



Waste Generation and Waste Treatment

Tomer Cohen
Agriculture, Environment and Energy Sector
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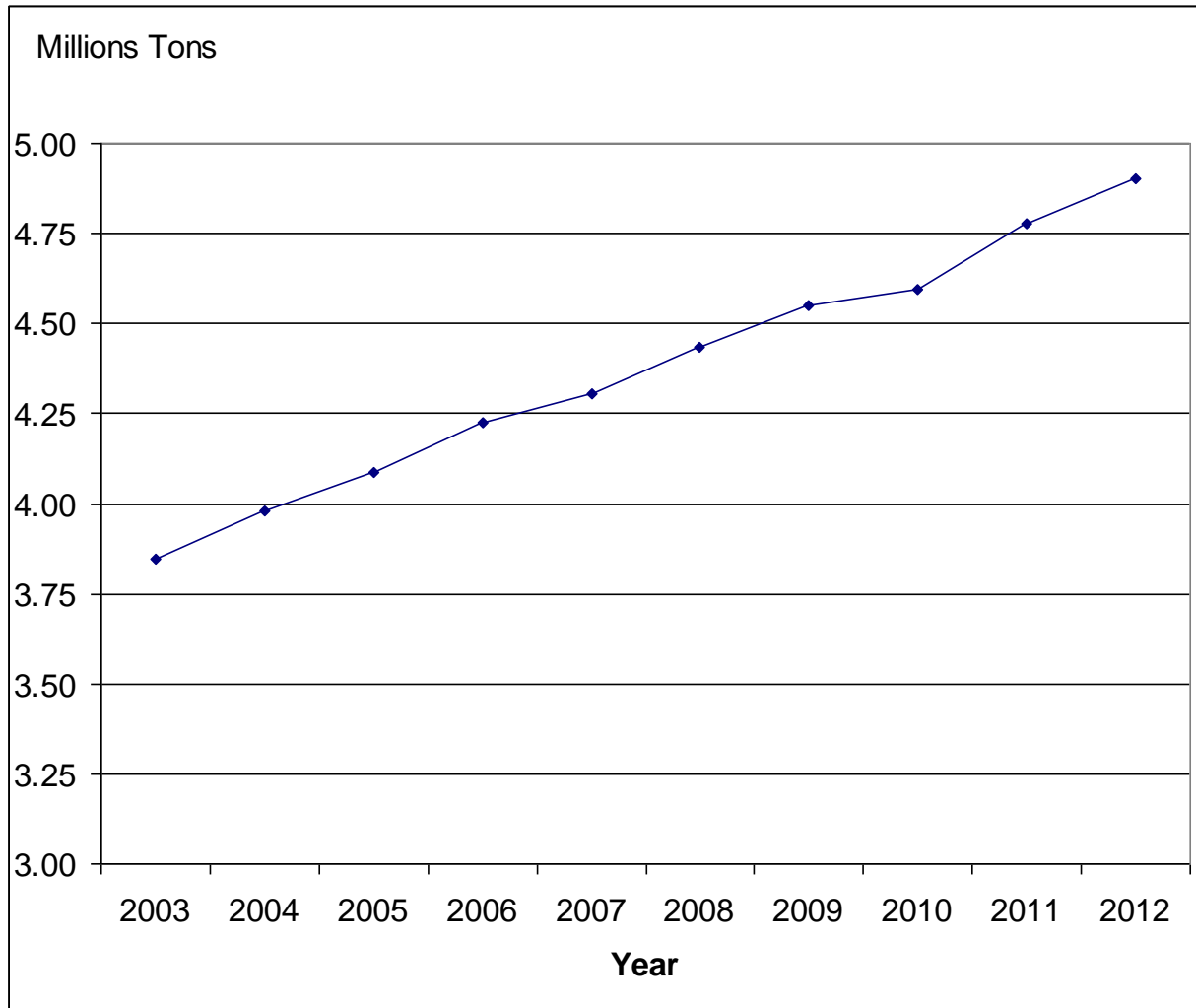
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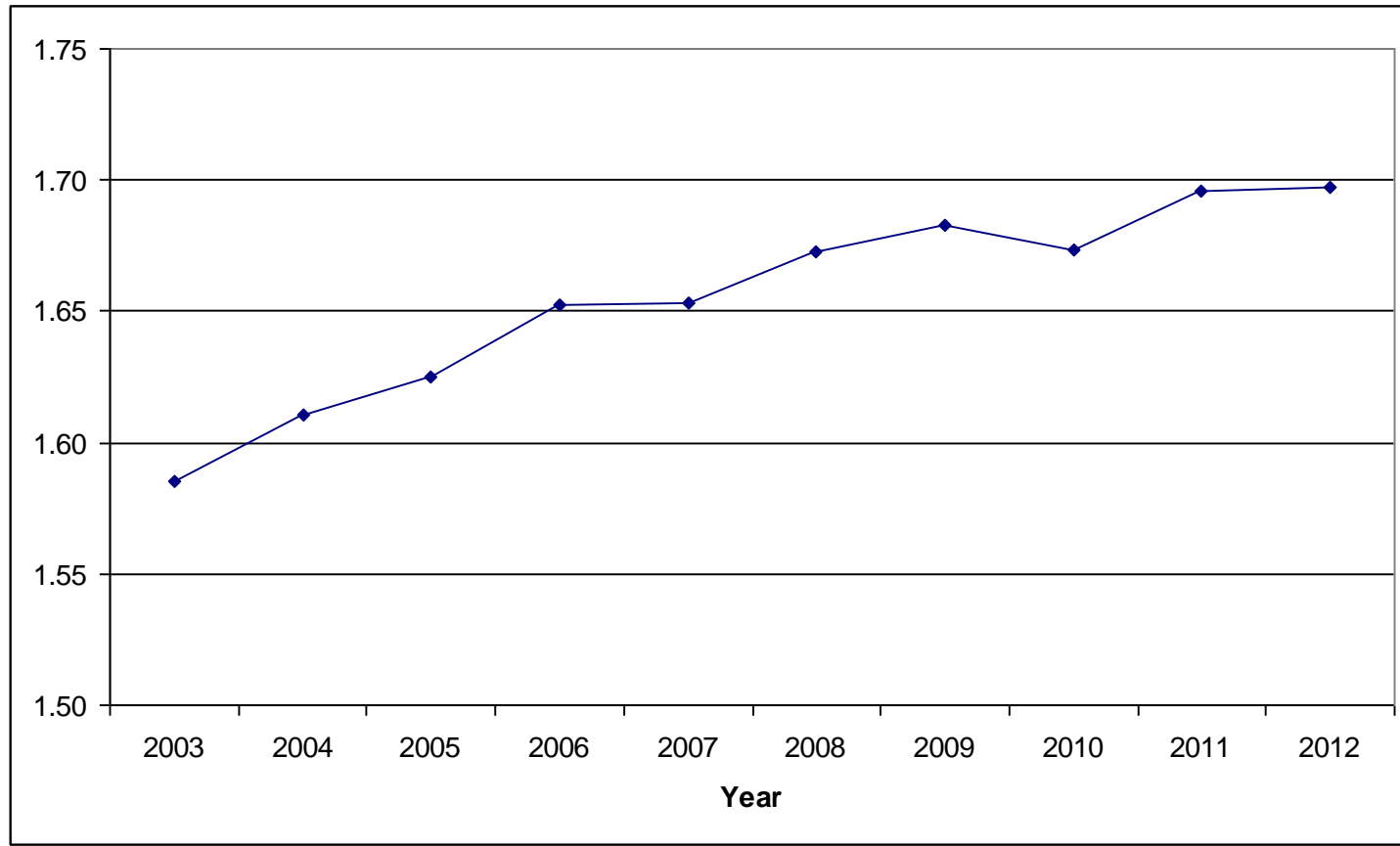
Municipal- Household and commercial waste

- Waste collected by the municipal authorities (Includes small amounts of industrial waste)
- Types of treatments
 - Landfilling – sent directly or via transit stations
 - Recycling - at source and at the transit station
- Coverage of 95% of the municipal authorities' population
- Data series since 2003

Municipal Waste collected per year



Municipal Waste collected per capita per day



SOLID WASTE, COLLECTED IN THE LOCAL AUTHORITIES, BY DISTRICT

District	2012		
	Averages per day		Waste per year - total
	Kg. waste per capita	Waste - total	
TOTAL	1.72	13,418	4,897,592
JERUSALEM DISTRICT	1.40	1,354	494,278
NORTHERN DISTRICT	1.57	2,047	747,141
HAIFA DISTRICT	1.70	1,572	573,618
CENTRAL DISTRICT	1.73	3,275	1,195,242
TEL AVIV DISTRICT	2.11	2,729	996,060
SOUTHERN DISTRICT	1.84	1,973	719,998
JUDEA AND SAMARIA	1.44	469	171,255

Municipal waste - Data Sources

- ICBS Annual Survey of Local Authorities – Currently data are being collected for 2013
- Complementary data from the MOEP

Municipal waste Breakdown

- **Household waste and commercial** waste data cannot be separated
- Collected municipal waste almost equals to the generated waste
- **industrial waste** is deducted from the reported amounts of collected municipal waste (small amounts (

Municipal waste – Types of treatment

- Landfilling
- Recycling (in Process of improvement)
 - Recycling at source in the municipalities
 - Recycling at the transit station

Industrial waste

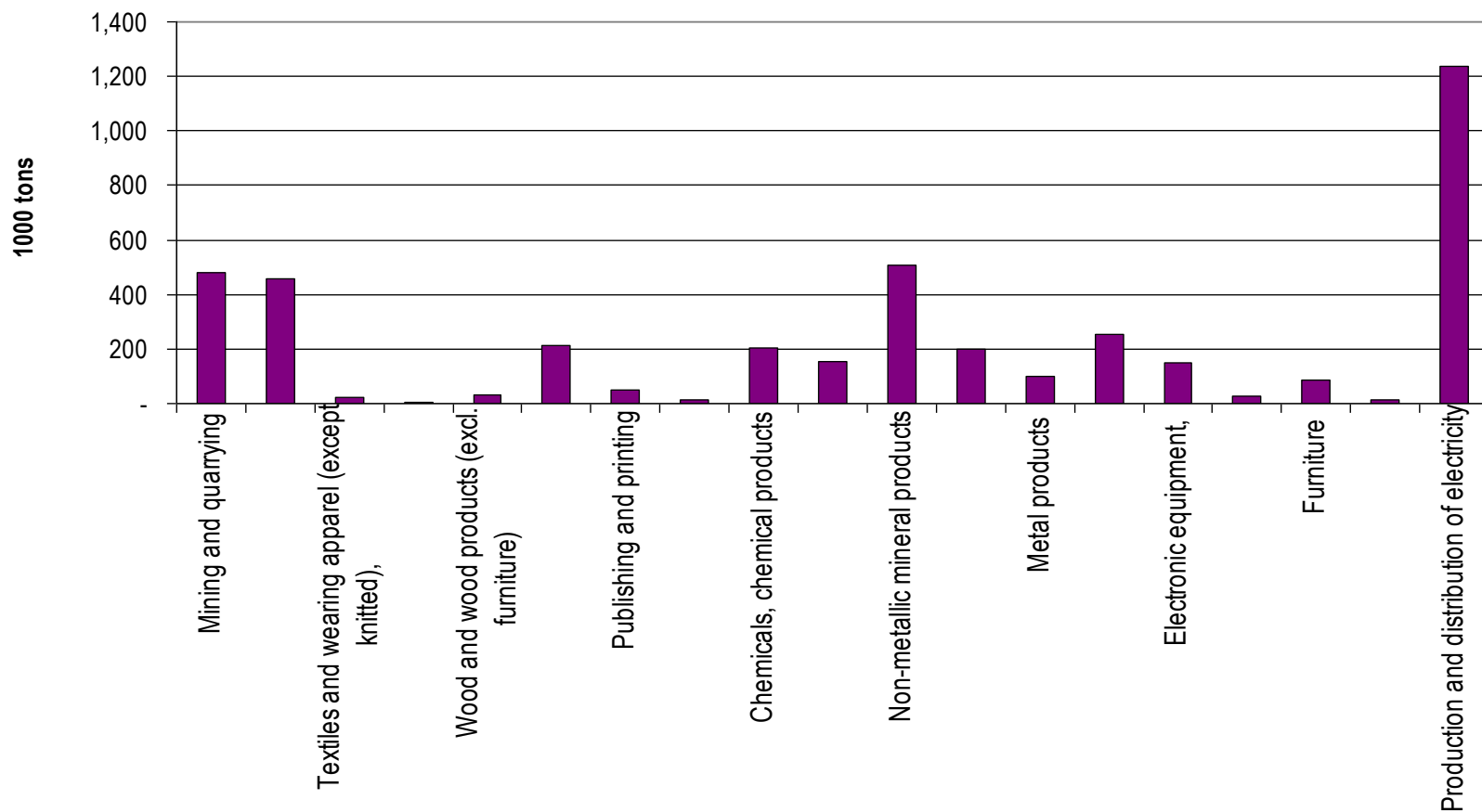
- ICBS Industrial Waste Surveys conducted in 2010 and 2012
- Covering the following activities (ISIC rev 3.1)
 - Section C – Mining and quarrying
 - Section D - Manufacturing
 - Section E (40) - Electricity
- Types of treatment
 - Landfilling – sent directly or by transit station
 - Recycling - at source

Industrial waste

Data sources and Distribution

- Data sources
 - ICBS Surveys
 - PRTR (MoEP)- only for the largest 700 plants
- Distribution
 - Breakdown into 19 divisions
 - Types of waste : hazardous waste, dry waste and mixed waste

Generation of industrial waste by branch (2010)



Agricultural waste

- Activity Data are available within the ICBS
- The issue will be further regulated in the near future by the MoEP
- Currently we are in a process of calculating agricultural waste based on updated activity data and coefficients

Construction Waste

- **Generated**

- Construction of Buildings
- Renovations
- Construction of Infrastructure
 - Soil waste

- **Treatment**

- Recycling
- Landfilling
- Illegal dumping

Construction Waste - Data sources

- Generation data – needs to develop a methodology with the MoEP
- landfilling - from landfills- in the future (MoEP)
- **Recycling data** (MoEP)

Hazardous waste

- A third of the waste is treated at a designated site in the south – The Environmental Services Company (ESC) “Ramat hovav” and the rest in other authorized sites
- Treatments
 - Landfilling
 - Recycling
 - Other physical/chemical treatments

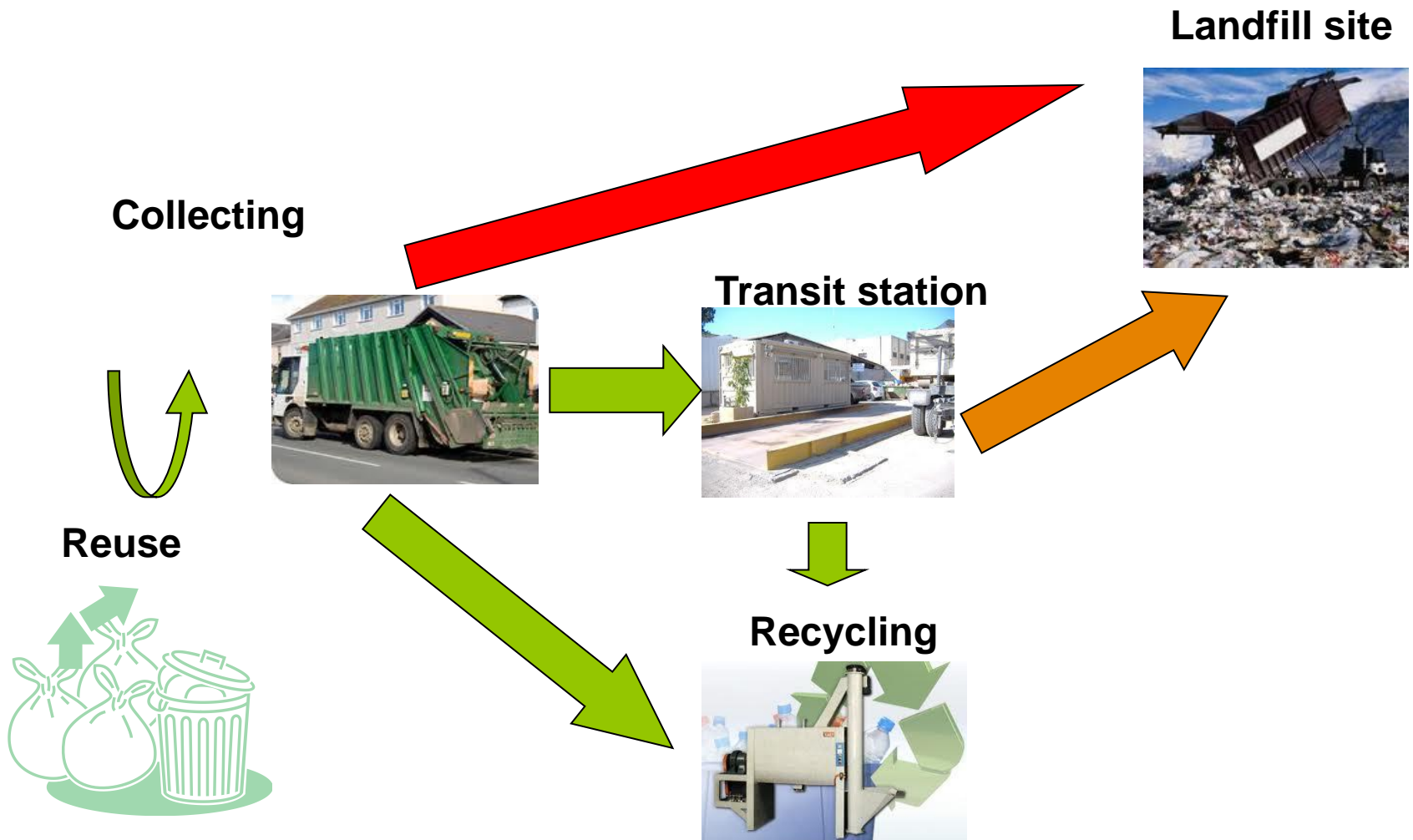
Hazardous Waste- Data sources and Distribution

- Data sources
 - Annual data from “Ramat hovav”
 - Updated data from the MoEP for years 2000-2010
- Distribution
 - Data are available- needs to be classified into economic branches

Amount of Hazardous Waste Generated and Treated by Method of Treatment

1000 Tons	2000	2004	2008	2009	2010
Total Amount of waste Generated in israel	242.1	301.0	321.0	303.6	302.9
Import	5.8	6.0	5.0	0.7	1.7
Export	9.0	10.0	8.0	10.0	7.2
Total Amount of waste Treated in israel	238.9	297.0	318.0	294.3	297.4
Recovery operations	158.3	95.0	108.0	90.6	90.3
Of which:					
Incineration with energy recovery	0.3	12.0	13.0	7.6	6.7
Recycling	154.0	68.0	74.0	65.0	62.7
Other recovery operations	4.0	15.0	21.0	18.0	20.9
Disposal operations	80.6	202.0	210.0	203.0	205.4
Of which:					
Physico/chemical	18.9	113.0	108.0	106.2	119.2
Biological treatment	0.0	10.0	17.0	11.7	15.2
Incineration without energy recovery	16.2	29.0	30.0	33.9	41.0
Landfill and other deposit into or onto land	45.5	50.0	55.0	51.2	30.0
Release into water bodies	-	-	-	-	-

The waste treatment process



Waste Treatment

Landfilling

- MoEP data on Landfilling
- Since 2007 a “landfill fee” is enforced and the data on landfilling has improved

Landfills sites for mixed waste



Waste Treatment Recycling

- **ICBS annual recycling survey** of the recycling Industry
- material Types:
 - Construction waste, Coal ash, Metals , Organic material, Paper and newspaper , Yard waste and wood, Sludge, Plastics, tires, Oil, Other (Batteries, glass, textile and toners)
 - Not including hazardous waste - except batteries and oil
- **Industrial Waste Surveys** (2010, 2012)- data by economic industry

Waste Treatment Recycling

RECYCLED WASTE, BY TYPE

Tons

Type	2000	2008	2010	2011	2012
TOTAL	..	4,662,388	4,948,360	6,375,137	5,966,536
Construction waste	..	1,821,276	1,711,000	2,726,903	2,350,000
Coal ash	1,070,000	1,188,000	1,236,000	1,269,000	1,359,000
Metals	439,725	513,988	540,147	717,045	656,709
Organic material	150,912	445,546	654,086	763,649	727,477
Paper and newspaper	215,669	290,589	354,205	397,200	353,829
Yard waste and wood	191,710	190,643	177,996	204,553	220,042
Sludge	..	54,463	63,028	64,582	69,311
Plastics	21,550	48,468	47,371	44,767	43,830
Tires	..	16,996	27,957	31,703	34,040
Oil		26,160	35,381	42,273	44,362
Other	27,084	66,259	101,189	113,462	107,936

Challenges

- Municipal waste - separation of household and commercial data is required
- Industrial waste – coordinate between the PRTR data (MoEP) and the ICBS data
- Construction waste – currently only recycling data are available from the MoEP
- Hazardous waste – data up to ,2010 data for 2011- 2013 are in preparation (MoEP). Breakdown into economic branch is required

**Thank
you!**

