



Solid recovered fuel production from municipal solid waste: a tourist area plant case study

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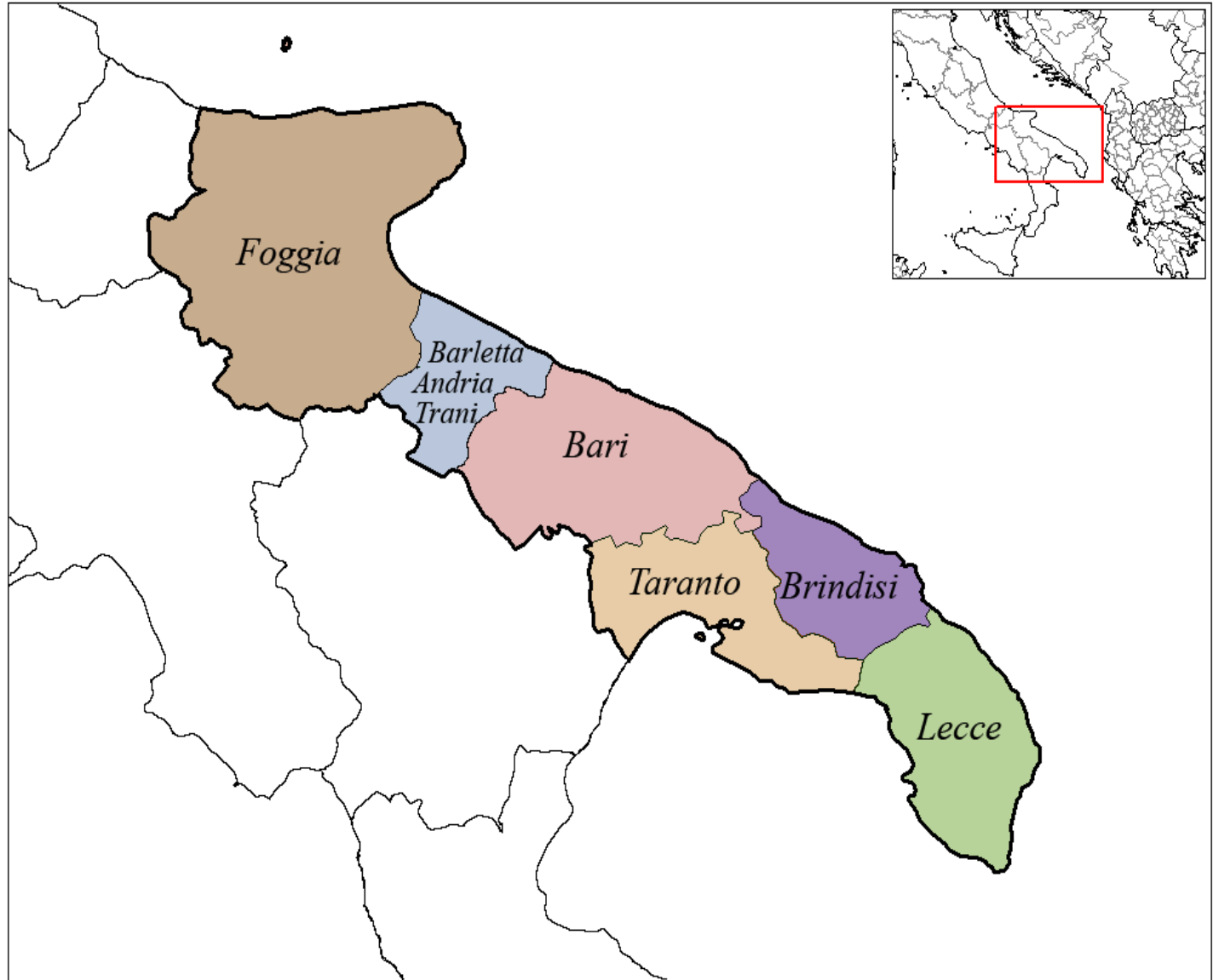
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Naxos, June, 15 2018

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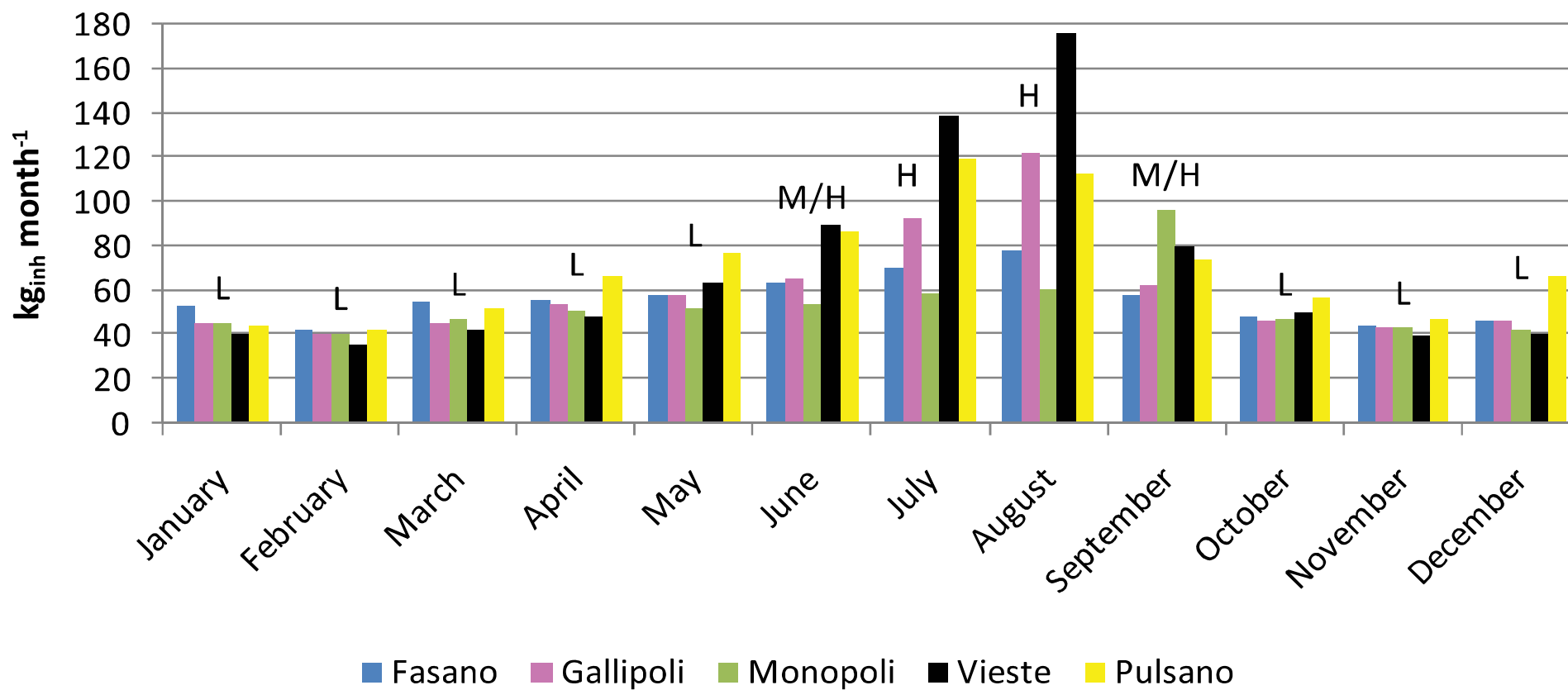
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OBJECTIVES

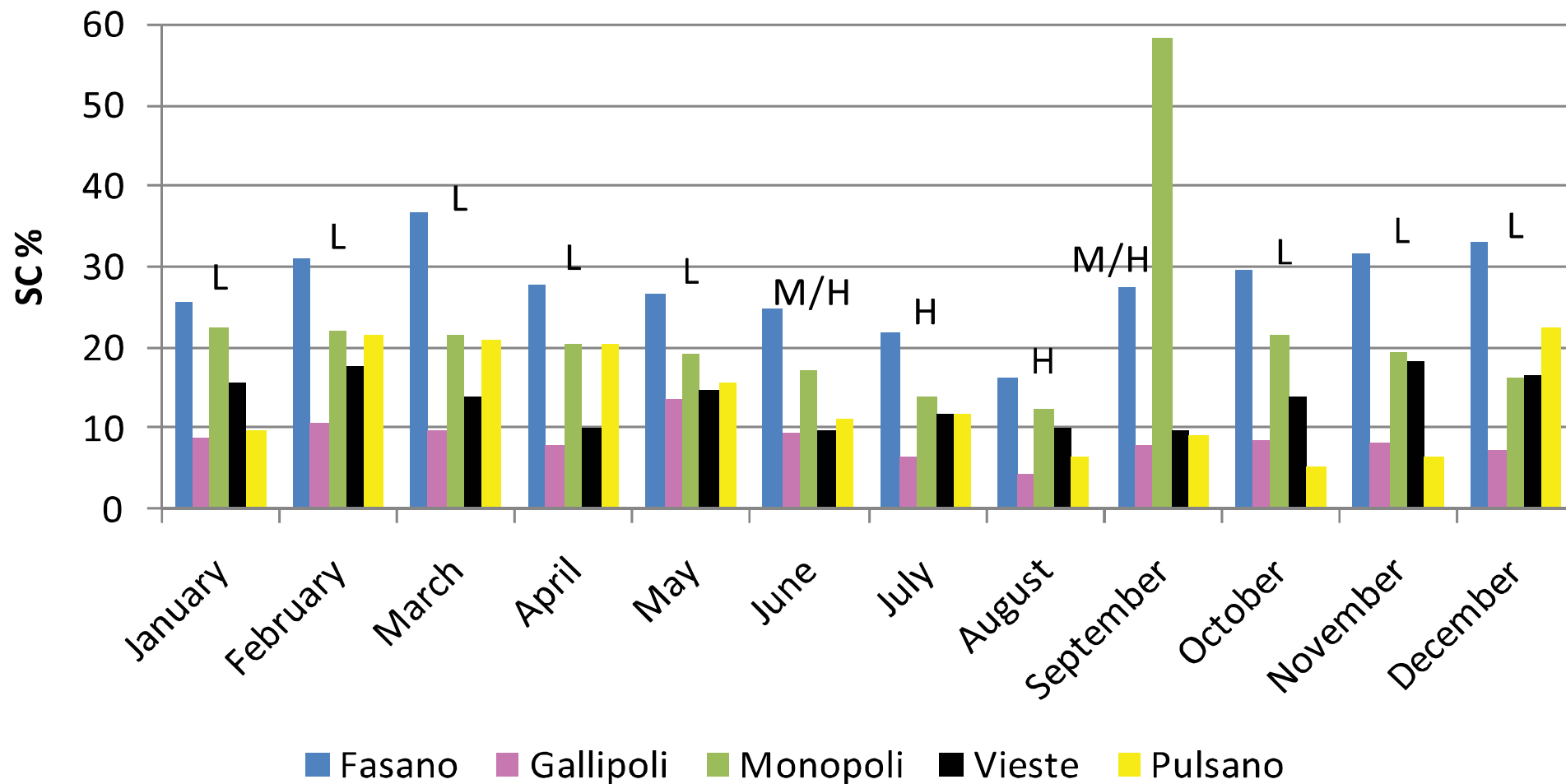
- **To analyze the selective collection data in the touristic season in comparison to the rest of the year**
- **To assess the results of the implementation of the new door to door selective collection in touristic area of the principal city of Apulia**
- **To evaluate the potentiality of enhancing the waste to energy plant efficiency in Apulia**

APULIA - Monthly per-capita generation of MSW
 H: high season; M: medium season; L: low season.

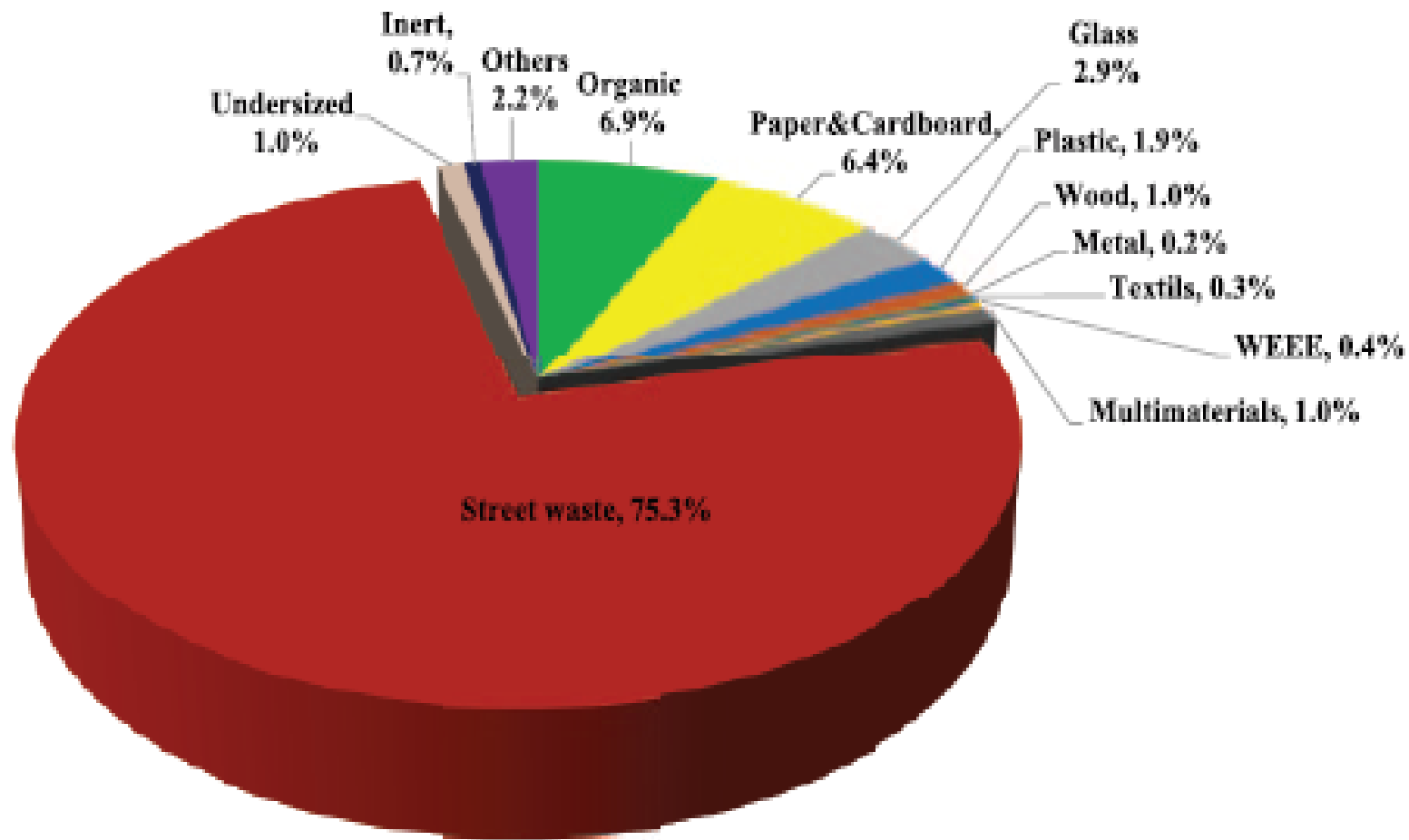


APULIA - Percentage of Selective Collection

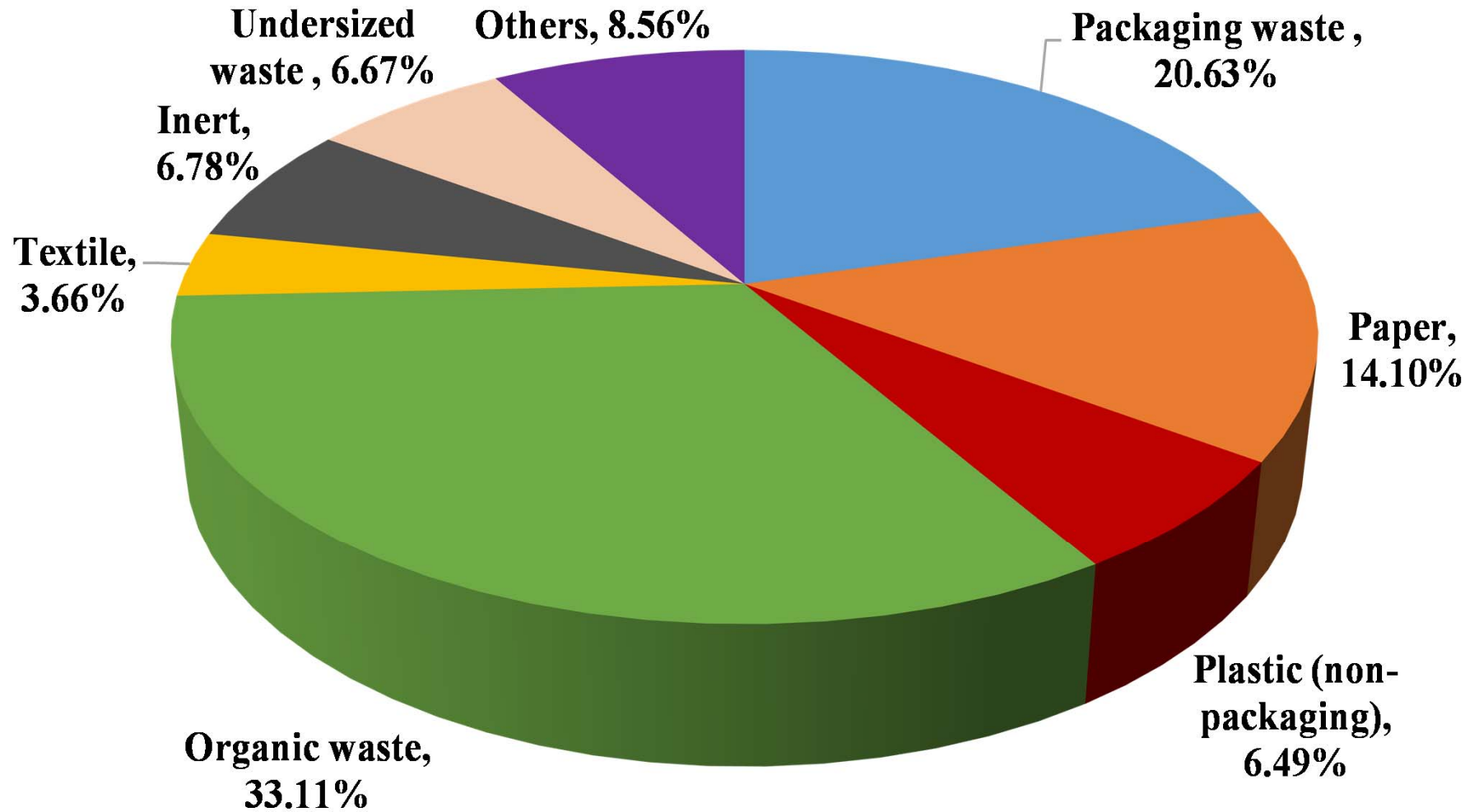
H: high season; M: medium season; L: low season.



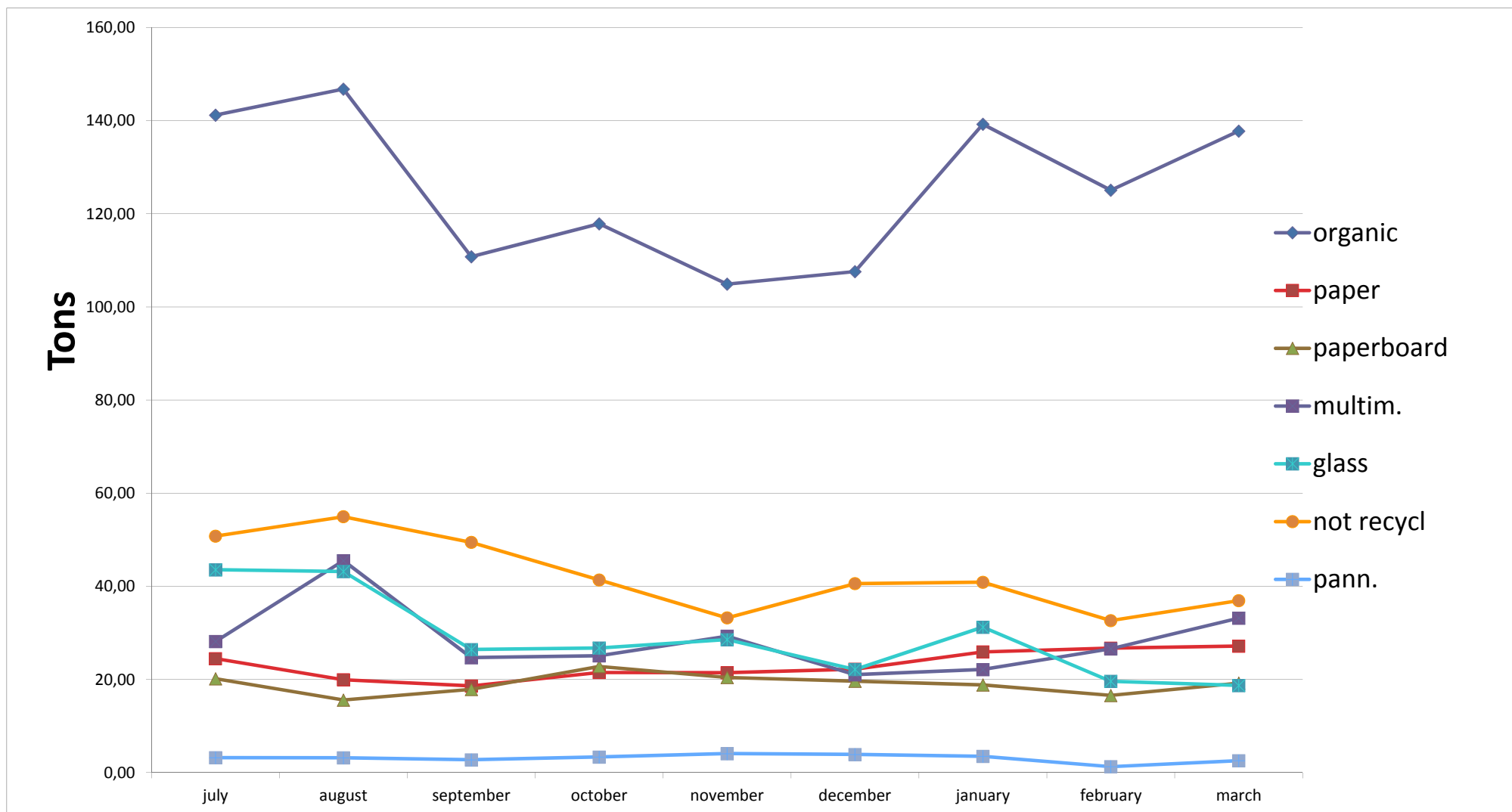
APULIA (Taranto) Residual Municipal Solid Waste and Selective Collection



APULIA (Taranto)
Residual Municipal Solid Waste stream composition



Santo Spirito – Bari - Door to Door (83,2%) Touristic quarters on the sea 2017-2018



**Composition of the MSW after the Door to Door SC
Percentage on the total SC + RMSW - BARI**

ORGANIC FRACTION	45,65%
PAPER	7,77%
PAPERBOARD	7,66%
MULTIMATERIALS	10,72%
GLASS	10,72%
OTHER	17,48%

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Main characteristics of the CISA Ltd plant:
Pre-selection and bio-stabilization for RDF/SRF production.

START

July 2004

Days of operation

365 days per year

Location

Massafra (Taranto)

Eligible quantities

220.000 tons/year of MSW and 50.000 tons/year of residual dry fraction from ATO/TA3 - Taranto Area

Eligible EWC (European Waste Codes)

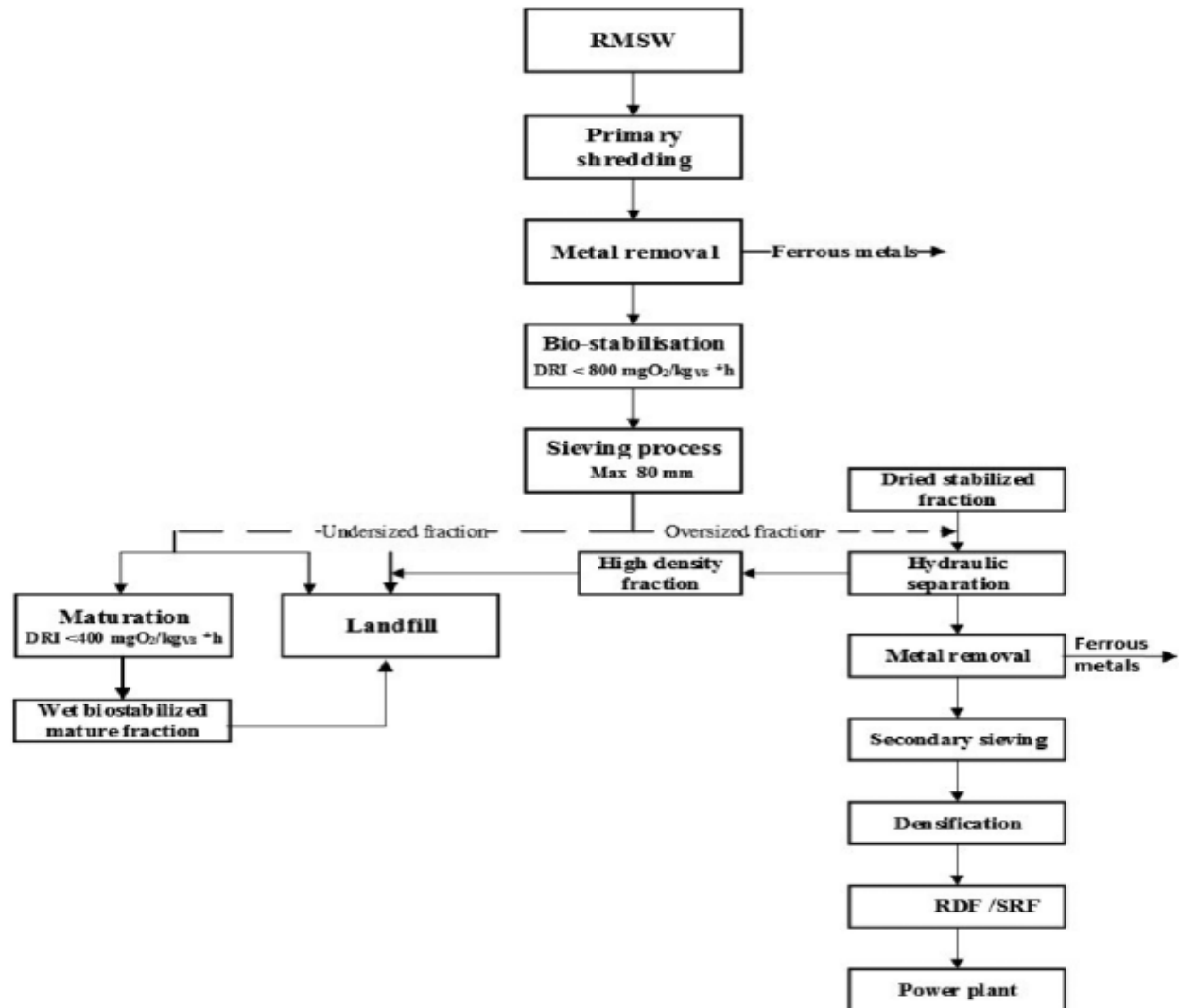
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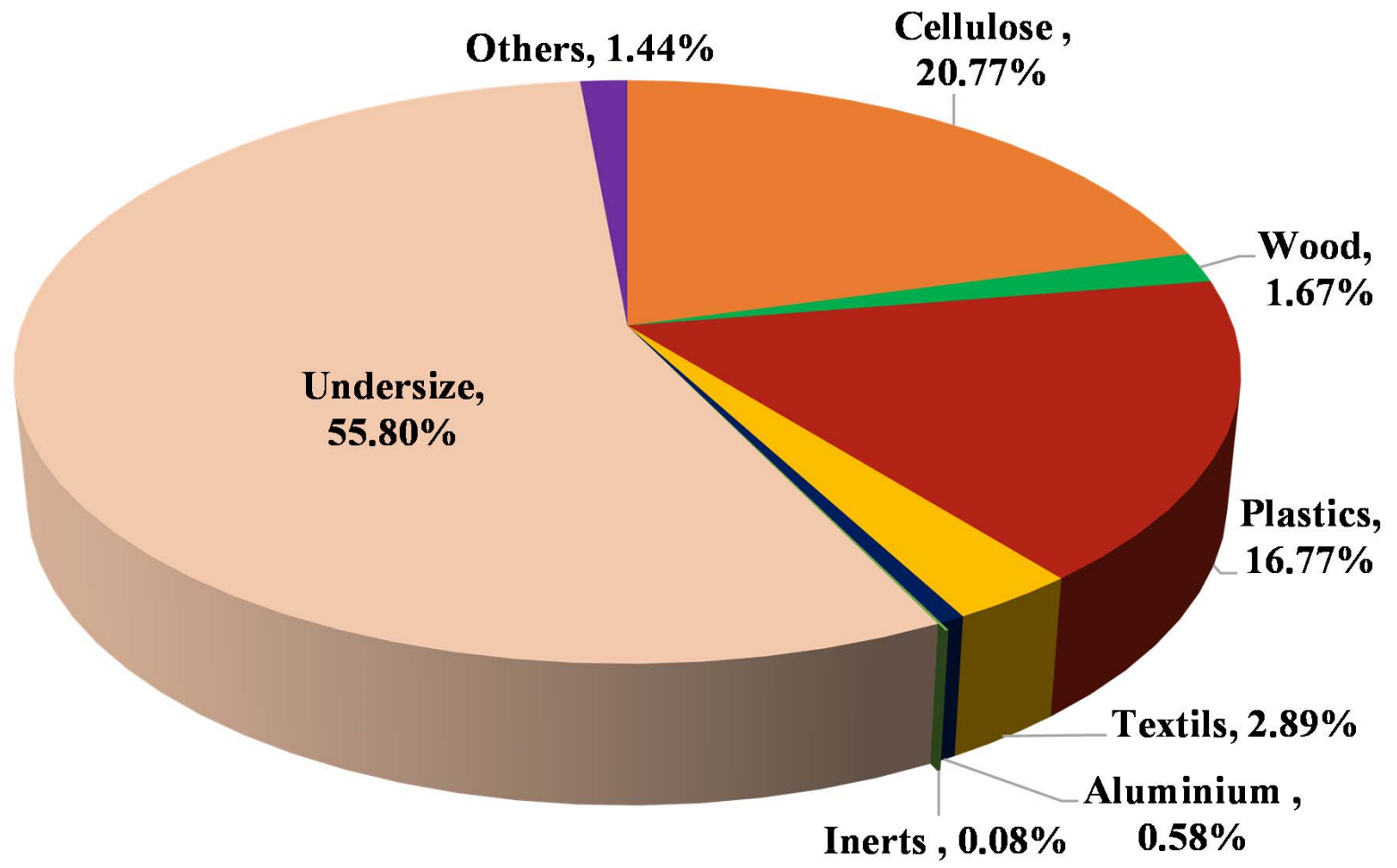
CISA Spa plant, Massafra: Pre-selection and bio-stabilization for RDF/SRF production - Process



Massafra -RMSW processing plant mass balance

Type of stream	Quantity	
	[tons/year]	[%]
Primary input		
RMSW stream	160538.4	100
Unprocessed waste	6384.5	4
Effective input		
Waste stream input (bio stabilisation)	154153.9	96
Output		
Landfilled waste from the bio stabilisation process	4682.6	3
Landfilled waste from SRF production line (inert)	75748	49
Wastewater	2742.3	2
Recyclable metals	328	0
Dust from filter sleeves	1.5	0
Processes losses	20659.5	13
RDF/SRF stream	49991.7	32

Massafra – MBT Plant RDF/SRF stream composition



Appia Energy – Waste to Energy (WtE) Plant in Massafra:

Gross Electric Power:	12,25	MW
Net Electric Power:	10	MW
Fuel consumption (RDF):	12,5	tons/h
Hours of operations per year:	7.500	h/year
Production of Electric Energy:	75.000.000	kWh/y



Appia Energy – Waste to Energy Plant in Massafra TECHNOLOGY: Fluidised bed system

Fluidised bed system allows the RDF burning into a fluidised sand layer

Fluidisation is obtained by air blown from the furnace at the bottom.

High combustion efficiency (over 99%) thanks to simultaneous control of temperature, turbulence and residence time.

CONCLUSIONS

- Importance of adopting an effective campaign of information to implement a good selective collection in tourists area
- Door to door SC data are higher than 80% (2018)
- A change in the composition of MSW after door to door SC has been noted
- Enhancing SC better performance of WtE plant should be reached
- Well Managed Mechanical Biological Treatment - MBT - and WtE are useful processes to comply with the European Union requirements