

## LIPOR Bio-waste strategy

### An integrated approach to prevention and valorization of Bio-waste

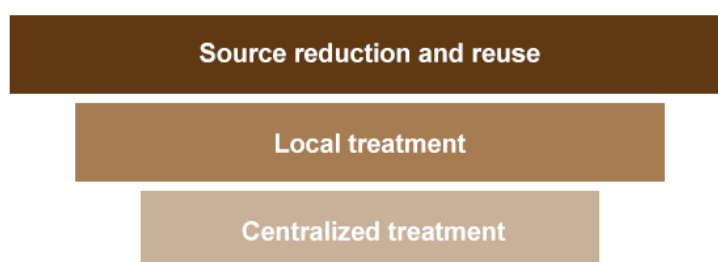
Around 40% of urban waste produced is Bio-waste, including food waste and green waste (biodegradable waste from gardens and parks).

The valorization of Bio-waste has been, since the foundation of LIPOR, one of the main components of its integrated waste management policy. Today LIPOR is recognized as a pioneer institution and a reference in the valorization of bio-waste in Portugal.

LIPOR strategy for bio-waste is based on an integrated and circular approach that comprises the following axes, respecting the Bio-waste hierarchy.

- **Reduction at the source and reuse:** Aiming to prevent food waste through the reduction of excess food production and/or the promotion of its consumption
- **Local treatment:** Aims to treat bio-waste at the source. Includes projects for household and community composting and green waste composting parks.
- **Centralized treatment:** Aims for selective collection and bio-waste recovery. Collected bio-waste is recovered in LIPOR's Composting Plant (CVO).

#### LIPOR's Biowaste Prevention and Recovery Hierarchy



The presented hierarchy is based on the following principles:

- Obtaining maximum nutrient value - Food > Compost;
- Creating value at the bio-waste production site - Prevention/Local Treatment > Centralized treatment

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### Bio-waste prevention and valorization projects and initiatives

#### *Reduction at the source and reuse*

- **Embrulha.** provides free biodegradable packaging to participating restaurants, so that clients who don't eat everything can take their leftovers home.
- **Dose Certa** aims to reduce food waste in the catering industry and encourage people to have a more balanced diet.
- LIPOR monitors and reports results related to the prevention of food waste to different entities in a standardized manner, including Banco Alimentar, Fruta Feia, Movimento Zero Desperdício, and ReFood.

#### *Local treatment*

- **Home composting** aims to treat bio-waste at source within households with a garden or a kitchen garden. To achieve this LIPOR provides each registered household a composting bin, free of charge, proper training, support and monitoring of the process.
- **Community composting** promotes the treatment at the source of bio-waste by several households, that share the same composting area, which is located in the neighbourhood, near the houses.
- **Green waste composting parks** are parks where green waste produced in the vicinity by several people is composted. Green waste is delivered to these parks directly by its producers.

#### *Centralized treatment*

- Bio-waste received at LIPOR comes from different selective collection circuits: Door-to-Door Residential Food Waste, Door-to-Door Non-Residential Food Waste (restaurants and similar); Other Food Waste circuits (markets and fairs, festivities, pilgrimages, events); Green Waste (door-to-door, proximity and drop-off sites); Green Cemetery Waste.
- Composting Plant capacity to treat 60,000 t/year of bio-waste through the tunnel composting system, producing high quality organic compost, NUTRIMAIS.
- The construction of a new Anaerobic Digestion Unit for the valorisation of Bio-waste is already planned.

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### Framework of the European and Portuguese strategy

Today, bio-waste is recognized as an important resource that can be valued and, as such, takes on a special prominence in the recent Action Plan for the Circular Economy and in the European strategy “Farm to Fork”, integrated in the European Ecological Pact. These strategies recognize an important role for bio-waste in closing nutrient cycles, preserving biodiversity, reducing anthropogenic GHG emissions and materializing a sustainable bioeconomy. At the same time, prevention and reduction of food waste is defined as a priority in the 2030 Sustainable Development Agenda.

Aligned with the principles of the circular economy, and in compliance with the waste hierarchy, the European Union came to establish the mandatory segregation and recycling at source of bio-waste, or its selective collection, until December 31, 2023.

In Portugal, the recovery of waste plays a prominent role in strategic documents such as PNGR, PERSU 2020 (and the adjustments made by PERSU 2020+), the Action Plan for Circular Economy, or the objectives outlined in the Roadmap for Carbon Neutrality 2050.

LIPOR's action for Bio-waste is based on a circular approach that has international guidelines as a reference and is interlocked with the measures proposed in the main national strategic documents. LIPOR has been participating in important European and National projects with the objective of promoting the valorization of Bio-waste: Cityloops [Horizon 2020], Miniwaste (LIFE), Res2ValHUM (Interreg Spain-Portugal) and Algavalor (FEDER).