

INNOVATION FOR THE CIRCULAR ECONOMY: BRIDGING START-UPS & CORPORATIONS

B2B CONFERENCE



DATE
18 October, 2023



TIME
09:00 - 12:00 (Tashkent time)



UZBEKISTAN
7, UNIVERSITY STREET, ALMAZAR
DISTRICT, TASHKENT CITY

SCAN ME



Conference Highlights and Key Takeaways

Prepared by the United Nations
Economic Commission for Europe
- Tashkent, 18 October 2023 -

I. BACKGROUND

On October 18, 2023, the United Nations Economic Commission for Europe partnered with the National Office for Innovation Implementation and Technology Transfer of Uzbekistan to host an in-person conference “Innovation for the Circular Economy: Bridging Start-ups and Corporations”.

This report summarizes the key takeaways from the conference, and highlights the important near-term actions required to accelerate the circular economy in Uzbekistan. For additional information please refer to the [event recording](#) as well as to the [event presentations](#).

The three-hour event highlighted the pathways to advancing and scaling up innovation for the circular economy in Central Asia, particularly in Uzbekistan from the business perspective.

Representatives of the organising entities welcomed participants of the conference:

- **Mr. Farhod Zhumaev**, Director-General, National Office for Innovation Implementation and Technology Transfer of Uzbekistan;
- **Mr. Christopher Athey**, Economic Affairs Officer, UNECE.

The event proceeded with provision of overview and background of the circular economy, its meaning for both Uzbekistan's economic development and the environment, innovative approaches to the circular economy in policy and business, by:

- **Mr. Ken Webster**, Doctor of Science, a world-leading expert in sustainability, pioneered the circular economy and until recently Head of Innovation at the Ellen MacArthur Foundation.

Participants of the panel discussions shared their experiences in building B2B collaborations in the circular economy, identifying weaknesses and needs for both BIAs, start-ups, and corporations.

The first panel discussion included:

- (Moderator) **Mr. Shokhrukh Pulatov**, Country Manager, UN Global Compact in Uzbekistan;
- **Ms. Başak Demir**, Founder, DCube Circular Economy Innovation Cooperative of Türkiye;
- **Ms. Galina Kim**, Project Manager, MillyHUB Accelerator;
- **Ms. Indira Shah**, Co-Founder & CEO, Impact Hub Almaty.

The second panel discussion included:

- **Ms. Nazi Aripdzhanova**, Manager for Government Relations, Communications and Sustainable Development of the Central Asian Region, Coca-Cola Company;
- **Mr. Abdulazal Toshkhujaev**, Investment director, UzVC National Venture Capital Fund;
- **Ms. Başak Demir**, Founder, DCube Circular Economy Innovation Cooperative of Türkiye;
- **Mr. Ken Webster**, Doctor of Science, a world-leading expert in sustainability, pioneered the circular economy and until recently Head of Innovation at the Ellen MacArthur Foundation;
- (Moderator) **Ms. Anastasia Pankova**, International Consultant, UNECE.

Three start-ups from Uzbekistan engaged the audience into the showcasing of practical business cases in the circular economy:

- **Ms. Elizaveta Bogdanova**, CEO, Wasteless;
- **Mr. Kadirov Nodirbek**, CEO, Hydropower.Co;
- **Ms. Liya Yangurazova**, CEO, Yanguraz Upcycling.

Close to 150 in-person attendees tuned in for the session, including individuals from business, governments, NGOs, academia, and consultancy firms.



This document, containing a summary of discussions during the event, has been prepared by UNECE, with the goal of elaborating further support measures and building new partner-ships in support of UNECE programme countries in the area of innovation and entrepreneurship for the circular economy. It was drafted by Ms. Anastasia Pankova, International Consultant, under the UN Development Account project “Strengthening innovation policies for SPECA countries in support of the 2030 Agenda for Sustainable Development” administered by UNECE.

II. WHAT IS A CIRCULAR ECONOMY?

The circular economy presents a significant economic opportunity through innovative design while mitigating environmental harm. The circular economy requires a comprehensive approach considering the entire lifecycle of products. This emphasizes the importance of innovators continually addressing the question: What comes next for your product, component, or material? If you cannot provide a clear answer to this question, you may not be fully embracing the principles of a circular economy. The circular economy focuses on more than just recycling and waste management.

Four fundamental principles of the circular economy:

- It focuses on stock management rather than a flow-through system. The circular economy preserves the value and quality of stocks to minimize the loss of embodied resources as valuable assets.
- It exists in two central cycles: one involving technical products transitioning into products of service, and the other involving biological products of consumption.
- In the circular economy everything contributes to the system, guided by a design inspired by living systems.
- It emphasizes the shift to renewable energy sources and enhance energy efficiency.

The circular economy requires transformation in the way we produce, use, and manage products and materials:

- It begins with the “**Era of R**”, which focuses on techno-commercial strategies to keep goods and components at the highest value through refurbishing, remanufacturing, remarketing and other services. This shift challenges the traditional “make and sell more” model and requires businesses to adapt to new principles.
- The “**Era of D**” follows when a product reaches the end of its useful life. This phase is dedicated to ensuring that the purest components and atoms of the product are available for processing and reuse in new product components and materials.
- **Extended producer liability** in the circular economy urges manufacturers and stakeholders, including those in the supply chain, to ensure a clear understanding of where products are going and how they are being used. Information technology is at the heart of the circular economy’s next development, where data, business models, and design intersect. Various businesses are already working on initiatives in this area.

The circular economy business models might be structured into three key categories (Figure 1):

- **Circular input models** involve process design and circular supplies, aimed at creating products with extended lifetimes. For example, designing buildings that can be easily disassembled to recover high-quality materials. Instead of designing for abandonment, this approach adds value to buildings by considering their future deconstruction.
- **Circular use models** relate to usage, such as “Product as a Service”, and focus on selling performance rather than equipment. Sharing platforms and track-and-trace systems are also part of this, experiencing substantial growth.



One of the examples of the circular use models is Kaer, a South Korean company, that offers building heating and cooling services based on performance rather than equipment ownership. They customize equipment, maintain it, and charge for temperature outcomes. This business model incentivizes cost-efficiency and equipment reliability, making it an innovative circular economy approach by emphasizing performance over ownership.

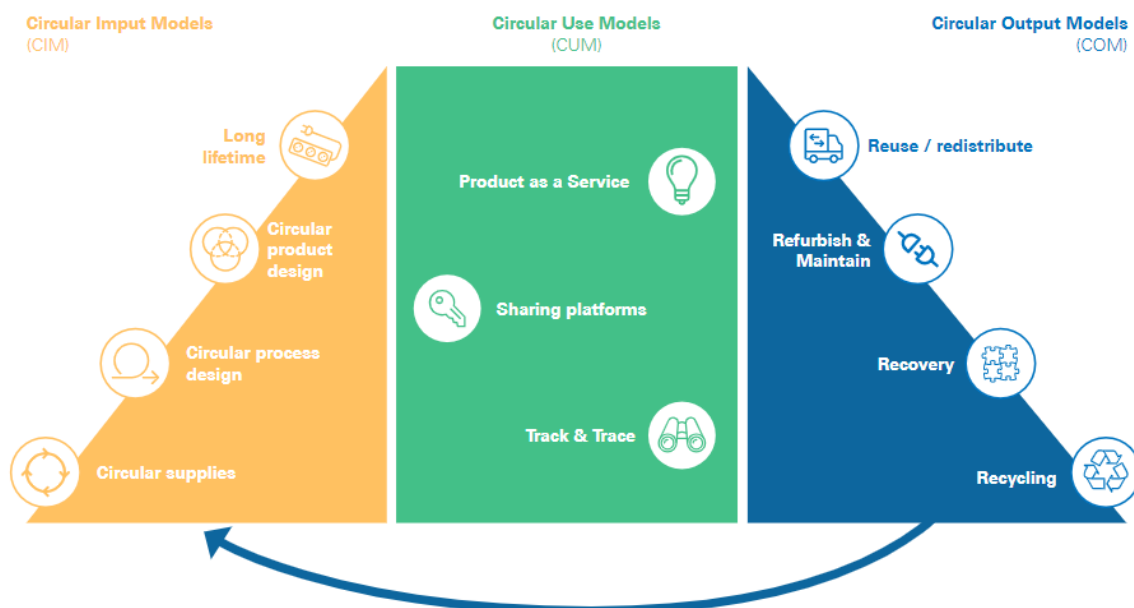
Another example is pay-per-using cold storage as a smart solution for small traders and farmers without their refrigeration. It allows them to access reliable refrigeration, paying only for the storage space they need. This model reduces food waste and improves resource efficiency, especially in less developed regions.

- **Circular output models** include actions like reuse, redistribution, recovery, and recycling as a last resort. For example, innovation in the circular economy takes place in Singapore, where approximately 40% of their water supply is obtained from the recovery of wastewater. This innovation goes beyond simply conserving water or managing it more efficiently, it's about turning wastewater into a valuable resource.

Figure 1

Examples of typical circular economy business models.

'The Value Hill' (Source: The Sustainable Finance Lab, 2016)



Some policy considerations to promote the circular economy:

- Recognize the true costs of fossil fuels and materials.
- Consider a shift from taxing individuals and renewable resources to taxing non-renewable resources, which might be more effective in terms of increasing employment and reducing resource waste.
- Not levy VAT on value-maintaining services in the circular economy. Offering carbon credits for storing embodied CO2 could be a possibility.
- Introduce green procurement, focusing on buying performance rather than objects.
- Facilitate business cooperation, encourage new thinking, and promote the use of data, product as a service, and extended product life as key elements of the circular economy.



III. THE CIRCULAR ECONOMY FROM A CORPORATE PERSPECTIVE

The circular economy is an evolving concept with a growing interest in Uzbekistan. Despite the prevalent perception that funding is the predominant concern for companies, it is highlighted that pursuing innovative ideas aligned with the Sustainable Development Goals (SDGs) can yield economic benefits, reducing costs and providing additional revenue streams. Such endeavours generate interest in exploring how to effectively commercialize these projects, benefiting both start-ups and established companies. The increasing interest in sustainability among corporations is primarily driven by the financial benefits. It has shifted from being seen as charitable work to a strategic investment that promises long-term profits. However, there is a barrier, with many companies perceiving sustainability as requiring substantial upfront investments. Circular economy practices in the private sector in Uzbekistan arise particularly among transnational corporations but have not yet been mainstreamed in state-owned enterprises or national companies (Box 1).

In the neighbouring context, in Kazakhstan, sustainable development and the circular economy are important but still emerging areas. Sustainable practices, such as ESG, are being adopted by organizations, but the circular economy is not widely discussed at the state level. Partnerships and collaboration in Kazakhstan are driven by shared values and vision. As such, large companies are beginning to explore impact investing and involve employees in innovative initiatives.

In strategic partners of Uzbekistan like Türkiye, the evolving situation of the circular economy is influenced by the European Green Deal. The EU's Carbon Border Adjustment Mechanism is motivating Turkish industries to explore sustainability, circular economy principles, new business models, and strategies for decarbonization. Turkish businesses, with strong economic ties to Europe, have been taking sustainability more seriously due to the European Green Deal's impact on various commercial and political aspects. The conference discussion highlighted how, in Türkiye, decarbonization primarily leans on renewables, but it was noted that depending only on renewables falls short. Concerns were raised about potential shortages if the use of current materials or reserves persists, risking system failure. The importance of understanding the relationship between material scarcity, decarbonization, and climate risks was emphasized.

Box 1

Corporation Case-Study: The Coca-Cola Company

The Coca-Cola Company is transitioning from a linear economic model to a circular one by integrating SDGs and circular economy principles into its business. The company aims to replenish water in nature to counterbalance its water consumption. They invest in water stewardship projects in Uzbekistan and ensure they give back to nature the same amount of water they use in their products.

Recycling is a central component of the company's circular economy strategy. It sells products in recyclable packaging and is working toward making all its packaging 100% recyclable by 2025. The Coca-Cola Company has already achieved this goal in Uzbekistan. Additionally, it plans to collect and recycle the equivalent of its production by 2030, emphasizing its commitment to reducing waste.

Collaboration with government authorities, civil society, and corporations, including start-ups, is a key strategy to implement sustainable development practices. The company values partnerships and has worked with environmental bloggers to raise awareness. They have seen success in increasing people's consciousness about environmental issues, and they continue to work on projects that contribute to a circular economy.



IV. THE ROLE OF START-UPS IN THE CIRCULAR ECONOMY

The increasing importance of sustainability in Uzbekistan reflects the government's efforts and growing business interest. It is an opportune moment for start-ups to offer innovative solutions that not only drive profits but also incorporate sustainability principles, attracting corporate interest and fostering partnerships. Interdisciplinary interaction, networking, and collaboration with various stakeholders are crucial in achieving this.

Start-ups with innovative ideas and business models have the potential to help companies integrate sustainability practices into their operations. As noticed by speakers, most start-ups in Uzbekistan focus on helping businesses find new customers and making their work easier using new technology. Additionally, a segment of these start-ups aims to tackle societal challenges like poverty and inequality. However, a noticeable trend is the prevalence of start-ups in their initial planning phase, particularly those dedicated to social causes. These start-ups often face challenges in obtaining sufficient funding and establishing commercial viability.

The main challenges identified for start-ups in Uzbekistan by participants of the discussion include bureaucratic hurdles and corruption, lack of market understanding, limited adoption of sustainable economic development concepts, intellectual property and copyright ambiguities, and attracting investors. These challenges impede the progress of start-ups in the country.

Box 2

Start-up Case-Study: Wasteless

Wasteless is a start-up that aims to address the issue of plastic pollution and increase environmental responsibility among businesses in Uzbekistan. The start-up created an app that optimizes plastic waste collection, bringing together HoReCa businesses (food, catering, hospitality, and service industries) and recycling companies. Secondary materials, like plastic bottles and packaging film, are utilized in various applications in Uzbekistan, including clothing insulation, such as synthetic fibrefill found in jackets like those from Hugo Boss.

Wasteless uses artificial intelligence to optimize plastic collection routes, reducing the environmental impact of waste collection.

Sustainability:

- Using the application restaurants can earn additional income by collecting 5-7 kg of plastic bottles per day, enhancing their brand's social and environmental responsibility.
- Over 80% of cleaners in HoReCa businesses in Uzbekistan are women, often earning low salaries. Wasteless allows them to earn more by encouraging restaurants to redirect additional income as bonuses for cleaning workers. Thus, the business model aligns with SDG 5, focusing on gender equality.
- Wasteless provides eco-labelling to the participating restaurants, promoting waste sorting and environmental improvement.

Challenge:

- Low profitability at the on the early stages of work.

Partnerships:

- Support from the Coca-Cola Company.



Box 3

Start-up Case-study: Kadyrov Hydro Pump

Kadyrov Hydro Pump is a start-up that offers an innovative way to address energy consumption in the agriculture sector, saving on electricity and promoting eco-friendly irrigation methods. The start-up developed a piston-type hydro pump that operates within water currents without the need for electrical energy. It converts kinetic energy into mechanical work to lift water to a height of 20 meters and above. The technology offers significant energy savings.

Sustainability:

- The pump contributes to energy conservation and more environmentally friendly agricultural practices, specifically in irrigation.
- As the pump does not require electricity or fuel to operate it reduces electricity expenses can decrease the cost of agricultural products and improve the economic stability of customers (resulting in lower fuel costs). Electric and liquid-fuel pumps contribute to 25-30% of the cost of agricultural products in Uzbekistan.

Challenge:

- Uncertainty regarding the methods to promote and scale their hydro pump.

Partnerships:

- Support from the C.A.T. Science Accelerator.

Box 4

Start-up Case-Study: Yanguraz Upcycling

Yanguraz Upcycling focuses on the practice of upcycling in Uzbekistan. The start-up transforms old and discarded items into trendy and functional products, reducing the amount of waste entering landfills. Upcycling offers a sustainable solution by reducing waste, lowering the need for new clothing production, and conserving natural resources.

Sustainability:

- The start-up contributes to reducing the environmental impact of the textile industry and promotes sustainable fashion practices in Uzbekistan.

Challenges:

- Lack of public education.
- Difficulty to change mindset of sewing workshops reliant of traditional linear practices.
- Reliance on outsourcing and the quality of second-hand supplies.

Partnerships:

- Support from the GIZ Fashion Incubator Tashkent.

V. PRIVATE SECTOR COLLABORATION IN THE CIRCULAR ECONOMY

Innovation in the business ecosystem often involves collaboration between businesses. The circular economy is not just about individual companies but how they collectively add value to the industry or region. By presenting innovative solutions that align with sustainability principles, start-ups can attract the interest of corporations and initiate collaborative projects.



The synergy between these start-ups and corporations emerges as a pivotal collaboration. Together, they tackle critical challenges such as waste recycling and sustainable development, driving innovation while benefiting from each other's strengths. However, it is not a one-size-fits-all scenario. Not all local companies should support every start-up. Instead, companies should align their support with their strategic goals, especially focusing on sustainable growth.

The conference discussion revolved around the shifting roles of start-ups, often being acquired by larger firms, which absorb their innovation due to their inability to scale ideas independently. While the acquisition of start-ups by larger entities often raises concerns, in Uzbekistan it underscores success and validates the impact these start-ups have made. Success is not solely defined by acquisition but rather by the impact a start-up creates. Even if absorbed by larger entities, the founders' ability to reinvest in new ventures fosters an ongoing cycle of innovation.

In the coming future, the speakers anticipate that the government, corporations, and start-ups will adopt a more conscientious approach to finding solutions amidst inflation and dwindling resources. This shift in focus is expected to pave the way for precise solutions and create a promising outlook for establishing a circular economy in Uzbekistan.

Platforms like accelerators, innovation hubs, and other this kind of brokers play a vital role in facilitating collaboration among corporations and start-ups. For example, the DCube, a circular economy consultancy company focuses on facilitating the transition to a circular economy in Türkiye and neighboring regions. It assists industries in assessing and improving their manufacturing processes with a focus on sustainable manufacturing. Another example is Impact Hub Almaty – part of the international Impact Hub network, focusing on co-working spaces, start-up incubation, and acceleration, as well as community building. They are also exploring the circular economy and its integration into their work.

Box 5

Acceleration Programme Case-study: Milly Hub

“Milly Hub” is an innovative platform within the National Office for Innovation Implementation and Technology Transfer of Uzbekistan. It integrates acceleration and innovation programs focused on fostering start-ups in the scientific domain. Their approach encompasses collaboration with universities, students, doctoral candidates, and research centres. Sustainability focus revolves around resource-efficient practices and innovations, contributing to the advancement of a sustainable economy and circular consumption models.

Partnership development is a key aspect of the program, aiming to propel local projects into the international market. Collaborations with organizations like Plug and Play, known for their expertise in incubation and acceleration programs, and the World Bank for grant programs enhance the program's reach. Additionally, they benefit from the support of the Ministry of Higher Education, Science and Innovation which provide funding for early-stage start-ups.

Over the past year, the program initiated an **acceleration program tailored to university students**. This inaugural cohort includes master's and doctoral students engaged in scientific fields. The program has attracted a diverse portfolio of start-ups that directly engage with sustainable development, specifically in agriculture, biotechnology, chemistry, water resources, and energy-saving resources. An illustrative project harnesses solar energy to generate electricity, circumventing the reliance on traditional energy sources and associated expenses. This project showcases how local entrepreneurs from Uzbekistan can develop innovative, sustainable solutions.

Complementing the acceleration program, Milly Hub is developing **specialized professional courses for leaders of technology commercialization departments at universities**. The goal is to prepare these leaders and staff to adhere to international standards in commercializing scientific projects, moving them from the research stage to the local market and subsequently scaling them.

Experience of Milly Hub indicates that there is the need in Uzbekistan in comprehensive assistance and capacity building to start-ups in defining their target audience, enhancement of awareness of sustainable economic development, resolution of intellectual property issues, and strategic investors.



VI. IDENTIFIED CHALLENGES

Finance related:

- Many corporations in Central Asia perceive sustainability as requiring significant upfront investments. This can deter them from embracing sustainable practices.
- Securing investment for start-ups in Uzbekistan remains a challenge, particularly in a context where investors may not fully understand or appreciate the long-term benefits of sustainable development initiatives.

Policy related:

- The absence of policies and regulations in Central Asia to encourage circular economy practices.
- Fragmented efforts and a lack of a systemic approach in Central Asia hinder the development of the circular economy.
- Protection of intellectual property rights for innovative ideas, designs, and technologies. Issues around intellectual property and copyright particularly arise in the context of projects developed within universities in Uzbekistan and also in Kazakhstan. The absence of clear legislative regulations can lead to confusion and disputes.

Knowledge and capacity related:

- Lack of awareness and understanding about the benefits of sustainability and the circular economy, especially among smaller businesses and start-ups. The circular economy concept is not widely known and discussed in Central Asia, leading to a lack of interest and engagement.
- Lack of collaboration across various disciplines within start-ups while circular economy innovation often requires expertise from designers, engineers, tech developers, and material technology experts.
- Lack of market understanding. Start-ups in Uzbekistan often struggle with understanding their target audience and long-term sustainability. This hinders their ability to create products or services that effectively meet market needs and contribute to sustainable development.

VII. IDENTIFIED SOLUTIONS TO DRIVE INNOVATION FOR THE CIRCULAR ECONOMY IN UZBEKISTAN

Provide regulatory support:

- Introduce and enforce regulations that favour sustainability, including product design standards, waste management policies, and emissions targets.
- Find a balance between transitioning to a circular economy and addressing existing rules favoring linear economic models, while revising regulatory framework that supports circular economic principles without hindering market competitiveness.
- Develop standardized metrics for measuring sustainability and reporting on progress to help businesses track their environmental and social impacts, leading to better decision-making.
- Advocate for the creation of clear legal frameworks regarding intellectual property and copyright issues to resolve ambiguity and encourage innovation.
- Establish policies or mechanisms that prevent excessive dominance by a few major corporations in a circular economy setup, fostering competitive diversity for a healthier market.



Provide funding opportunities:

- Create funding opportunities specifically for sustainable start-ups. Venture capital firms and impact investors can also focus on supporting green initiatives.
- Encourage start-ups to explore international market opportunities by offering support and resources for global expansion.

Facilitate and build partnerships:

- Promote collaboration between public and private sectors to create a conducive environment for circular economy practices.
- Create platforms that facilitate collaboration and knowledge sharing among start-ups, corporations, research institutions, and governmental bodies. Apart from information-sharing sessions, matchmaking sessions and B2B meetings are crucial for designing new solutions. These platforms should facilitate collaborative efforts across the entire value chain, encouraging cooperation between various businesses to benefit from evolving value chains. For example, the Circular Economy Week of Türkiye brings together stakeholders from various sectors, including businesses, chambers, and international partners, to share experiences and foster interdisciplinary collaboration.
- Collaborate with foreign countries to exchange good practices and experience. For example, Türkiye partner with countries like France, focusing on repairment indices, Germany, which emphasizes green procurement, and Denmark, known for eco-industrial parks.

Change mindset and strengthen knowledge:

- Conduct educational programs and awareness campaigns to inform businesses and individuals about the circular economy. Encouraging consumers and businesses to adopt more sustainable practices can be challenging, as it often requires a change in behaviour and mindset.
- Invest in training and capacity-building programs to equip businesses and individuals with skills for the circular economy.
- Develop and promote incubation and acceleration programs that provide guidance and mentorship to start-ups, with a focus on market understanding and sustainability principles.

