



COST RECOVERY AND TARIFFS SETTING: *Lithuanian experience*

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Who should finance municipal waste management system?

- **Municipalities** are responsible for organisation of municipal waste management systems.

**Waste Management Act (16/10/1998)*

- The users of the service or producer of the product owes the cost for the municipal waste management service to the municipality in accordance with **polluter pays principle**:

1. *In accordance with the polluter-pays principle, the costs of waste management shall be borne by the original waste producer or by the current or previous waste holders.*
2. *Member States may decide that the costs of waste management are to be borne partly or wholly by the producer of the product from which the waste came and that the distributors of such product may share these costs.*

**Directive 2008/98/EC on waste, Article 7 “Costs”*

- **Producer responsibility principle**: making producers responsible for the end-of-life costs of their products they have an incentive to take these costs into account in product design



“Traditional” system for MSW financing in Lithuania

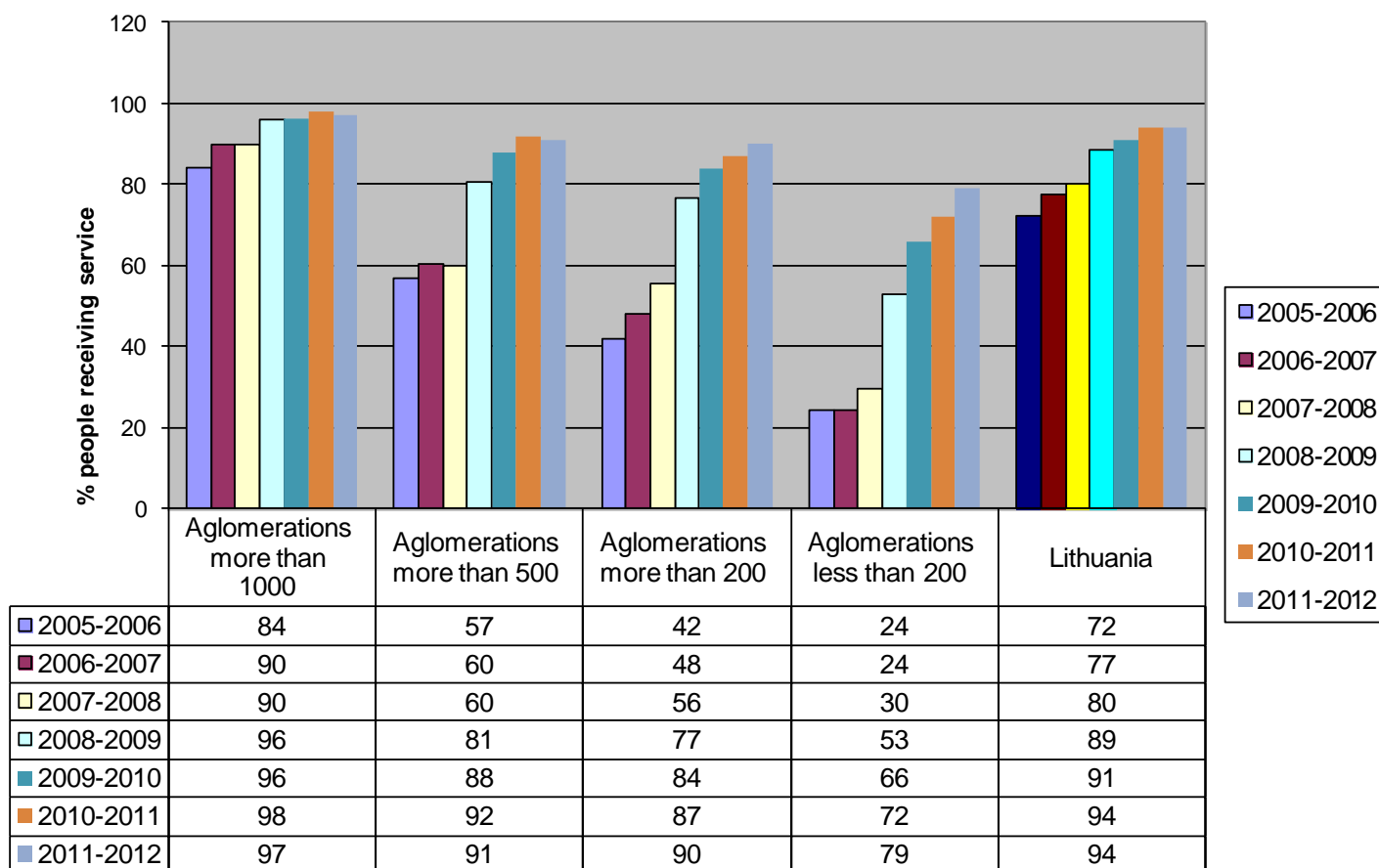
- Waste collection service is provided according to contracts with municipal or private waste management company.
- Fees are collected by the companies providing services.
- (Maximum) tariffs are approved by municipalities.
- Fee is based on residual waste amount (volume) or number of residents (based on registration).
- Municipal waste management service covers only collection and landfilling of residual municipal waste.
- There are no sanctions for not having a contract or waste.
- Compared with water supply or electricity, ceasing the waste collection service does not build up as pressure to pay!



Coverage of municipal waste collection service in Lithuania

- Municipalities** have to ensure that waste generators (households /commercial sector) are connected to public waste collection

National Strategic Waste Management Plan (2000 and amendments)





Need for regional waste management systems

- **Need for centralised collection systems:**

- *Along with commissioning of the new landfills, all the waste generated in the respective region has to be disposed in it**

**Rules on Waste Landfills Construction, Operation, Closure and Care after Closure (2000 and amendments)*

- **Solidarity principle:**

- *The municipal waste management tariff should not depend on the distance to the regional waste management facilities. The price should be the same for all municipal waste holders of the region if they have the same scope and quality of the services***

*** National strategic waste management plan (31/10/2007)*



Who should collect the tariffs?

Public sector:

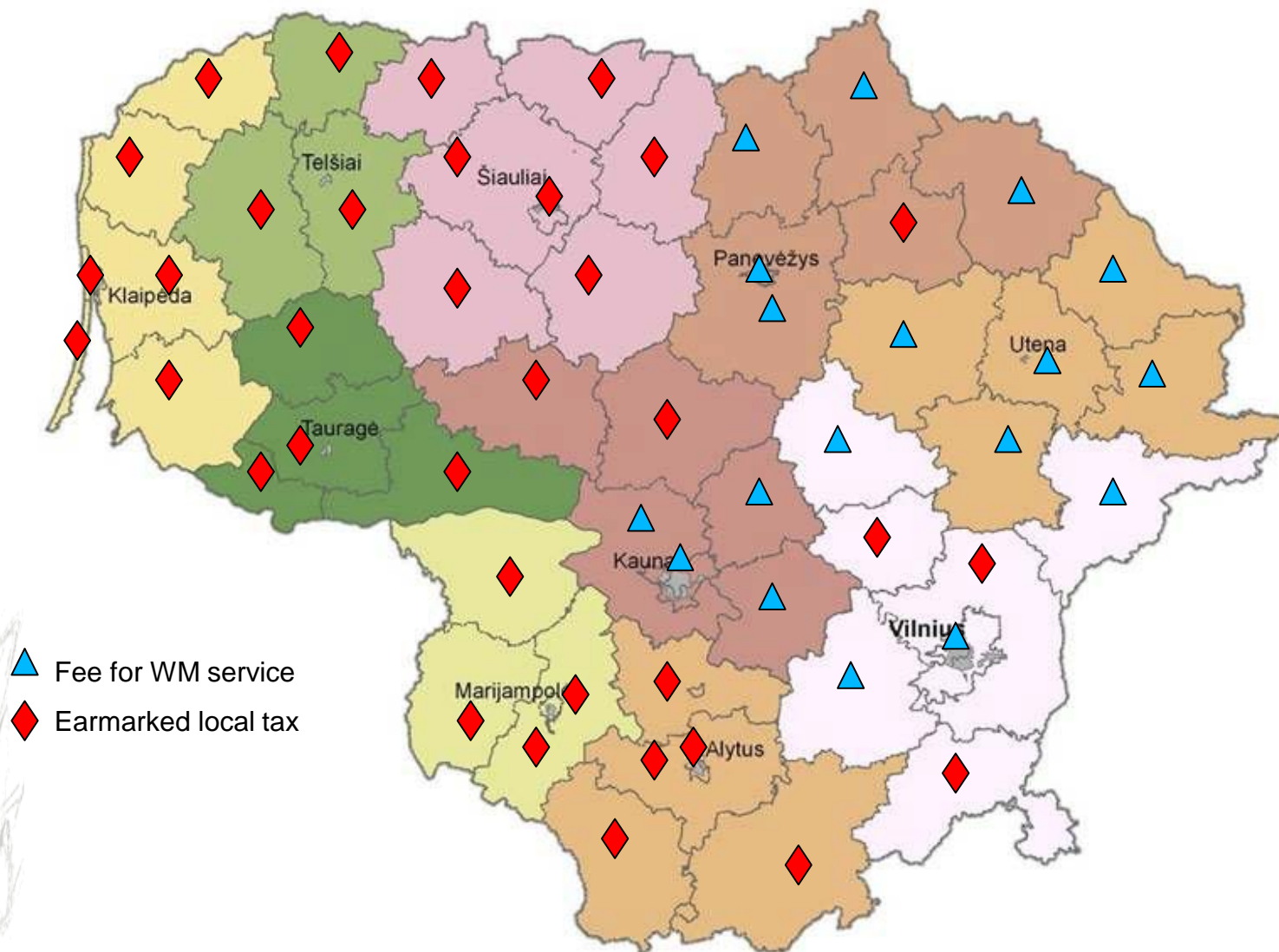
- Municipalities get more influence on waste management services
- Fewer default of payment
- Financing of all waste management services (not only collection and treatment of residual municipal waste)
- Securing a waste collection from each household/facility
- Securing the same price for everybody, even for distant areas
- Securing a uniform waste management system in an area

Private sector:

- Public sector loses the influence in the manner how waste management will be done
- People resign from signing contracts
- Securing, that each facility has a waste management contract, is difficult
- Securing that each household gets an affordable contract, is difficult



Waste management fee or local tax (situation in 2014)





Application of solidarity principle

- Different costs in municipalities of the same region:
 - Different distance to regional landfill
 - Different collection costs because of population density, different waste management service provided
- Possible ways to apply solidarity principle in practice:
 - *Full solidarity*: all costs distributed among all municipalities in the region based on one parameter (e. g. per tonne of residual municipal waste)
 - *Partly*: only disposal costs distributed in (landfill gate fee is set based on the distance to the landfill)



Amendments of Waste management act (1)

- *Amendment of Waste management act (11/12/2011):*
 - Every person is the holder of municipal waste in spite of its legal form or activities
 - The owner of the property is obliged:
 - to pay local tax or
 - to make the contract with the municipality or administrator
 - Standard terms of the contract (approved by the government)
- *Amendment of Waste management act (19/04/2012):*
 - To increase the efficiency of the waste management system all or several municipalities that belong to the municipal waste management region can cooperate together and to establish a legal person - the administrator of municipal waste management system.
 - Administrator of municipal waste management system is a legal entity, established *by one, several or** all municipalities that belongs to region and fulfilling functions of municipal waste management organisation in the area of municipalities and/or *providing waste management services*.

**Amendment of Waste management act (09/05/2013)*



Amendments of Waste management act (2)

- *Amendment of Waste management act (19/04/2012):*
 - **Functions of the administrator:**
 - to organize selection of waste management companies by tender
 - to fulfill its contractual obligations supervision and control
 - to present the calculation of tariffs for MWM to municipality and collect them after approval of the council of municipality
 - to register municipal waste holders
 - to collect and analyze the information about the fulfillment of the set targets
 - to provide proposals to municipalities concerning the development of the system
 - to perform public awareness rising activity
 - to make contracts with waste management holders



New regulations of waste tariffs (3)

- *Amendment of Waste management act (19/04/2012):*
 - **Tariff setting for municipal waste:**
 - Tariff is determined in accordance with the solidarity, proportionality, non-discrimination, cost recovery and “polluter pays” principles
 - The tariff of municipal waste management must be based on the municipal waste management costs
 - The tariff of municipal waste management must ensure the long-term operation of the waste management infrastructure
 - The price of municipal waste management services and the tariff for municipal waste collection from waste holders and waste management is determined by the municipality, taking into account the methodology approved by the Government



Implementing legal acts

- Minimal quality requirements for municipal waste management service (21/10/2012, *MoE regulation*)
- Regulation on municipal waste holders registration (20/12/2012, *MoE regulation*)
- List of real estate types the owners or authorized persons of which has to pay waste management tax or to establish the municipal waste management services contract for the provision of waste management service (20/02/2013, *MoE regulation*)
- Standard conditions for the provision of municipal waste management services contract (12/04/2013, *MoE regulation*)
- Methodology for setting taxes or other tariffs for municipal waste collection from waste holders and waste management (24/07/2013, *Government resolution*)



Methodology for setting taxes or other tariffs for municipal waste collection from waste holders and waste management

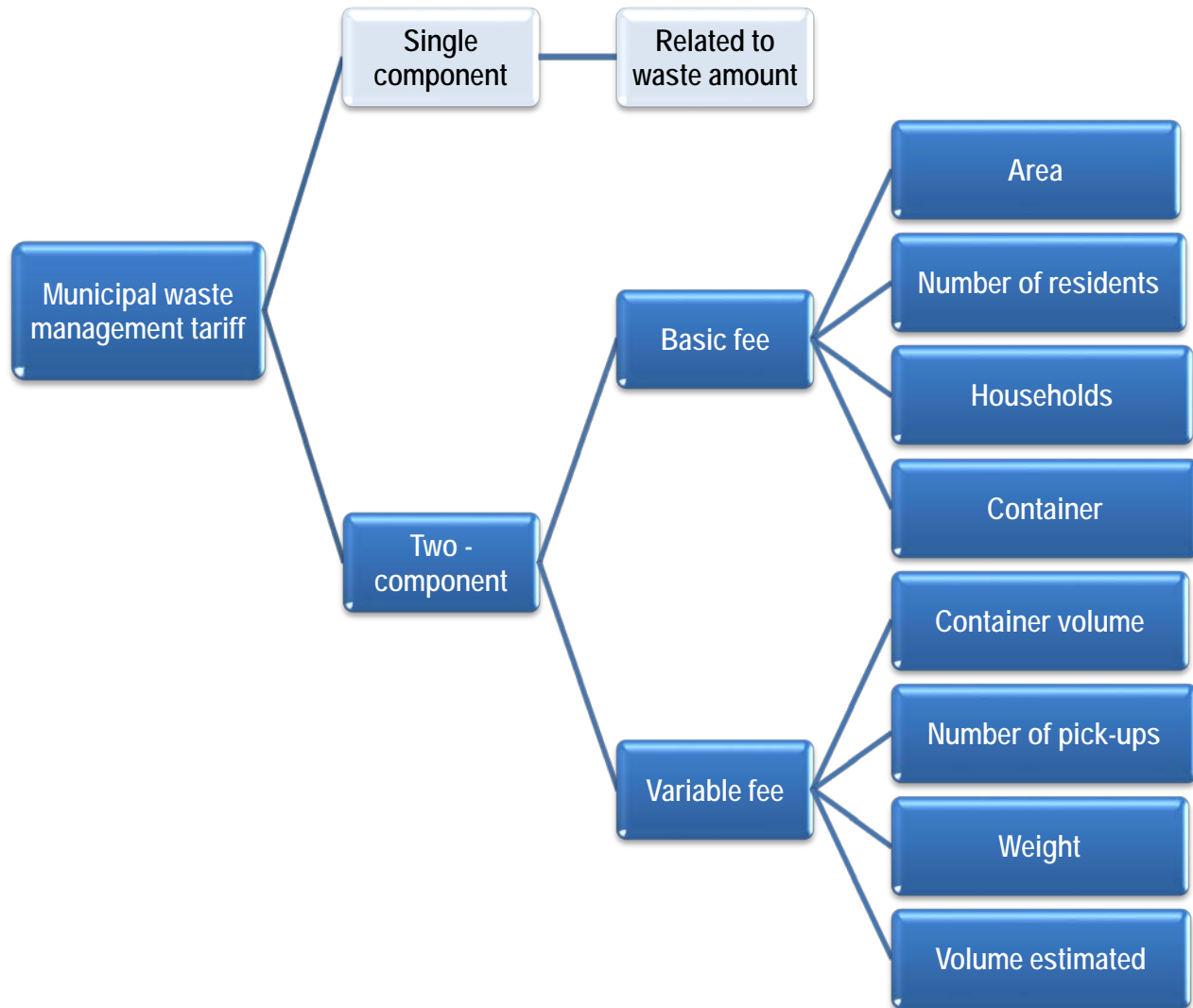
- Calculation of **necessary municipal waste management costs**:
 - Costs of all waste management services
 - Fixed and variable costs have to be identified
- Calculation of **two-component tariff** for municipal waste management:
 - Basic fee based on fixed costs
 - Service fee based on waste amount

*It is recommended to gradually introduce waste management service charges (fees or local taxes) based on volume of container and number of emptying instead of tariffs based on number of persons.**

** National strategic waste management plan (12th April, 2002)*



Calculation of two-component tariff for municipal waste management





Annual costs of MSW management in Alytus region

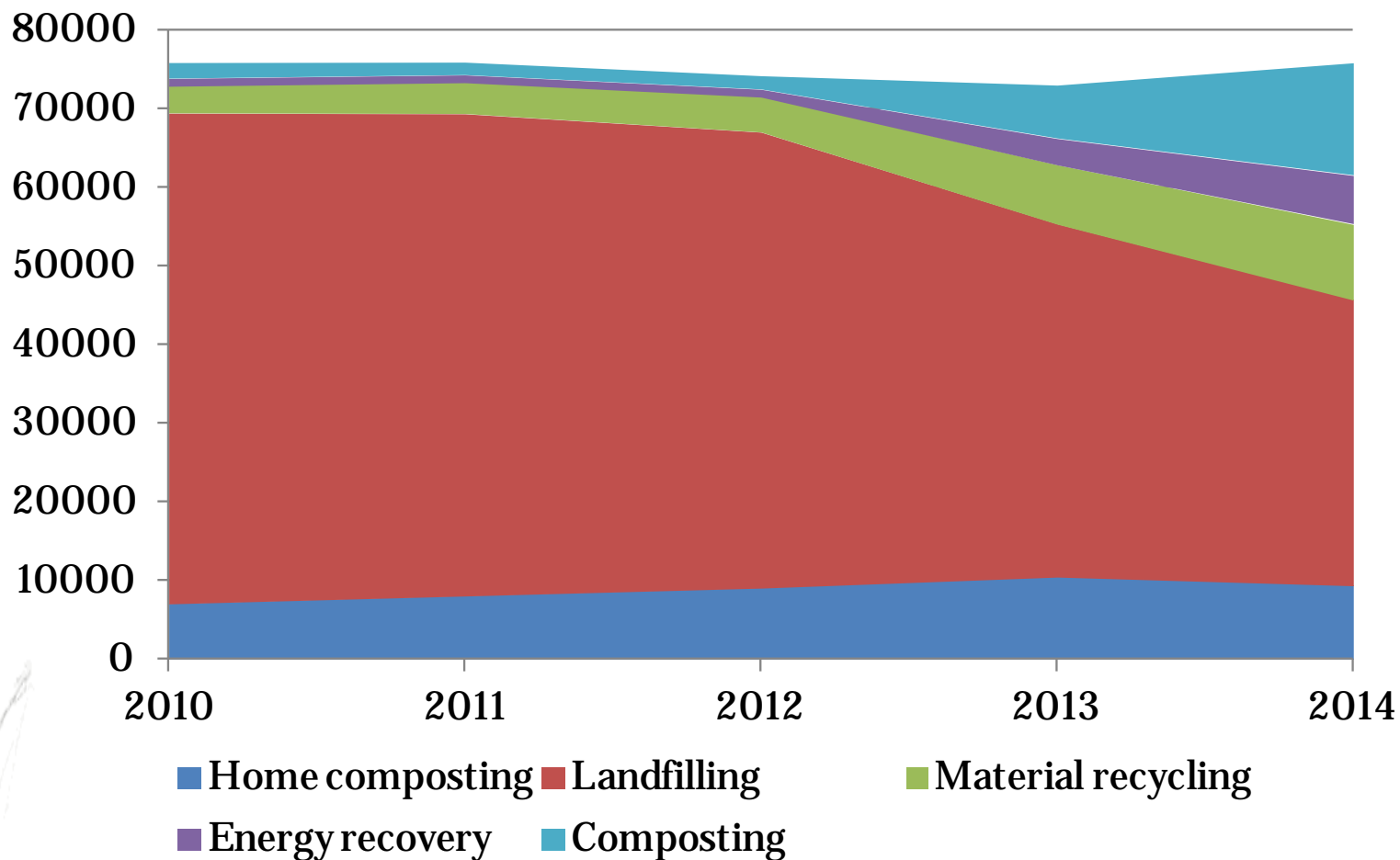
| | 2013, Eur | | 2014, Eur | |
|--|------------------|-------------|------------------|-------------|
| Residual waste collection | 2.399.672 | 57% | 2.123.643 | 50,1% |
| Waste disposal at regional landfill | 442.685 | 10% | 416.787 | 9,8% |
| Sorting of mixed municipal waste | 54.721 | 1% | 144.873 | 3,4% |
| MBT plant (mechanical treatment only) | 0 | 0% | 123.690 | 2,9% |
| Civic amenity sites and composting sites | 331.996 | 8% | 491.982 | 11,6% |
| Monitoring and after care of old landfills | 161.902 | 4% | 191.502 | 4,5% |
| Administration of EU funded projects | 123.266 | 3% | 54.444 | 1,3% |
| Collection of waste taxes and public information | 361.103 | 9% | 353.343 | 8,3% |
| Organisation of waste collection services | 18.209 | 0% | 34.904 | 0,8% |
| Distribution of home composting boxes | 44.021 | 1% | 4.541 | 0,1% |
| Control of MSW system | 32.417 | 1% | 33.447 | 0,8% |
| Other administration costs | 261.669 | 6% | 267.318 | 6,3% |
| Total | 4.231.659 | 100% | 4.240.474 | 100% |

Population: 184 182

Number of households: 82 476




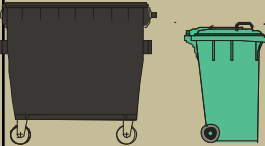


Waste management in Alytus region



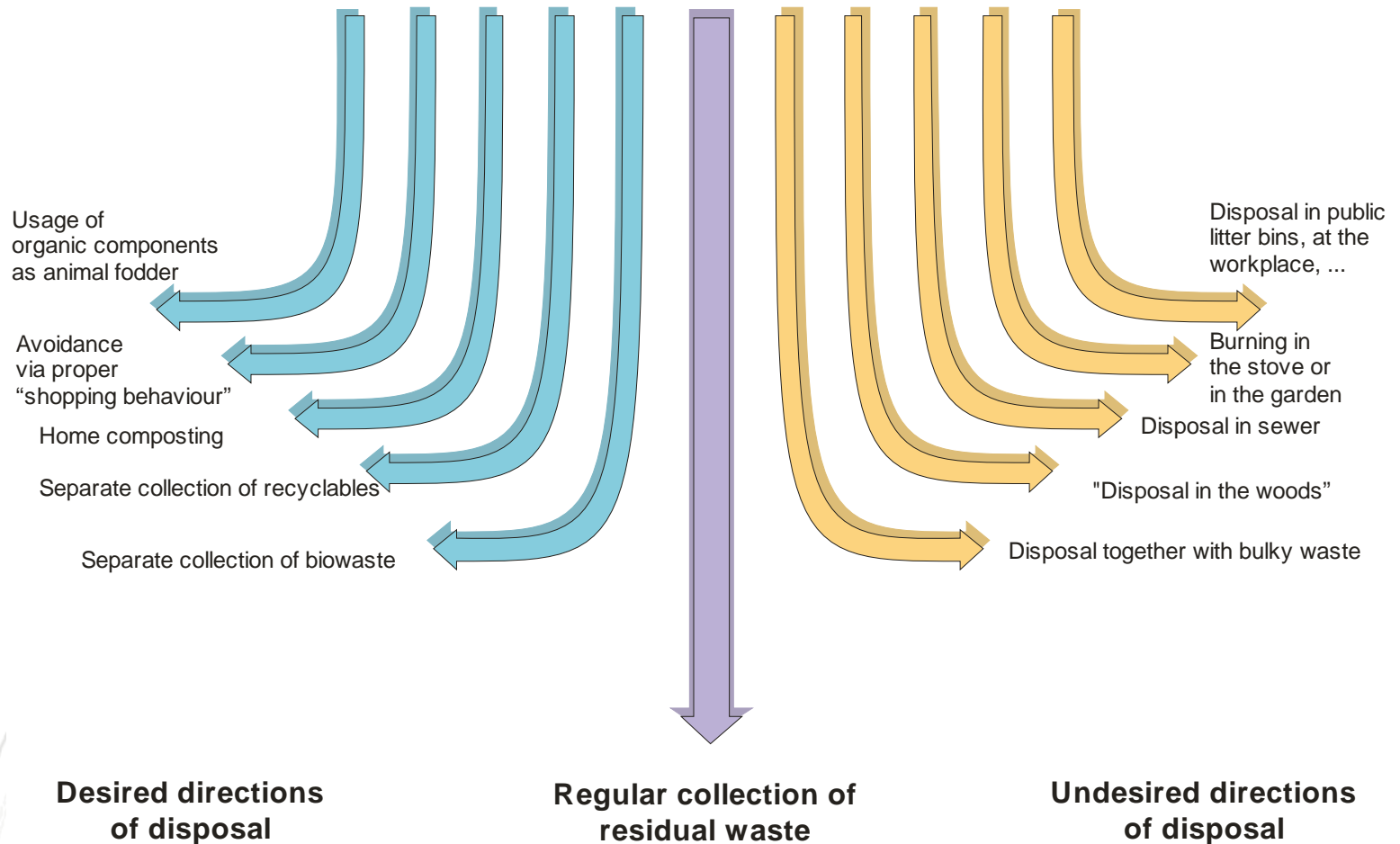


Municipal waste tariffs in 2014, Eur

| Region | Household /year  | Area (m ² /year)  | Person/ year  | Volume provided (m ³)  |
|----------------------------|---|---|--|--|
| Alytus | | 0,59 | | |
| Kaunas | | 1,01 | 15,64 | 10,14-10,72 |
| Klaipėda | | 0,87 | | |
| Marijampolė | | 0,87 | 33,60 | |
| Panevėžys | | | 22,96 | |
| Šiauliai | | | 16,22-22,01 | |
| Tauragė | | 0,83 | | |
| Telšiai | 45 | | | |
| Utena | | | 24,22 | 10,14 |
| Vilnius | | 1,11 | | |
| <i>% of municipalities</i> | <i>8%</i> | <i>37 %</i> | <i>45 %</i> | <i>10 %</i> |



Desired and undesired paths for waste





Flat rate fees

(not based on waste amount)

Advantages:

- No incentive for illegal dumping
- Easy to administrate if the fee is linked to known data like area of the house, number of residents...
- Predictable revenues

Disadvantages:

- Polluter pays principle is not realised
- Not fair, no incentive for reducing waste quantity i. e. by separate collection
- Difficult to administrate if no data is available, or numbers are changing often (number of residents)



Fees based on waste amount (*volume or weight*)

Advantages:

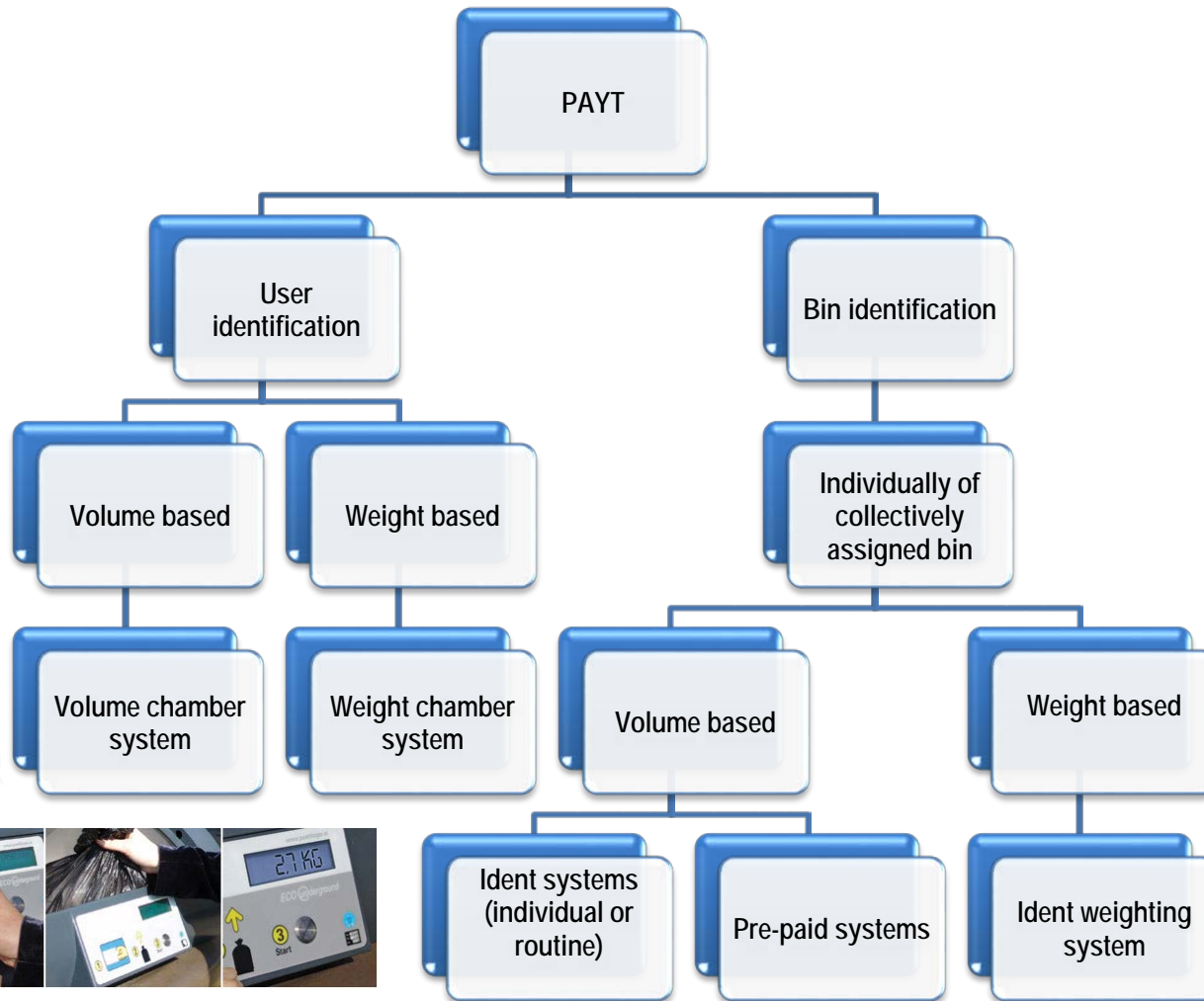
- *Fair system*: the more waste generated, the more to pay (Polluter Pays Principle)
- *Enforcement of the waste management hierarchy*: motivation for waste prevention, home composting, sorting of recyclable
- *Higher transparency of service* and thus promotion of a more reliable public image of waste services

Disadvantages:

- People can try to avoid paying by illegal dumping
- Each house has to have its own container to be used only by residents of this house
- Implementation barriers in multi-family buildings
- Uncertain revenues because of the uncertain waste generation
- Possible increase of administrative, managerial and operational cost
- Possible social unfairness towards families with kids, low income citizens



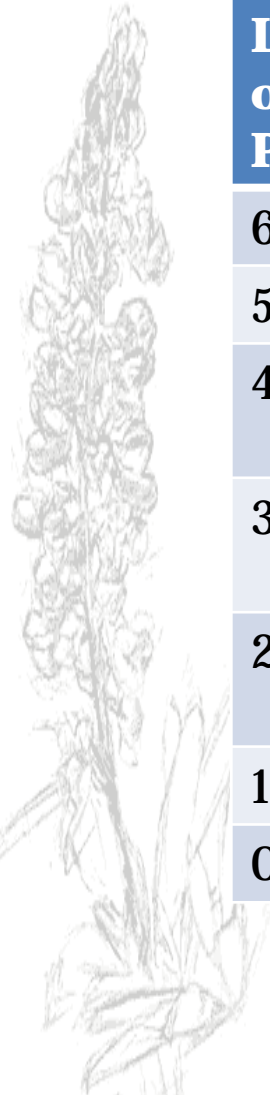
Technical approaches for PAYT implementation



Source: Bilitewski, B., Werner, P., Reichenbach, J. (Eds.). *Handbook on the Implementation of Pay-As-You-Throw as a Tool for Urban Management*. Dresden University of Technology, Book 39. 2004.



PAYT in urban territories

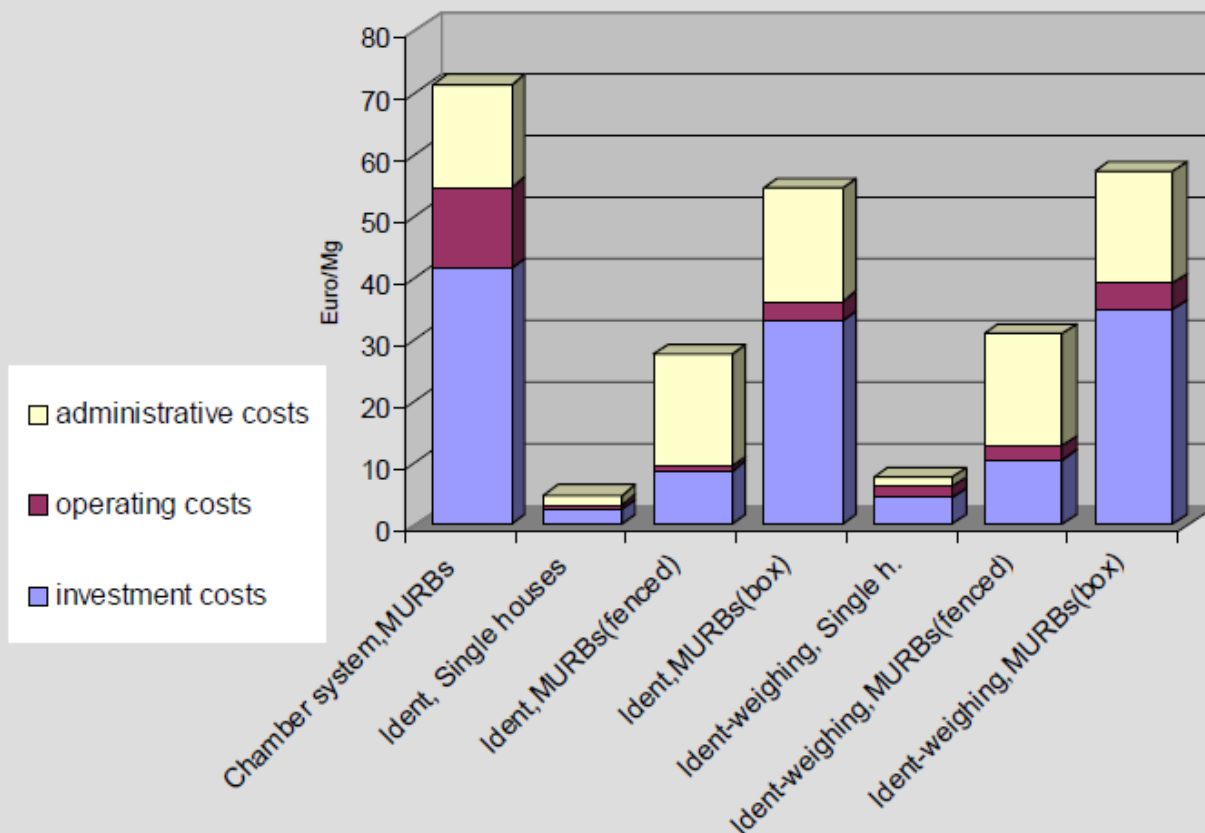


| Level of PAYT | Blocks - large buildings | Blocks - small buildings | Single family housing |
|---------------|------------------------------|--------------------------|------------------------------|
| 6 | chamber system | chamber system | chamber system |
| 5 | | | ident weighing system |
| 4 | | ident weighing system | individual system / pre paid |
| 3 | ident weighing system | ident weighing system | routine system |
| 2 | individual system / pre paid | routine system | |
| 1 | routine system | | |
| 0 | flat rate | flat rate | flat rate |

Source: Bilitewski, B., Werner, P., Reichenbach, J. (Eds.). *Handbook on the Implementation of Pay-As-You-Throw as a Tool for Urban Management*. Dresden University of Technology, Book 39. 2004.



Estimated incremental costs for the introduction of PAYT



Source: Findings from an assessment of incremental costs based on actual expenses for different components for PAYT implementation conducted within the case analyses of RTD-project "PAYT", see table Tab. 16

Source: Bilitewski, B., Werner, P., Reichenbach, J. (Eds.). Handbook on the Implementation of Pay-As-You-Throw as a Tool for Urban Management. Dresden University of Technology, Book 39. 2004.



Factors that influence the success of PAYT (1)

1. Technical aspects and convenience:

- Possibility for waste separation (availability of collection facilities and services for source separated waste)
- Accessibility to the service/ability to identify waste generator
- Distance to the receptacles for separated waste (collection of recyclables in general)
- Relationship between available container volume and frequency of collection (indicating a.o. collection service efficiency)
- Trustworthiness of the collection and calculation of charges/billing
- Handling of the collection
- Transparency of the waste management system

2. Economic aspects, incentives and pricing:

- Variable part of waste charges
- Fair treatment of all citizens and equity and fairness of the pricing
- Existence of deposit-refund systems or/and bulk-buying recyclables

Source: Bilitewski, B., Werner, P., Reichenbach, J. (Eds.). *Handbook on the Implementation of Pay-As-You-Throw as a Tool for Urban Management*. Dresden University of Technology, Book 39. 2004.



Factors that influence the success of PAYT (2)

3. Policy aspects, authorities and enforcement:

- Legal framework for introducing PAYT
- Legal orders against littering/illegal dumping
- Application of legal orders in practice (penalties' size and application in practice)
- City planning regulations
- Intensity and spectrum of public information/education measures supplied by authorities
- Types of participation in decision-making processes related to waste management
- Actors involvement in waste management decisions
- Position of local authorities and entrepreneurship

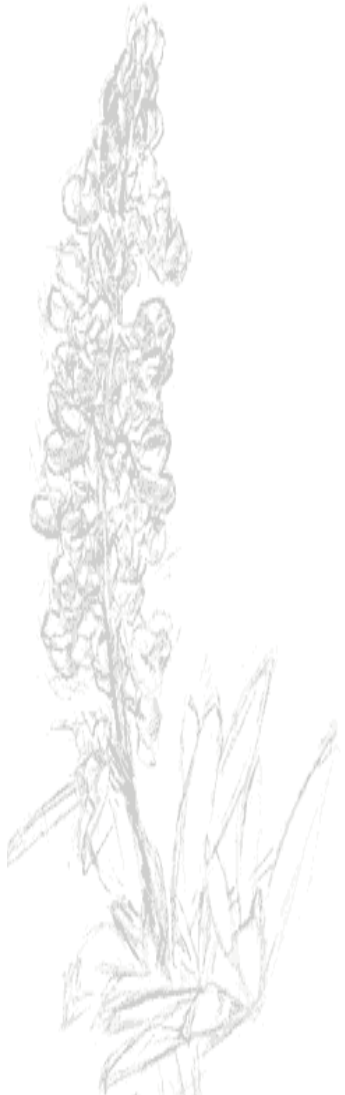
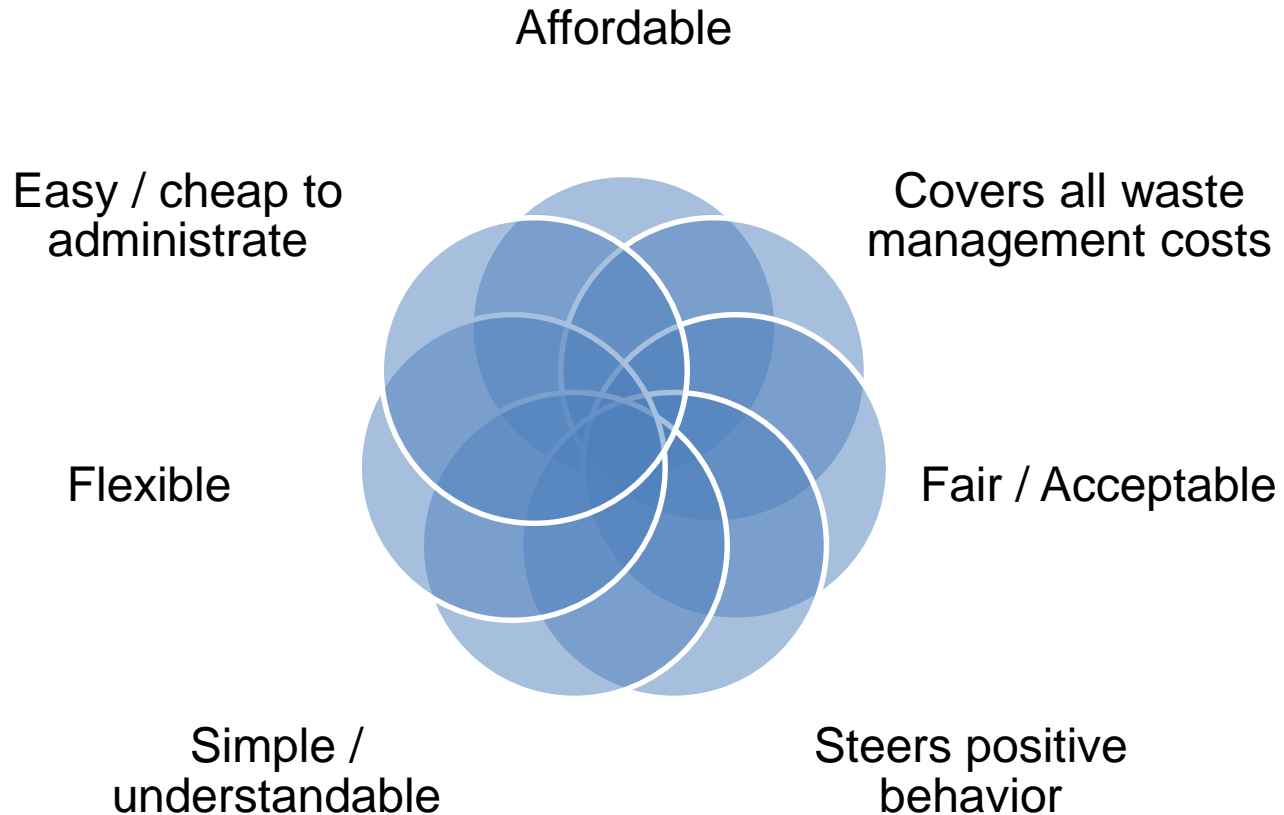
4. Social circumstances:

- Financial status of the citizens
- Education level of the citizens
- State of citizen's supply with information and education
- Environmental consciousness/citizens attitudes towards the environment.

Source: Bilitewski, B., Werner, P., Reichenbach, J. (Eds.). *Handbook on the Implementation of Pay-As-You-Throw as a Tool for Urban Management*. Dresden University of Technology, Book 39. 2004.



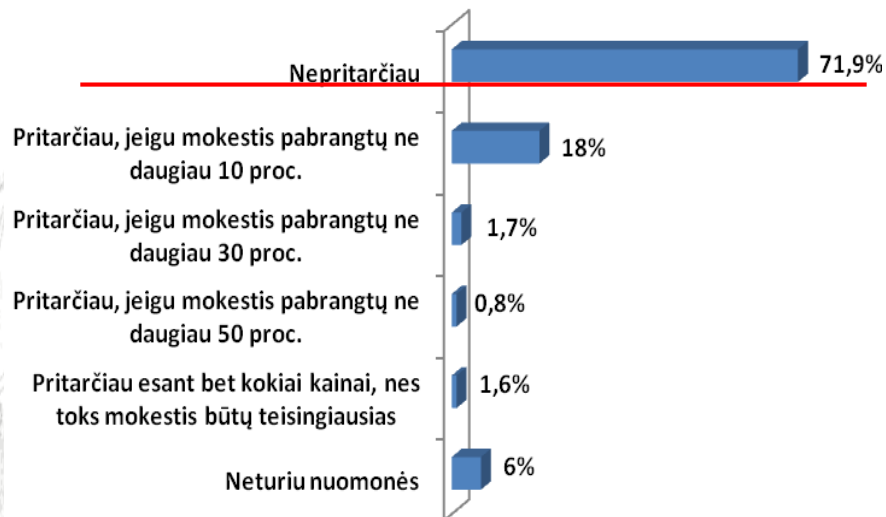
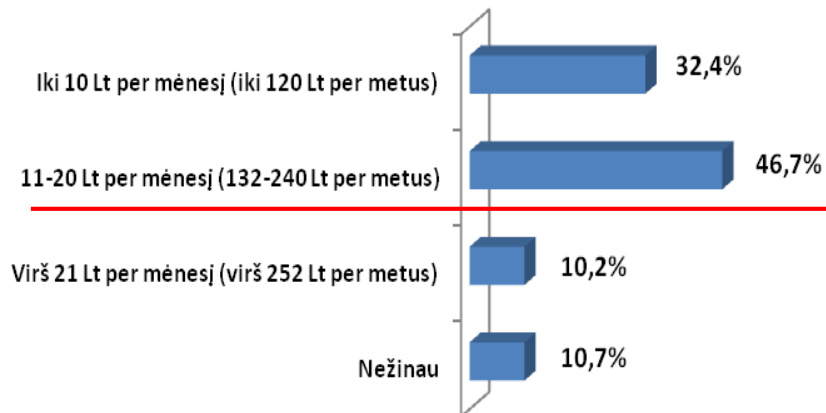
Ideal waste tariff – is it possible?



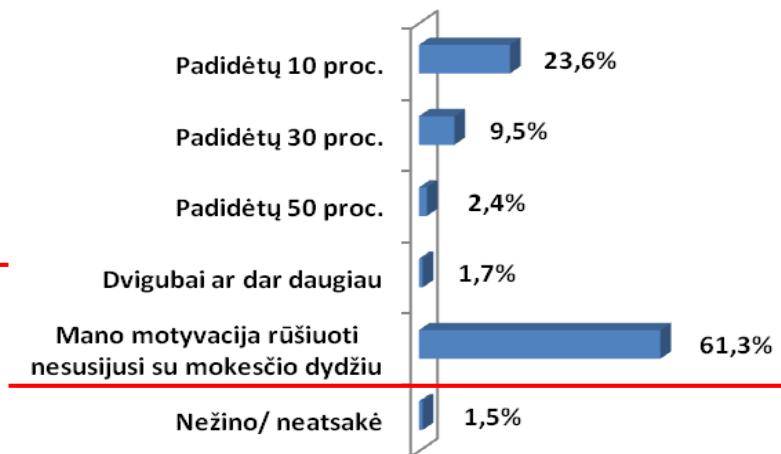


Population survey (*Vilmorus, 2012*)

How much does your household pay for municipal waste management?



Would you sort more waste if the fee would increase by :



Would you support the idea to introduce a more fair charging system if your bill would increase by:

Note: Only respondents that supported the idea of charging by waste amount (N=366)



Key issues and lessons learned



Key issues and lessons learned (1)

- Financial support does not solve the long-term and continuous operation of the system. The main source of financing – waste management tariff.
- Polluter pays principle should be implemented, however tariffs for waste management services are constrained by affordability and political acceptability.
- There is no ultimate fee fairness.
- Additional costs of sophisticated measurement systems might be higher than individual savings.
- Pay as you throw systems can be applied only if separate waste collection systems established (in other words - if legal waste reduction paths exist).



Key issues and lessons learned (2)

- Municipal waste management costs might be reduced if:
 - Extended producer responsibility principle is implemented and some costs are paid by producers (ultimately by the users of the products at the moment of buying);
 - Industrial waste is separated from municipal waste.
- Payment scheme for waste collection companies also has a steering effect:
 - if payment is based on waste amount brought to the landfill (per tonne of waste), waste management companies are motivated to collect as much of residual municipal waste as possible (no motivation for recycling);
 - If landfill gate fee is different based on distance to landfill, suddenly more waste might be collected in municipalities having lower gate fees.



Thank for Your attention!

