

# WASTE DATA FLOW SYSTEM

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MINISTRY OF ENVIRONMENTAL PROTECTION



המשרד להגנת הסביבה



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Israel Ministry of Environmental Protection

# Municipal Solid Waste - Israel 2016

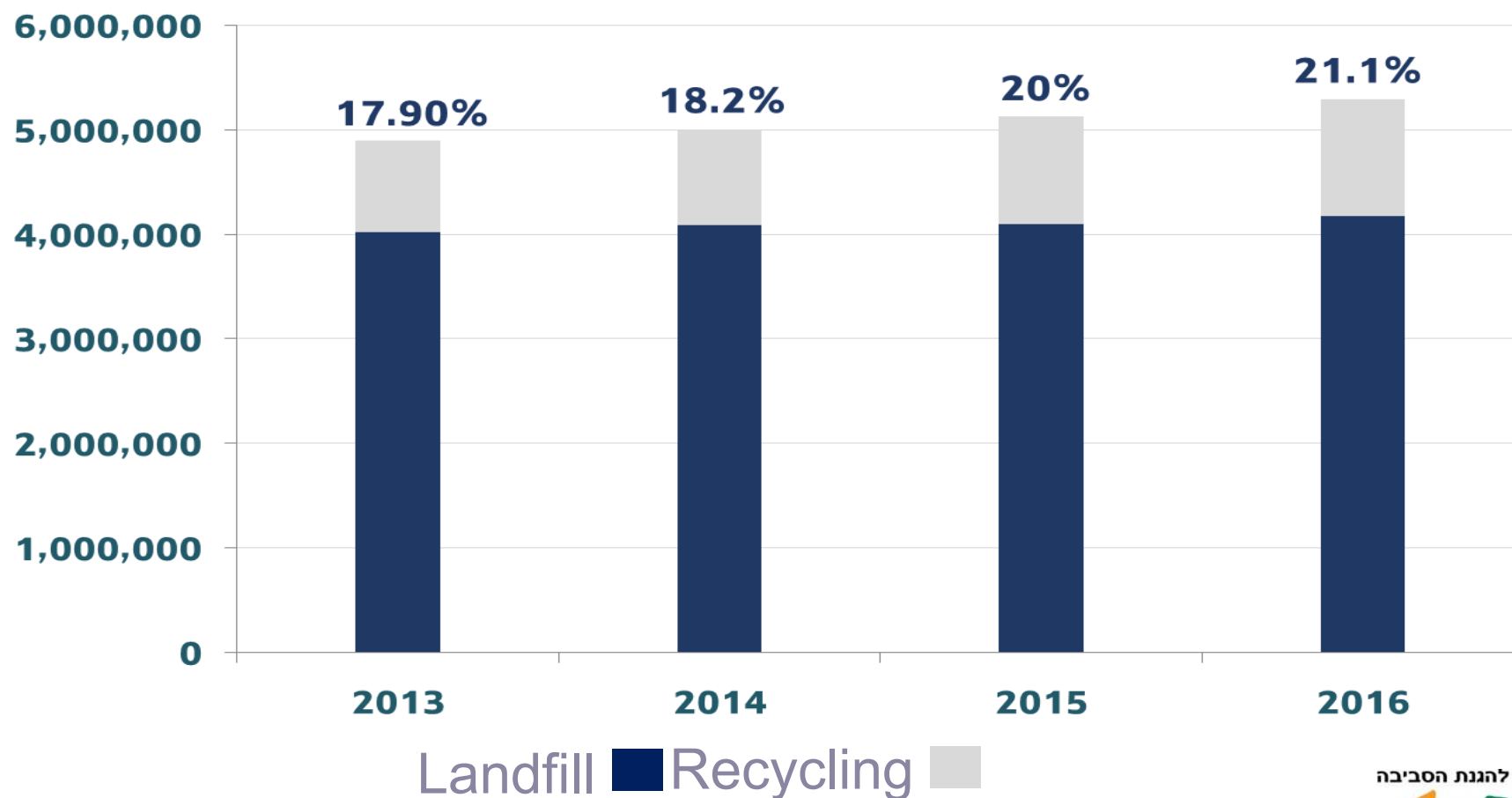
5.3 million tons  
Municipal and commercial solid waste

1.7 kilograms  
MSW per person per day

Increase of 1.8% Annually

255 Local Authorities

# Municipal Waste Situation in Israel



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# Legislation and reporting

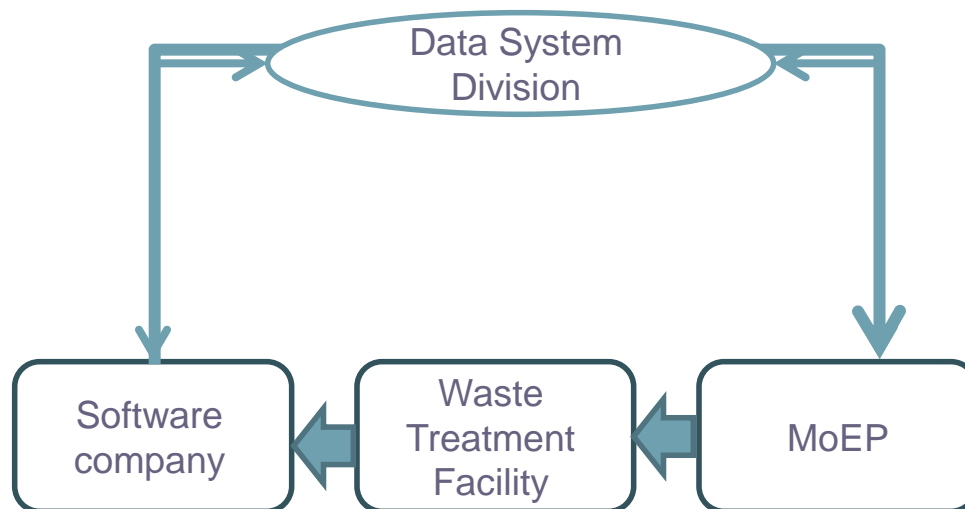
<b>Law</b>	<b>Frequency of reporting</b>	<b>Reporting Body</b>
Beverage Containers Deposit Law (2001)	Quarterly reporting Annual reporting	All Importers and manufacturers of beverages (up to 1.5 liter) sold in Israel
Tyre Disposal and Recycling Law (2007)	Annual reporting	All Importers and manufacturers of vehicles and tyres
Landfill Levy (2007)	Monthly reporting Annual reporting	All Landfill operators
Packaging Law (2011)	2 reports per year	1 accredited body - "Tmir"
Law for Environmental Management of Electric and Electronic Equipment & Batteries (2014)	2 reports per year	2 accredited bodies - "Mai", "Ecommunity"
Plastic Bags Law (2016)	Quarterly Reporting	All large chain supermarkets

# Benefits of Waste Data System

- Faster and more accurate data collection, regularly and efficiently
- Strategic planning, setting goals and reaching them
- Decision making for all stakeholders
- Monitoring environmental impacts
- Development of infrastructure – creating confidence in the private sector for investment (bank loans, risk assessment)
- Saving public money (landfill tax)
- Produce National Statistics on municipal waste
- Available data to the public

# Main Principles

- ✓ Project commenced in 2016
- ✓ Development of a MoEP Data system (on CRM platform)
- ✓ MoEP defined the required reporting format
- ✓ Connecting the Independent reporting systems by the facilities (software)
- ✓ Reporting is required in the business license





משקל 2434 לקוח רגיל

1 עמדי השדר

משקל 2434

לקוח רגיל

שם המשקל

סוג מכולה

משקל מכולה

חברת הובלה

קוב

תועדת משילוח

קוד רכב

מס' רישוי

סוג הרכב

שם נהג

שם לקוח

שם חומר

הערות

משקל נטו

משקל יציאה

משקל כניסה

Tuesday, March 09, 2010 15:01:06

יציאה

הרפסת מתן

אישור, הדפסה

אישור

שקילה

ערכון סרה

לקוחות



# Facilities

## Stage I – MSW Facilities: 44 sites

- ✓ MSW Landfills
- ✓ MSW Transfer stations
- ✓ MRFs

## Stage II – C&D Facilities: 20 sites

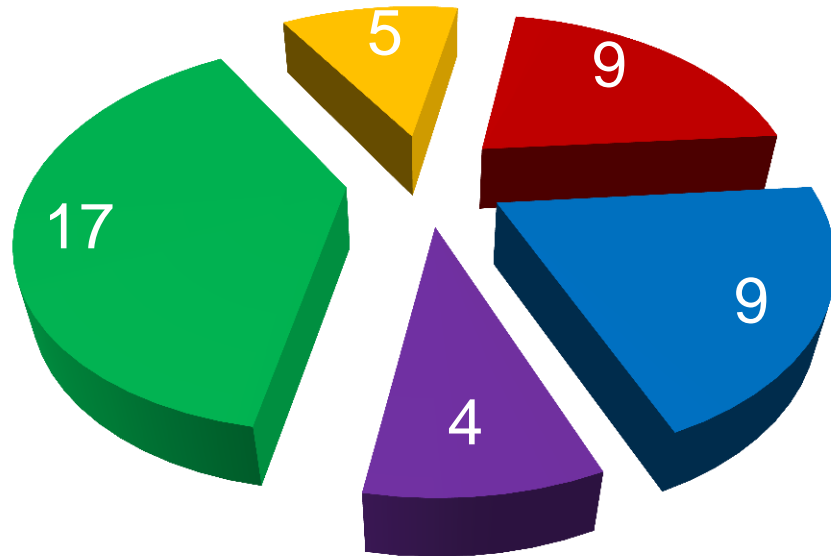
- ✓ C&D landfills
- ✓ C&D treatment facilities

## Stage III – Recycling Facilities: 150 sites

- ✓ Recycling facilities



# Connection to MSW treatment facilities



Site status

**Connected**

Integration process

Pre - integration stage

MoEP HQ negotiation

District negotiation

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# Waste Data System Characteristics

## Data Feed

- ✓ Receiving **daily** data on waste weighed at sites
- ✓ Processing the data by BI system
- ✓ Providing accessible data

## Data Fields in the WDS

- ✓ Site Identification
- ✓ Truck and Contractor Identification
- ✓ Date and time of truck weigh
- ✓ Weight of truck – in and out
- ✓ Waste type
- ✓ Waste origin and destination

# Weighing Report – Example

6.3.2018

אתר סביבתי	סוג תנועה	רכב ההובלה	נגרר	קבלן	סוג פסולת	תאריך השקילה	משקל ברוטו (טון)	משקל נטו (טון)
סיתהל - חגל (טליה)	נכנסת	8984933		החברה הצפונית לפינוי אשפה - פרץ חיים בע"מ - 513549899	מעורבת	11:11 05/03/2018	69.500	38.510
גני הדס 104346	נכנסת	7263087		ק.מ.מ. מפעלי מיחזור בע"מ - 512928482	מעורבת	10:03 28/02/2018	67.120	35.660
סיתהל - חגל (טליה)	נכנסת	5672731		כ.ה. הובלות (2000) 1998 בע"מ - 512594953	מעורבת	09:33 05/03/2018	66.300	35.080
עריית רחובות - תחנת מעבר 146370	יוצאת	9779886		י.ר.א.ב. שרותי נוי 1985 בע"מ - 511061269	יבשה	07:28 06/03/2018	65.830	34.330
גני הדס 104346	נכנסת	5654931		ק.מ.מ. מפעלי מיחזור בע"מ - 512928482	מעורבת	14:04 28/02/2018	65.220	33.940
גני הדס 104346	נכנסת	1466458		גרין נט מחזור וטיפול בפסולת בע"מ - 514438977	מעורבת	07:26 01/02/2018	64.800	32.640
גני הדס 104346	נכנסת	7263087		גרין נט מחזור וטיפול בפסולת בע"מ - 514438977	מעורבת	07:58 06/03/2018	64.600	32.540
גני הדס 104346	נכנסת	7292187		י.ר.א.ב. שרותי נוי 1985 בע"מ - 511061269	מעורבת	09:24 01/02/2018	64.200	33.420
גני הדס 104346	נכנסת	8954433		ק.מ.מ. מפעלי מיחזור בע"מ - 512928482	מעורבת	08:57 01/02/2018	64.200	31.400
סיתהל - חגל (טליה)	נכנסת	8942333		סיתהל - חגל (טליה) - 540183043	מעורבת	08:35 05/03/2018	64.140	33.310
גני הדס 104346	נכנסת	8353153		אשקלון - 500271002	מעורבת	08:19 06/03/2018	63.580	33.540
עברון - תממ מיחזור - שותפות מוגבלת 156394	נכנסת	6301031		החברה הצפונית לאיסוף אשפה - יקוטי משה בע"מ - 513549956	מעורבת	07:03 06/03/2018	63.500	34.920
גני הדס 104346	נכנסת	7262987		ק.מ.מ. מפעלי מיחזור בע"מ - 512928482	מעורבת	14:07 28/02/2018	63.400	32.260
סיתהל - חגל (טליה)	נכנסת	1462058		מ.ג.א. פינוי אשפה ושרותי ניקיון בע"מ - 512322520	מעורבת	13:02 05/03/2018	62.810	32.070
גני הדס 104346	נכנסת	5654931		ק.מ.מ. מפעלי מיחזור בע"מ - 512928482	מעורבת	10:16 22/02/2018	62.700	31.240
גני הדס 104346	נכנסת	2807558		מפעל 1965 (1987) בע"מ - 511215618	מעורבת	09:42 01/02/2018	62.700	38.700
גני הדס 104346	נכנסת	3143858		ק.מ.מ. מפעלי מיחזור בע"מ - 512928482	מעורבת	09:43 28/02/2018	62.500	37.260
גני הדס 104346	נכנסת	6397931		מפעל 1965 (1987) בע"מ - 511215618	מעורבת	06:32 01/02/2018	62.500	37.940
גני הדס 104346	נכנסת	2600439		מפעל 1965 (1987) בע"מ - 511215618	מעורבת	09:12 01/02/2018	62.480	38.700
סיתהל - חגל (טליה)	נכנסת	1462058		מ.ג.א. פינוי אשפה ושרותי ניקיון בע"מ - 512322520	מעורבת	06:34 05/03/2018	62.450	31.580
גני הדס 104346	נכנסת	9229133		מפעל 1965 (1987) בע"מ - 511215618	מעורבת	09:21 01/02/2018	62.380	37.160
גני הדס 104346	נכנסת	4302530		מפעל 1965 (1987) בע"מ - 511215618	מעורבת	06:58 01/02/2018	62.120	37.100
סיתהל - חגל (טליה)	נכנסת	4388908		זידאן עארף בע"מ - 514759984	מעורבת	09:22 05/03/2018	61.990	29.760
גני הדס 104346	נכנסת	1473358		מפעל 1965 (1987) בע"מ - 511215618	מעורבת	07:49 01/02/2018	61.820	36.800
גני הדס 104346	נכנסת	9788786		חן המקום בע"מ - 511500589	מעורבת	08:41 01/02/2018	61.760	32.760

# Progress

- ✓ Budget allocated: Approx. 1.5 million Euros (2016-2020)
- ✓ Development of a protected MoEP Waste Data System that can accept waste weighing data
- ✓ Processing of 44 site connections
- ✓ Distribution of a connection Manual to sites and software companies
- ✓ Meetings and assistance
- ✓ Periodic progress report to MoEP management
- ✓ Managing an operational and progress log for each site

# Problems...

- Refusal to connect
- The software companies are not obliged to MoEP requirements
- The software companies do not guarantee a time frame compatible with MoEP
- Incompatibility between MoEP System : adaptation, time consuming
- Variable connection costs between systems
  - Simple software: up to 5000 Euros
  - ERP systems (SAP) – 25,000 Euros or more
- Complete Software replacement needed (Hiriya, Haifa Mun.)
- Local Authorities without weighing platforms: Tiberius, Ashkelon, Araabe
- Landfill with no Internet :Nimra Landfill, Daya Landfill

# Successes



- ✓ 9 Sites reporting daily
  - ✓ Landfill sites
  - ✓ Transfer stations
- ✓ 4 sites integrating with MoEP data system division
- ✓ 5 transfer stations - new waste scales
- ✓ Reorganizing reporting mechanisms, weighing systems and book-keeping at the sites
- ✓ Enforcement and inspection of business license requirements strengthened
- ✓ Raised awareness of the operators of transfer stations about payments to contractors and landfill operators

# Next steps

- ✓ Completing MSW sites connection
- ✓ Commencing C&D sites connection
- ✓ Preparing recycling facilities for connection
- ✓ Development of BI model for data in the system
- ✓ Assessment of the synergies with the Landfill tax reporting system
- ✓ Business assessment of an integrated Landfill tax payment system
- ✓ Developing a Landfill tax payment system
- ✓ Assessment, gap analysis (SEIS)
- ✓ Roadmap for connecting Local Authorities (SEIS)
- ✓ Training (SEIS)
- ✓ Exploring synergies with ICBS

# SSFA – Municipal Waste Project

## Development of municipal solid waste database

### 1. Assessment of current development status of the Waste Data system

- Assessing regulatory aspects of reporting mechanisms of the municipal solid waste flow (from local authorities to waste treatment facilities) and related data in line with the recently developed data formats, information and reporting system
- Analysing main obstacles in site connection
- Recommendations for voluntary actions and incentives that can promote site connection
- Recommendations for setting up a mandatory framework for reporting on waste (i.e. legislation) and assessing how it relates to existing laws that require reporting (PRTR, Hazardous materials, Landfill tax)
- Exploring synergies with CBS

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## 2. Connecting Local Authorities

- Understanding the importance and relevance of closing the waste transfer cycle - reporting by local authorities
- Exploring the methods for connecting local authorities to the waste data flow system
- Regulatory Impact – cost benefit analysis of setting up a reporting system by LA
- **preparing a roadmap** for full establishment of MSW information system in local authorities;
- Recommendations for voluntary actions and incentives that can promote site connection by LA
- Recommendations of regulatory actions and obligations for mandatory reporting on waste (legislation)

### 3. Design and develop of the database functionalities and analysis (BI)

- Data sharing mechanisms
- Data mining and analysis
- Queries
- exploring reporting options
- Identifying the benefits of automatic reporting for the treatment sites and landfills

### 4. Improve the municipal waste database

- Closing the data gaps
- Presenting new MSW indicators
- QC/QA and methods for improving data quality
- Presenting new and improved waste data systems and software

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## 5. Training for stakeholders

- Presentation of deliverables to the Waste Division, CBS
- Workshop for MoEP waste coordinators
- Workshop for landfill operators, MRF operators, Recycling facilities



Thank You!



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