

MUNICIPALITY OF PROBISTIP

Project “BIOWASTE” and Environmental Benefits

“Utilizing Pay As You Throw Systems and Autonomous
Composting Units for Biowastes Management in Touristic Areas”

Project co-funded by the European Union and National Funds of the participating countries



Autonomous Composting Unit - ACU

Hotel, restaurants and catering facilities

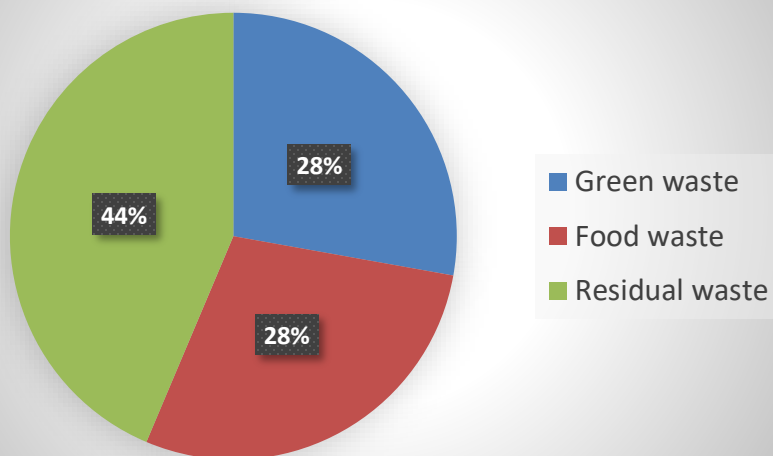
Decentralized urban communities "Kalnishte"

one bigger and a few small restaurants

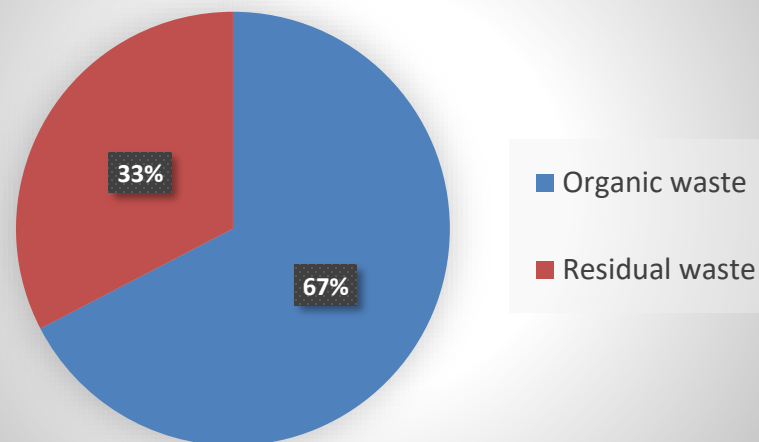
80 households

Greenhouse gas emissions at landfilling organic waste

Total waste generated in Probishtip, yearly



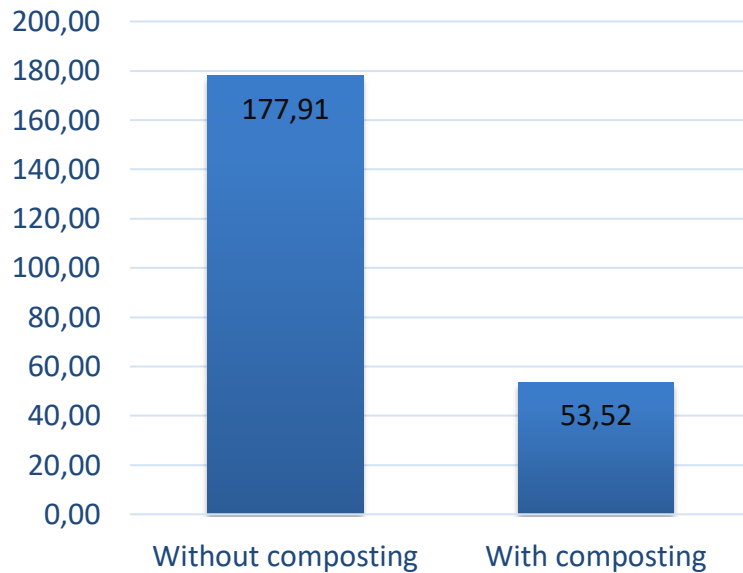
GHG Emissions (t CO₂-e)



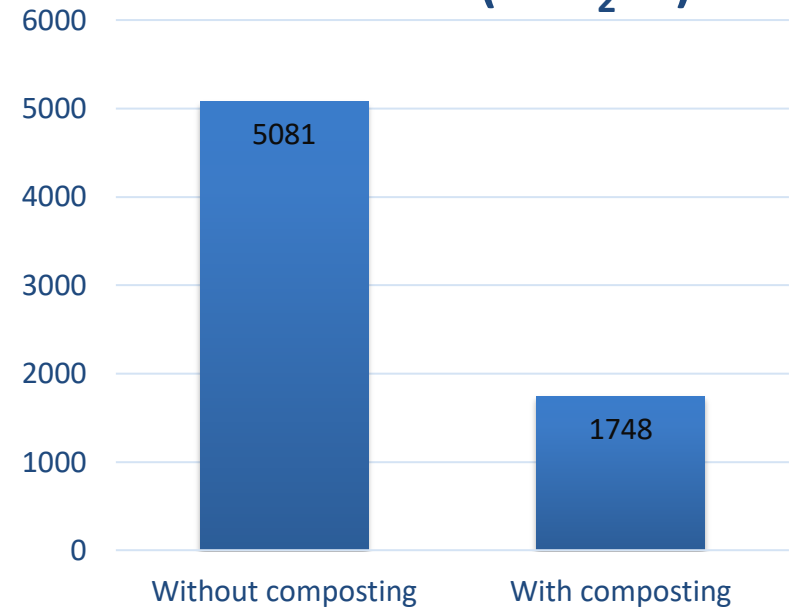
Reduction of greenhouse gas emissions with composting organic waste

- GHG emission for project area ($\approx 71\%$ reduction);
- GHG emissions upscaled to municipal level ($\approx 65\%$ reduction);

GHG Emissions (t CO₂ -e)



GHG Emissions (t CO₂ -e)



Transport for waste collection and disposal and decreasing landfill expansion rate

Percentage of composted organic waste	Weight of landfilled waste (t/year)	Average density of the waste (t/m ³)	Volume of generated waste (m ³ /week)	Volume of generated waste (m ³ /year)
Total waste landfilled	109,3	0,242	8,684	451,65
Composting 100% of the organic waste and only residual waste is landfilled	42,8	0,182	4.520	235,16

Decreasing landfill expansion rate

Percentage of composted organic waste	Weight of landfilled waste (t/year)	Average density of the waste (t/m ³)	Volume of generated waste (m ³ /year)
Total waste landfilled	3300	0,242	13636
Composting 35% of the organic waste (Scenario 1)	2649	0,228	11618
Composting 75% of the organic waste (Scenario 2)	1905	0,204	9338
Composting 100% of the organic waste and only residual waste is landfilled (Scenario 3)	1440	0,182	7912

Other environmental benefits are:

- Reduction of the amount of leachate occurring at landfills.
- Product from the composting process.

