

Questionnaire WASTE

KF1- Long term, stability and availability of feedstock

1. Define the level of availability and detail of waste generation (specifically agri-food waste, manure, pulp and paper industry waste, sewage sludge, municipal solid waste and plastic) in your region:
 - a) The region has updated and available codes, disaggregated by European Waste Catalogue¹(EWC), and there is already an assessment being performed identifying the main applications of waste as alternative feedstock.
 - b) The region has updated and available codes, disaggregated by EWC, but there is no assessment currently being performed identifying the main applications of waste as alternative feedstock.
 - c) That information, disaggregated by EWC codes, is available but it is not public.
 - d) The region has updated and available information on production per aggregated sectors (industrial/farming/etc.).
 - e) The region does not gather that kind of information.

For answer a – Please identify the main field of application of waste as alternative feedstock:

- Additives
- High-value fertilisers (not direct application)
- Chemical building blocks
- Paints and coatings
- Polymers
- Other Chemical products

¹ European Waste Catalogue (EWC) is meant to be a reference nomenclature providing common terminology/codes throughout the community to improve the efficiency of waste management activities. It serves as a common encoding of waste characteristics in a broad variety of purposes like classification of hazardous wastes

2. The agri-food sector is a very important source of waste potentially used for chemicals production, with a diverse range of applications. Regarding the contribution of the sector to the regional GDP, How big is the agri-food sector in your region?
- a) There is a strong agri-food sector, representing more than a 9% of the GDP
 - b) There is a relatively strong agri-food sector in my region, representing 4-9% of the GDP
 - c) The contribution to the GDP is below 4%, but there is an aggregation of companies in a specific area or industrial park.
 - d) The contribution to the GDP is below 4%, and the companies are spread across the whole region

3. As well as the agri-food sector, manure from different animals can be used for different applications. In terms of heads, how big is the farming sector in your region?
- a) There is a strong farming sector, with a pig population higher than 2,000,000 heads.
 - b) There is a relatively strong livestock-farming sector in my region, representing between 1,000,000 and 2,000,000 heads.
 - c) The sector is not relevant in terms of heads, between 500,000 and 1,000,000 heads, but there is an aggregation of farming activities in a specific area.
 - d) The sector is not relevant, under 200,000 heads, and the farms are spread across the whole region

For answers a, b, c – What percentage of the farming sector can be considered intensive?

- i. More than a 75% of farming is intensive²
 - ii. Between 75 and 50% of farming is intensive
 - iii. Below 50% of farming is intensive
4. The EU pulp and paper sector offers opportunities for new business taking advantage of the potential of wood and wood fibres to produce chemicals. Are there paper and pulp companies in your region?
- a) Yes, there are more than 3 companies in the region
 - b) Yes, there are between 3 and 1 companies in the region
 - c) The sector is not present in the region

² Intensive refers to the keeping of livestock, such as cattle, poultry (including in 'battery cages') and fish at higher stocking densities than is usually the case with other forms of animal agriculture

For answers a, b – What are the main applications of lignocellulosic waste (sludge) resulting from the processes?

- i. Chemical building blocks, polymers or resins manufacturing
- ii. Nutrients production (P, K, Ca) for fertilisers
- iii. More than one of the above
- iv. Direct soil amendment application
- v. Energy recovery

5. How is the population distributed across the region:

- a) <60 inhabitants/km² and highly concentrated in several urban-rural areas
- b) < 60 inhabitants/km² and highly concentrated in several urban-rural areas
- c) <60 inhabitants/km² and spread out in small urban-rural areas
- d) < 60 inhabitants/km² and spread out in small urban-rural areas

For answers a, b – What percentage of the population is connected to an urban wastewater treatment plant (by means either of piping or septic tanks transported afterwards to the treatment plant)?

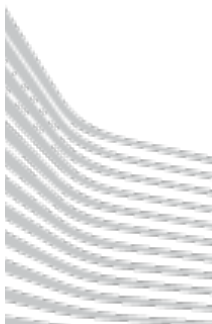
- a) Over 80%
- b) Between 70% and 80%
- c) Between 60% and 70%
- d) Less than 60%

6. Concerning the urban waste water treatment plants (UWWTP) in your region:

- a) There are one or more UWWTPs with a capacity higher than a 150,000 population equivalent
- b) There is no UWWTP with a capacity higher than a 150,000 population equivalent but there are several UWWTPs with a capacity between a 10,000 and 150,000 population equivalent.
- c) All UWWTP have capacities below a 10,000 population equivalent

7. Regarding the sewage sludge produced in the UWWTP in your region:

- a) The sewage sludge generated is mainly applied (more than 50% of the total amount generated) to agricultural soil or fast growing forest cultivation.
- b) The sewage sludge generated is mainly (more than 50% of the total amount generated) landfilled.
- c) The sewage sludge generated is mainly (more than 50% of the total amount generated) incinerated.
- d) The sewage sludge generated is used for higher value applications such as phosphorus recovery, fertilizers manufacturing, etc.



- e) A combination of a and d, b and d or c and d.

For answer c – Is phosphorus recovered from ashes coming from the incineration of sewage sludge? Yes/No

For answers d, e – What are the main applications of the sewage sludge in your region?

- i. Phosphorous recovery
- ii. Added value fertilisers
- iii. Other added value products (not energy)
- iv. More than one of the above
- v. Energy applications

8. Does the region have a source-separation disposal system for each of the waste streams: packaging (metal and plastic), glass, cardboard and biodegradable fraction source separation? Yes/No

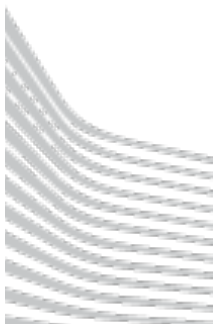
For answers No – Please select the fractions that are currently source separated:

- Packaging (metal + plastic together)
- Glass
- Cardboard
- Organic fraction
- Packaging (metal + plastic separated)
- Plastic packaging collected by type (PET, PP, PE, etc.)

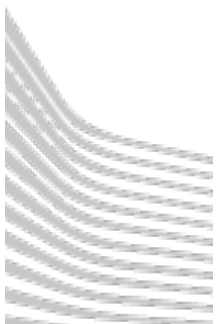
If any of the first three options are selected – What is the final destination of the remaining fraction?

- i. landfill
- ii. incineration

For answer ii – Is the incineration capacity of the region overloaded? Yes/ No



9. The Waste Framework Directive requires EU countries to establish an appropriate level of disposal and recovery of waste. EU countries are required to meet the following deadlines: 2015 for the introduction of selective waste collection and 2020 for reuse and recycling of at least 50% of paper, metal, plastic and glass and 70% of non-hazardous waste from construction. Regarding plastic waste, please choose the most accurate option to describe the status in your region:
- a) There is not only a source-separation and management system for packaging waste, but also for other highly contributing sectors such as plastic from Construction and agricultural sectors.
 - b) There is only a source-separation and management system for packaging waste. Other sources of plastic waste such as construction or agricultural sectors have no common strategy or system for their recovery, so they are mainly landfilled.
 - c) There is no source-separation for any kind of plastic waste, regardless of plastic packaging being sorted later from MSW in the treatment plant.
10. A common application of organic waste is biogas/biofuels production. It is a more mature option, but regions that already have these kinds of installations might have difficulties in terms of the supply market for sustainable chemicals. Are there large biofuel installations in your region?
- a) Yes, there are large biofuel installations but they need a reconversion due to poor market share, high operation costs, transport costs or other operational issues.
 - b) Yes, there are large biofuel installations working properly.
 - c) Those kinds of installations are not present in my region, but there is a project planned
 - d) Neither present in the region, nor planned



KF2- Infrastructure to handle feedstocks and production

1- Is there any logistic centre operating with waste feedstock within your region or nearby?

- 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 far away from potential biorefineries or bio-based industries.
- c) No, it is in other region but less than 50 km far away from potential biorefineries or bio-based industries.
- d) No, it is in other region and more than 50 km far away from potential biorefineries or bio-based industries.
- e) No, there are no such centres.

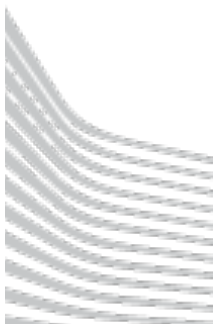
For answers a, c, d, e – Is there any potential location (with a maximum distance of 30-50km between the collection point and end users) that is well connected (national or regional roads, so that transport through forest roads does not exceed 10 km, etc.) available in the region to set up a waste logistic centre?

- i. No, there is no such a place in our region
- ii. Yes, there is at least one potential location in our region.
- iii. Yes, there are several potential locations in our region
- iv. Yes, a biomass logistics centre could even be placed in the chemical industries surroundings.

For answers c, d, e – Is there any regional regulation that allows transferring waste from outside the region? Yes/No

2- Please select the type of logistic centre available in your region, related to waste:

- Farming logistics centre
- Agroindustry
- Plastic waste
- Sewage sludge
- Hazardous waste
- Waste in general
- Others
- As mentioned before, there is no such logistic centre



3- Which kind of operation is developed in the logistics centre?:

- Collection
- Sorting
- Storage
- Transfer
- Pre-treatment
- Others
- As mentioned before, there is no such logistic centre

4- Is the region well connected by road with its own or other waste feedstock generators?

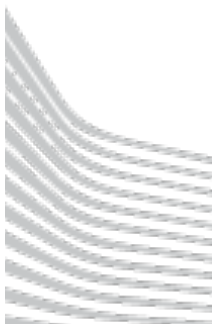
- a) Motorways and main or national roads could be used to transport waste feedstock from the waste treatment plants to the industrial sites
- b) Main or national roads connect waste treatment plants and industrial sites
- c) Well managed secondary or regional roads are the main road infrastructure to transport waste feedstock in our region
- d) Paved roads in poor conditions are the main road network that can be used to transport waste feedstock.
- e) No information available at region level

5- Is the region well connected by rail with its own or other waste feedstock producers?

- a) Yes, there is a freight train service across the region to transport waste to industrial destinations
- b) There is no information about freight trains but there is a railway route available for train service to transport waste.
- c) No service available at region level.

6- Regarding electricity grid quality: what was the total duration of unforeseen system interruptions (SAIDI)?

- a) Below 1 minute.
- b) Between 1 and 20 minutes.
- c) Between 20 and 60 minutes.
- d) Over 60 minutes.

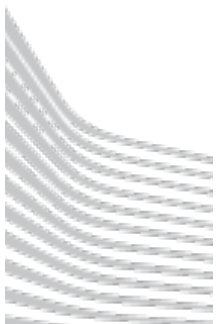


7- Does your region have any bottleneck related to water supply?

- 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 because of several circumstances

8- What is the % of industrial parks network connected to the natural gas grid?

- a) Below 80%
- b) Between 80-95%
- c) Over 95%



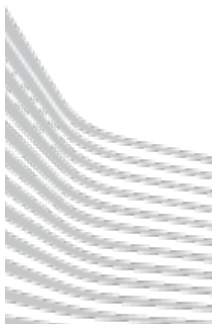
KF3- Access to finance

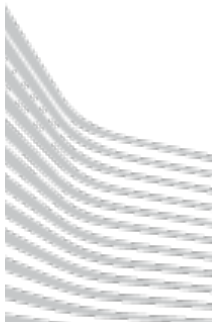
- 1- What do you see as the most important limiting factor to get financing for the industry in your region?
 - a) Insufficient collateral or guarantee
 - b) Interest rates or prices are too high
 - c) Reduced control over the enterprise
 - d) Too much paperwork is involved
 - e) Some of the previous answers together
 - f) There are no major obstacles, private and public finance is 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

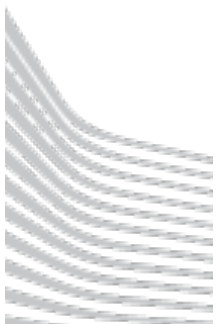
- 3- How much foreign investment is there in your region?
 - a) It is not significant, representing less than 1% of the region's GDP
 - b) It is somewhat significant, representing between 1 and 3% of the region's GDP
 - c) It is important, representing between 3 and 5% of the region's GDP
 - d) It is very important, representing more than 5% of the region's GDP

- 4- 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 broader scoped financing lines 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



- 5- Are there financial intermediaries of the EIB and the EIF established in your region?
- a) Yes, there are both private and public EIB/EIF financial intermediaries established in the region
 - b) There are either public or private EIB/EIF financial intermediaries established in the region
 - c) No, but there are public or private EIB/EIF financial intermediaries established in neighbouring regions which our companies can access
 - d) No, there are public or private EIB/EIF financial intermediaries established in neighbouring regions which our companies cannot access
- 6- Is there a consolidated network among private sector, public sector and financing institutions to create an investment framework with incentives for sustainable industrial projects?
- a) Yes, the region forms part of a sustainable network including banking regulatory bodies, environmental regulators and industry associations
 - b) Yes, the region has an important mechanism of collaboration among public, private and financing sector.
 - c) There is not much interconnection among the different public, private and financing stakeholders.
- 7- Are there private investment/equity funds with a specific focus on sustainable industry active in your region?
- a) Yes, there are national and/or international private investment/equity funds that have financed projects/companies in the chemical sector in our region in the past 4 years
 - b) Yes, there are national and/or international private investment/equity funds but they have not financed projects/companies in the chemical sector in our region in the past 4 years
 - c) No, there are not national nor international private investment/equity funds active in our region
- 8- What is the current situation of the private banking sector in your region/country?
- a) Most of the banks have a high ratio of doubtful loans and lending to the private sector is very low
 - b) Some of the banks operating in our region have financial problems and lending to the private sector is low, particularly for the SMEs
 - c) 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
 - d) Most of the banks operating in our region are in a good financial situation and lending to the private sector is good
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- e) The banking sector in our region has a very good financial situation and lending to the private sector is high
- 9- In addition to the previous instruments, are you aware of any other financial instrument available in your region that might complement the portfolio of traditional financial schemes for new sustainable projects (such as venture capital, investment equity funds or microfinancing) that are available in your region?
- a) Yes, we are acting and collaborating with the organisations that provide these instruments in the area of sustainable industry
 - b) Yes, but they are not active in the field of sustainable industry
 - c) No, these types of instruments are not available in the region
 - d) No information



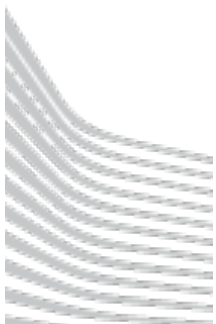
KF4- Skilled workforce, technical expertise, training

- 1- Regarding quality of workforce, what percentage of the population has completed secondary and tertiary education?
 - a) Above 75%
 - b) Between 75% and 50%
 - c) Below 50%

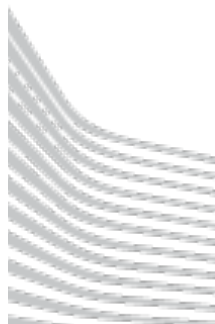
- 2- What is the percentage of the population working in the industry sector?
 - a) Higher than 15%
 - b) Between 15 and 10%
 - c) Between 10 and 5%
 - d) Below 5%
 - e) The region does not have that information

- 3- What is the percentage of the population working in the chemical industry sector?
 - a) Higher than 3%
 - b) Between 1 and 3%
 - c) Between 1 and 0.5%
 - d) Below 0.5%
 - e) The region does not have that information

- 4- Does your region offer high-level education in sustainable chemistry and especially targeting waste management and its use as an alternative raw material?
 - a) Yes, there is a sustainable chemistry college in which the use of waste as an alternative raw material is included in the curricula at university.
 - b) There are some specialisation post-graduate/master degrees directly related to sustainable chemistry and the use of waste as an alternative raw material.
 - c) In addition to answer a or b, vocational/professional training also supports the perspective of sustainable chemistry and the use of waste as an alternative raw material.
 - d) The concepts underpinning sustainable chemistry and waste recovery are not pivotal in any of university degrees or vocational/professional training programs.



- 5- Do your region or other public entities (e.g. municipalities, territorial bodies) organise courses or training sessions to develop a workforce able to be employed in innovative chemical projects (plant operators, engineers, laboratory operators, etc.)?
- a) Yes, training actions are regularly planned.
 - b) No training actions have been already done, but are planned in the close future.
 - c) No training actions done or foreseen
- 6- Researchers in the innovation process are involved in the creation of new knowledge, products, processes, methods, or systems and in the management of projects. Due to the immaturity of certain technologies that facilitate the use of waste as raw material for the production of chemicals , further efforts on R+D+I are still needed. Does the region know the number of researchers per million habitants?
- 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
- 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 sustainable chemistry and the use of waste as alternative raw material?
- a) Yes, there is such a centre in that field
 - b) Yes, there is such a centre but not on that specific areas.
 - c) No, there is no such a centre in my region
- 8- Is the vocational education and training in your region able to 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 are barely adapted to industrial and societal changes and are hard to implement
 - 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 or contribute to curricula design at university 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.

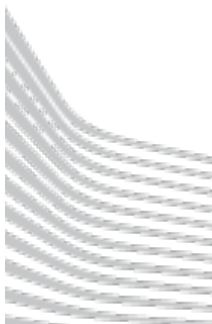


KF5- Existence of support institutions

- 1- Does the region have a research and innovation strategy for smart specialisation RIS3 on Key Enabling Technologies (KETs)?
 - a) Yes, and one of the focus points is to develop more sustainable processes and industries in the chemical sector and/or including waste management and materials recovery
 - b) Yes, but there is no focus on the aforementioned issues
 - c) No, there is no RIS3 at the moment.

- 2- Are there common (universities + companies + government) infrastructures or business incubator/accelerators in your region to support companies in the transition to more sustainable chemical processes, for example by using waste as an alternative raw material? (testing new raw materials, new formulations, designs, products or business models support, market studies, etc.).
 - a) Yes, there is a centre like this
 - b) Yes, but with a completely different target
 - c) No, there is no such 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 waste and sustainable processes.
 - b) Yes, a public body covers most of the targets but without a specific focus on waste and sustainable processes.
 - c) Yes, a public body covers most of the targets but only a few focus (specifically) on the sustainable chemical processes and waste use areas.
 - d) No, there is no such a body.



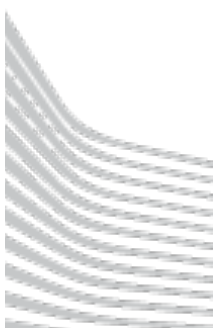
- 4- Are there organisations or bodies in your region ensuring compliance with the regulation regarding waste management?
- a) Yes, this control is done at regional level and there is a periodic monitoring procedure.
 - b) Yes, the monitoring is done at regional level, but controls are done occasionally
 - c) Yes, but it is at national level
 - d) No, there is no such a body
- 5- Are there specific regional programs to support 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, workshops organisation, common infrastructures, among others.
 - b) No, there is no such body in the region.
- 6- Does the region have any raw materials/waste information service / agencies / consultancy platforms, improving for instance market knowledge, transparency, analysis and advice for companies, in the spirit of raw materials diversification?
- a) Yes, and not only providing information regarding productions, but also showing opportunities for circular economy and new enabling technologies.
 - b) Yes, in the shape of a database, with no extra information related to circular economy or alternative raw materials opportunities.
 - c) No, there is no such platform.
- 7- Does the region have any wastewater and wastewater by-products reuse information service / consultancy platform improving, for instance, knowledge of the available technologies, market knowledge, analysis and advice to companies on the possibilities for the reuse of wastewater and its by-products?
- a) Yes, and it does not only provide information regarding technologies and solutions, but also indicates opportunities for water reuse in a circular economy and new enabling technologies.
 - b) Yes, in the shape of a database, with no extra information related to circular economy.
 - c) No, there is no such platform.



- 8- Is there a business-to-business by-product/waste exchange platform or marketplace in your region to facilitate the exchange of waste streams, diverting resources from landfill towards a circular economy?
- a) Yes there is a fully operating platform
 - b) Yes, there is Platform but not very active
 - c) No, there is no such platform.
- 9- Is there any local body in your region whose function is to facilitate the access of new waste based products to distribution/new market networks?
- a) Yes, there is a Chamber of Commerce to support the uptake of new markets
 - b) Yes, there is a public-private body to support the uptake of new markets
 - c) Yes, there is a private body to support the uptake of new markets
 - d) No, businesses handle the marketing for their products
- 10- 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 that supports new sustainable projects investments
 - b) Yes, but not specific for this field only
 - c) We are developing it
 - d) Not for 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.
- iv. No, not at all.



KF6 – Strength and availability of regional markets

1- How big is the chemical manufacturing sector in your region (in terms of manufacturing added value)?

- a) It is one of the 3 largest industries of the region
- b) It is among the top 5 largest industries of the region
- c) There is no chemical industry in the region, but there is in neighbouring regions

2- What is the level of maturity of your region's main sectors where waste feedstock is used?

Additives and/or paints and coatings and/or polymers

- 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 and/or some strategies implemented through pilot installations have been started
- iii. Some research is being carried out but nothing implemented yet.
- iv. Potential application has been identified, but no action taken yet.

Fertilisers

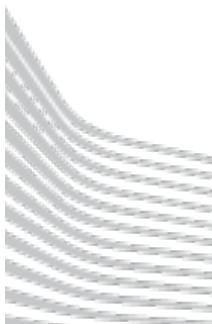
- i. They conduct business as usual with regard to the use of alternative sources of raw material. They are still fossil resources based.
- ii. They are seeking alternative raw materials, as a result some new initiatives and/or some strategies implemented through pilot installations have been started
- iii. Some research is being carried out but nothing implemented yet.
- iv. Potential application has been identified, but no action taken yet

Chemical building blocks

- 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 and/or some strategies implemented through pilot installations have been started
- iii. Some research is being carried out but nothing implemented yet.
- iv. Potential application has been identified, but no action taken yet

Plastic

- 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 and/or some strategies implemented through pilot installations have been started
- iii. Some research is being carried out but nothing implemented yet.



iv. Potential application has been identified, but no action taken yet

Other Chemical products

- 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 and/or some strategies implemented through pilot installations have been started
- iii. Some research is being carried out but nothing implemented yet.
- iv. Potential application has been identified, but no action taken yet

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

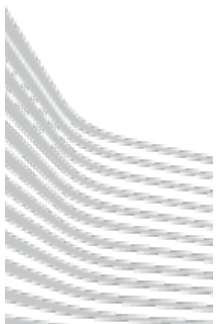
- a) Food and nutraceutical products
- b) Agriculture
- c) Pharmaceutical and cosmetic products
- d) Polymers, fibres and composite material
- e) Industrial intermediate products
- f) Additives for lubricants, solvents and other products from 'traditional chemical industry'

4- Are green procurement policies implemented or planned in your region?

- a) Yes, some policies have already been implemented in our region, which may cover the procurement of products coming from waste feedstock.
- b) Yes, even though they do not exist yet, some policies have been planned in our region and will be implemented in the near future
- c) No, there are no such policies in our region

5- Has the region conducted any assessment of the demanding market sectors of new products, coming from waste feedstock to be used for the production of chemical products?

- a) Yes, the region is fully aware of the potential market
- b) No, not yet, but is planned
- c) No, it is not planned at all



- 6- What is the destination of the current products manufactured in your region's Chemistry industry³?
- a) Most of the products are exported to other countries
 - b) Most of the products are sold in the country
 - c) Most of the products are sold in the region
 - d) A combination of the previous answers

- 7- Does the region have information about companies interested in investing in the use of waste feedstock?
- a) Yes, there is already a critical mass of companies where chemical industry is represented, willing to use agri-food waste as alternative raw material.
 - b) Yes, there is already a critical mass of companies, but without representation of chemical industry, willing to use agri-food waste as alternative raw material.
 - c) There is no significant movement in the region in that sense.

For answers a, b – Please select the type of waste they are considering to invest in.

- From the agri-food sector
- From the farming sector (manure specifically)
- From the paper and pulp industry
- Sewage sludge
- Waste in general
- Others

- 8- Please describe the secondary plastic market in your region by choosing from the following options:
- a) There is a competitive market for recovered plastic, in which the many recycling companies in the region use all the recovered plastic
 - b) There is market for recovered plastic but not strong enough, thus surpluses have to be exported to other regions.
 - c) There is no market at all.

- 9- Which is the status of the industrial parks network in your region?

³ Chemical industry comprises: manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms; manufacture of pesticides and other agrochemical products; manufacture of paints, varnishes and similar coatings, printing ink and mastics; manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations; manufacture of other chemical products (explosives, glues, essential oils, etc.); manufacture of man-made fibres.

- a) There is a high percentage of them becoming brownfields that need to be reconverted.
- b) There is a low percentage of them becoming brownfields.
- c) All of them are fully operating.

For answers a, b – Are they being reconverted?

- i. Yes, there is a strategic plan in the region for that.
- ii. Yes, there are local initiatives at municipality level in the region.
- iii. No, not at the moment.



KF7 –Entrepreneurship

- 1- 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 do not have that information

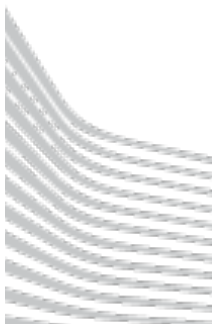
- 2- Survival rate of the industrial sector's starting firms during the first 5 years is:
 - a) Higher than 80%
 - b) Between 60 and 80%
 - c) Below 60%

- 3- The waste-as-resource concept for the production of chemicals is an innovative paradigm. Its processes and products are constantly improving. Such ground breaking concepts still require effort in innovation. The most innovative regions are those that can attract higher risk investments. An indicator of entrepreneurial innovative capacity is the regional expenditure on R+D+I (public and private). What is your region's expenditure?:
 - a) Above 3% of the region's GDP
 - b) Between 2 and 3% of the region's GDP
 - c) Between 1 and 2% of the region's GDP
 - d) Below 1% of the region's GDP
 - e) We do not have that information

- 4- Are the companies in your region associated in clusters or professional associations?
 - a) Yes
 - b) No

For answer a – Please select the existing clusters in your region:

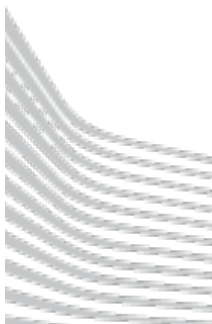
- Chemical cluster
- Polymer cluster
- Farming and animal husbandry cluster
- Agri-food cluster
- Bioeconomy cluster
- Waste management companies



If any of the above is selected – Have any of them identified the use of alternative raw materials as a target? Yes/No

If any of the above is selected – Are any of these existing clusters in your region part of an international cluster with the goal to support the use of alternative raw materials (among other concepts underpinning circular economy)? Yes/No

- 5- Do regional stakeholders in sustainable chemical production (chemical industry, agri-food, plastic, waste management, farming, etc.) as a whole organise match making events? For example, between waste 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 on a regular basis
 - c) No such matchmaking events have ever taken place in the region.
- 6- Business networking facilitates professional connections, establishes trust and creates new business opportunities, increases knowledge, etc.. How would you evaluate the interaction between the stakeholders (including waste suppliers) in sustainable chemicals production in your region?
- a) There is an open cross-sectorial business environment, strong and active network, effective information exchange and solid connections. This results in several joint initiatives to transition into the use of alternative raw materials for sustainable chemicals productions (or another bioeconomy related initiative)
 - b) There is some degree of networking between actors and some supporting platforms or associations contribute to its reinforcement. However, it is still weak and no significant initiatives have been initiated yet.
 - c) Companies in the related sectors are generally reluctant to share information and to start up new joint initiatives. There is weak communication among stakeholders in the region.
- 7- To what degree are new technologies deployed in your region regarding waste as an alternative raw material for the production of chemical products?
- a) There are many chemical sites using waste as alternative raw material in my region. There is a significant group of “early adopters” of technology in my region’s chemical sector.
 - b) The chemical industry in my region is within the “late majority adopter group”, and its feedstock is mainly based on traditional and fossil raw materials. The



sites or processes using waste as alternative raw material are not representative or common.

- 8- How many projects have been approved or set up in your region for recovering/using waste from the sectors involved (agri-food sector, farming, paper & pulp, etc.) for the production of chemical products during last 2 years?
- a) More than 5
 - b) Some cases have been set, less than 5
 - c) None
- 9- Is there any green chemistry industrial park in your region, in which companies use waste as alternative raw materials and/or share facilities, among other circular economy oriented measures?
- a) Yes there are such an Industrial parks
 - b) There are green industrial parks in which not only chemical industry is represented, but in which circular economy oriented measures are widely implemented, such as the use of waste as alternative raw material.
 - c) There are green industrial parks but chemical industry is not represented.
 - d) No, there is no green industrial park.



KF8- Public Support Policies

1- Regarding waste regulation:

- a) The regional government regulates removing barriers and regulatory obstacles. Thus facilitating waste producers to reach the by-product and end-of-waste status,. Which reduces the associated bureaucracy and provides specific support.
- b) The regional government is neutral regarding waste regulation, and has not implemented any measure to minimise the waste regulation obstacles.
- c) The translation of the EU policies to the local situation in my country/region is even more strict than the EU policy itself

For answer b – Are you willing to remove barriers and regulatory obstacles in waste policy to make it more flexible for example for the transport of and experiments with waste? Yes/No

2- Regarding Innovation planning in your region:

- a) There is a master plan/strategy for innovation promotion in which the transition to alternative raw materials for more sustainable processes is specifically included.
- b) There is a master plan/strategy for innovation in which strategic sectors have been defined but chemical industry is not included or no strategic sectors have been defined.
- c) There is not a master plan or strategy for innovation in the region.

3- Are there public incentives to stimulate business innovation?

- a) Yes, there are grants, innovation tax incentives and measures to facilitate access to private funding.
- b) Yes, but not all of the above.
- c) Yes, but hardly accessible for new business models.

4- Has the regional Government set a policy, strategy or agenda to support the transition to alternative raw materials use, circular economy, biobased economy or sustainable processes?

- a) Yes, there is a specific strategy to boost the transition to alternative raw materials use, circular economy, biobased economy or sustainable processes
- b) There is no specific strategy, but its included in other frame strategies or roadmaps (for example investment, industrial, sustainable development, employment, research, etc.)
- c) No, there is no specific mention of those topics in the regional strategies



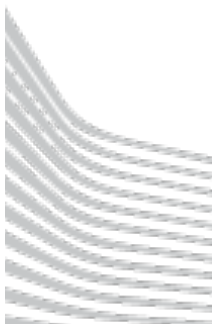
- 5- Has the regional Government introduced special taxation for products from alternative raw materials?
- a) Yes, measures like tax lost value instead of added value and reduced VAT rates on products using alternative raw materials
 - b) No, but it is foreseen or possible
 - c) No, and it is not foreseen

- 6- Does the regional authority have power to license new industrial installations? Yes/No

For answer Yes – The licensing procedure for this takes about:

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

- 7- Is there any controversy regarding industrial installations like waste logistics centres or biorefineries in your region?
- a) No, there is no controversy if regulations are satisfied.
 - b) Yes, there is some controversy and such a project should demonstrate benefits and how drawbacks can 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.
- 8- Is the end-of-waste criteria already being applied in your region, according to the Waste Framework Directive 2008/98/CE?
- a) The end-of-waste criteria is already being applied in my region/country
 - b) The end-of-waste criteria is being developed in my region/country and cases of application are not yet known
 - c) The end-of-waste criteria is not being implemented into the national regulation yet



- 9- Does the regional authority have regular contact with advanced developed regions in the field of sustainable chemicals?
- a) Yes, the region organises events where other advanced regions in the field of sustainable chemicals or bioeconomy participate and exchange experiences and good practices.
 - b) Yes, the region has participated in these kinds of events, organised by a third party.
 - c) No the region has never taken part of these kinds of exchange events.

