

## Kyzylorda Solid Waste Management Project

Public Consultation 26.5.2016

# Structure

1. Introduction
2. NTS
3. ESAP
4. LRP
5. PIP
6. Waste tariff
7. Financing Plan
8. Project schedule

# Non-Technical Summary

# Project Introduction

## Background

- **Memorandum** on the joint realization of the Solid Waste Management Project in the city of Kyzylorda between Akimat of Kyzylorda Region, Akimat of Kyzylorda City and European Bank for Reconstruction and Development signed as of November, 2014.

## Objectives

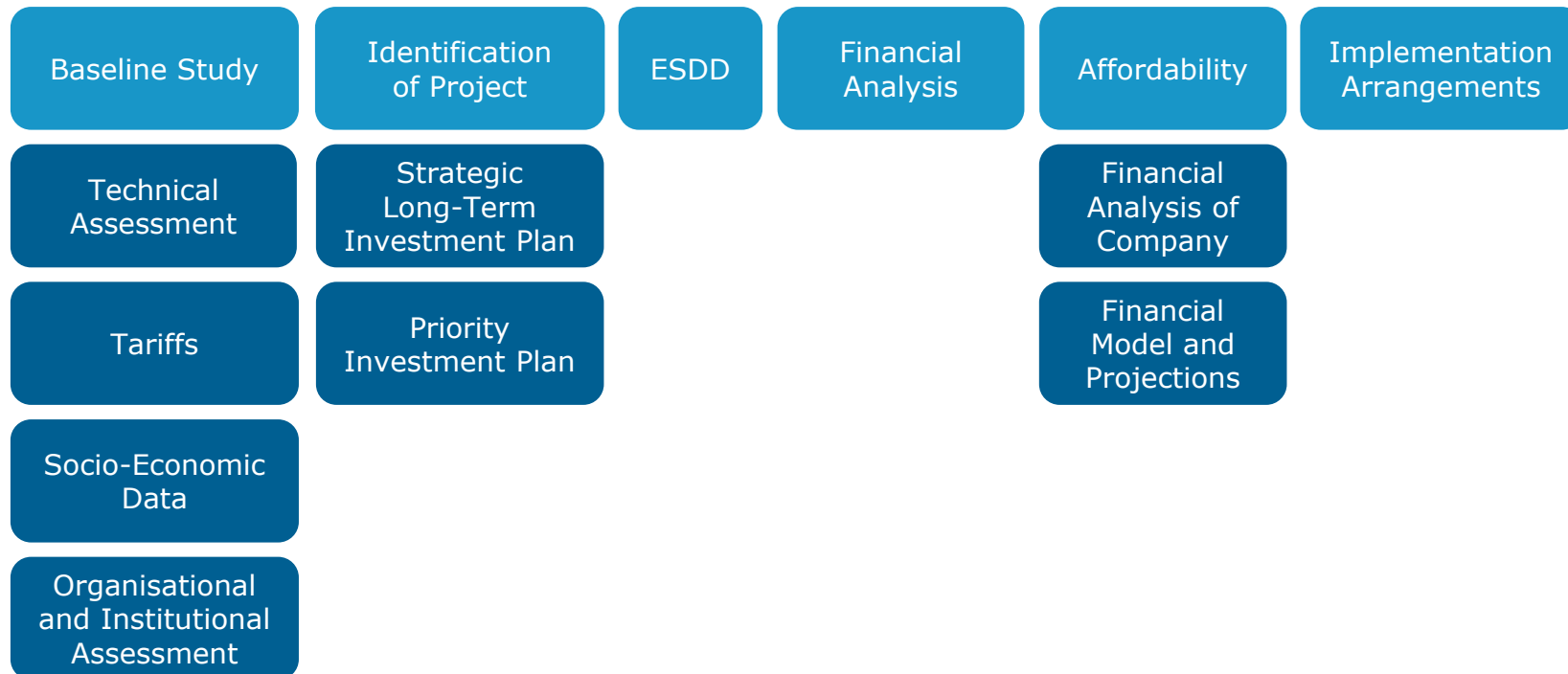
- **Improve service, efficiency and environmental and social compliance** of the municipal solid waste management system in Kyzylorda

## Targets

- New modernized **separate waste collection system** (biowaste and mixed waste)
- **Modern equipment:** landfill machineries, new containers and waste transportation vehicles
- **New landfill** established with BAT
- **Mechanical waste treatment plant**
- **Biological Waste treatment plant**
- **CHP** working on produced biogas
- **Closure of the existing landfill (not a part of Solid Waste Management Project).**

# Scope of Work

## Outline of the Project



# Current MSW Treatment and Disposal

Current MSW is based on **landfilling**

- One authorized landfill but **seven unauthorized disposal dumps**
- MSW is collected as **mixed waste**
- Only **small amount of recyclables** are separated at the landfill (possibility of separate collection for enterprises)



## Existing Landfill

- **Sanitary buffer is violated**
- Unsystematic filling
- No compacting (no landfill vehicles)
- No water impermeable bottom structure
- Landfill fires
- **Capacity exhausted**



## MSW Collection

Current System/  
Mixed waste



-  no separation at consumer
-  no possibilities to recycle for consumers

Future System/  
Separate collection



Biowaste



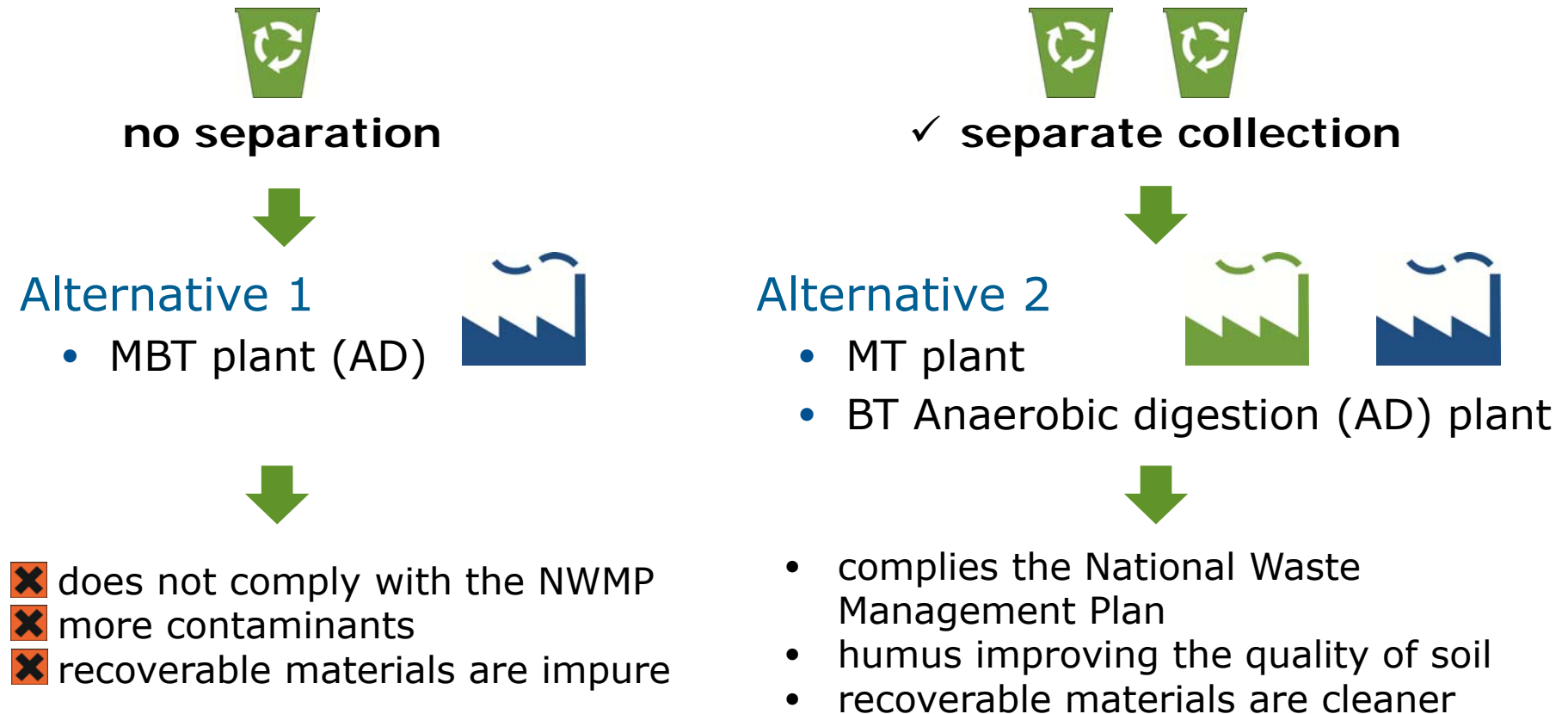
Other waste



New vehicles



## Collection Alternatives: Comparison

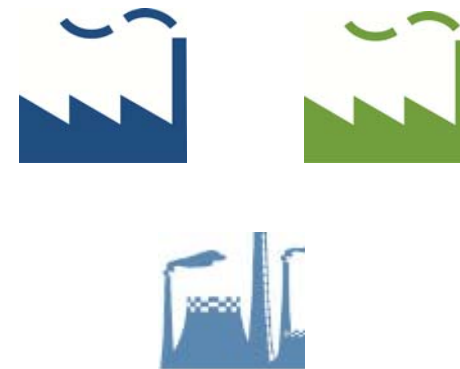


# Modernized Waste Management System

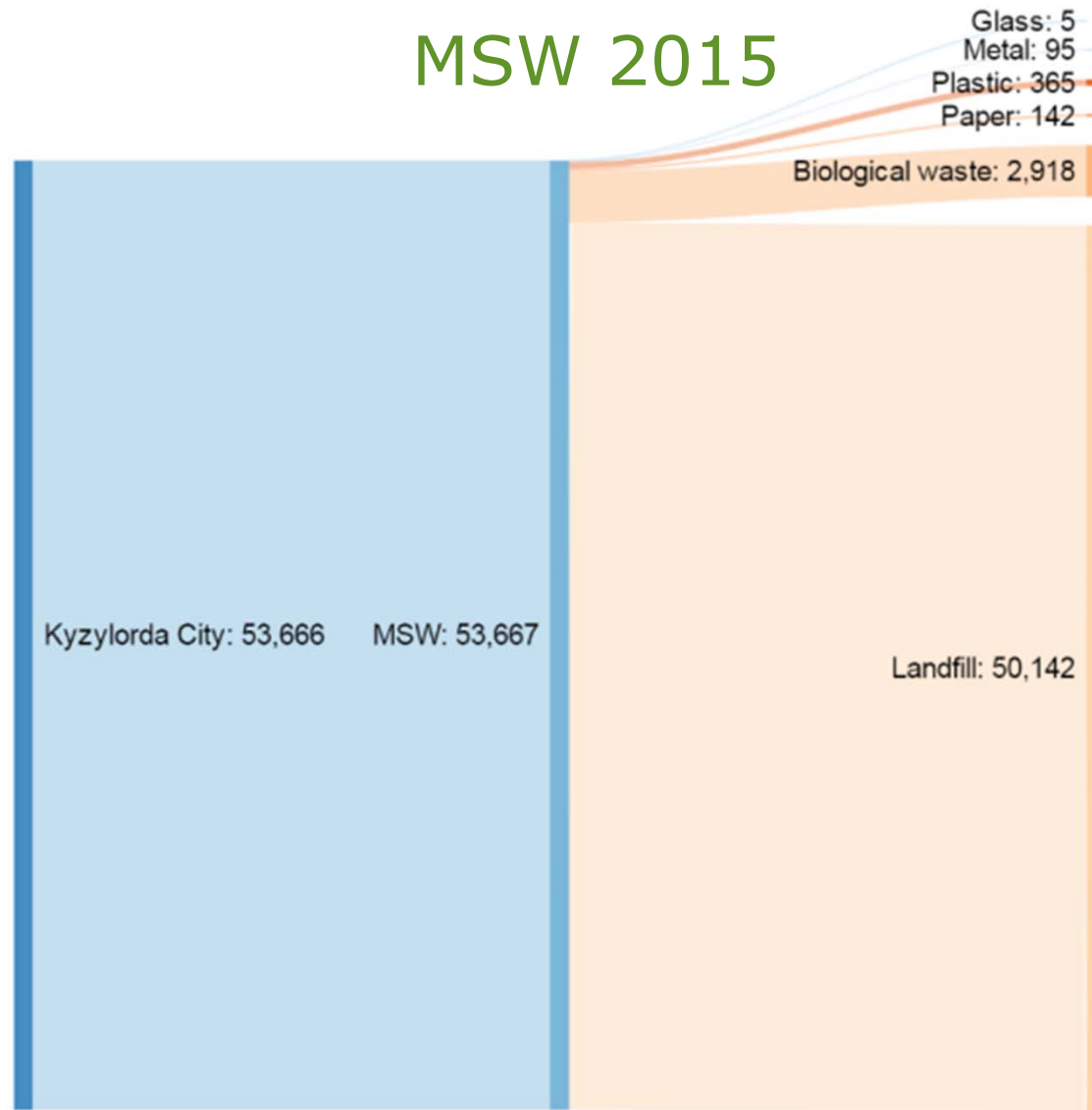
Main target: Generation of "green" energy

## Project components

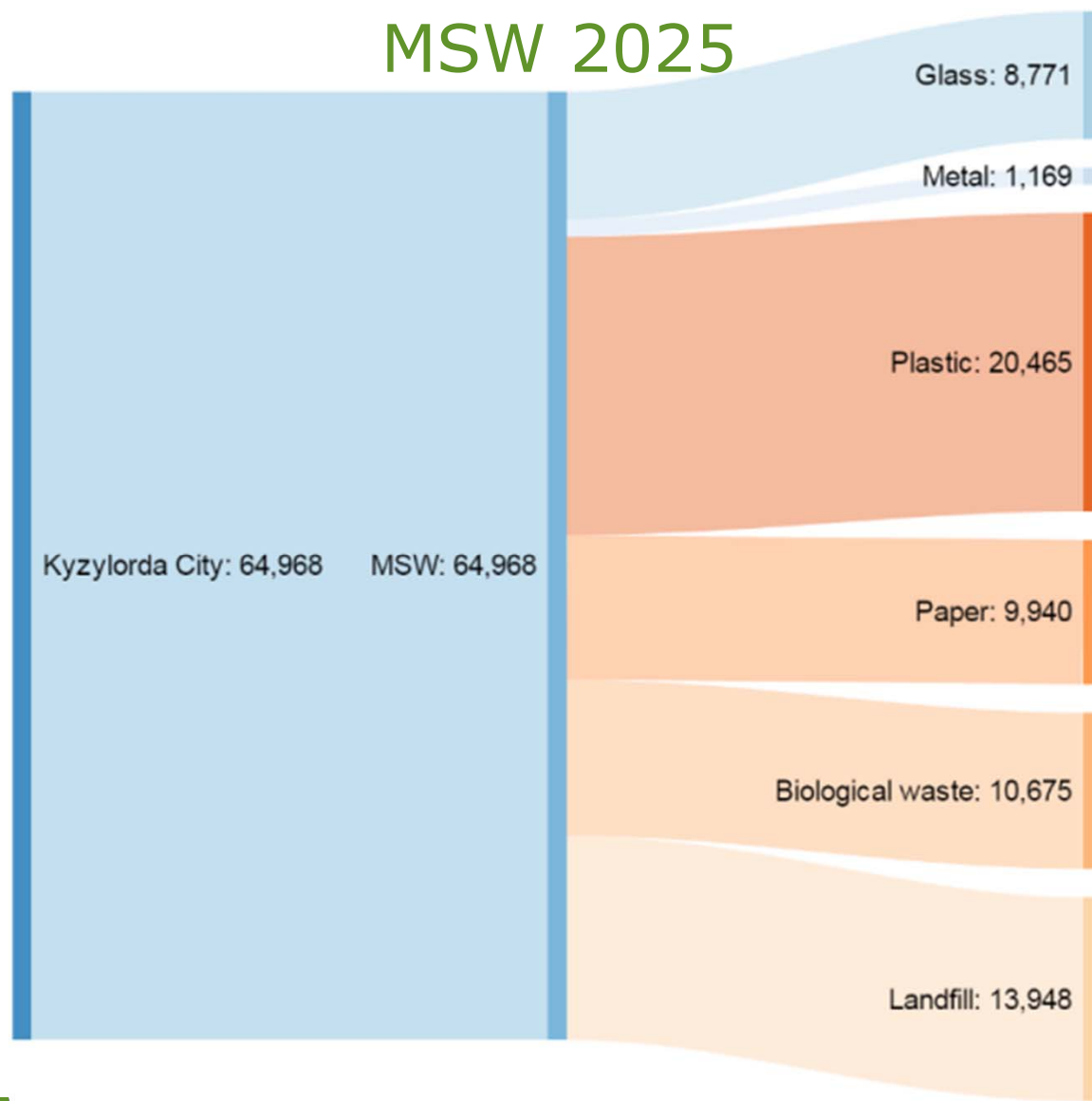
- Mechanical Separation Plant
- Separate collection of biowaste with separation at source
- Anaerobic Digestion Treatment Plant
- CHP working on biogas
- New landfill
- Closure of existing landfill



# MSW 2015



## MSW 2025



# Priority Investment Plan

## PIP targets

### Targets:

- learn from experience identifying the actual waste amounts
- educate population into a waste separation system
- slowly introduce a new waste management system providing a time to adjust to a change

## PIP

### Phase I: 2017-2018

- Access road
- New landfill
- Mechanical treatment plant with manual separation
- Truck and containers for residual waste
- Detailed design of the biological treatment plant
- Company development: MIS, Corporate Development, PIU support

## PIP

- Phase II: 2019-2020
  - Automation of the Mechanical Treatment Plan
  - Construction of Biological Treatment Plant
  - Mini CHP Plant
  - Garbage trucks and containers for biowaste
  - Detailed design
  - Consulting services for PIU Support
  - Company development: Corporate Development, PIU support

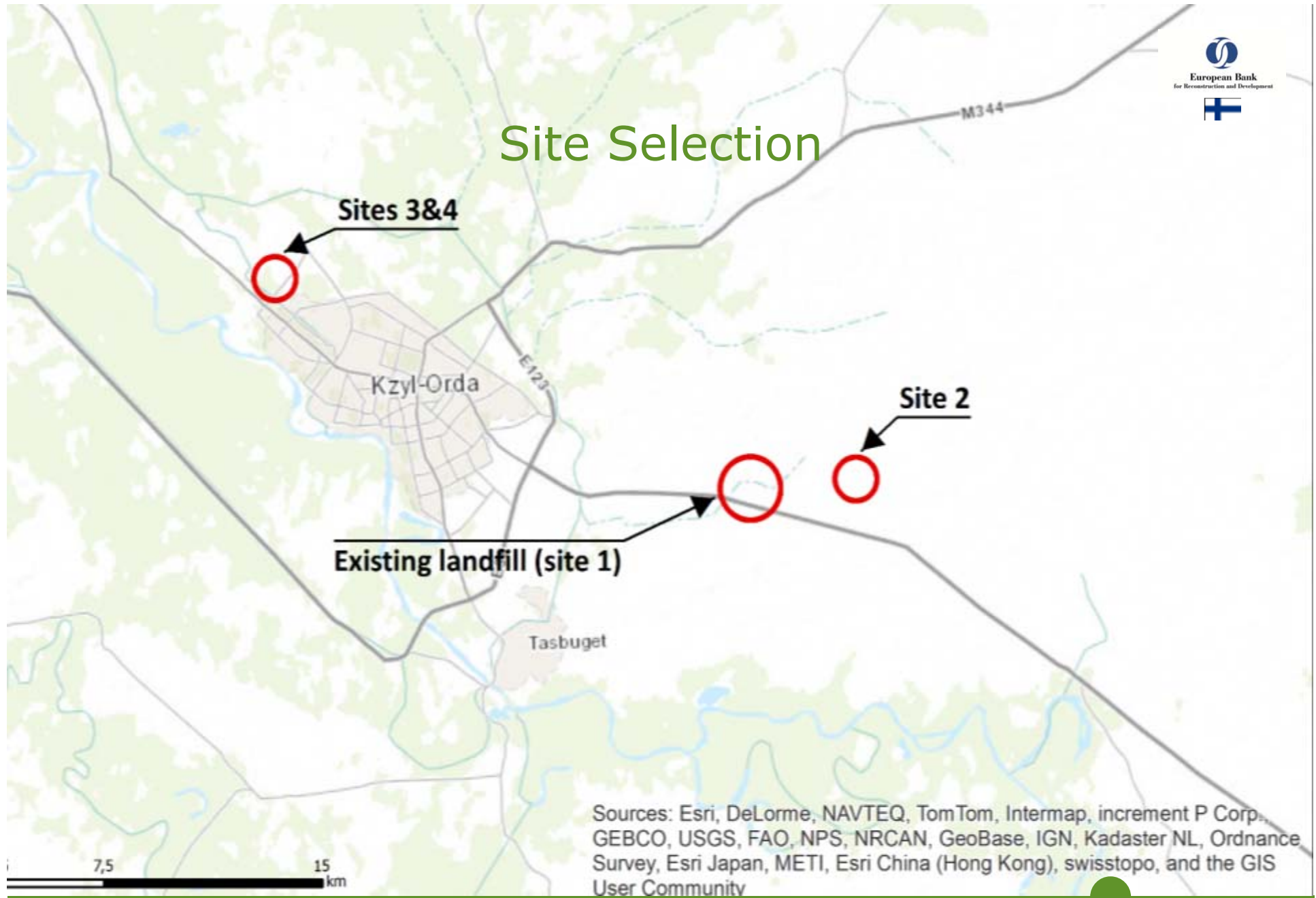


# Result – Best Available Technology



Anaerobic Digestion Plant

# Site Selection



# Site Mapping

		Site 1	Site 2	Site 3	Site 4
1	Size and capacity of the site	+	+	+	~
2	Infrastructure availability on the site available as today*	~	~	+	+
3	Sanitary buffer zone around landfill (1000m)	-	+	-	-
4	Sufficient distances form habitation clusters	+	+	-	-
5	Water bodies within buffer zone	+	+	-	-
6	Forest area within buffer zone	+	+	+	+
7	Protected area within buffer zone	+	+	+	+
8	Airport distance minimum 15 km	+	+	-	+
9	Ground water level	~	~	-	-
10	Wind directions	~	~	+	+

Suitable -

Partialy suitable -

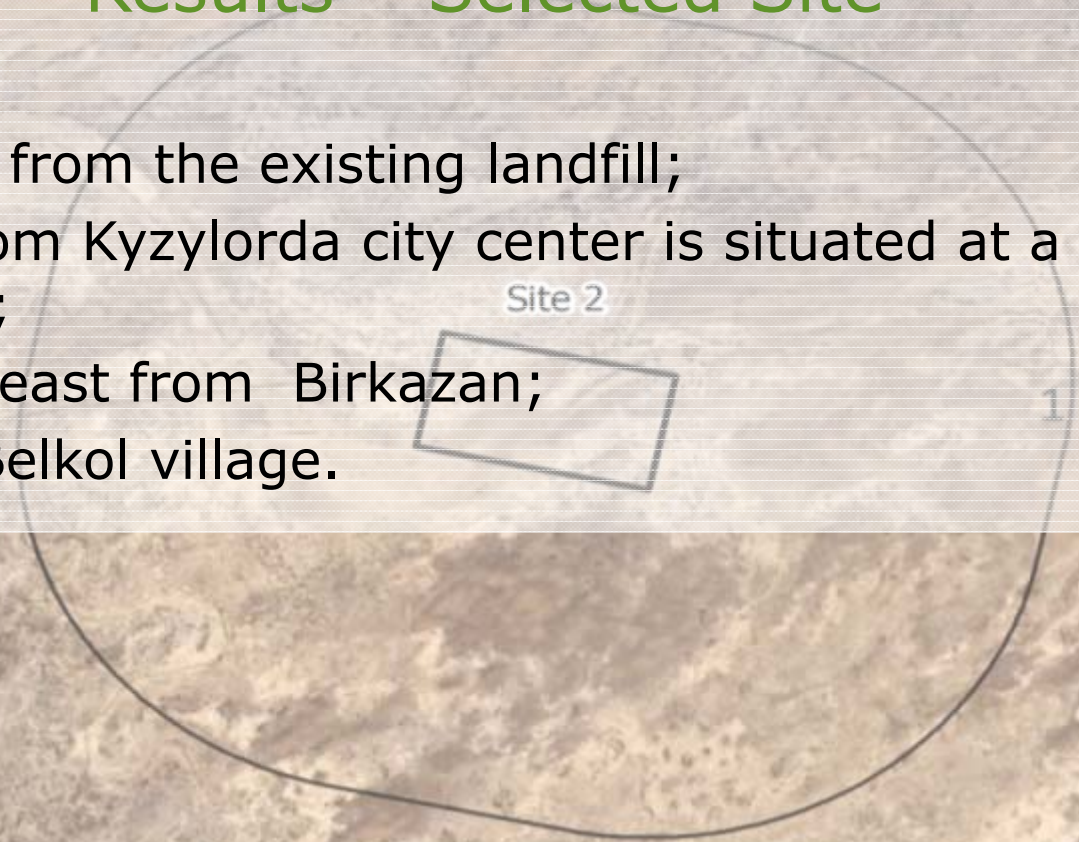
Unsuitable

+
~
-

\*Waste water, electricity, technical and drinkable water

## Results – Selected Site

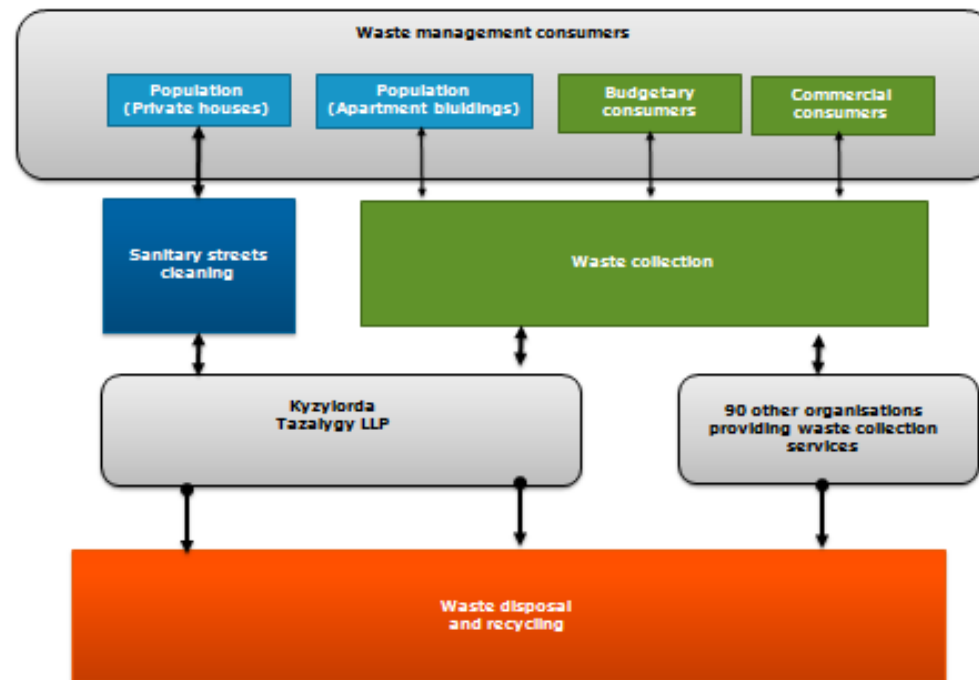
- 3,7 km east from the existing landfill;
- ca 10 km from Kyzylorda city center is situated at a distance of ca 10 km;
- 7 km south-east from Birkazan;
- 7 km from Belkol village.



# Operator

## Kyzylorda Tazalygy

- main waste management company in the city providing sanitary streets cleaning service and waste collection and transportation from consumers
- owned by Akimat of Kyzylorda city



# Project impacts

Benefits	Negative impacts
increased efficiency in recycling of waste	increase in tariff
decrease in relative landfilled waste volumes	waste-pickers lose their current livelihood
decrease in fires, odor and soil, surface and ground water contamination	change in waste management personnel and possible unemployment
reduction of greenhouse gas emissions	increased noise hazard during construction phase
reduced noise impacts	increased risk for soil, surface and ground water contamination during construction stage
generation of green electricity and heat energy	
improved monitoring system	
improved working conditions and safety	
reduction of waste thrown in the street	
improved awareness of the general public on waste disposal rules	
new workplaces for different social groups	
improved road safety and access to the cemetery	

# Environmental and Social Action Plan

## ESAP

Actions	Comments
Environmental Management Policy, Plan and Monitoring Plans	including construction, operation and decommissioning, pollution prevention and control, resource efficiency, greenhouse gas emissions, waste water treatment, ground water
Capacity Building for the Company	including HR policies, Occupational Health and Safety, Non-Discrimination and equal opportunities
Grievance Mechanism	all grievances are answered within 30 days since their registration and grievance log is kept and constantly updated
Livelihood Restoration Plan	training/vocational education programme priority line when applying for a job at the new facilities
Stakeholder Engagement Plan	public education campaign, monitoring mechanisms, training programme for affected people



# Livelihood Restoration Plan

# Livelihood Restoration Plan

## objectives & targets

- This Livelihood Restoration Plan (LRP) is a part of the efforts to ensure the social sustainability of the Project and to achieve a long term social license to operate.
- Targets:
  - ✓ to identify all **affected persons/vulnerable groups**
  - ✓ to identify the **assets and resources** that the existing landfill has provided for the affected people
  - ✓ to provide **employment/subsistence** to the affected people
  - ✓ to improve the **living conditions** of the affected people
  - ✓ to improve the **health and safety** of the working conditions

## Livelihood Restoration Plan general information

- 15-20 people whose livelihood derives from waste picking at the landfill
- No people currently living at the landfill
- **Hazardous working environment**
- Mainly, waste pick at the landfill due to **inability to get employed elsewhere**

# Livelihood Restoration Plan targeted assistance

- **Employment opportunities** with a **Priority line** at the New Facilities (Kyzylorda Tazalygy), for example as:
  - waste transportation
  - waste separation and sorting
  - reception and cashier
  - security
  - cleaning, etc.
- **Training/Vocational Education Programme** (City Akimat, Committee on Labour, Social Protection and Migration)

# Livelihood Restoration Action action plan

- **What?** Census
- **Why?** to register all people wishing to participate in the targeted assistance
- **Where?** at the operating landfill, village Belkole and local scrap yard
- **When?** the training programme is developed and the training possibilities at the new Facilities are available but far in advance before the closure of the existing landfill (beginning of the year 2018)

# Livelihood Restoration Plan actions taken

- 21 May 2016 – consultation with waste pickers
- Location: landfill and local scrap yard
- Targets:
  - project introduction,
  - Livelihood Restoration Plan disclosure,
  - consultation on the action plan and further steps



## Livelihood Restoration Action monitoring

- **The Company and City Akimat** ensure fair access and duly implementation
- **Monitoring Committee** will be established for a working group developing and implementing a training programme (City officials, Kyzylorda Tazalygy, independent consultant)
- Complaints will be monthly revised by the assigned Grievance Manager:
- **Mr. Rysbek Abzal Rysbekuly**,  
email: [abzal\\_0404@mail.ru](mailto:abzal_0404@mail.ru)  
phone: 8 777 457 66 96

# Waste tariff



# Current MSW System

## Waste tariff



2012 2013 2014

## Inflation

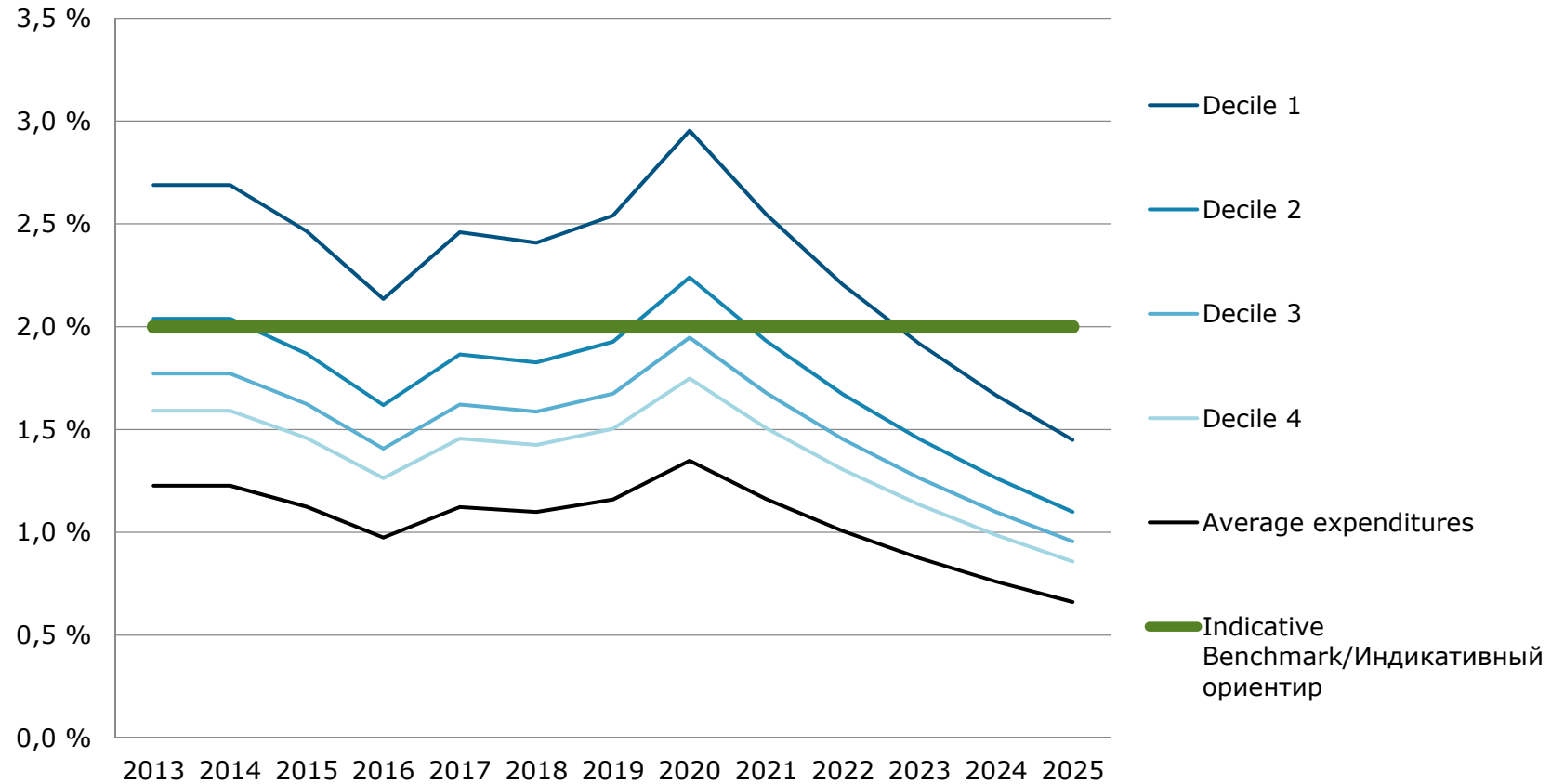


2012 2013 2014

# Tariff affordability

Average family: 2 breadwinners, 2 kids

## Share of income used for Waste, BASE CASE



# Financial Plan

## Financial Model

- **A comprehensive financial model** of Kyzylorda Tazalygy has been developed in order to calculate the revenue required for securing the long-term sustainability of the company and to create pro forma financial statements going forward
- Thorough **affordability analysis** has been carried out in order to ensure the **tariff level** stays within **acceptable affordability level**
- **Sensitivity testing** has been done with respect to changes in investment cost, wage growth, collection rate and financing costs
- The base case assumptions have been developed by the Consultants in cooperation with the **EBRD**
- The financial modelling covers **20 years** until 2035

# Financing Plan

## PHASE 1: Implementation period – 2017-2018

COMPONENTS	USD mln	%
Development of a new sanitary landfill	5,7	31 %
Acess road to the new landfill	3,6	20 %
Construction of a mechanical plant	2,3	13 %
Trucks	0,9	5 %
Landfill machineries	0,8	4 %
Bins and containers	0,2	1 %
Consulting services	0,9	5 %
MIS and others	0,9	5 %
<b>Total</b>	<b>15,2</b>	<b>83 %</b>
Closure of the existing landfill (GOK and Akimat)	3,0	17 %
<b>Total for Phase 1</b>	<b>18,2</b>	<b>100 %</b>

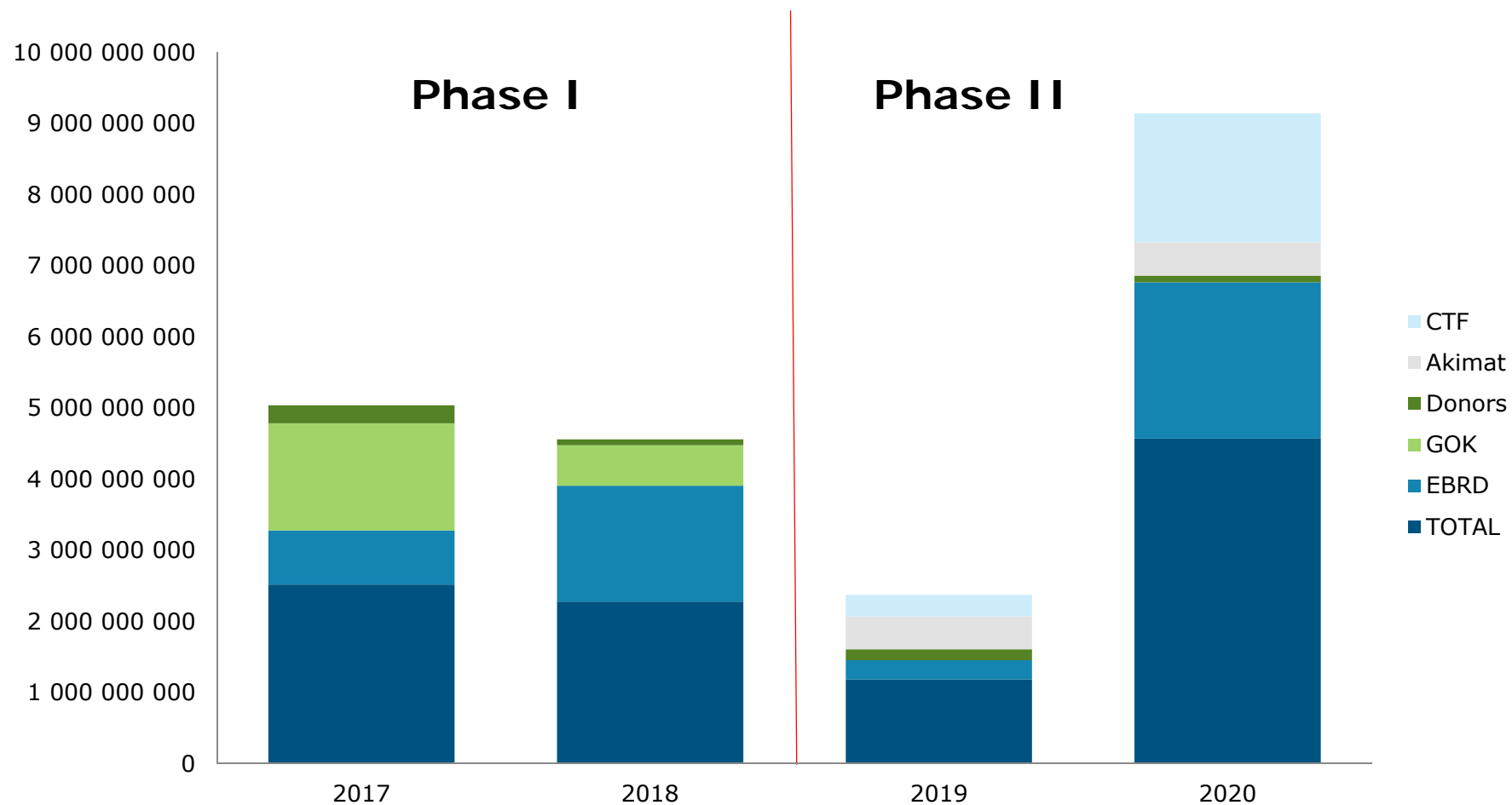
SOURCES:	USD mln	%
EBRD Loan	7,3	40 %
GOK Grant	7,0	39 %
Donors	0,9	5 %
Contribution from Akimat	3,0	17 %
<b>Total for Phase 1</b>	<b>18,2</b>	<b>100 %</b>

# Financing Plan

## PHASE 2: Implementation period – 2019-2020

COMPONENTS	USD mln	%
Biological treatment plant	6,0	53 %
Construction of mini CHP Plant	2,1	19 %
Automated separation equipments for Mechanical Treatment Plan	1,7	15 %
Truck and bins for biowaste	0,9	8 %
Consulting services	0,6	5 %
<b>Total for Phase 2</b>	<b>11,3</b>	<b>100 %</b>
<b>TOTAL Phase 1+2</b>	<b>29,4</b>	

# Disbursement plan



# Project Schedule



# Project Schedule

## Project Schedule / Loan Tranche I

		2016	2017	2018	2019	2020
Access road to the new landfill	2017					
Construction of new landfill and required infra	2017-2018					
Supply of Landfill Machineries	2019					
Construction of Mechanical Treatment Plan / Manual operation	2018					
Supply of Garbage trucks for residual waste	2017					
Supply of containers for residual waste	2017					
Supply and installation of MIS system for the company	2017-2018					
Construction of office building for workers at the new landfill	2017-2018					
Closure of existing landfill	2018-2020					
Detailed design	2016-2017					
PIU Support	2017-2018					
Corporate Development Programme	2017-2018					

## Project Schedule / Loan Tranche II

		2016	2017	2018	2019	2020
Supply and installation of automated separation equipments for Mechanical Treatment Plan	2019-2020					
Construction of Biological Treatment Plant	2019-2020					
Supply and installation of mini CHP Plant	2020					
Supply of Garbage trucks for biowaste	2020					
Supply of bins for biowaste	2020					
Consulting services for detailed design	2019					
Consulting services for PIU Support	2019-2020					
Consulting services for Corporate Development Programme	2019-2020					

## Questions

We are happy to answer all the questions related to the Project in the course of the Public Consultation.

After Public Consultation **all complaints and concerns** will be monthly revised by the assigned **Grievance Manager**:

Mr. Rysbek Abzal Rysbekuly

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Phone: +7 (777) 457 66 96

Thank you  
FCG – Working for well-being