

# Collection and Sorting view in Granada

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1. **Introduction: Diputación de Granada and FCC Medio Ambiente**
2. **Ecocentral processes**
3. **PET sorting**
4. **Ecocentral R&D Projects**

- Established in 1813
- Institution in charge of the government and administration of Granada province
- Covers cooperation and services that municipalities cannot cover
- Promotes a new model of relationship among councils allowing municipalities to decide how to manage their collaboration with the Diputación
- Owner of Ecocentral de Granada Recycling Complex





More than  
**120 years**  
of experience



Over  
**64,000**  
employees



Working in  
Over **25 countries**,  
45% of revenue comes  
from international markets



High degree of  
**revenue  
stability**



**Leader**  
in Environment, Water,  
Infrastructure and Real Estate  
Development



**€7,706 M** revenue  
**€1,311 M** EBITDA in 2022



**Comprehensive range**  
of services





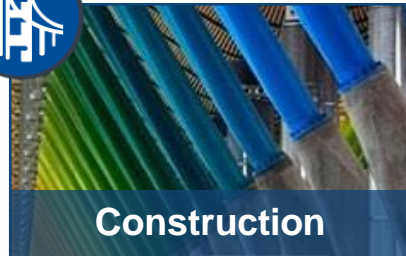
## Environment

- Waste collection
- Street cleansing
- Handling and recycling of municipal waste
- Ground and gardens maintenance
- Maintenance of sewerage networks
- Handling and recycling of industrial waste
- Recovery of polluted soils
- Facility management



## Water

- Municipal concessions for the management of the end-to-end public water service
- Infrastructure concessions under the BOT model (Built, Operate and Transfer)
- O&M services (operation and maintenance of infrastructures)
- EPC models (Engineering, Procurement and Construction)



## Construction

- Civil engineering (bridges, tunnels, highways, rail projects, etc.)
- Residential construction
- Non-residential construction (sporting, health and cultural infrastructures, etc.)
- Industrial
- Concessions
- Infrastructure maintenance
- Prefabricated materials
- Brand image



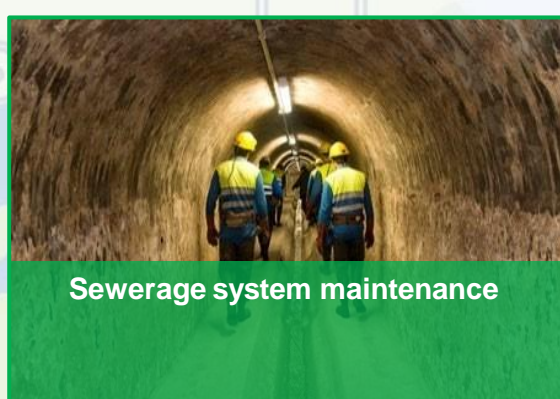
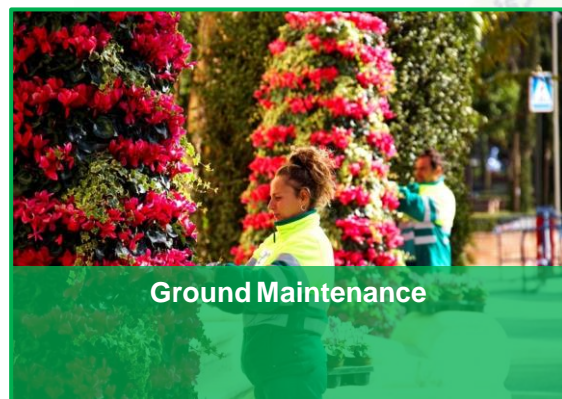
## Cement

- Cement
- Trading
- Other businesses  
(Concrete, Aggregate, Mortar)



## Real Estate

- Leased equity
  - Services sector (offices, shopping centres and retail premises and others)
  - Residential (BtR)
- Real-estate developments
- Land backlog management





Providing services  
to cities  
**since 1911**



**Top 7 in  
the world**



Serves over  
**66 million  
citizens**



Most technologically  
advanced **vehicle  
fleet in the world**  
with over **18,000** units



**Over 800** waste  
treatment,  
recycling  
and disposal  
centres



**ISO 50001**  
certificate  
Comprehensive  
Energy  
Management



Management  
of  
**24,5 million  
tonnes waste**  
per year



Operating in over  
**5,200  
municipalities**



About  
**3,228 sustainable  
vehicles**  
(CNG, electric,  
hybrid and bi-power)



**Over 43,000  
employees**



**Inclusion of  
underprivileged  
groups** in the workplace

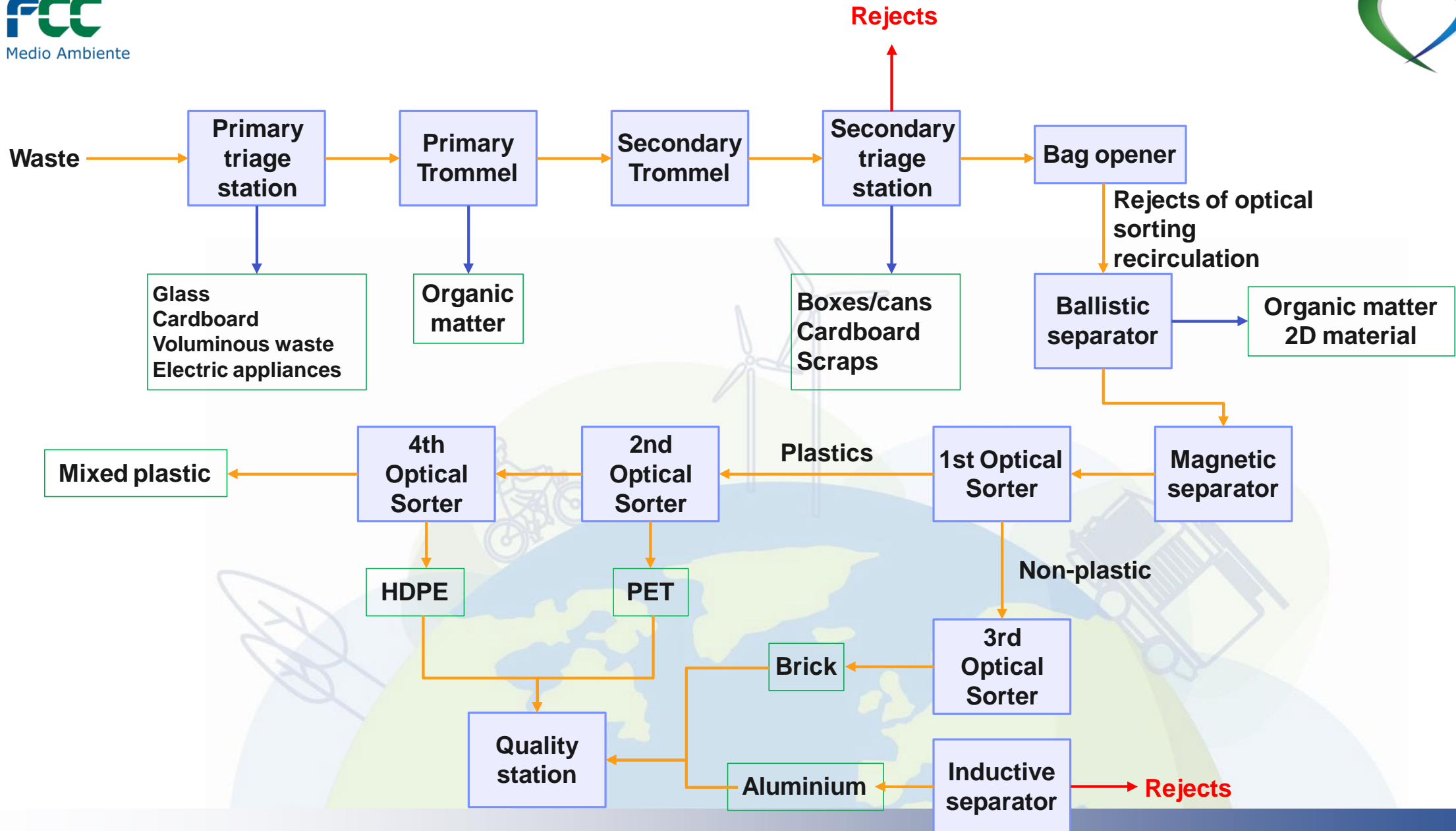


- Located in the metropolitan area of Granada (Alhendín)
- Surface area of 890.000m<sup>2</sup>
- 25 years of operation (since 14<sup>th</sup> January 1999)
- Facilities: mechanical-biological treatment plant, an environmental classroom, a leachate treatment plant, a packaging sorting plant and a landfill
- Designed Treatment: 450.000 t/year

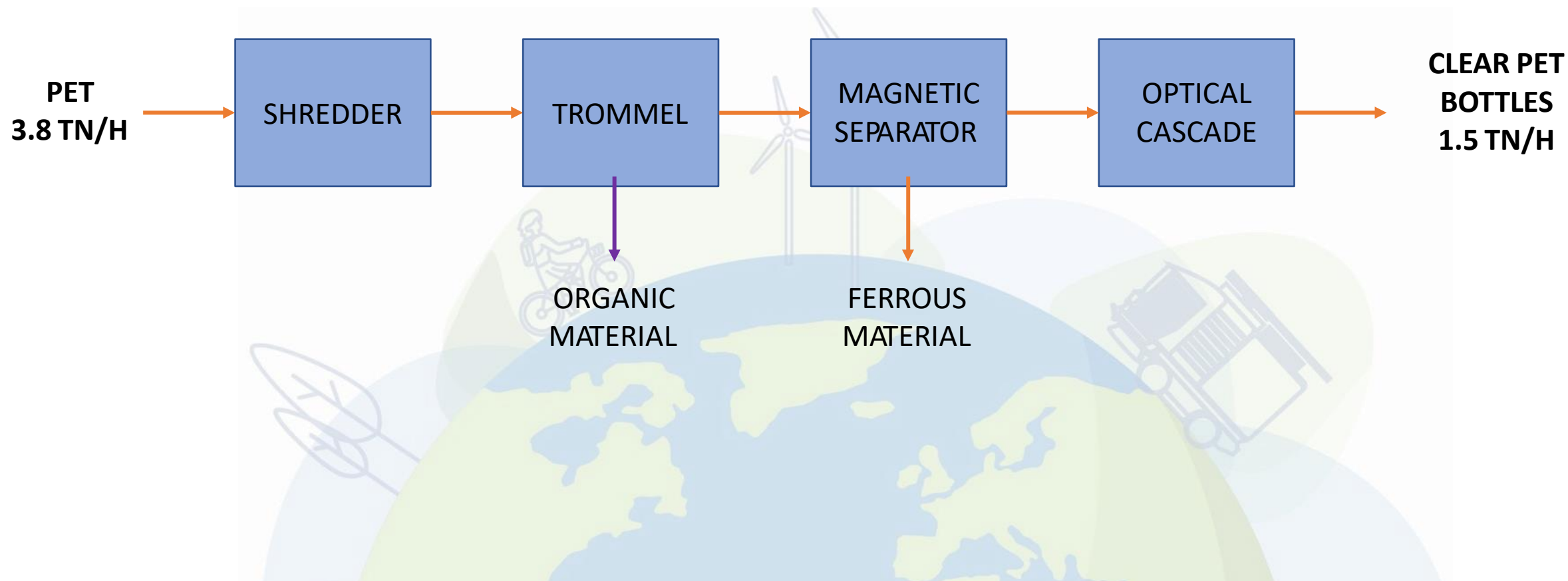




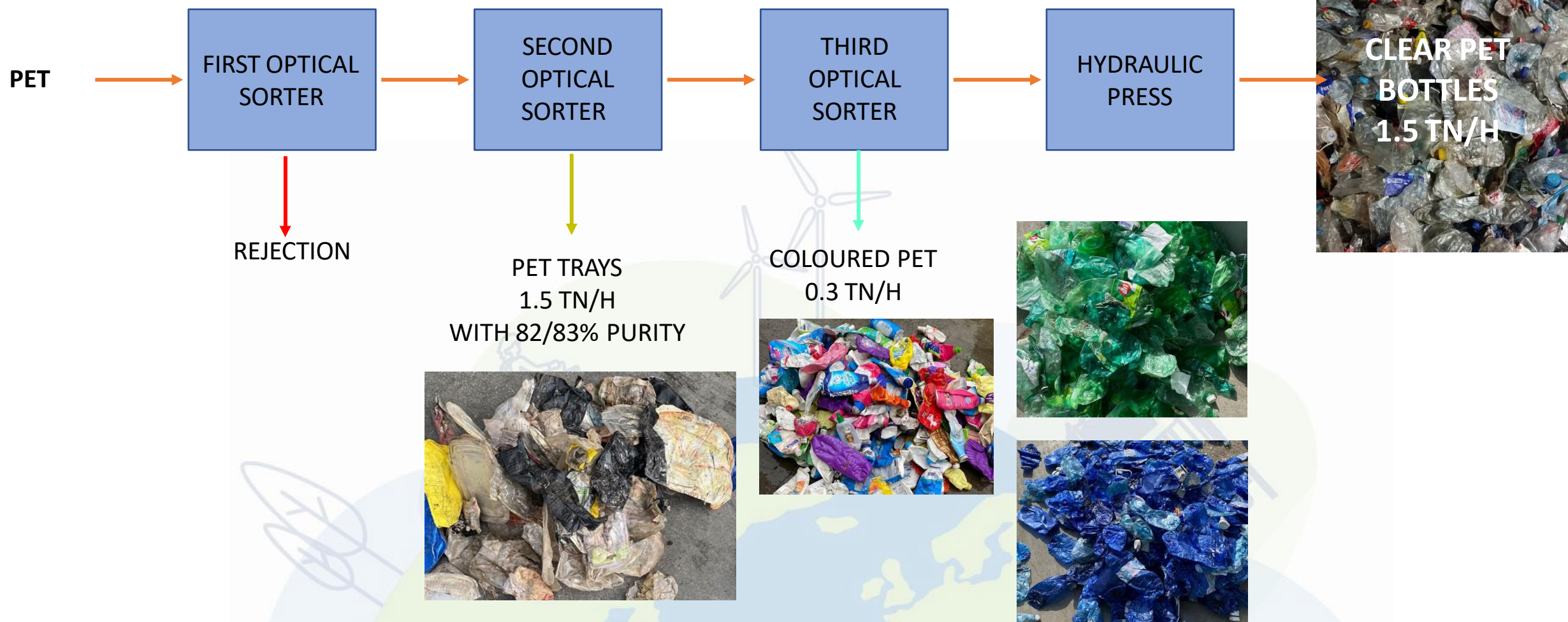
# Ecocentral sorting process



# PET sorting in Ecocentral



# PET sorting in Ecocentral-Optical Cascade



PET trays are recirculated to increase the purity of materials from ~80% to 95%



# R&D Projects



**Complejo Medio Ambiental de Valladolid**

ECLOSION VALOMASK



**Complejo Medioambiental de Gipuzkoa (CMG-2)**

minethic RS4 HOM



**ECOPARC 2**

metha MORPHOSIS infusiON



**Planta Biometanización de Las Dehesas**

INSECTUM DEEP PURPLE ADÁTE SCAL/BUR LUCRA BIO SUCCINIC ACID



**Complejo Medio Ambiental La Campiña (Loeches)**

ZERO LANDFILL minethic BIOPROLIGNO



**Ecocentral de Granada**

life landfill biofuel Life plasmix Life 4 film



# Ecocentral R&D Projects

**Project:** PLASTIC MIX RECOVERY AND PP & PS RECYCLING FROM MUNICIPAL SOLID WASTE  
**Acronym:** LIFE PLASMIX

**Programme:** LIFE  
**Call:** LIFE Environment and Resource Efficiency  
**Project code:** LIFE18 ENV/ES/000045  
**Budget:** 5.34 m€ (FCC 1.29 m€)  
**EU contribution:** 1.89 m€ (FCC 0.60 m€)  
**Start-Final date:** 2019-2024



**MAIN OBJECTIVE:** To demonstrate how to recover & recycle PLASTIC MIX waste contained in MSW, avoiding its incineration & landfilling. Valorising PP, PS (GPPS+HIPS) EPS (EPS+XPS) into high quality recycled pellets ready to be used in new products, including food packaging (one of the most stringent markets).



**Partners:**

**STADLER®**  
Technik von ihrer besten Seite

**LINDNER**  
WASHTECH



UNIVERSIDAD  
DE GRANADA

 **PELLENC ST**

 **ANAIP**

**andaltec**  
CENTRO TECNOLÓGICO  
DEL PLÁSTICO



This project has received funding from the European Union's LIFE Programme under grant agreement LIFE18 ENV/ES/000045



# Ecocentral R&D Projects

**Project:** POST-CONSUMPTION FILM PLASTIC RECYCLING FROM MUNICIPAL SOLID WASTE  
**Acronym:** LIFE 4Film

**Programme:** LIFE  
**Call:** LIFE Environment and Resource Efficiency  
**Project code:** LIFE17 ENV/ES/000229  
**Budget:** 5.12 m€ (FCC 1.04 m€)  
**EU contribution:** 1.98 m€ (FCC 0.56 m€)  
**Start-Final date:** 2018-2021

Life<sup>4</sup>  
film

**MAIN OBJECTIVE:** To demonstrate how to avoid the incineration and landfilling of POLYETHYLENE FILM (LDPE) waste contained in municipal solid waste (MSW) through innovative recycling technologies in a pre-industrial recycling plant of 1.40 ton/h (10,000 ton/year).

**Leader:**   
Medio Ambiente

**Partners:**

**STADLER®**  
Technik von ihrer besten Seite

**EREMA®**  
PLASTIC RECYCLING SYSTEMS

**LINDNER**  
WASHTECH



UNIVERSIDAD  
DE GRANADA



**AIMPLAS**



**IBANÉZ**



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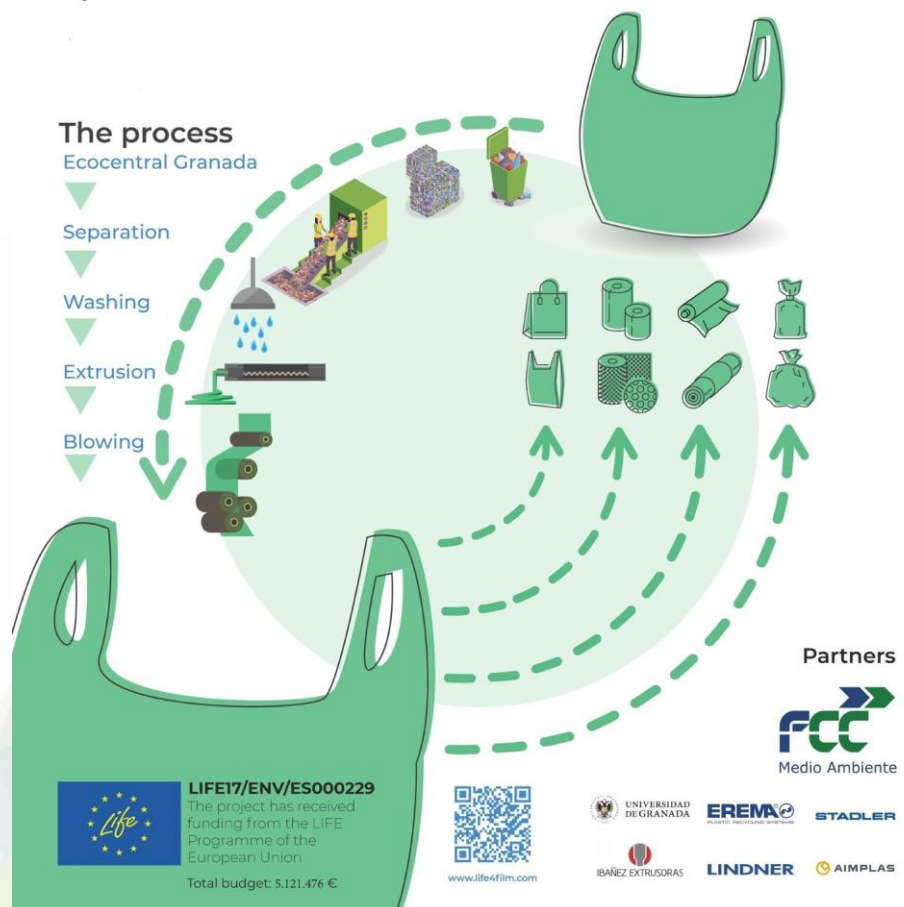




Sorting and classifying



Washing



Extrusion



Blowing



# Ecocentral R&D Projects

**Project:** INTEGRAL MANAGEMENT OF THE BIOGAS FROM LANDFILLS FOR USE AS VEHICLE FUEL  
**Acronym:** LIFE Landfill Biofuel

**Programme:** LIFE  
**Call:** LIFE Environment and Resource Efficiency  
**Project code:** LIFE18 ENV/ES/000256  
**Budget:** 4.67 m€ (FCC 2.24 m€)  
**EU contribution:** 2.45 m€ (FCC 1.11 m€)  
**Start-Final date:** 2019-2022



**MAIN OBJECTIVE:** To demonstrate an innovative biogas upgrading approach to obtain biomethane that fulfil the quality standards to be applied as fuel for light and heavy vehicles.



**Partners:**



CENTRO  
[ TECNOLÓGICO ]

CARTIF IVECO



UNIVERSIDAD  
DE GRANADA



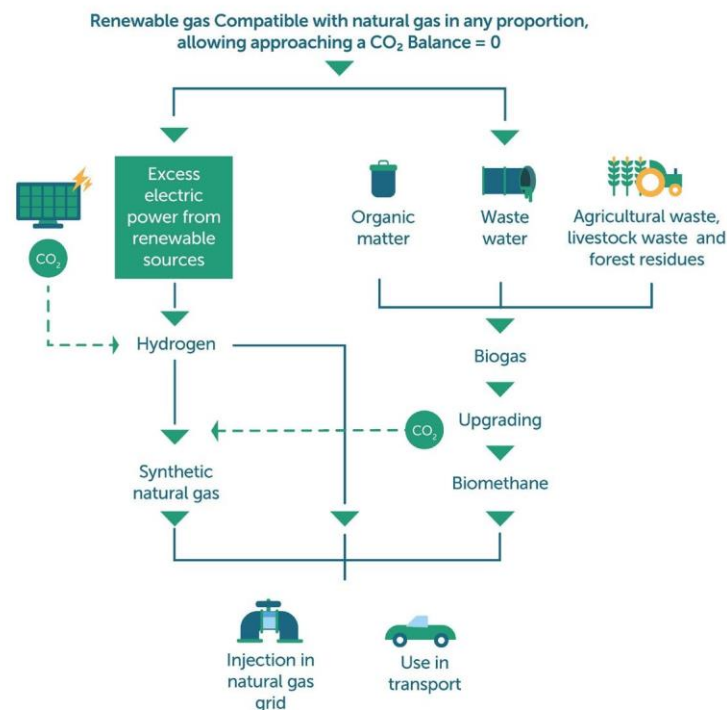
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# Ecocentral R&D Projects



life landfill  
biofuel



landfillbiofuel.eu  
in @LandfillBiofuel

This project has received funding from the European Union's LIFE Programme under grant agreement LIFE18 ENV/ES/000256





# Thank you!

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