



# NEAR ZERO WASTE IN TURKEY

## MOVING TOWARD A CIRCULAR ECONOMY BY MONETIZING WASTE

CASE STUDY - DECEMBER 2019

### DEVELOPMENT CONTEXT

Turkey's waste management infrastructure is insufficient to cover the country's needs and has not kept pace with increased industrial activity and population growth. In 2010, the waste sector contributed 8.23 per cent of the country's greenhouse gas (GHG) emissions which was about four times the average share among United Nations Framework Convention on Climate Change Annex I countries (IPCC 2007). The result was high GHG emissions, particularly of methane and nitrous oxide, due to activities such as waste disposal in controlled or wild landfills/dump sites, wastewater treatment and discharge systems, and waste incineration and composting. Besides the negative environmental impacts, large volumes of landfilled waste cause outbreaks of infectious diseases, exposure to harmful substances, damage to biodiversity, land degradation, and soil and groundwater contamination.

### NEAR ZERO WASTE (NØW) PROGRAM

To encourage circular economy<sup>1</sup> practices in Turkish industry that would minimize industrial waste, the European Bank for Reconstruction and Development (EBRD) launched the Near Zero Waste (NØW) program in 2015 with three interlinked components: 1) selected sub-projects supported by concessional financing from the Climate Investment Funds' (CIF) Clean Technology Fund (CTF) and technical assessments to help companies adopt new waste minimization techniques and technologies, 2) policy dialogue to strengthen legislative and regulatory frameworks around waste minimization, and 3) knowledge sharing activities to encourage implementation of best practices. By reducing first-mover risks and showcasing successful demonstration projects, the program aimed

to inspire wide replication of successful approaches that would reduce GHG emissions.

## NEAR ZERO WASTE PROGRAM

### PROJECT COST

USD 220 million<sup>2</sup>

### FUNDERS

EBRD, CIF, EU IPA

### IMPLEMENTING AGENCY

EBRD

### PROJECT DURATION

2015-2020<sup>3</sup>

### COUNTRY SERVED

Turkey

- 1 In a circular economy, waste is eliminated through the continuous use of resources to derive maximum value before sustainable disposal.
- 2 Approximate amount as some figures are in USD and others are in EUR
- 3 Closing date may be extended

## DELIVERY CHALLENGES

As the program was implemented and the scale of the challenge came into better focus, NØW implementers realized that more was needed to remove barriers to change and reach the scale they were aiming for. They identified two delivery challenges that were limiting success. First, it became apparent that implementation of demonstration projects alone was not sufficient to overcome the entrenched lack of knowledge and awareness among business leaders. Second, complex regulatory and legal requirements made it difficult to use and trade waste limiting the program's potential impact.

## OVERCOMING DELIVERY CHALLENGES

To address these delivery challenges, the EBRD identified and implemented two solutions:

- 1 | Establishment of the Turkish Materials Marketplace (TMM)**, a first-of-its-kind business-to-business marketplace in Turkey built on the concept of a circular economy. The TMM includes a dedicated e-commerce platform where participating companies can exchange underutilized materials, share knowledge through events and workshops, and receive research grants to help identify investments related to waste minimization.
- 2 | Completion of a study on a complicated regulatory requirement called the end of waste (EoW) criteria.** The EoW criteria specifies when certain waste can be used as secondary raw material, becoming a useful input instead of waste. The study included guidance on legal, institutional, and operational frameworks required to implement the EoW criteria in Turkey.

## EMERGING LESSONS AND OUTCOMES

Together with its nine sub-projects, the TMM and EoW study led the NØW program to outperform its planned targets. As

of 2019, it had achieved annual direct and indirect savings of 500,000 tons of CO<sub>2</sub>e per annum, five times the target set at the beginning of the program at 100,000 tons of CO<sub>2</sub>e per annum. It proved the success of previously untested models, techniques, and technologies and accelerated the pace of change toward circular economy principles.

The TMM is the first successful materials marketplace established in Turkey at the national level. Past efforts were not as successful and no attempt was ever made at this scale. The unique combination of knowledge and materials became key to TMM's success. The EoW study developed a practical roadmap for the Ministry of Environment and Urbanization (MoEU) to implement the EoW criteria. The MoEU endorsed most of the recommendations provided by this study.

The NØW program demonstrated the importance of blended finance to remove first-mover disadvantages and the importance of adaptability in program implementation. It directly addressed stakeholder concerns and had high, visible impact due to its early and continuous stakeholder engagement to address both technical and knowledge barriers.

## LOOKING AHEAD

Given the success of the NØW program, the EBRD plans to extend it beyond its planned closing date of May 2020. In the next phase of the program, the EBRD envisions moving companies toward more circular economy business models that plan holistically about the entire life cycle of products and full value chains of companies instead of specific techniques or technologies. Other components of the program may also be expanded including the TMM and additional regulatory support to the Turkish government.

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