



6ª Jornada *Online*
Industria textil y sostenibilidad

**Legislación europea sobre el textil:
Sólo falta 1 año**

**10
noviembre
2023**

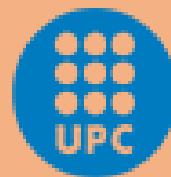
Textile sludge valorization: a challenge toward a more sustainable system

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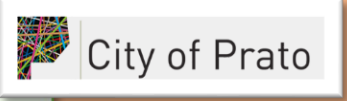
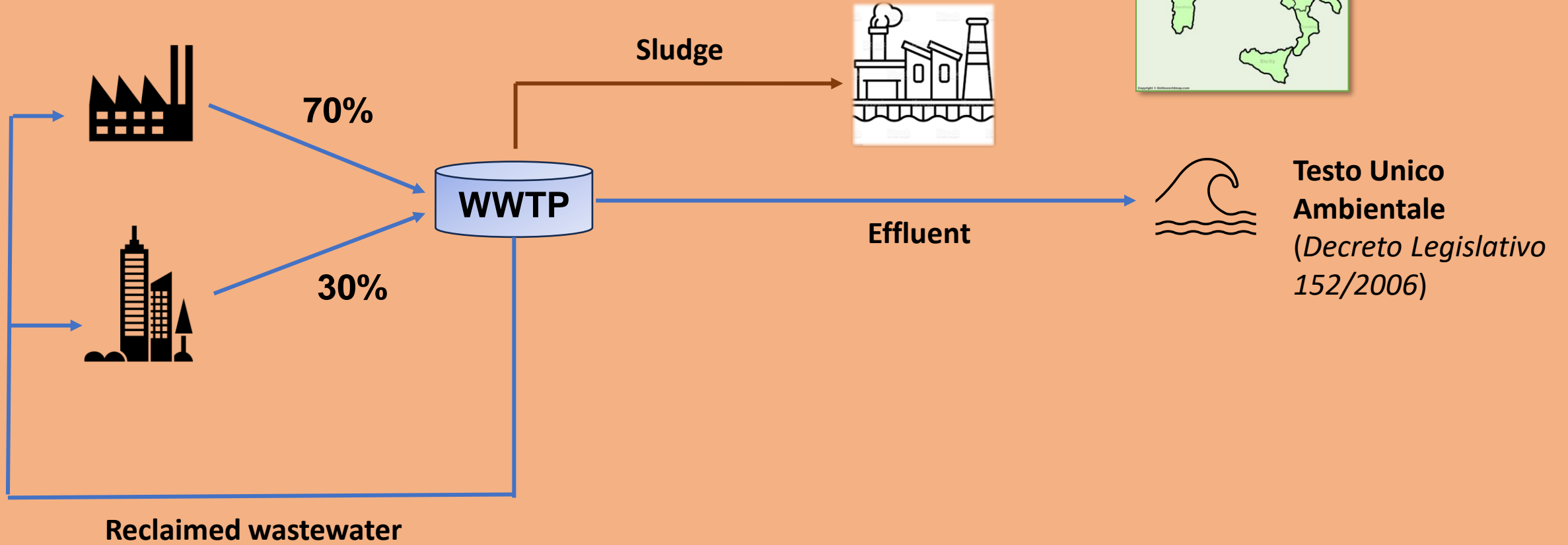


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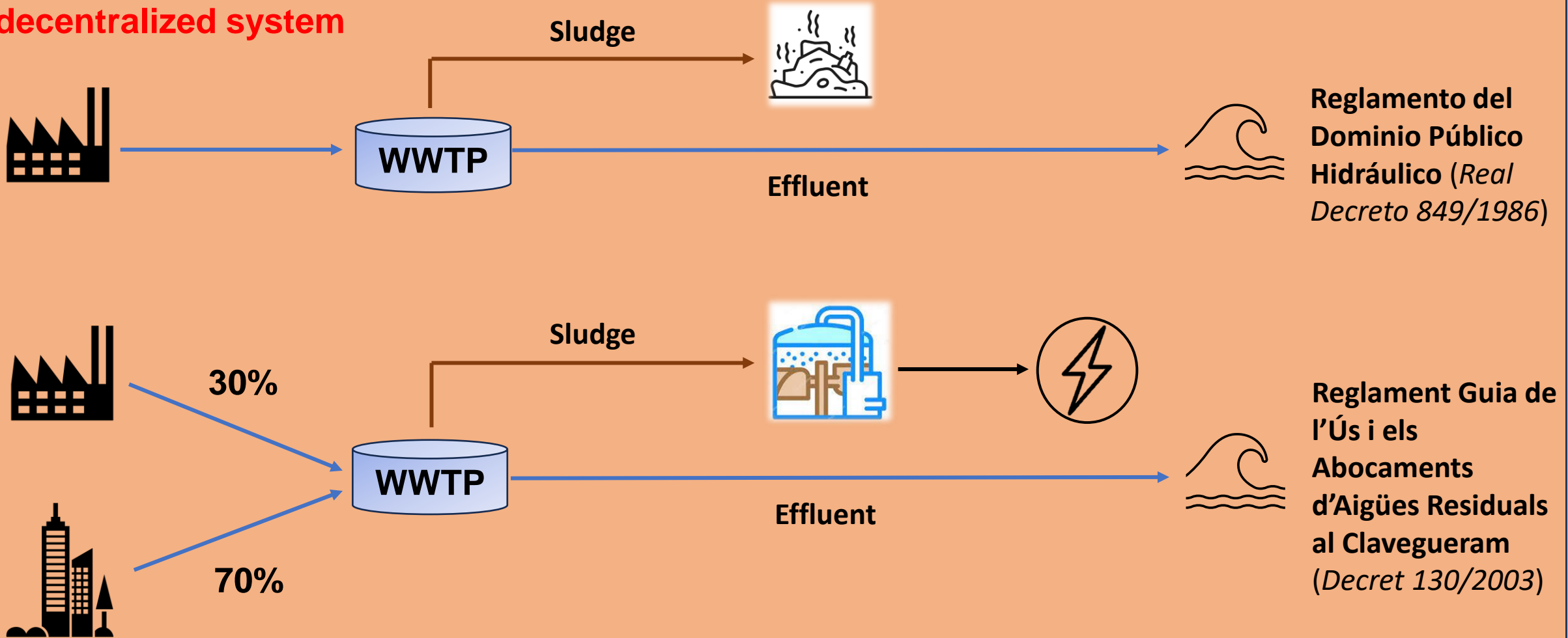
Introduction

Prato TXT district →
centralized system



Introduction

Terrassa TXT district →
decentralized system



Objectives

- Study the **anaerobic digestion** of **TXT sludge**;
- Evaluate the **effects** of mixing **urban wastewater** and **TXT wastewater** on the **anaerobic digestion** process.



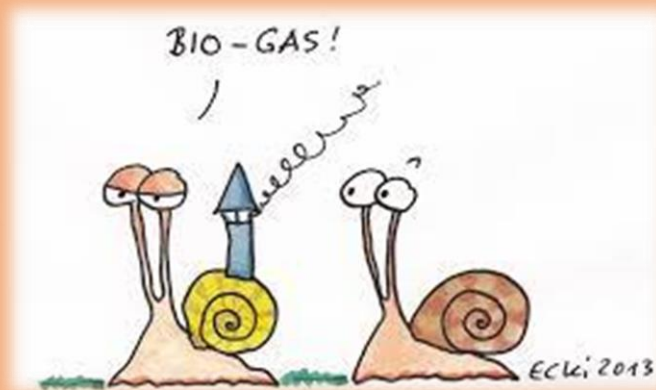
Material & Methods

1) **BMP tests** applied to:

- **Urban sludge**
- **TXT sludge**
- **Mixed sludge (Prato sludge)**

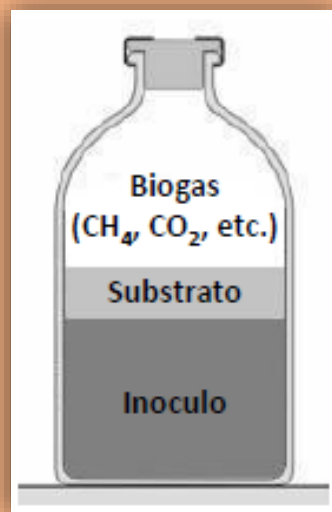
2) **Different I/S ratios** applied to **TXT sludge**

3) **Same I/S ratio** to compare **different sludges**



Material & Methods

Sludge type	TS [%]	VS [%]	C/N
Prato sludge dried	7.4%	17%	12.53
100% TXT sludge 1 dried	4.8%	6.6%	6.94
100% TXT sludge 2 dried	2.0%	13.4%	-
100% TXT sludge 2 fresh	-	-	-
Urban sludge dried	0.28%	0.4%	-



- **Volume: 80 ml**
- **Temperature: 35°C**
- **Time: 32 days**
- **Tests performed in quadruplicate**

Expected Results



Urban Sludge



Mixed Sludge



Textile Sludge

Anaerobic digestion of Mixed sludge vs. TXT sludge:

- Higher production of biogas
- Better quality of biogas

BUT



Biogas quality and quantity from TXT sludge are enough to consider valorization instead of disposal!



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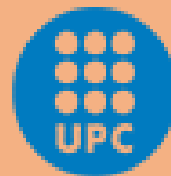


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Thank you for your attention!

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