Private/public companies working on biomass procurement, supply activities or that belong to the chemical sector are very interested in establishing a market.
- c) Yes, some studies have already been done in the region.

*For answer c* – Select the options that were developed and gave the information:

- Research projects
- Pilot scale projects
- Demonstration projects
- Articles
- Conference/technical journeys
- Others

5- What are the most important market sectors and products for (traditional and bio) chemical industry in your region?

- Food and nutraceutical products
- Agricultural products
- Pharmaceutical and cosmetic products
- Polymers, fibres and composite material
- Additives for lubricants, solvents and other products from ‘traditional chemical industry’

6- Has your region implemented (or does it plan to implement) procurement policies for green products<sup>2</sup>?

- a) Yes, some policies have already been implemented in our region.
- b) Yes, even though they do not exist yet, some policies have been planned in our region and are going to be implemented in the near future.
- c) No, there are no policies regarding green products in our region.

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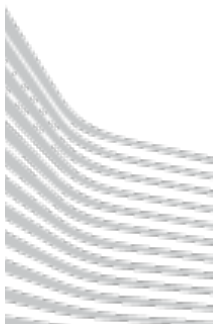
<sup>2</sup> The Commission of the European Communities (2001) defines green products as products that “use less resources, have lower impacts and risks to the environment and prevent waste generation already at the conception stage”.

7- Is the Chemical industry strong in your region?

- a) There is a strong Chemical industry, with more than 120 companies.
- b) There is a relatively strong chemical sector in my region, comprised of 75 to 120 companies.
- c) Between 75 and 20.
- d) The chemical sector is not a representative sector in the region, with less than 20 companies in total.

For answers a, b, c – How would you define their relation to alternative raw materials use?

- i. They conduct 'business as usual' with regard to the use of alternative sources of raw material. They are still fossil resources based.
- ii. They are seeking alternative raw materials, as a result some new initiatives have already been set and/or some strategies implemented.
- iii. There is some movement but nothing has been implemented yet.

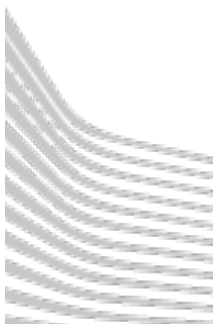


## KF7 -Entrepreneurship

- 1- The regional expenditure on R+D+i, both public and private is:
  - a) Above 3 %.
  - b) Between 2 and 3 %.
  - c) Between 1 and 2 %.
  - d) Below 1 %.
  - e) We don't have that information.
  
- 2- The enterprise birth rate (% of 0 to 2 year old enterprises over the total number of enterprises) of starting firms compared to the total firm number in your region's industrial sector is:
  - a) Higher than 8 %.
  - b) Between 5 and 8 %.
  - c) Below 5 %.
  - d) We don't have that information.
  
- 3- The survival rate of starting firms in the industrial sector during the first 5 years is:
  - a) Higher than the 80 %.
  - b) Between 60-80 %.
  - c) Below 60 %.
  
- 4- Are the companies in your region associated with clusters or professional associations? Please select the existing clusters in your region:
  - Chemical cluster
  - Polymer cluster
  - Farming and animal husbandry cluster
  - Agri-food cluster
  - Bioeconomy cluster
  
- 5- Do the regional stakeholders related to the circular economy as a whole (chemical industry, agriculture, farming, plastics, agrifood, etc.) organise match making events, for example, between biomass suppliers and potential investors in sustainable chemicals?
  - a) Yes, such events are organised regularly in the region.
  - b) Some isolated actions have been conducted but not as a regular activity.
  - c) No such matchmaking events have ever taken place in the region.

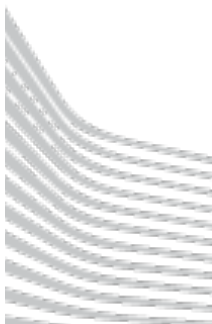


- 6- Business networking facilitates professional connections, establishes trust and lends business through new opportunities, increases knowledge, etc.. How would you evaluate the interaction among the stakeholders in sustainable chemicals production in your region?
- a) There is a clearly open cross-sectorial business environment, strong and active network, effective information exchange and solid connections established. This results in several joint initiatives to transition to alternative raw material use for sustainable chemicals productions (or other bioeconomy related initiatives).
  - b) There is some degree of networking between actors and some supporting platforms or associations are contributing to its reinforcement. However, it is still weak and no significant initiatives have been initiated yet.
  - c) In general, companies in the related sectors are reluctant to share information and to start up new joint initiatives. There is weak communication among stakeholders in the region.



## KF8- Public Support Policies

- 1- Regarding R+D (research and development) planning in your region:
  - a) There is a master plan/strategy for R+D promotion in which the transition to alternative raw materials for more sustainable processes is specifically included.
  - b) There is a master plan/strategy for R+D in which strategic sectors have been defined but chemical industry is not included or no strategic sectors have been defined.
  - c) There is no master plan or strategy for R+D in the region.
  
- 2- Are there public incentives to stimulate business R+D?
  - a) Yes, there are grants, R+D+I tax incentives and other measures to facilitate access to private funding.
  - b) Yes, but not all of the above.
  - c) Yes, but they are hardly accessible for new business models.
  - d) No, there are not.
  
- 3- Is there a special taxation for products from alternative biochemicals in your country?
  - a) Yes, measures like tax lost value instead of added value and reduced VAT rates on products using alternative raw materials.
  - b) No, but it is foreseen or possible.
  - c) No, and it is not foreseen.
  
- 4- Has the regional government set a policy that supports a strategy or agenda targeting the transition to alternative raw materials use, circular economy, biobased economy or sustainable processes?
  - a) Yes, there is an specific strategy to boost the transition towards alternative biomaterials use, circular economy, biobased economy or sustainable processes.
  - b) There is no specific strategy, but is included in other frame strategies or roadmaps (for example investment, industrial, sustainable development, employment, research, etc.).
  - c) No, there is no specific mention of that topics in the regional strategies.



For answers a, b – On which stage of the value chain do such policies focused?

- i. 'Waste streams' collection and sorting
- ii. Sustainability of processing steps and related technologies
- iii. Products' certification and standardisation
- iv. Public and customers' awareness of the innovative products
- v. Others

5- Does the regional authority have power related to licensing new industrial installations?

- a) Yes, the region gives permission to new installations.
- b) No, the region does not have that competence.

For answer a - The licensing procedure for this takes about:

- i. less than a month
- ii. 1 to 6 months
- iii. 6 months to 1 year
- iv. more than a year

6- Does the regional authority have regular contacts with advanced developed regions in the field of sustainable chemicals?

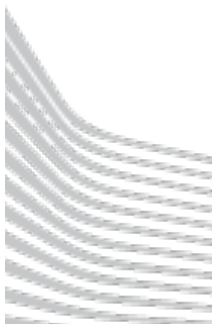
- a) Yes, our region is in contact with other regions.
- b) Yes, our region participates in meetings/platforms/networks in the field of sustainable chemicals.
- c) No, there are no contacts in the field of sustainable chemicals.

7- Are there any long term and politically stable regional policies designed in the biorefineries or bio-based industries fields?

- a) Yes, our region has implemented long-term policies in these fields.
- b) No, our region has not implemented long-term policies in these fields.

For answer a – Please select the corresponding policies implemented in the region regarding biorefineries.

- Investment in research and development projects
- Investment in innovation and skills
- Market development and enhanced competitiveness
- Engagement with stakeholders





- 8- Is there any controversy regarding industrial installations like biomass logistics centres or biorefineries in your region?
- a) No, there is no controversy if regulations are satisfied.
  - b) Yes, there is some controversy regarding the sustainability of projects involving the use of biomass. Projects should demonstrate their benefits and show how drawbacks will be overcome.
  - c) Yes, there is an important controversy and some projects have been paralysed at times.
  - d) Yes, there is an important controversy and projects like this will hardly succeed.
- 9- Does the region have specific regulations regarding biomass production that might support biorefineries or bio-based industries installations?
- a) Yes, the region supports biomass production (energy crops) in marginal lands with regulatory or economic instruments.
  - b) Yes, the region supports biomass production in arable lands (energy crops) with regulatory or economic instruments.
  - c) No, the region has specific regulation(s) against biomass production (energy crops) in arable lands.
  - d) No, the region has specific regulation(s) against biomass production (energy crops) even in marginal lands.

