



**InvestCEC**

# Demonstration Report – year 1

STADTWERKE KLAGENFURT



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R	<b>Document, report</b>
DEM	Demonstrator, pilot, prototype
DEC	Websites, patent filings, videos etc.
OTHER	
<b>Dissemination level</b>	
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SEN	Sensitive, limited under the conditions of the Grant Agreement

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# 1. Executive Summary

The Deliverable 2.3 of InvestCEC provides a detailed overview of the advancements made in Work Package 2 (WP2), "Model Development and Demonstration," throughout the first year of the project (M6 – M12). This report focuses on demonstrating the model while providing a comprehensive assessment of the overall progress of the work package including the needs definition, selection process, investment readiness, investment program as well as feedback and monitoring.

The objective of this report is to delve into the critical details surrounding the demonstration of the model of InvestCEC. It covers key aspects such as project timing, materials utilized, and the anticipated next steps. Additionally, the report explores the financial, technological, and strategic support measures undertaken by InvestCEC to support these initiatives.

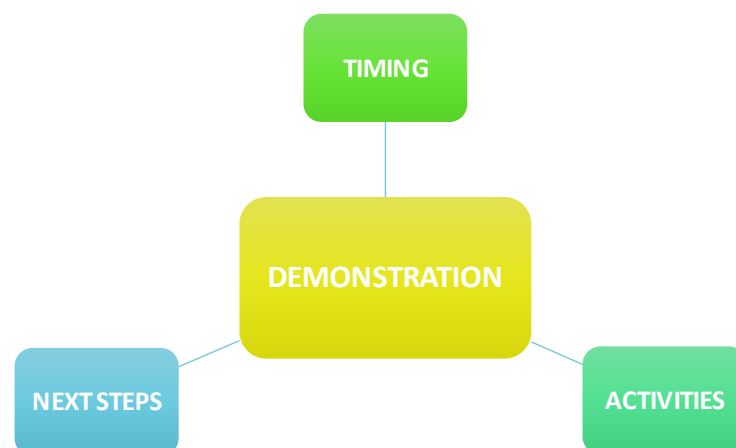
The demonstration of the model serves as a crucial milestone, validating the feasibility and scalability of InvestCEC's approach. The real-life implementation provided valuable insights for refinement and optimization, driving continuous improvement within the project framework. Moreover, it underscored the joint commitment to driving sustainable development through innovation and collaboration.

## 2. Introduction

InvestCEC marks a significant stride, particularly in the outcome of Task 2.1, where a comprehensive model has been meticulously developed. This accomplishment sets the stage for a consequential phase—the demonstration, to be conducted in Klagenfurt/Austria, the pilot city of the project. The demonstration goes beyond simply showcasing the model; it serves as a crucial validation of its adaptability and utility. Throughout the development phase, the tools and methods were thoughtfully customized to meet the specific needs of the city of Klagenfurt. The ongoing demonstration prioritizes continuous evaluation and ensuring adaptability in response to emerging factors.

### Key Elements of the Demonstration Report

The enclosed graphic provides a visual representation outlining the essential elements of the demonstration report's overarching process: Timing, Demonstration Activities, Challenges, and Next Steps. Each element is connected to underline the dynamic essence of the demonstration and showcase the adaptive progress of the project. In terms of Timing, it captures what was originally planned, setting the initial framework for the project's trajectory. The Demonstration Activities describe what has been accomplished, detailing the tangible actions undertaken during the demonstration phase. Challenges show the obstacles encountered along the way, illustrating the real-world hurdles that were faced. Finally, the Next Steps signify the adjustments and adaptations made based on the insights gathered from the experiences, outlining the strategic path adapted to the lessons learned.



*Figure 1: Key elements of the demonstration report*



# 3. Timing

The initiation of the model demonstration marked a pivotal phase in the project timeline. The demonstration was scheduled to commence in April 2023, aligning with the overall project roadmap, however its commencement proved to be more complex and time-consuming than initially anticipated (see Note on p. 15). This timeline has been meticulously crafted to optimize resource utilization and ensure a seamless transition into the demonstration phase. In essence, the start of the model demonstration goes beyond a mere temporal reference point; it is a carefully crafted phase that brings together the interplay of time, resources, and strategic intent. It embodies a conscious effort to elevate the path of the project and ensure that the demonstration proceeds with precision and is aligned with the overall goals of the initiative.

## 3.1. Timing of WP2

The presented graph provides an overview of the chronological sequence within WP2, accentuating not only the timetable of each task but also those tasks that must be completed before the start of the demonstration in the City of Klagenfurt. The implementation of Task 2.1. “Development of the model” and Task 2.2. “Development of stakeholder’s platform” unfolded as parallel processes leading up to the start of the demonstration in the city of Klagenfurt.

		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	
WP 2 - Model development and demonstration	Tasks	T2.1: Development of the model																		
		T2.1.1: Needs definition																		
		T2.1.2: Selection procedure																		
		T2.1.3: Investment readiness																		
		T2.1.4: Investment program																		
		T2.1.5: Feedback and monitoring																		
		T2.2: Development of stakeholder’s platform																		
		T2.2.1: Implementation and maintenance of the platform																		
	Deliverables							D2.1, D2.2						D2.3						
	Milestones							M1, M2						M4						

Figure 2: Timing of WP2

## 3.2. Work Package 2 - Progress

The success of the model demonstration hinges on the availability and appropriateness of materials. A comprehensive set of materials has been created, encompassing detailed documentation and data sets to ensure that the demonstration is well-supported and aligns with the outlined objectives.

### 3.2.1. NEEDS' DEFINITION

Following the kick-off meeting in Magdalensberg on November 17-18, 2022, a workshop was initiated by Venonaire Capital (VENCAP) to support Stadtwerke Klagenfurt (STW) in the process of defining the needs of the city. During the workshop (5th – 6th December 2022) the following points were elaborated on:

- Needs' definition of the city of Klagenfurt
- Specification of external communication
- Model for research/data management
- Definition of stakeholder groups including their interests

#### Needs' definition

Based on the collaborative efforts during the workshop, documents were created to define the needs of Klagenfurt. These documents serve as the foundation not only for guiding InvestCEC in its subsequent steps but also as a replicable model for other European cities and regions. The needs definition process aimed to comprehensively identify the requirements and priorities of Klagenfurt, addressing aspects such as infrastructure, services, and community development.

#### Specification of external communication

Additionally, the specification of external communication outlined strategies for effectively conveying Klagenfurt's objectives, initiatives, and progress to external stakeholders, including investors, politicians, and the general public in the city. This communication framework is crucial for fostering transparency, engagement, and support for the city's endeavors.

#### Model for research/data management

Furthermore, a robust model for data management was developed to facilitate the collection, analysis, and utilization of relevant data to inform decision-making processes. This model ensures that Klagenfurt can leverage data-driven insights, that are relevant for the next steps of the project.

### Definition of stakeholder groups

The workshop resulted in a clear definition of stakeholder groups, along with an understanding of their respective interests and roles in the development of Klagenfurt. By identifying and engaging with key stakeholders, Klagenfurt can foster collaboration and consensus-building, ensuring that diverse perspectives are considered in decision-making processes.

### 3.2.2. SELECTION PROCESS

For the selection procedure a “Call for Entrepreneurs” was crafted to invite companies to present their circular economy solutions to the pilot city, learn how to deal with public sector regulation, tenders, and eventually also gain funding. Selected candidates had a chance to present their circular economy solutions and receive detailed expert feedback from experienced business consultants, venture capital experts, and the public sector at no cost (April 25<sup>th</sup> and 26<sup>th</sup> 2024). The Call of Entrepreneurs was disseminated on media channels (see below) in order to achieve the widest possible reach.

- Press release in Austrian Media  
<https://www.ots.at/>
- European Circular Economy Stakeholder Platform Knowledge Hub  
<https://circulareconomy.europa.eu/platform/en/knowledge-hub>
- Circular Cities and Regions Initiative support materials  
<https://circular-cities-and-regions.ec.europa.eu/support-materials>
- Circle Economy Knowledge Hub  
<https://knowledge-hub.circle-lab.com/>
- LinkedIn InvestCEC  
<https://www.linkedin.com/company/investcec-project/>
- Website InvestCEC  
<https://investcec.eu/>

### 3.2.3. INVESTMENT READINESS

During the online pitching event, where 6 out of the pool of 16 applicants, that constituted the second round of Call for Entrepreneurs, 3 candidates from this online pitching event (held April 2024) were chosen to coaching towards investor readiness by G2G on various aspects of investor readiness. These entrepreneurs will get the opportunity to get equipped with tools and strategies to conduct thorough business model refinement, market analysis, and developing compelling business cases. Furthermore, entrepreneurs will be mentored on building robust financial models, preparing pitch decks, and effectively communicating their value proposition to potential investors. The coaching process also emphasizes the importance of building strong relationships with investors and stakeholders, fostering trust and credibility. By addressing key areas of concern and providing actionable insights, the coaching sessions can empower entrepreneurs to confidently navigate the investment landscape and secure the funding needed to scale their circular economy solution. The positive reaction from the companies reacting to the call was specifically reflected in their serious interest (reflecting their real need) in receiving the above described support towards investor readiness coaching which was not an integral part of the initial call.

Alongside the online pitching event, the InvestCEC included an on-spot pitching event for entrepreneurs including networking sessions during Circular Economy Day 2024 (April 18<sup>th</sup>, 2024) in Klagenfurt. This allowed the consortium to test the 'on-spot' version of pitching sessions with entrepreneurs. The effectiveness of each version will be evaluated within consortium and the learnings will be included in the second call for entrepreneurs which is expected to be launched during summer 2024.

### 3.2.4. INVESTMENT PROGRAM

Within this task guidelines were established to support the development of the investment program. One of the most essential components of InvestCEC is the ongoing process of setting up a venture capital fund (AIF) for circular economy projects. The fund documentation (including legal and regulatory aspects), pitch deck and communication strategy for the fund have been finalized. VENCAP has started pre-sales, which means the interacting with interested investors prior to their finalizing an investment decision. As a fund manager, VENCAP relies on a strong investors network consisting of Business Angels, Venture Capitalists, and Corporate Venture Funds. Potentially interested investors will have the option to be facilitated through a crowd investment platform, that allows deal sharing and co-investment opportunities. Additionally, this project aims to identify and set standards for circular economy impact investments. This means that the guidelines and materials produced will not only support the setup of the AIF and investor network but will also ensure that the investments align with the principles and goals of circular economy.

Within the investment program the following documents were created:

- Guidelines to define an Investment Focus
- Investment Focus and Fund Facts

- Template Fund Questionnaire
- Fund documentation
- ESG Scorecard (Cartif)
- InvestCEC Fund Pitch Deck

### 3.2.5. FEEDBACK AND MONITORING

The establishment of a rigorous feedback and monitoring mechanism will stand as an imperative facet within our EU project's operational framework. This system encompasses regular stakeholder consultations, systematic progress evaluations, and iterative feedback loops that are being discussed within internal follow-up consortium meetings and include also feedback that emanates from the events held with different stakeholder groups as part of dissemination and communication activities. The Consortium of InvestCEC is actively engaging with targeted stakeholders, which encompass a diverse array of groups including investors (VENCAP through fundraising, networking), infrastructure (STW itself including their cooperations with other municipals), political entities (STW's engagement with local political entities), and citizens (STW, VENCAP through local events). The interactions with these stakeholders inform the assessment process, ensuring that all input received is reported and integrated into the project accordingly. The main objective is to actively engage with project participants, ensuring their nuanced perspectives are integrated into project dynamics at pivotal intervals.

## 4. Demonstration activities

The substantive core of this report intricately unfolds during the project's showcase and demonstration phase, colloquially known as the "project show-and-tell". The demonstration phase is a deep dive into the nuts and bolts of creating a versatile model. In the ensuing sections, we will delve into the demonstration activities undertaken throughout the inaugural year of the project. This exploration provides an in-depth examination of the practical facets of our endeavor, highlighting the various initiatives and actions that have unfolded during this initial phase.

Type of activity	Name	Date	Short Description	Type of audience
Feasibility study	Bio Gas production from biomass/ organic waste	June 2023	Conceptualisation plant, Process workflows, Profitability calculation, Funding opportunities	Economic Experts, Technical Experts
Event	Circular Economy Day 2024 in Klagenfurt	April 2024	Pitching event for entrepreneurs including networking sessions	CE Startups, City of Klagenfurt, STW, Investors, CE Experts, Citizens

Table 1: Overview Demonstration Activities

## 4.1. Description of demonstration activities

### 4.1.1. BIOGAS – PRODUCTION FROM BIOMASS/ORGANIC WASTE – FEASIBILITY STUDY

#### Description of the activities

The feasibility study was ordered by Stadtwerke Klagenfurt in the framework of InvestCEC to examine the potential of producing biogas from residual materials, converting it into biomethane, and integrating it into the existing natural gas grid of Stadtwerke Klagenfurt AG. Its objectives include identifying and analyzing residual materials, determining their biogas production potential, designing a fermentation plant with a downstream composting facility, estimating overall system costs, and assessing profitability.

#### Objective for the activity

The objectives of the feasibility study are to identify and analyze the residual materials available for biogas production, including their biomethane potential. Additionally, the study aims to determine the type and quantity of residual materials suitable for biogas production, as well as their energy potential. Furthermore, it seeks to design a fermentation plant along with a downstream composting facility. Lastly, the study intends to estimate the overall system costs and conduct a profitability analysis, while compiling a list of available subsidies. Besides grants, subsidies, or public budgets, investments could be also an option but further needs to be discussed with STW and VENCAP.

#### Outcome

The feasibility study was completed by technical and economic experts and approved by the Supervisory Board of Stadtwerke Klagenfurt AG in November 2023. The total investment costs, including subsidies, amount to €10.2 million, with an amortization period of 6.5 years.

## 4.1.2. CIRCULAR ECONOMY DAY 2024

### Description of the activities

The Circular Economy Day 2024, held on April 18, was organized by Stadtwerke Klagenfurt and Venionaire Capital as part of InvestCEC and gathered over 30 participants at the Lakeside Science & Technology Park. The selection process for startups that were invited to the Circular Economy Day 2024 to present their solutions involved an analysis conducted beforehand, wherein specific criteria were carefully evaluated. These criteria encompassed various aspects such as team, market, product, value proposition, scalability, and alignment with the principles of circular economy. Following this initial screening, a shortlist of promising candidates was compiled, based on their alignment with the criteria and their potential to contribute meaningfully to the circular economy landscape. Two top startups from this pre-screening were given the opportunity to qualify for a live pitch session in front of the jury. [AES Autonomous Energy Systems](#) (DE) and [Sustario](#) (AT) had the chance to present their innovative ideas to Erwin Smole and Nadja Sussitz (both from Stadtwerke Klagenfurt), Berthold Baurek-Karlic (Venionaire Capital), Alexander Mann (StartupCarinthia), and Gernot Bogensberger (Magistrat Klagenfurt), with the aim of receiving valuable feedback. In the end, Marco Karber and Andres Sheldrick from AES Autonomous Energy Systems GmbH in Germany won with their method that turns leftover plastic into useful oil.

### Objective for the activity

The primary objective of the Circular Economy Day 2024 was to foster collaboration and innovation in the field of sustainable practices. By providing a platform for startups to present their ideas and receive feedback from industry experts, the event aimed to encourage the development of innovative solutions that promote circular economy.

### Outcome

The event successfully highlighted the importance of collaboration between various stakeholders in advancing sustainable practices. It showcased innovative solutions from startups like AES Autonomous Energy Systems, demonstrating the potential for transformative change in addressing environmental challenges. Additionally, the recognition of innovative ideas and the engagement of industry experts underscored the commitment to driving sustainable development forward. Overall, the event served as a catalyst for further collaboration and investment opportunities, paving the way for impactful solutions to address environmental challenges.

**NOTE:** This demonstration event was the most important demonstration activity of the project to date. We consider this event to be pivotal for the project and as such it was clear to us that it must be included in this deliverable. While the original submission date was set for M12, the processes involved in organizing and



executing this demonstration event proved to be more complex and time-consuming than initially anticipated. Engaging stakeholders, including startups, CE experts, and citizens, in meaningful discussions and ensuring their participation in the event required extensive coordination and communication efforts, which contributed to the delay.

## 5. Dissemination and Communication Activities linked to demonstration

This section highlights the dissemination of project information to a broader audience. It delves into our diverse approaches we employed to keep others informed about our project's progress in its initial year. This examination will provide a comprehensive understanding of how we effectively communicated and raised awareness about InvestCEC.

Type of activity	Name	Date	Short Description	Type of audience
Conference	Circular Economy Chalet	July 2023	The World Venture Forum is an annual conference for investors dedicated to selected focus topics like Circular Economy.	Investors
Conference	Inter-municipal cooperation	Nov 2023	Waste management conference, Presentation – Keynote, Bio-Waste-Project, Bio-Gas-Project	Austrian League of Cities, representatives of Austrian cities, Economic Experts, Technical Experts
Conference	11. VKÖ – Public utilities Day	Nov 2023	Main topic : Public infrastructure as the driver for a green future	CEO public utilities, Stakeholders of InvestCEC, Investors, EIB

## 5.1. Description of dissemination & communication activities

### 5.1.1. CIRCULAR ECONOMY CHALET

#### Description of the activity

On Thursday, July 6 2023, the Circular Economy Chalet (within the World Venture Forum) was held and kicked off with a warm welcome to all participants upon their arrival, setting the tone for a collaborative and inspiring experience. The heart of the Circular Economy Chalet was undoubtedly a series of keynote presentations delivered by five distinguished experts in the field. Among them Günther Dobrauz-Saldapenna, Partner at exelixis capital AG, Georgi Lossmann-Illiev, Head of magdas Recycling & Head of magdas Services, Erwin Smole, Board Member of Stadtwerke Klagenfurt, Kambis Kohansal Vajargah, WKÖ Head of Startup-Services, and Cyril Klepek, Founder and CEO at Cyrkl. Their insights not only illuminated the challenges we face but also highlighted innovative solutions and promising pathways towards a more sustainable future. The attendance of the entire Consortium of InvestCEC added a valuable layer to the discussions. The convergence of minds and the sharing of experiences among Consortium members further emphasized the importance of collaboration on a broader scale to address the complexities of circular economy implementation.

#### Objective for the activity

The primary objective of the Circular Economy Chalet held during the World Venture Forum was to create a collaborative platform for experts in the fields of Circular Economy. Specifically, the Circular Economy Chalet aimed to foster meaningful discussions, and presentations about the ongoing project. By bringing together professionals and leaders from diverse backgrounds, the event sought to provide a comprehensive overview of the latest trends and developments in the Circular Economy sector.

#### Outcome

The Circular Economy Chalet yielded substantial outcomes specifically for InvestCEC. The keynote presentations delivered by experts such as Günther Dobrauz-Saldapenna, Georgi Lossmann-Illiev, Erwin Smole, Kambis Kohansal Vajargah, and Cyril Kripek offered invaluable insights. These insights not only illuminated the challenges inherent in the circular economy but also presented innovative solutions and promising pathways toward sustainability. Moreover, the event served as a networking opportunity, facilitating connections among participants.

## 5.1.2. INTER-MUNICIPAL COOPERATION

### Description of the activities

On November 22nd, 2023, a waste management Fachausschuss (professional committee) took place in Graz as part of the Austrian League of Cities. During this committee, Gernot Bogensberger, head of the waste disposal department of the city of Klagenfurt, and Markus Scheriau, responsible for the gas segment within "Stadtwerke Klagenfurt AG," engaged in an open exchange centered on renewable energy sources, which is an integral part of InvestCEC.

### Objective for the activity

The intention behind fostering a deeper level of collaboration and facilitating knowledge-sharing among municipalities during the committee was to harness the collective strengths and capabilities of each participating city. This collaboration is pivotal for InvestCEC as it allows for the pooling of resources and knowledge. Moreover, by exchanging best practices and lessons learned, municipalities can optimize their efforts and accelerate progress towards achieving common sustainability objectives.

### Outcome

The establishment of a new collaboration between the cities of Leoben and Klagenfurt marks a significant advancement in inter-municipal cooperation. This collaboration signifies a proactive effort towards sharing resources, expertise, and ideas to address common challenges and pursue shared goals related to the implementation of circular economy projects.

## 5.1.3. 11TH PUBLIC UTILITY DAY

### Description of the activities

On November 23rd, 2023, the 11th Public Utility Day was held in Vienna in collaboration with the Association of Austrian Municipal Enterprises in Austria. The central theme of this year's event revolved around the significance of public infrastructure as a catalyst for a sustainable future. Attended by CEOs of public utilities, political stakeholders, and investors, this annual gathering serves as a platform for discussing pertinent issues within the public utility sector. Erwin Smole, Board Director of Stadtwerke Klagenfurt, attended the event and acted as a speaker on the panel "The key role of distribution network operators in Europe". Erwin Smole shortly presented InvestCEC within the panel, a full presentation will follow within the next Public Utility Day in November 2024.

### Objective for the activity

The main objective of this event was to facilitate open communication and dialogue among diverse stakeholders regarding the circular economy. By bringing together CEOs of public utilities, political figures, and investors, the aim was to encourage collaborative discussions and promote sustainable practices within the sector.

### Outcome

During the event it was agreed with Heidrun Maier-de Kruijff, managing director of the association that the project InvestCEC will be featured in the 12th Public Utility Day, scheduled for November 2024. This decision signifies the recognition and endorsement of our project within the public utility sector, providing an invaluable opportunity to showcase our initiatives and engage with key stakeholders on a broader scale.



## 6. Conclusion and next steps

Looking ahead, our next steps are guided by the refinement of the model based on feedback, and the preparation for the next project phase. The InvestCEC fund stands as a cornerstone, ensuring sustained financial support for circular economy projects. This fund will not only bolster the ongoing project but will also serve as a catalyst for similar endeavors across European cities. The fund's setup involves collaborative efforts with investors who share our vision for a sustainable future, aligning financial goals with environmental and societal benefits.

Moreover, the forthcoming demonstration activities extend beyond mere presentations; they embody a holistic engagement strategy. Events planned in the pilot city will serve as focal points for stakeholders—politicians, investors, citizens, and infrastructure experts. These events aim to create a dynamic platform for dialogue, knowledge exchange, and tangible experiences of circular economy practices. Workshops, interactive sessions, and community events will bridge the gap between theory and practice, fostering a shared understanding and commitment to the circular vision. Continuous communication and feedback loops will be established, ensuring that the project remains adaptive and responsive to evolving needs.

In conclusion, the journey embarked upon is not just a project; it is a collective endeavor to reshape the future. The commitment to creating a replicable model for European cities is unwavering, and as we embark on the next phase, we do so with the understanding that true sustainability requires collaboration and adaptability.