



WASTE MANAGEMENT IN KOCAELİ

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**Department of Environmental Protection and
Control**

Waste Management District Director

04 July 2017



KOCAELI PROVINCE

Population: 1.830.772 people

Surface area: 3.626 km²

Population density: 524 person/km²

Number of counties: 12

1st Class GSM: 682

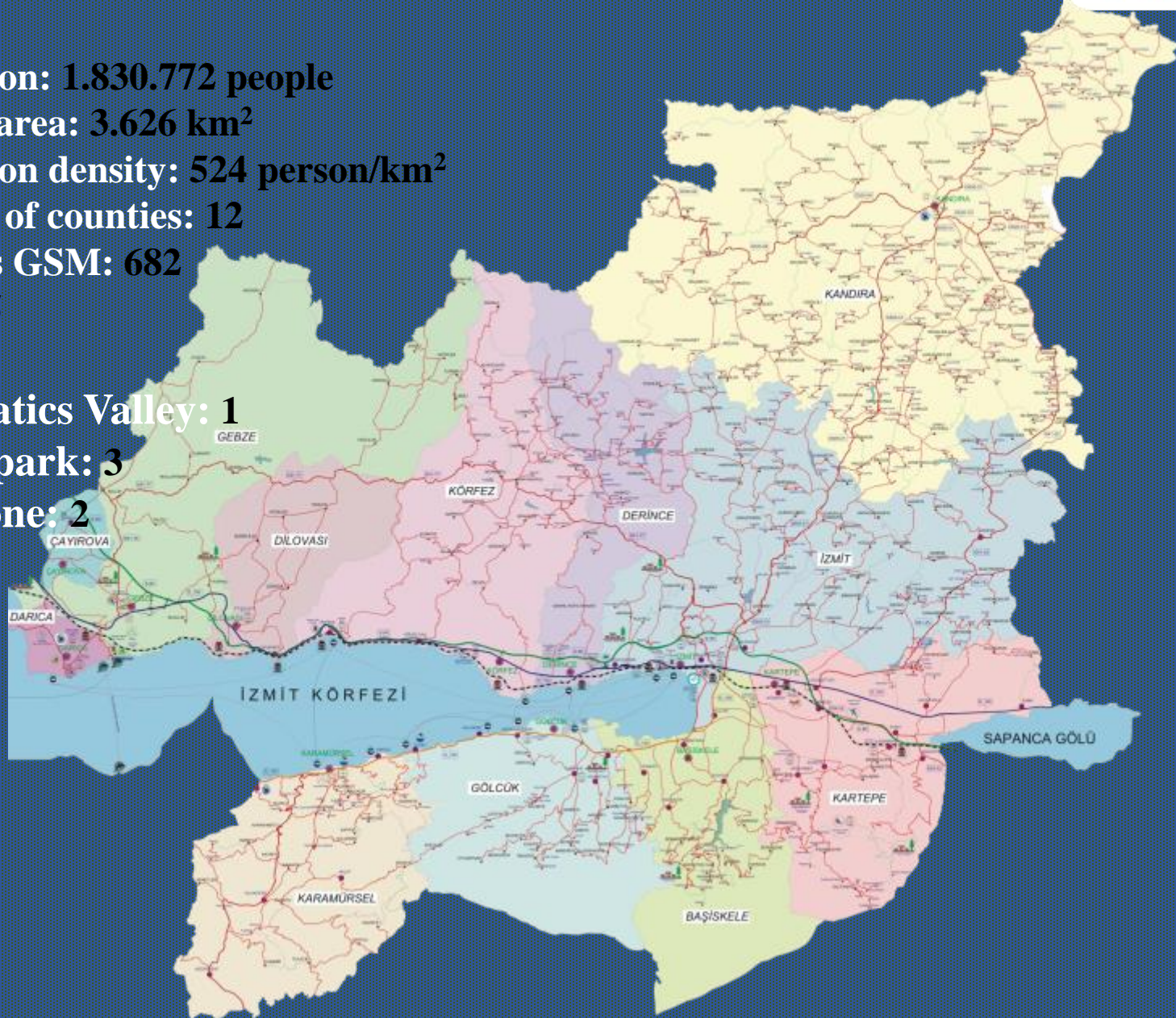
Port : 35

OIZ: 13

Informatics Valley: 1

Technopark: 3

Free Zone: 2





WASTE MANAGEMENT PLANTS



WASTE MANAGEMENT PLANTS



SOLAKLAR SUB-DISTRICT - IZMIT



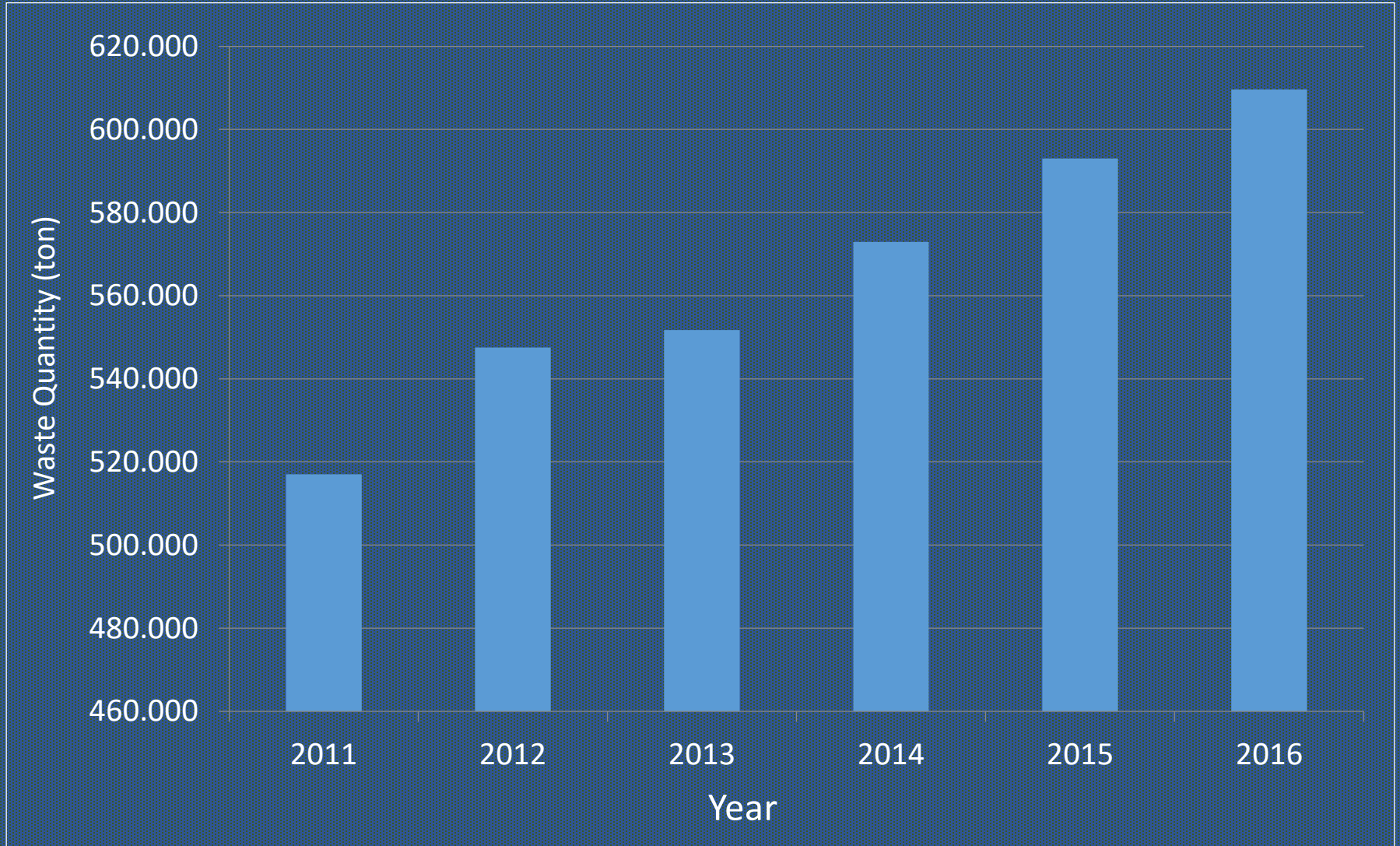
- ✓ **Opening Date:** 1997
- ✓ **Total Capacity:** 4.250.000 m³
- ✓ **Average Stored Waste Quantity :**
1.100 ton/day

CICEKTEPE SUB-DISTRICT - DILOVASI

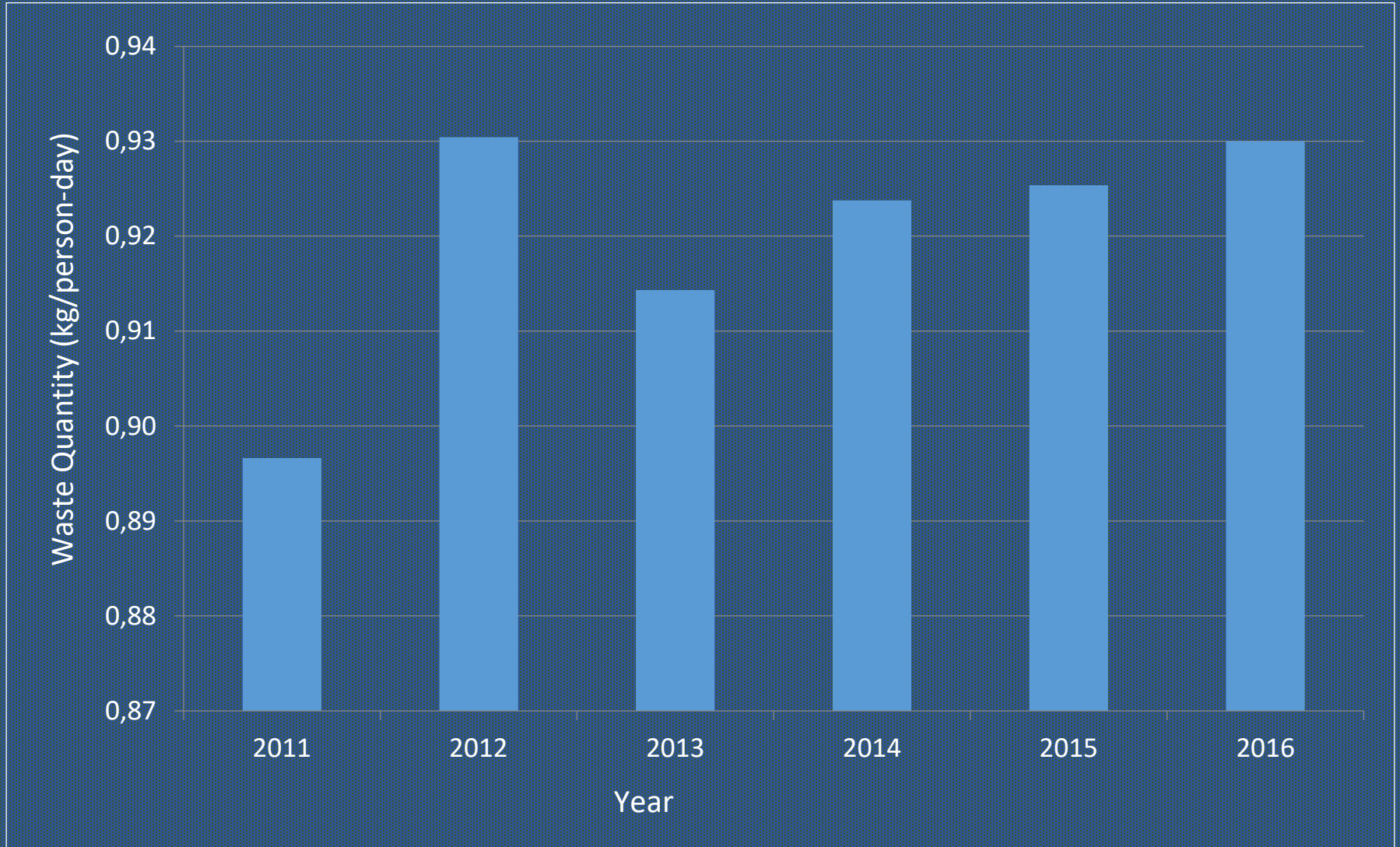


- ✓ **Opening Date:** 2007
- ✓ **Total Capacity:** 1.100.000 m³
- ✓ **Average Stored Waste Quantity:**
700 ton/day

QUANTITY OF MUNICIPAL WASTE DISPOSED IN THE SANITARY LANDFILLS



MUNICIPAL WASTE QUANTITY PER CAPITA



[illegible]



SOLID WASTE CHARACTERIZATION





NATIONAL WASTE MANAGEMENT STRATEGICAL PLANS AND TARGETS

The Ministry of Environment and Urbanization defines the national solid waste management strategies for all Municipalities. Two large-scale and national-based solid waste projects were realized by the Ministry. First one of these projects is;

- ✓ EU Project named *“Technical Assistance for Environmental Heavy-Cost Investment Planning for Turkey”* (EHCIP) which was completed in 2005 by ENVEST Planners Consortium.
- ✓ The second one, however, is **“Solid Waste Master Plan Project”** which was realized in 2006 by MIMKO Engineering Construction Manufacturing Consulting & Trade



NATIONAL WASTE MANAGEMENT STRATEGICAL PLANS AND TARGETS

Zone	Description	Separate Collection Composting (Urban)	MGT	ATM/ /Recycling Bins		Thermal Recycling (Incineration / Gasification)	Regular Storage	İ&Y Recycling/ Biomethan ization
				Urban	Rural			
1a	Istanbul, Izmir (Metropolitan Municipality)	2010 (20%)	2010	2008 / 2010	2010 / 2015	2013 - 2017	2008 / 2009	2008 / 2011
1b	Marmara/Aegean Regions - Other Metropolitan Municipalities	2015 (30%)	2015	2010 / 2015	2015 / 2020	2022	2011 / 2016	2011 / 2016
2a	Ankara (Metropolitan M.)	2012 (20%)	2012	2008 / 2010	2010 / 2015	2018	2008 / 2009	2008 / 2011
2b	Antalya/Icel (Touristic Cities)	2012 (30%)	2012	2008 / 2010	2010 / 2015	2019	2011	2009 / 2011
2c	Black Sea/Mediterranea n/Central Anatolia Regions - Other Metropolitan Municipalities	2015 (20%)	2015	2010 / 2015	2015 / 2020	2022 - 2023	2011 / 2016	2012 / 2016

SOLAKLAR SUB-DISTRICT - IZMIT



- ✓ **Opening Date:** 2012
- ✓ **Installed CAPACITY:** 6,508 MWh

CICEKTEPE SUB-DISTRICT - DILOVASI



- ✓ **Opening Date:** 2015
- ✓ **Energy Generation Capacity:** 2,16 MWh



SOLID WASTE TRANSFER STATIONS

ALAYBEY SUB-DISTRICT - KANDIRA



**YAVUZ SULTAN NEIGHBORHOOD –
KORFEZ (GULF)**



- | | |
|--|--|
| ✓ Opening Date: 2006 | ✓ Opening Date: 2011 |
| ✓ Served Municipality : Kandira | ✓ Served Municipality: Derince and Korfez |
| ✓ Served Population: 49.221 people | ✓ Served Population: 295.332 people |
| ✓ Annual Carried Waste Quantity: 16.912 ton | ✓ Annual Carried Waste Quantity: 89.758 ton |
| ✓ Distance to Disposal Plant : 49 km | ✓ Distance to Disposal Plant: 25 km |



SOLID WASTE TRANSFER STATIONS

KIRAZPINAR SUB-DISTRICT - GEBZE



- ✓ **Opening Date:** 2008-2015 / 2017
- ✓ **Served Municipality:** Cayirova, Darica, Dilovasi, Gebze
- ✓ **Served Population:** 718.259 people
- ✓ **Annual Carried Waste Quantity :** 230.000 ton
- ✓ **Distance to Disposal Plant:** 60 km



SEEPAGE WATER TREATMENT PLANT

SOLAKLAR SUB-DISTRICT - IZMIT



- ✓ **Opening Date:** 2015
- ✓ **Capacity:** 500 m³/day
- ✓ **Technology:** Ultra Filtration – Nano Filtration

HAZARDOUS WASTE INCINERATION AND REGULAR STORAGE PLANT

SOLAKLAR SUB-DISTRICT - IZMIT



- ✓ **Opening Date:** 1997
- ✓ **Total Capacity (Storage):** 969.920 m³
- ✓ **Total Capacity (Incineration):** 52.500 ton/year
- ✓ **Installed Electricity Generation Capacity:** 5,2 MW

MEDICAL WASTE STERILIZATION PLANT

SOLAKLAR SUB-DISTRICT - IZMIT



- ✓ **Opening Date:** 2009
- ✓ **Installed Capacity:** 8 ton/day
- ✓ **Used Capacity:** 6 ton/day
- ✓ **Sterilization Temperature:** 140°C
- ✓ **Sterilization Pressure:** 5 bar
- ✓ **Sterilization Period:** 45 Minutes
- ✓ **Number of Licenced Vehicles:** 8 ea.
- ✓ **Type:** Special extended and box truck with weighing device

SOLAKLAR SUB-DISTRICT - IZMIT



HAL ATIKLARI



ÇİM ATIKLARI



BÜYÜKBAŞ ve TAVUK GÜBRESİ



- ✓ **Opening Date:** 2011
- ✓ **Capacity:** 30 ton/day
- ✓ **Electricity Generation Capacity:** 330 kWh
- ✓ **Fermented Product:** Solid and Liquid Fertilizer
- ✓ **Accepted Waste Types:** Grass Wastes, Tripe Wastes (from slaughter houses), Green Wastes (vegetable&fruit), Poultry and Bovine Animal Manure

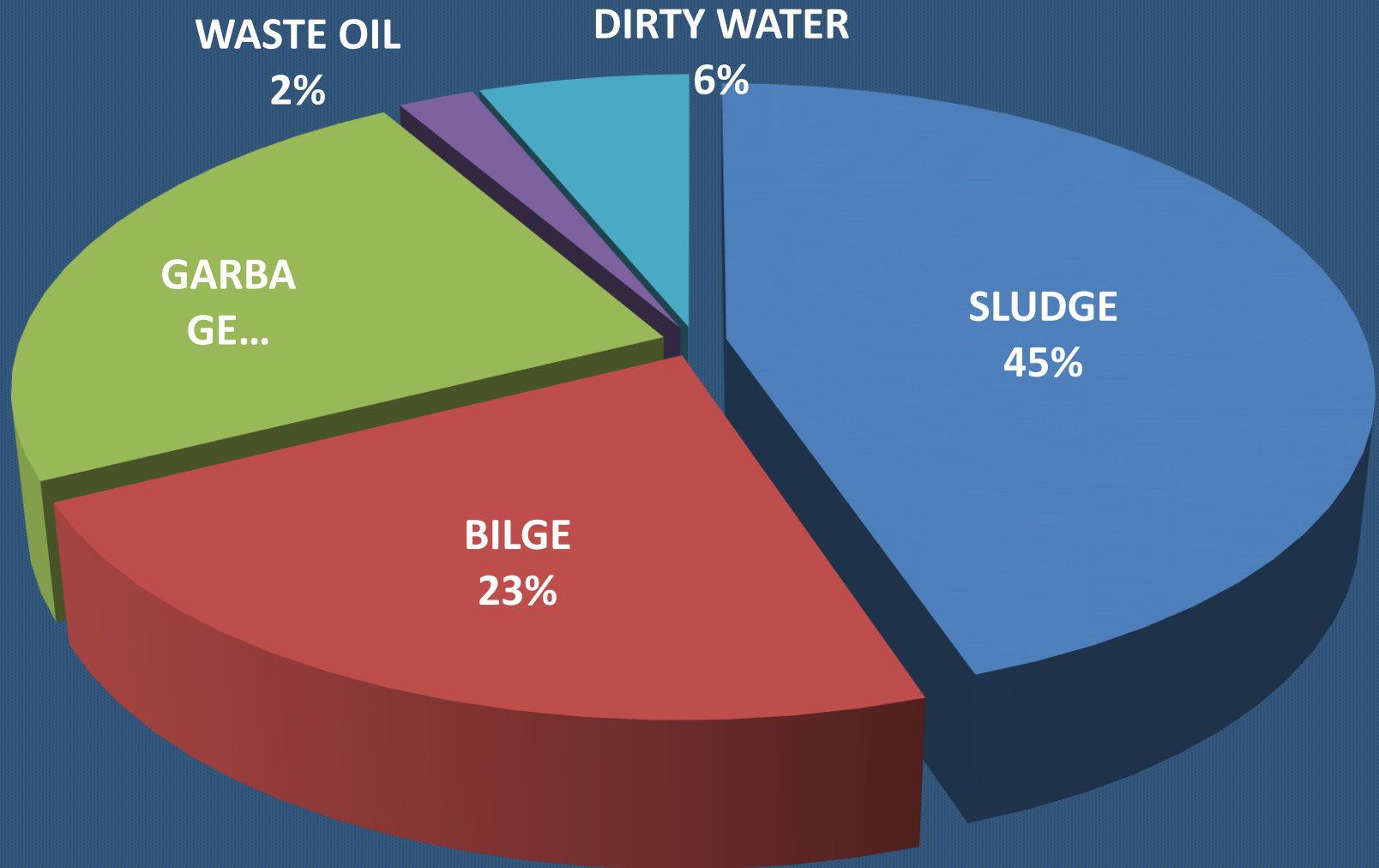
VESSEL and MARINE VEHICLES ORIGINATED WASTE RECEPTION PLANT

WASTE RECEPTION PLANT



- ✓ **Opening Date:** 2010
- ✓ **Tank Capacity:** 383 m³
- ✓ **Average Waste Amount:** 300 m³/day
- ✓ **Collected Waste Amount:** 10.000 m³/year
- ✓ **Types and Rates of Collected Waste:** Sludge, Bilge, Garbage, Waste Oil, Dirty Water, Slop

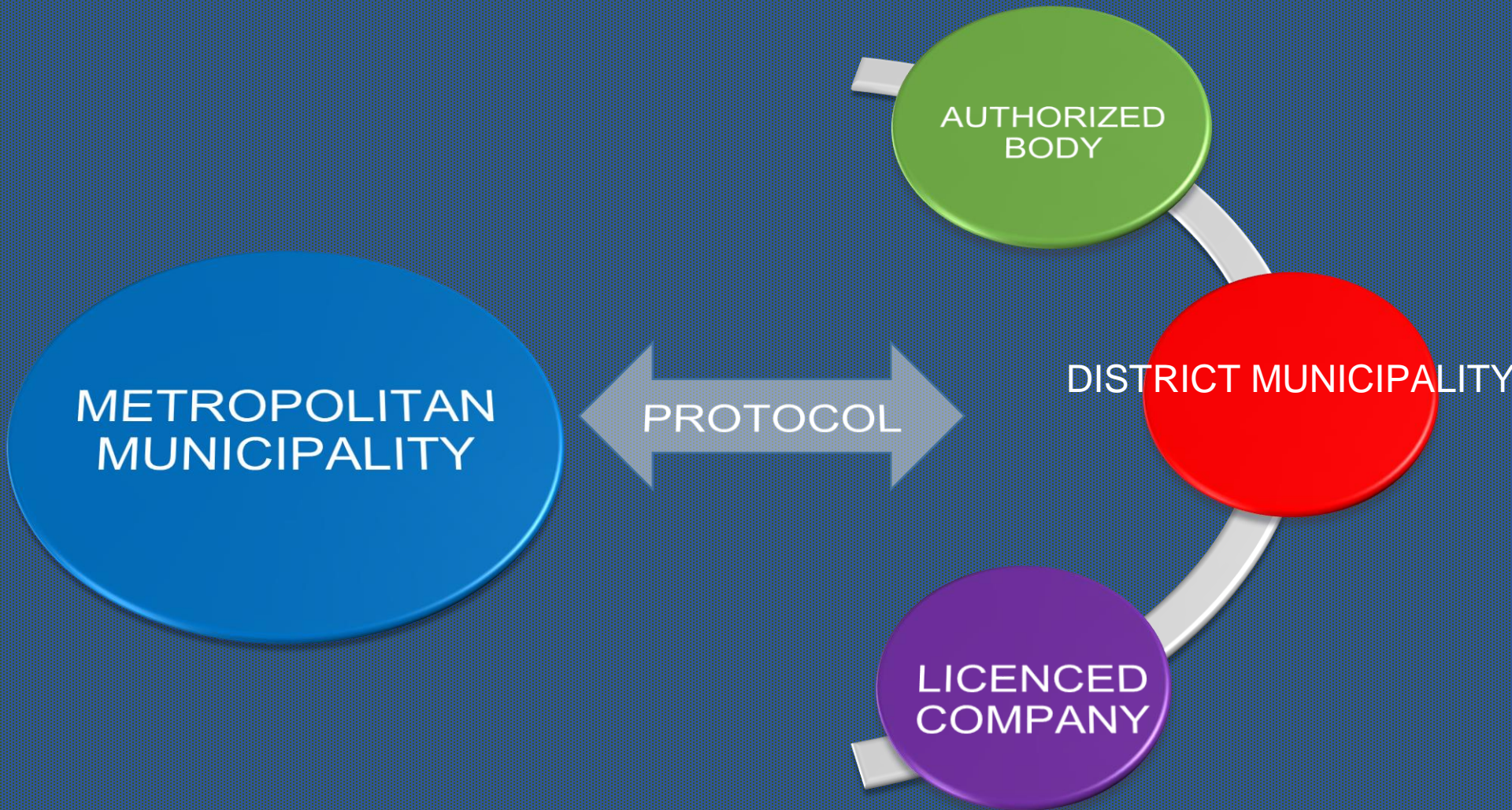
TYPES AND RATES OF COLLECTED WASTE (2016)



RECYCLING WORKS



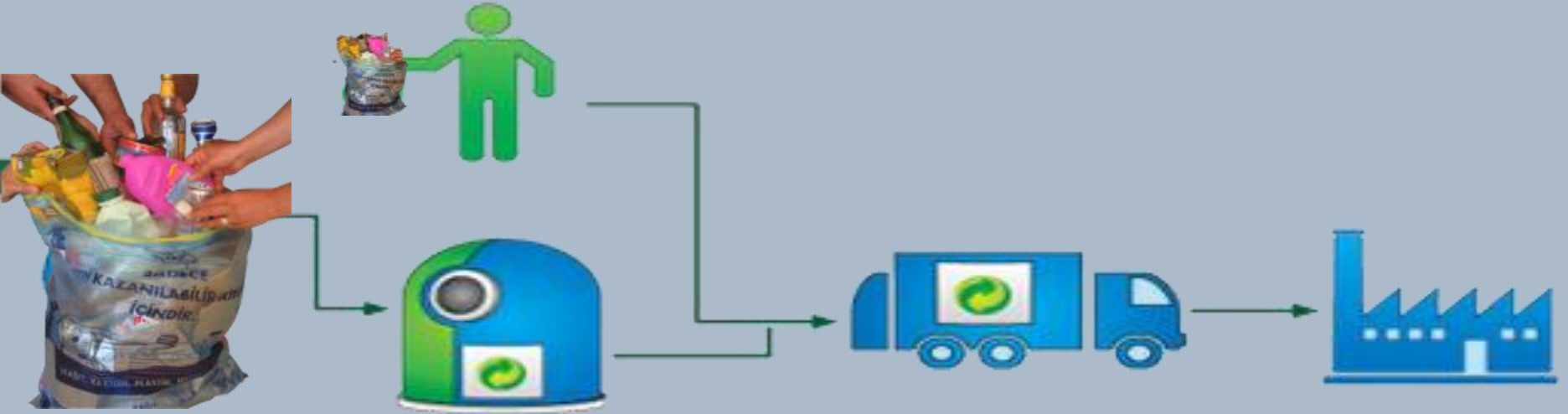
RECYCLING WORKS





PACKAGING WASTES

PACKAGING WASTES



SEPARATE COLLECTION
(6.520 EA. CONTAINERS)



TRANSPORTATION
(33 VEHICLES)



COLLECTION AND
SEPARATION PLANT

PACKAGING WASTES



CAM



PLASTİK



METAL



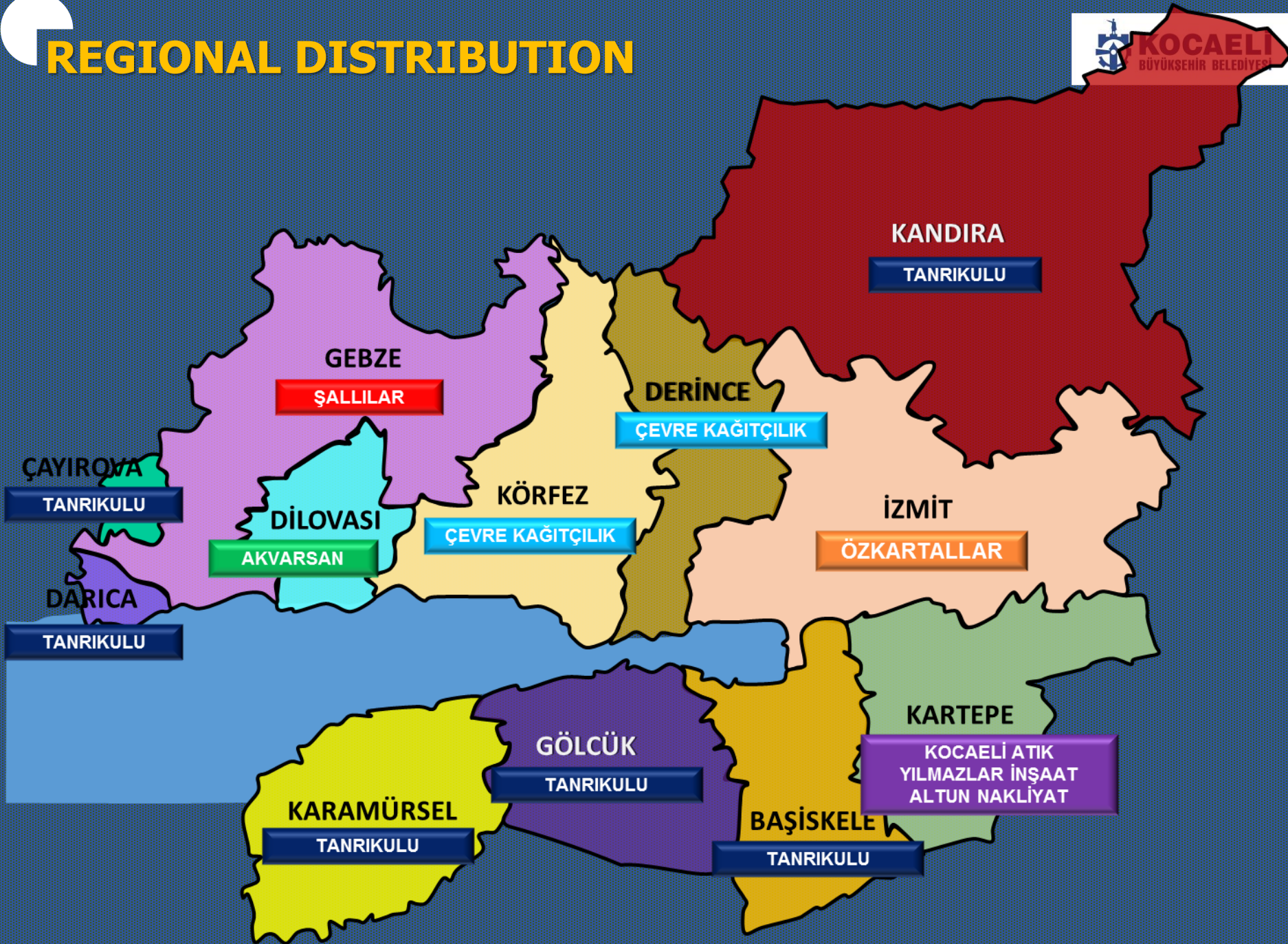
**KAĞIT -
KARTON**



REGIONAL DISTRIBUTION

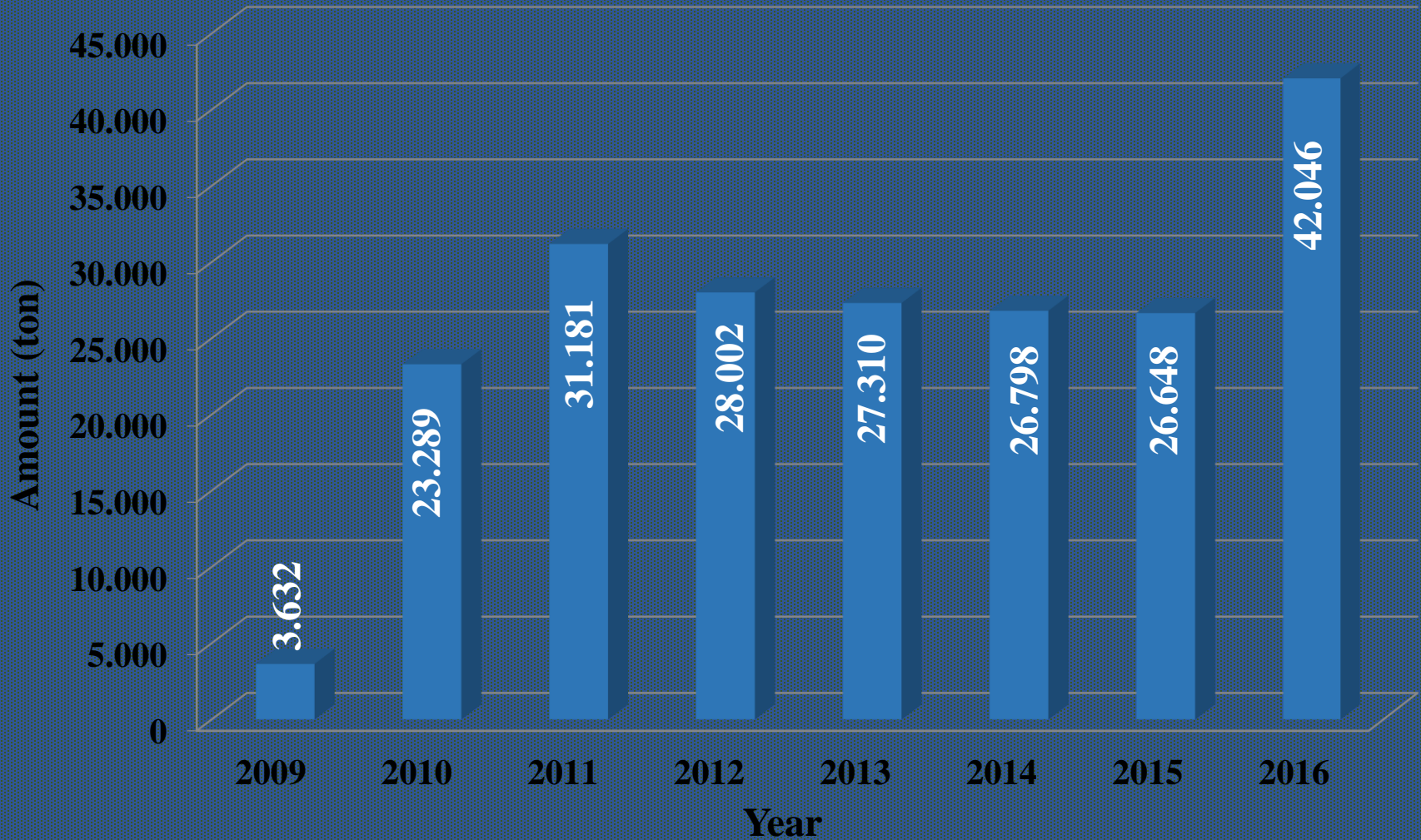


KOCAELİ
BÜYÜKŞEHİR BELEDİYESİ





PACKAGING WASTES





WASTE COOKING (VEGETABLE) OILS

WASTE COOKING OILS



**INFORMATION
STUDIES**



**HOUSEHOLDS, CULTURE
CENTERS**

**NEIGHBORHOOD MUKHTAR
OFFICES**

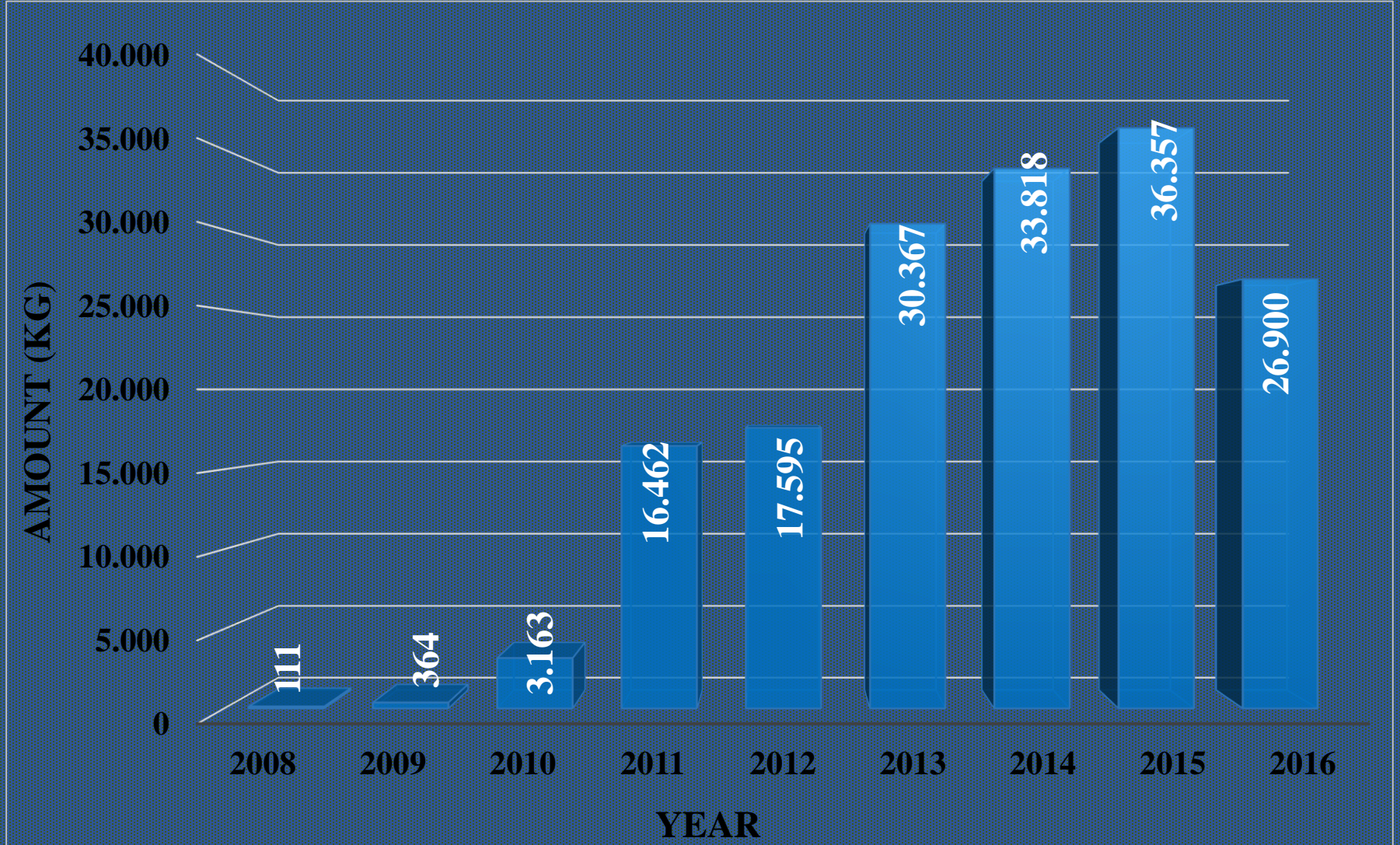


WASTE COLLECTION CENTERS





WASTE COOKING OILS





ELECTRONIC WASTES

ELECTRONIC WASTES

HOUSEHOLDS, CULTURE CENTERS



TECHNICAL SERVICES



INSTITUTIONS AND ORGANIZATIONS

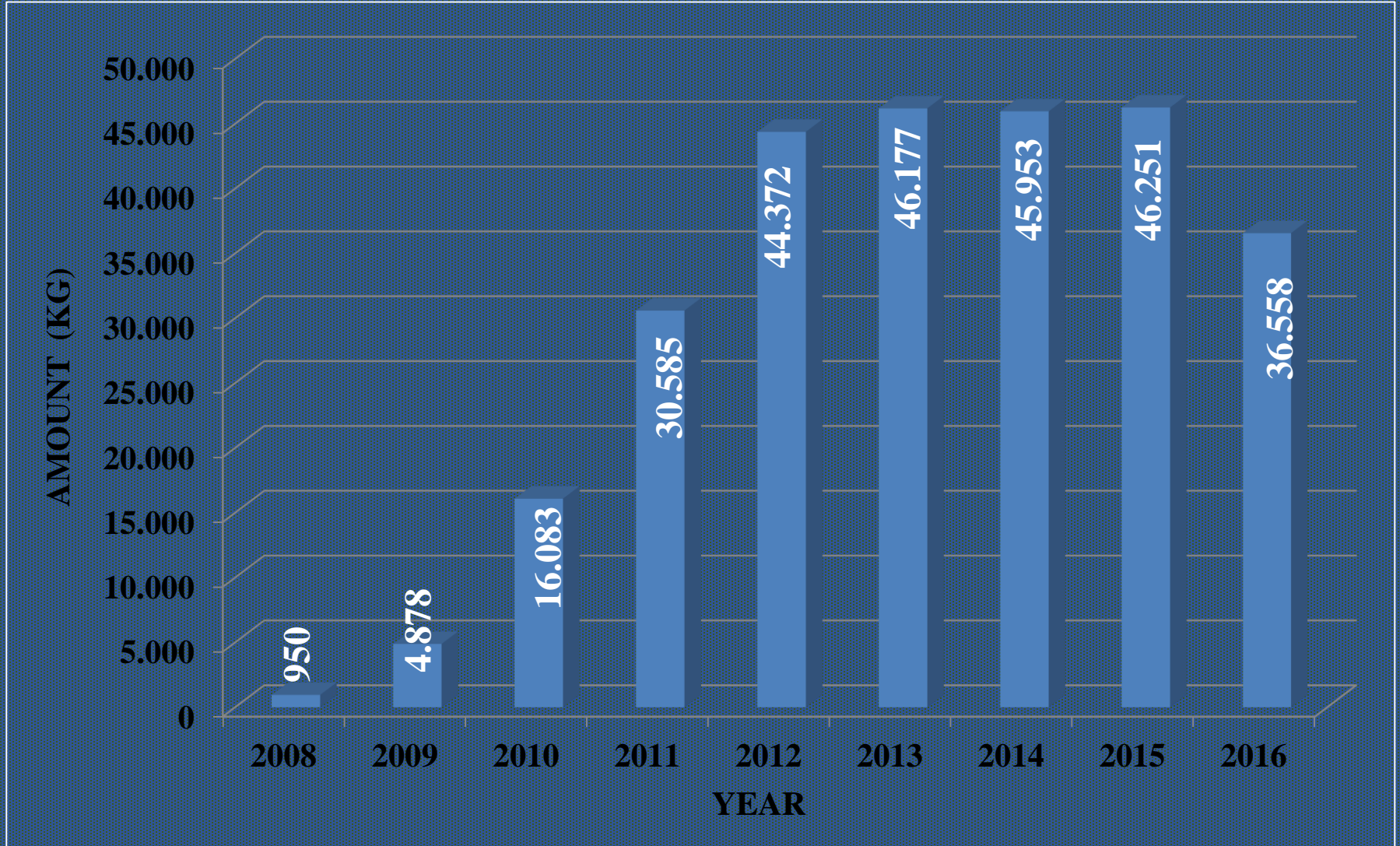


WASTE COLLECTION CENTERS





ELECTRONIC WASTES





WASTE BATTERIES

WASTE BATTERIES



MUKHTAR OFFICES



**INSTITUTIONS AND
ORGANIZATIONS**



SCHOOLS



WASTE COLLECTION CENTERS



ENVIRONMENTAL TRAININGS

TRAINING & AWARENESS RISING STUDIES

(PRIMARY SCHOOL, SECONDARY SCHOOL AND HIGH SCHOOL STUDENTS)



TRAINING & AWARENESS RISING STUDIES (TRAINING FOR TRAINERS)



TRAINING & AWARENESS RISING STUDIES

(TRAINING OF THE HEALTH CARE PERSONNEL)



TRAINING & AWARENESS RISING STUDIES (TRAINING OF THE PERSONNEL OF THE MUNICIPALITY)



TRAINING & AWARENESS RISING STUDIES (KOKAP PROJECT)





EXCAVATED SOIL MANAGEMENT



County	Unit	Amount
Cayirova-Dilovasi-Darica-Gebze	ton	5,00 + VAT TL
Korfez-Derince-Izmit-Kartepe-Basiskele	ton	3,00+ VAT TL
Kandira-Karamursel-Golcuk	ton	2,50 + VAT TL

Excavated Soil Storage Fees



EXCAVATED SOIL MANAGEMENT

LINE NO	EXCAVATED SOIL STORAGE AREAS					
	FILLING PROCESS COMPLETED			FILLING PROCESS ONGOING		
	NAME	Area (m ²)	Volume (m ³)	NAME	Area (m ²)	Volum e (m ³)
1	PELITLI (KIPSAS)	52.305	601.000	MADEKS	348.869	10.152.195
2	MUALLIM VILLAGE (SOYAK)	126.065	706.270	POLYAK	42.054	799.887
3	MUALLIM VILLAGE (GYTE)	23.099	562.800	DOGANTEPE	59.082	601,000
4	TAVSANLI (NATIONAL ESTATE)	37.317	322,099	YAVUZ SULTAN SELIM (2nd AREA)	30.854	298.233
5	TAVSANLI (Abdurrahman DEDE)	1.400	130,000	DEREKOY	9.491	55.106
6	UCTEPELER	158.725	1.023.097	DENIZKABUGU	58.512	599,088
7	CAGDASKENT	14.435	750,000	SARISU	19.461	242.050
8	DERINCE (1st AREA)(20.313)	20.313	118.012	GOKCEVIRAN	77.921	278.747
9	DERINCE (2nd AREA)(14.880)	14.881	55.204	ESMEAHMEDIYE	32.875	159,614
10	YAVUZ SULTAN SELIM (1st AREA)	24.706	504.301	HEREKE	27.166	111.959
11	SEPETCILER	61.991	212.696	ARIZLI	25.107	133.319
12	KANDIRA GOKDAG	12.583	43.466	BAYRAKTAR	16.669	95.503



EXCAVATED SOIL MANAGEMENT

Gebze Tavsanli National Estate Rehabilitated Area





EXAMPLES OF GOOD PRACTICE

INVENTORY STUDY



- ✓ Name of the Project: Generation of Kocaeli Waste Inventory
- ✓ Duration of the Project: 3 months
- ✓ Funding Institution: Eastern Marmara Development Agency (MARKA)

WASTE COLLECTION CENTERS

GULF



2010

WASTE COLLECTION CENTERS

DERINCE



2011

WASTE COLLECTION CENTERS

GOLCUK



2012

WASTE COLLECTION CENTERS

KARTEPE



2013

WASTE COLLECTION CENTERS

DARICA



2015

WASTE COLLECTION CENTERS

WASTE COOKING OILS



END-OF-LIFE TIRES



CONSTRUCTION and WRECKAGE WASTES



COARSE BULKY WASTES



WASTE COLLECTION CENTERS

ELECTRONIC WASTES



LIGHTNING EQUIPMENT



PARK GARDEN WASTES



STYROFOAM WASTES



BULKY WASTES



SMALL INDUSTRIAL AREA



UNFAVOURABLE STATUS



UNFAVOURABLE STATUS



UNFAVOURABLE STATUS



UNFAVOURABLE STATUS

SMALL INDUSTRIAL AREA



INDUSTRIAL AREA TRAINING



INFORMATION WORK



ORGANIZED STATE



WASTE COLLECTION CENTER

BEST PROJECT IMPLEMENTATION AWARD



- ✓ **Organized by:** Association of Healthy Cities
- ✓ **Subject of Competition:** “Best Healthy City Project” and “Energy and Environment Fair and Conference” / “Energy Oscars Award”
- ✓ **Name of Award:** “Best Project Implementation Award”

COORDINATION MEETINGS

SENIOR



FIELD VISITS



COORDINATION MEETINGS



UNION OF MUNICIPALITIES OF TURKEY



THANK YOU



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KOKAP PROJECT