

LOCAL CIRCULAR (BIO)ECONOMY ACTION PLAN

CITY OF UDINE

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| --- | --- |
|  | Version 1  2022 |

***Template Guidance Notes:***

*The Innovation Agenda already developed through the CITYCIRCLE project (CECOMs process) concluded that: “cities should work intensively towards a mission to create integrated bioeconomies that are circular, regenerative, resilient, non-wasteful and healthy.”*

*The purpose of this template is to help city communities to start responding to this challenge by developing Local Circular Bioeconomy Action Plans. Please also refer to the supporting guidance: Circular Bioeconomy Value-Chains: Harnessing Opportunities, as a companion to this template.*

*The primary target audience for this template and attached guidance are the city teams and partners working under the CITYCIRCLE project. The completed Local Circular Bioeconomy Action Plans will become parts of the final CITYCIRCLE project Transnational Circular Economy Strategy.*

*Any other community changemakers interested in creating a local circular bioeconomy should also find value in this template and the guidance document.*

*While this template and guidance have been prepared with a focus on local circular bioeconomies, they are easily adaptable to other circular economy value chains and/or other sustainable development action areas. In this template ‘bioeconomy’ can largely be replaced with another area of interest. Section 4 “Design for Action” of the Circular Bioeconomy Value-Chains: Harnessing Opportunities guidance is equally relevant to Sections 3-7 of this template, even if another circular value-chain or area is chosen as the focus for systemic action.*

*Therefore, in case CITYCIRCLE partners prefer to develop a Local Circular Economy Action Plan that is focussed on a different value chain, this template can be used with minor adjustments. Partners will need to do their own further research into value-chain opportunities to supplement what is provided in Section 3 “Circular Bioeconomy Value-chain Opportunities” of the Circular Bioeconomy Value-Chains: Harnessing Opportunities guidance.*

*Also note that realistically the remainder of the CITYCIRCLE project will not provide sufficient time and resources for project partners to work fully with their community through all the steps discussed in the guidance and sections of this template. CITYCIRCLE project teams should therefore undertake a light version of this process, using available resources and working with a close group of local stakeholders, to develop a first version of a Local Circular Bioeconomy Action Plan. They can then seek additional resources and funding to further test, expand and refine this initial version through wider and deeper community engagement and co-creation processes. As developing a circular bioeconomy must be an iterative process, the best way forward is ‘learning by doing’ from starting to put an initial plan into practice and then improving along the journey.*

*For the Local Circular Bioeconomy Action Plans developed under the CITYCIRCLE project, to keep things simpler the sections and notes highlighted in grey in this template can be skipped or completed at the discretion of the partners for each region. Areas not highlighted in grey should be completed for all regions.*

*The finally unused sections of this template should be removed from the final CITYCIRCLE project deliverable. These can be retained in a parallel version for ongoing development beyond the CITYCIRCLE project.*

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1. INTRODUCTION

The CITYCIRCLE project

*Adjust to local context (or remove if using this template outside of CITYCIRCLE project)*

The CITYCRICLE project aims to bring innovation and sustainable economic growth to peripheral regions of the European Union through implementation of circular economy practices.

This Local Circular Bioeconomy Action Plan for the City of Udine draws on the guidance contained in the *Circular Bioeconomy Value-chains: Harnessing Opportunities report,* and *Innovation Agenda* already developed through the CITYCIRCLE project. Together with other city action plans, this document makes up part of the final CITYCIRCLE project Transnational Circular Economy Strategy.

This action plan elaborates how the Udine community can build on our current assets and take forward the opportunities of developing a world-leading circular bioeconomy in and around our city.

Overview of City of Udine Context

*Briefly describe the local context in and around the city, as is most relevant to developing a circular local bioeconomy.*

*Refer to the circular economy strategy agreed upon by the stakeholder groups in each of the CITYCIRCLE project target regions (WP1).*

Udine is the second largest city of Friuli Venezia Giulia and it is situated in the central area of the region, halfway between the mountains and the Adriatic coast. With a population of about 100,000 inhabitants, the main activities belong to the tertiary sector and they are linked to public administration, commercial, banking and cultural sectors. Small and medium-sized enterprises are active in the engineering, food and printing industries.

In the last years, the City of Udine has become a forerunner on sustainability-related issues, such as the implementation of retrofit actions on municipal buildings, the update and enhancement of local regulations with energy efficiency and sustainability aspects, the engagement of local stakeholders through the activation of participatory processes and targeted communication campaigns, the involvement in EU initiatives (e.g. The Covenant of Mayors) and participation in EU-funded projects. The City of Udine takes part in the Urban Agenda for the EU working group on Energy Transition.

The working group engaged in the participatory process leading up to the definition of the Joint CE Strategy for the City of Udine have identified the following objectives:

* creation of a facilitator office (a HUB) for circular economy that can support local businesses and the general public in the transition;
* implementation of pilot projects that serve as examples for future initiatives;
* promotion of the concept of circular economy between companies and citizens, giving particular emphasis to possible business opportunities.

Mission Context in the City of Udine

*Describe existing community visions/missions that have already been developed for the City of Udine and are relevant to developing a circular local bioeconomy.*

*Refer to the circular economy strategy agreed upon by the stakeholder groups in each of the CITYCIRCLE project target regions (WP1).*

The goal is to conceptualize and then create a hub to foster circular economy initiatives. This facilitator office will play a key role in the medium to long term in achieving the objectives set within the circular economy strategy co-designed with the local stakeholders engaged in the participatory process. The hub should work as a one-stop-shop for sharing competences and skills, to promote and facilitate the uptake of initiatives related to circular economy and, to a larger extent, also to sustainable development. The creation of synergies and the reduction of the fragmentation of initiatives of this kind in the region will be essential. This hub, while actually taking shape within CITYCIRCLE, should become economically autonomous even beyond the project end. APE FVG has submitted a request to join the ATS DIH Udine - Data analytics & Artificial intelligence, one of the nodes that make up the IP4FVG (Industry Platform 4 Friuli Venezia Giulia) platform. IP4FVG is in fact a regional HUB for digital innovation (Digital Innovation HUB). In addition to bringing specific skills within this consortium in the field of energy, circular economy and sustainable development, APE FVG aims to bridge the gap between the Digital Innovation HUB and the relevant local stakeholders with regard to the aforementioned themes. The working group established within CITYCIRCLE can function as an expert network and a virtual platform focused on supporting businesses and citizens towards the circular transition. While not directly dependent on IP4FVG, this could be seen as an added value for the Digital Innovation HUB, with which a strong collaboration could be established. The HUB for the circular economy envisaged within CITYCIRCLE will therefore develop independently from the IP4FVG Digital Innovation HUB, but once established, synergies will be ensured between these two subjects. The first step will be to identify among the members of the working group those subjects particularly interested in setting up a network of competence centers on circular economy issues coordinated by means of a virtual platform.

The Municipality of Udine will be strongly engaged in this process. As a matter of fact, the local administration has taken action to assess the feasibility for opening up a one-stop help desk to promote sustainable development. This help desk would be hosted within the Municipality’s own premises and would function as a hub addressing the needs of citizens, businesses and institutional bodies. Circular economy is one of the core issues the hub will be focused on. The local Association of Consumers (FEDERCONSUMATORI), already involved extensively in project activities, will join in providing consulting services on circular economy to citizens. APE FVG will contribute with providing expert consultancy on energy efficiency incentives through the Sportello Energia (Energy Help desk), an initiative already activated a couple of years back under the aegis of the Regional Authority. In other words, the Municipality of Udine has the objective of pooling together different actors that can provide advise on circular economy-related issues to different target groups. The timeframe for establishing the hub will take up to 3-4 months after the project end.

1. Bioeconomy Opportunities

*Note: In case CITYCIRCLE partners prefer to develop a Local Circular Economy Action Plan that is focussed on a different value chain, this is an open option, but partners will need to do their own further research into value-chain opportunities to supplement what is provided in Section 3 “Circular Bioeconomy Value-chain Opportunities” of the Circular Bioeconomy Value-Chains: Harnessing Opportunities guidance. In this case follow the structure of this section, substituting ‘bioeconomy’ for a different value chain description.*

Greatest Local Bioeconomy Assets

Review Section 3: Circular Bioeconomy Value-Chain Opportunities in the guidance: *Circular Bioeconomy Value-chains: Harnessing Opportunities* with a core group of local stakeholders. Reflect on the opportunities discussed, and any others that you know of or choose to research further. Describe what you can identify as the greatest local assets in and around your city that would support developments in each of the following three areas:

Local Food System Assets

Describe the greatest local assets in and around your city that would support development of Local Food Systems (eg. key agriculture, key horticulture, organic waste management sites, biogas facilities, community food-focussed organisations, sources of ‘waste’ food, commercial retailers, community retailers, suitable land, water resources, food-focussed training institutes…)

Integrated Bio-Industry Assets

Describe the greatest local assets in and around your city that would support development of Integrated Bio-Industry (eg. forests, key agriculture, key horticulture, waste heat sources, urban bio-resources, existing bio-industry companies, relevant research centres, industrial areas, key commercial demands…)

Bio-Energy Systems Assets

Describe the greatest local assets in and around your city that would support development of Bio-Energy Systems (eg. wood residues, urban organic waste streams, biogas facilities, district energy networks, bio-refineries, local energy utilities, community energy organisations…)

Under the frame of the pilot implemented In Udine, it was assessed a potential project of industrial symbiosis, promoting the development of innovative infrastructures to take advantage of available waste heat in one industrial area and supply it to other companies (industrial and civil) in the surroundings, within a circular economy perspective. This will also allow to promote the development of the so-called “ecologically equipped production areas also known as Eco-Industrial Parks (EIP)” by promoting the transformation of current industrial districts in order to combine competitiveness, planning and environmental protection. The opportunity identified in the Municipality of Udine aims to create territorial synergies between two existing waste-treatment plants (water and organic waste) to obtain products with higher added value (bio-methane for transport) and to optimize energy use (recovering available waste heat) by means of technological processes with low environmental impact taking advantage from a cascade of territorial wastes.

Current Local Bioeconomy System Mapping

*If possible, work from the above asset lists to develop an initial local systems map/description illustrating how these assets are connected to key community actors and current actions relevant to local bioeconomy development. Describe the process undertaken to develop the map, and key insights resulting from the mapping process – eg. what new assets, actors and actions were identified, what connections were found, what connections are missing, what new opportunity spaces were identified?*

*Refer to the regional mapping for the circular economy transition in each of the CITYCIRCLE project target regions (WP1).*

Local Bioeconomy Priorities

*From the process of collective asset and local systems mapping, what priority bioeconomy opportunities can your team identify for your community? Described these briefly. Why have these stood out as priorities (eg. linked to lots of existing assets, and/or filling a clear identified gap in the local system)? How do they link to the existing community vision/missions/context described above?*

Bioeconomy priorities identified through participatory processes involving the group of local stakeholders are:

Recovery and valorisation of agri-food waste

Reuse of organic by-products

Promotion of corporate social responsibility within the agri-food sector

Eco industrial park (Net-Cafc): waste biogas production and use of excess CO2 for water purification

Recovery of waste heat for the production of electricity

Enhancement of separate collection through a reward system

1. Bioeconomy Mission

*Refer to Section 4a: Mission Development in Circular Bioeconomy Value-chains: Harnessing Opportunities for further guidance.*

*Completing this section is optional for CITYCIRCLE teams, but it may provide a useful frame for future work.*

Mission

*Describe the bioeconomy mission statement that has been developed for City of XXXXXX region, building on the mapped assets, actors, actions and opportunities. Describe any linked sub-missions also developed.*

*Describe briefly why this mission was chosen/defined*

Mission Brand

*Outline the Mission Brand that has been developed to communicate the mission across the community and help identify work that is aligned to the mission.*

Mission Propositions

*Summarise briefly the Mission Proposition stories that have been developed during the mission development process. Attach the full versions of these in Appendix 1.*

Mission Development Process

*Describe the process that was undertaken to develop the mission.*

1. The Udine HUB Plan

*Refer to Section 4b: Action Centres in Circular Bioeconomy Value-chains: Harnessing Opportunities for further guidance.*

*Rename this section and headings based on what you will actually call the ‘action centre’ using the Mission Brand.*

*Refer also to work done under the CITYCIRCLE project WP1: Circular Economy Strategy and Hubs. This section is closely connected to the HUB concepts that have been developed for each region.*

Overview

*Provide a brief overview of the design of the ‘action centre’ with an illustration highlighting leadership, governance and organisation model.*

The plan for the establishment of the action centre in Udine foresees the setup of a hub that will lead to community strategic change towards a circular economy.

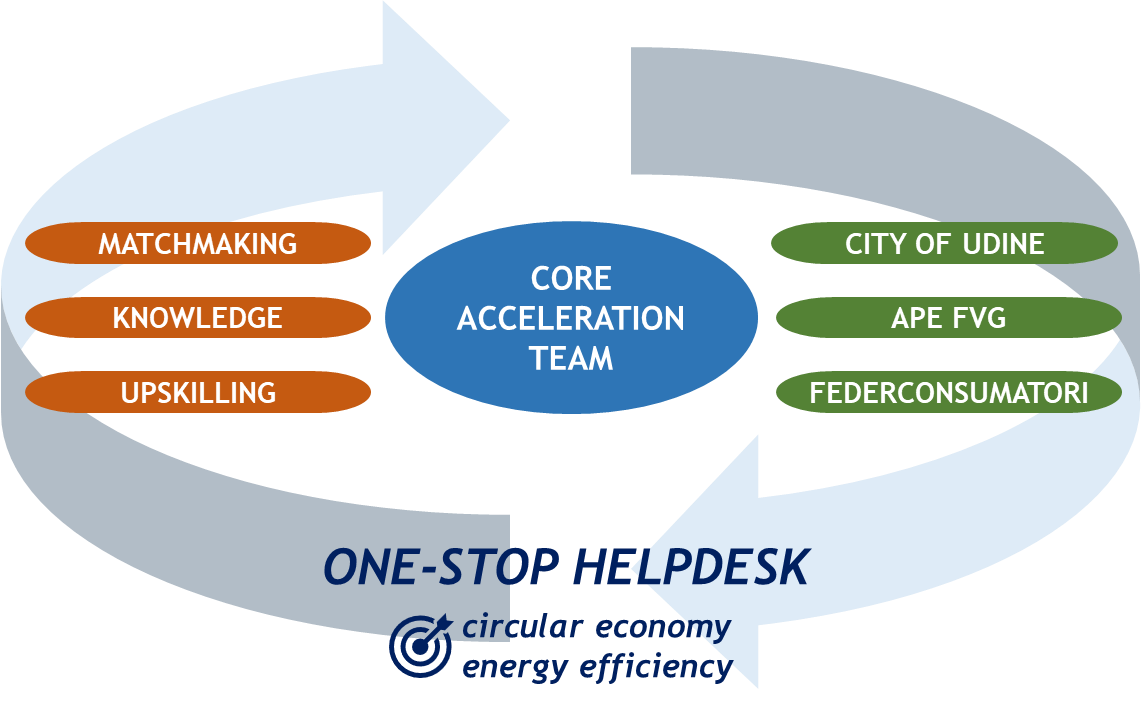
Within the frame of CITYCIRCLE it was possible to map the local system and identify the actors to engage in the network of Community Allies that will support the Core Team in the mission work.

The City of Udine has taken the lead of this Core Team as the engine that will get the whole system move forward. Circular economy and sustainable development are at the top of the political agenda. Therefore, there is a strong commitment in leading change and tying together the actors that will make this change possible. Other actors directly involved in the Core Team are APE FVG and the local federation of consumers (FEDERCONSUMATORI).

The hub will serve as a one – stop helpdesk to provide consultancy on circular economy and energy efficiency to citizens, institutional bodies and businesses. It will be hosted within the City of Udine own premises as the main competence centre on circular economy in the region. The hub will first be established supposedly with the signing of a Memorandum of Understanding among the Core Team members. The hub devised in this way shall be financially self-sufficient as the staff engaged in the provision of the services is employed directly by the involved institutions.

Besides the provision of consulting services, the hub will be a collector for matchmaking opportunities, for creating a knowledge-sharing environment and for skill upbuilding. Targeted events will also be organized to reach out to wider audiences and to raise awareness.

The design of the action centre is outlined in the chart below.



Leadership/Governance and Organisation Model

Leadership/Governance Model

*Describe developed plans for an appropriate and robust leadership and governance structure.*

*Define roles and selection process for the people who will be part of Leadership/Governance team. Define their working model and principles of working together and with the Core Team.*

*Develop a Terms of Reference or similar agreement for the Leadership/Governance team, and attach as an appendix*

The plan foresees that the leadership of the action centre will be taken up by the City of Udine with the support of APE FVG.

Mission Contracts

*What partnership agreements, memoranda of understanding, mission contracts or Local Green Deal agreements will be used to bind together core community partnerships and resource contributions in support of the Action Centre model?*

*If possible, attach these agreements as an appendix*

The core team members will supposedly sign a Memorandum of Understanding. Mission contracts with other stakeholders will be signed when the need arises.

Organisation Model

*Describe the organisational model that will be used for the ‘action centre’ to align leadership and governance with the core team. Will a new entity be set up? Will the model be based on agreements between local partners, and if so what form will these agreements take?*

Core Team

Core Team Model

*Describe planned Core Team structure with role definitions, core principles and planned ways of working. Design to what is needed, not just the funding that is available now.*

*Include an organisation diagram of team roles and relationships*

*Describe planned selection/recruitment process for team members*

The City of Udine has taken the lead of this Core Team as the engine that will get the whole system move forward. Circular economy and sustainable development are at the top of the political agenda. Therefore, there is a strong commitment in leading change and tying together the actors that will make this change possible. Other actors directly involved in the Core Team are APE FVG and the local federation of consumers (FEDERCONSUMATORI).

Core Team Funding/Resourcing Plan

*Describe how core team will be built up from available current resources and clearly identify funding gaps that need to be filled in order to fully resource the team.*

*Where team members will be seconded from current roles and organisations, describe these clearly and what form of agreement will define these roles (linking to descriptions of partnership agreements / Mission Contracts under Leadership and Governance).*

It will be vital to make the hub economically self-sufficient in the long term. To this end, one possibility could be to provide four types of main revenue: 1. Membership fees. 2. Remuneration of the services offered. 3. National or regional contributions. 4. Participation in national and international projects (Interreg program, LIFE program, etc.). Particular relevance, especially for the last point, is to reach the legal personality status. Only in this way it will be possible to present and participate in the projects as a single subject. With reference to the participation in various types of projects, it will be necessary to have professional figures within the hub who are competent in preparing funding applications and managing projects.

Community allies

*Describe the likely network of key people who can be called on as needed to help, either professionally or as volunteers, and who will help to build a community movement for change. How are they generally linked to the work?*

*How will this network be developed, engaged and kept engaged?*

Capacity Development Plan

*Describe capacity development priorities and plans for the core team, leadership/governance team and community allies network.*

1. Enablers

*Refer to Section 4d: Enablers in Circular Bioeconomy Value-chains: Harnessing Opportunities for further guidance.*

*Describe plans/ideas for actions that target enablers in cross-cutting ways, the implementation of which will support many other circular bioeconomy actions once the results are in place. Organise these according to enablers of change framework outlined in the guide.*

Municipal momentum is the key enabler of change in the context of the City of Udine for the time being. It will trigger the uptake of other frameworks to create community-led transformational change.

Collaborative Communities

Community Communication

*Describe planned actions aimed at improving community communication – with a focus on bioeconomy development.*

Organization of awareness-raising events targeting different sets of target groups

Focus groups

Matchmaking initiatives

Showcase of best practices

Hackathons-like events

Engagement of local media

Promotional campaigns and materials

Citizen Co-creation

*Describe planned actions aimed at improving citizen participation, engagement, imagination capacity and co-creation processes – with a focus on bioeconomy development.*

*How will these processes engage youth and other community groups that are typically difficult to include in such community deliberations and co-creation?*

Citizenship is a key target group in the process for the creation of the action centre in Udine. The one-stop helpdesk will specifically address the needs of citizens under the principles of circular economy and energy efficiency. All members of the core team have experience in dealing with the general public in their ordinary activities. Dedicated events engaging citizens will be organized to promote the action centre activities and initiate co-creation processes to enhance social acceptance and commitment.

Collective Management Structures

*Describe planned actions aimed at improving collective community management of civic assets long-term*

*What linked needs for new community business models can already be identified?*

Enabling Economies

Business Models

*Describe planned actions aimed at improving the planning and development of business models around specific actions to ensure successful project delivery and maximise the benefits to the community over time.*

*What needs for new cross-cutting business models in the community can be identified, especially relating to current utility and municipal asset-management models?*

The one – stop helpdesk will provide consultancy services on circular economy and energy efficiency to citizens, institutional bodies and businesses. Advise on business planning as well as on technical and economic feasibility analysis will also be provided to private companies taking into consideration circular economy and energy efficiency principles. The adoption of MEC-compliant measures will be strongly encouraged and a general check on the “circular economy framework” of projects shall be carried on key measures and specific intervention areas, including:

* ecological design
* development of secondary raw material markets
* adopting more sustainable patterns of consumption
* waste management

Transformative Investment

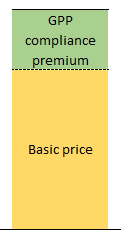
*Outline plans for developing a ‘top down’ economic case for the mission*

*Describe plans for developing mission-aligned financing mechanisms for specific actions and regional/city fund models that will help to unlock and manage needed investments*

*Describe plans to leverage public and EU investment programmes*

*Outline plans for developing collective community investment flows*

A financing mechanism to foster circular economy needs, at an initial stage, a common standard approach that can be provided through GPP (Green Public Procurements). Funding through a price modelling mechanism could be based on the level of compliance with GPP requirements where bidders receive an extra premium, in addition to a basic price, according to the level of compliance. GPP requirements are defined and assessed by the tendering authorities; total compliance implies a 100% of the premium, calculated, for example, through a scoring system based on a list of requirements. Schematically:



The basic price can be fixed or rebates may be foreseen. Furthermore, the compliance premium can be fixed or defined as fixed percentage of the basic price. This depends on how much the tendering authority wishes to promote sustainable procurements VS simple cost reduction.

Economic Structures

*Outline plans / ideas for reshaping local economic structures and systems to better enable scaling of transformational change actions over time.*

*Describe planned actions for supporting entrepreneurship skills, enterprise innovation and business growth to nurture new jobs and supply chains in the local bioeconomy.*

Smarter Systems

Data Commons

*Describe planned actions aimed at improving citizen-centric ownership and management of community data in commons*

Interoperability

*Describe planned actions to develop local standards that will ensure efficient sharing, access and use of data across the community.*

Smart Applications

*Describe planned actions aimed at development of digital applications, which are aligned to priority use-cases/needs of other actions in the portfolio*

Municipal Momentum

Procurement

*Outline plans for helping the local public sector to use their buying power in service of nurturing innovation and accelerating the investment flows needed for portfolio implementation and work towards the mission.*

Plans that help the local public sector to use their buying power in service of nurturing innovation and investments in circular economy projects principally revolve around GPP (Green Public Procurements) where local procuring authorities, supported by the help-desk, include GPP requirements in their tender documents enforcing sustainability standards and practices on the bidders (private sector). The help-desk will therefore provide:

* reference documentation and best practices to all stakeholders;
* guidelines for the inclusion of clear and verifiable environmental criteria for products and services in the public procurement process;
* information on certifications and sustainability standards;
* advice on [sustainable procurement program](https://www.jnj.com/about-jnj/policies-and-positions/our-position-on-responsible-supply-base)mes for the private sector;
* support to public bodies on funding related to GPP policies.

Policy

*Outline plans for helping the local public sector to turn local policies into powerful enabler of change towards the mission.*

Organisational Readiness

*Outline plans for helping local municipalities to go through a process to reprioritise and reorganise their human resources and decision-making processes to play the strongest leadership role they can in support of the mission.*

*Clearly link to the role for Local Government defined in the developed local Action Centre model.*

1. Process and Portfolio Management

*Refer to Section 4c: Process and Portfolio Management in Circular Bioeconomy Value-chains: Harnessing Opportunities for further guidance.*

Mission Proposition extrapolation

*Describe potential mission pathway scenarios that have been developed by backcasting from the ‘mission propositions’.*

*What do these scenarios identify that must happen in the next few years in order to achieve the mission = what is on the critical path?*

*Are any current local investment plans identified as being incompatible with the mission and therefore need to be halted become they become stranded assets?*

Systems Analysis

*Building on the current local bioeconomy system mapping described under the Bioeconomy Opportunities section, what further systems analysis has been undertaken to help identify and prioritise action and investment opportunities – eg. urban metabolism / material flow studies?*

Near-term Portfolio

*Described plans for projects that already exist in the community and are aligned with the mission, but that are stuck in pre-implementation for some reason.*

*How have you planned to overcome the current barriers holding these actions back, so implementation can be accelerated?*

NA

Strategic Actions & Experiments

Strategic Portfolio Overview

*Summarise in the table below the plans that have been developed for actions and experiments that extend the mission portfolio and build on the developed scenarios and systems analysis. Then outline these in some more detail in the following sections*

|  |  |
| --- | --- |
| **Action/Experiment Name** | **Brief Description (max 50 words)** |
| Industrial symbiosis in the City of Udine | Development of a smart energy system that implements a regenerative model of energy use based on the concepts of industrial symbiosis and circular economy. |

*Replicate following sections to describe each planned action/experiment, create as many as necessary*

Action/Experiment 1

*Update Name*

*Describe the action or experiment, including scope, key stakeholders, key enablers, investment needs, target impacts, and challenges that will need to be resolved. Describe implementation management plans as far as possible.*

*Describe any already developed funding and financing plans for the action*

*How have the enablers of change been designed into the action/experiment plans to maximise chances of success?*

SCOPE: development of synergies between the organic waste anaerobic digestion plant, the waste water treatment plant and the wholesale market of the City of Udine.

STAKEHOLDERS:

* SMEs: n.2 Public Utilities working in the field of organic-waste treatment and in the field of waste-water treatment and n.1 Company working in the field of agri-food wholesale market
* Public authorities: Municipality of Udine
* Sectoral agency: APE FVG
* Research: University of Udine
* Citizens belonging to the DHN of the southern basin of the city of Udine.

ENABLERS: co-creation processes, innovative business models, policy

INVESTMENT NEEDS: Private Public Partnership through dedicated Project financing. In this way, public finance can be provided to shorten payback periods and to provide a guarantee (“a due diligence”) to the private investment which will be very significant

TARGET IMPACTS:

*environmental*

19.000 MWh of waste energy recovery

3.309,2 ton of CO2 emissions reduction

1.439,5 toe of primary energy savings

*economic*

Estimated Cash Flow for the waste treatment hub: 236.000€

Estimated Cash Flow for the agrifood wholesale market: 87.000€

Estimated Cash Flow for the DHN: 216.000€

*socio-cultural*

Implementing circular economy loops in local society

Developing local competences and know-how

Involving different stakeholders in co-design of potential new circular loops

CHALLENGES

• Improve waste management

• Recover waste heat

• Transform by-products into higher added value products (bio-methane)

• Identify the best industrial-urban symbiosis solutions by carrying out a cascade energy recovery from the considered plants within a circular economy perspective

• Develop an approach that can be transferred to other areas and countries

• Identify further solutions that can be further extended to the surrounding area

• Assess uncertainty through the analysis of the most critical project variables

MANAGEMENT PLAN

The Municipality of Udine is the main stakeholder of the pilot and facilitated the involvement of the two Public Utilities (NET S.p.A. waste-treatment plant and CAFC S.p.A. waste-water treatment plant) and of the agri-food wholesale market (Udine Mercati srl). As well, the city of Udine is interested in the development of the District Heating Network (DHN) that is taken in account in the third scenario of the pilot.

1. Collective Learning Plan

*Refer to Section 4e: Collective Learning in Circular Bioeconomy Value-chains: Harnessing Opportunities for further guidance.*

Learning Labs

*Describe how regular ‘learning lab’ sessions will be organised to support gathering of important insights and then rapid learning and capacity development as a result - to ensure that change then goes faster and with greater impact.*

Progress and Outcome Evaluation

*Describe what impact and progress indicators will be used, and thus how they will support evaluation and learning.*

1. Appendices

Appendix 1 - Mission Propositions

*Attach favourite ‘mission proposition’ stories developed as part of the mission development process*

Appendix 2 – Action Centre Leadership/Governance Agreement

*Attach Terms of Reference or similar agreement developed for the leadership/governance team of the ‘action centre’ model.*

Appendix 3 – Mission Contracts / Partnership Agreements

*Attach Mission Contracts and/or relevant partnership agreements developed to support the mission process.*