



SCALIBUR

LEADING A REVOLUTION
IN BIOWASTE RECYCLING

SCALIBUR PILOT: MADRID (SPAIN)



MADRID: biowaste Status – I

BIOWASTE PRODUCTION AND TREATMENT – 2020 situation

FORS

- HOUSEHOLDS
- RETAILERS
- HORECA

MADRID
ACIERTA CON LA
ORGÁNICA



194.634 t/year

70-80 %
organic

LAS DEHESAS A.D.

Pre
treatment

<80 %
ORGANIC

Anaerobic
Digestion



533 t/day in 2020
Close to 700 t/day in 2021

BIOGAS

20,5 m.N/m³

**UPGRADING:
BIOMETHANE
TO GRID**

**BIOGAS TO
POWER**

DIGESTATE

39.387 t/year

GREEN DEBRIS

15.498 t/year

**LA PALOMA
COMPOSTING
(TUNNELS)**

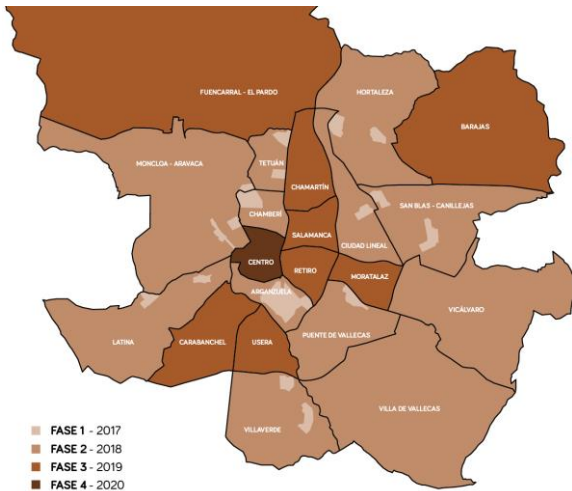
7.929 t/year



MADRID: biowaste Status– II

- CITIZEN'S ENGAGEMENT → **"ACIERTA CON LA ORGÁNICA" CAMPAIGN**
- ON GOING ENGAGEMENT AND COMMUNICATION CAMPAIGN – STAGE 4 FACTS AND FIGURES

STAGE 4: 2020 -2021



- Starting: November, 2017.
- **100 % of the city.** Last district on September 2020.
- **566 tons/day collected (COVID impact)**
- Close to 700 t/day collected (after COVID impact)
- Treatment: AD to produce biogas and digestate.
- **Digestate to compost:**
 - more than 7.000 tons per year of compost
- Contamination: 20-25 % (improvement)
- Impact:
 - **Direct actions:** more than 43.000 citizens
 - **Indirect actions:** 2,9 million citizens
- Stage 4 budget: **897.270 €**

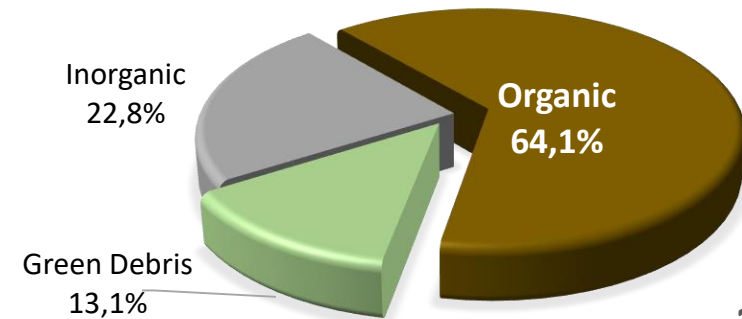


MADRID: biowaste Status– III

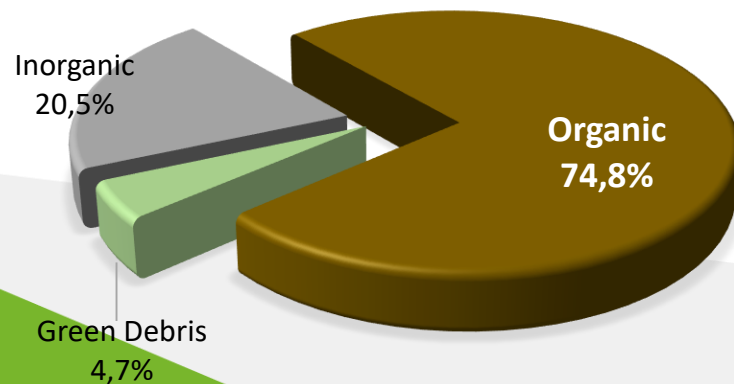
HOUSEHOLD BIOWASTE: QUALITY AND QUANTITY

- CHARACTERIZATIONS → *Improvement on the quality of the organic fraction*

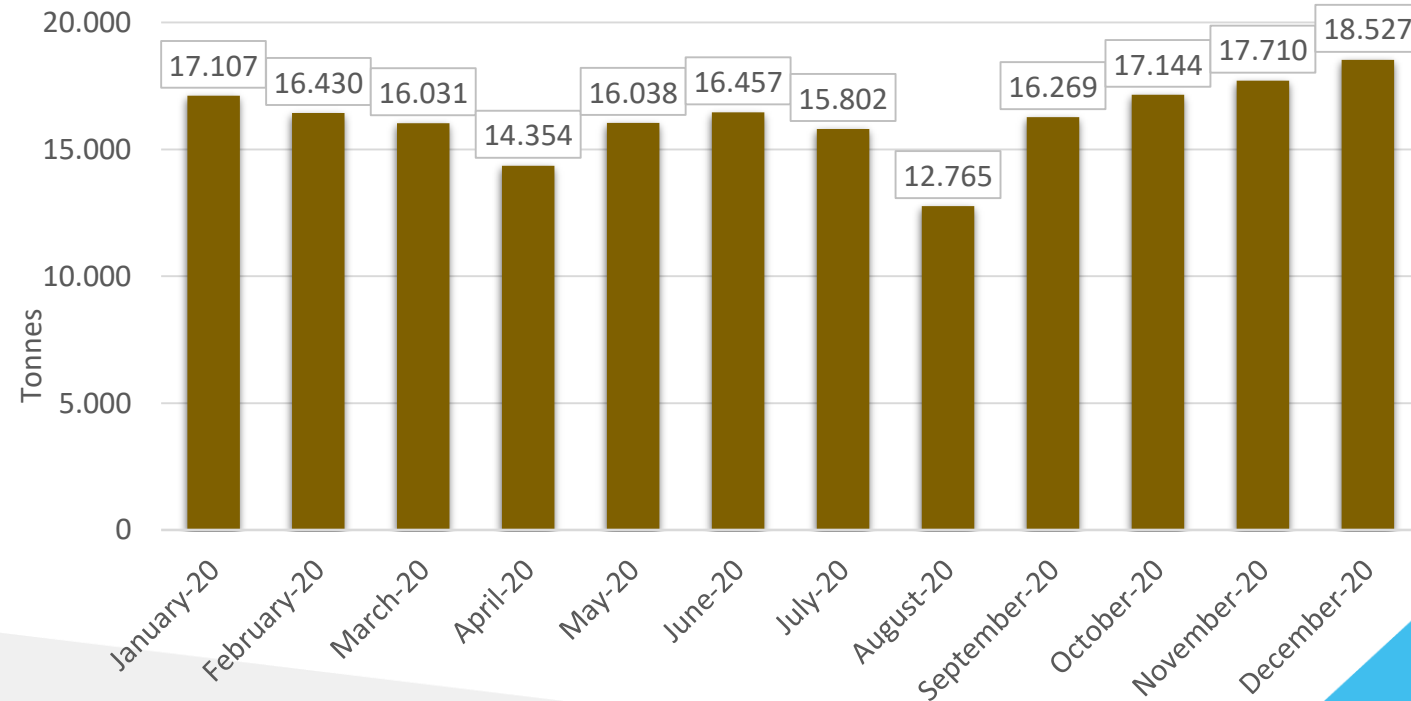
2020 (533 t/day)



2021 (700 t/day)



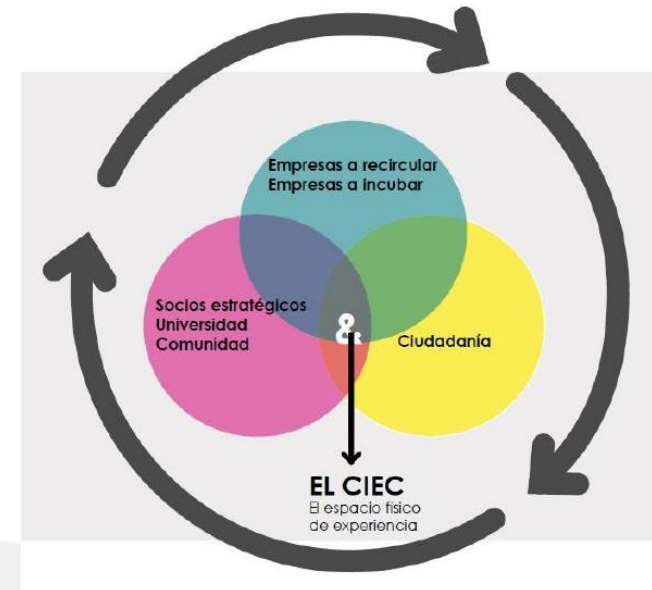
Biowaste collected in 2020 - city of Madrid



➤ Madrid Circular Economy Vision

- 6 Main working lines:

1. WL1: Creation of a Circular Economy Cluster, centered in:
 - CIEC – Centro de Innovación de Economía Circular (Circular Economy Innovation Center)
2. WL2: Pilot Projects to Foster changing and innovation processes in Circular Economy.
3. WL3: Generation of talent in Circular Economy.
4. WL4: SME aid Scheme for the next two years.
5. WL5: Programs and Initiatives to raise European Funds.
6. WL6: Current Circular Economy Projects.

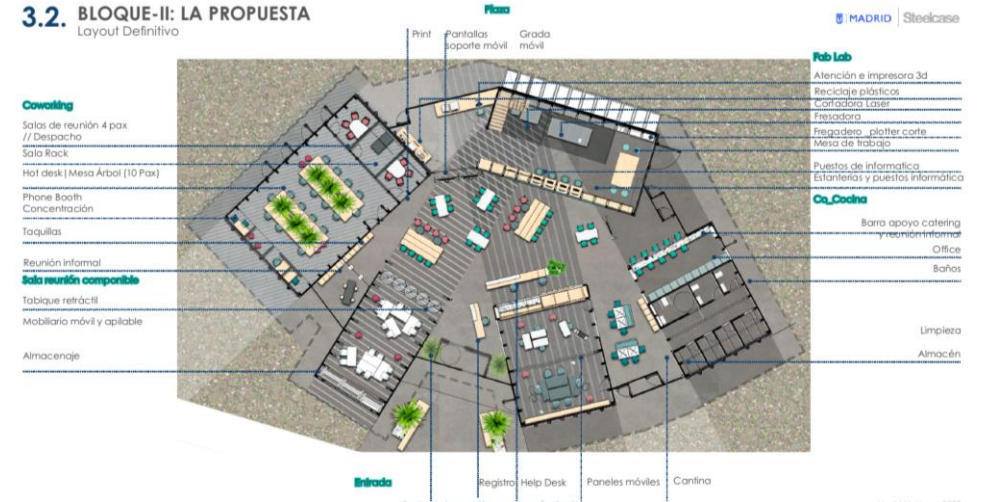


WL1: CIEC

- Location: Vicalvaro District
- Construction in progress.
- Start: end of 2021
- Goals:
 - Help the creation of spin-offs
 - Circular Economy training
 - Viability and scalability of CE business models
 - FAbLAB (Fabrication Laboratory)

3.2. BLOQUE-II: LA PROPUESTA

Layout Definitivo



3.3. BLOQUE-III: LA PROPUESTA

Isométrica del conjunto



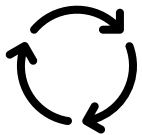
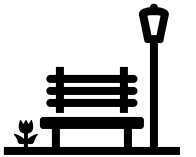
✦ **WL2: Pilot Projects**

Stablishment of a Circular Economy Key Performance indicator system in the city of Madrid.



Pilot Project to make a cultural change in the way the Municipal Markets manage their waste.

Pilot Project to make circular the way the old urban furniture is managed.



Pilot Project to define a SME's support Program to make circular the business models.

WL3: Generation of talent

- **Master Program in Circular Economy**, co - financed by the City Council and Universidad Politécnica de Madrid. Starting September 2021
- **Circular Economy talent attraction hub:**
 - Creation of an international CE and Innovation leadership Community.
 - Online Training program on Leadership, Innovation and Circular Economy.
 - Startup Living Lab.



WL4: SME aid Scheme

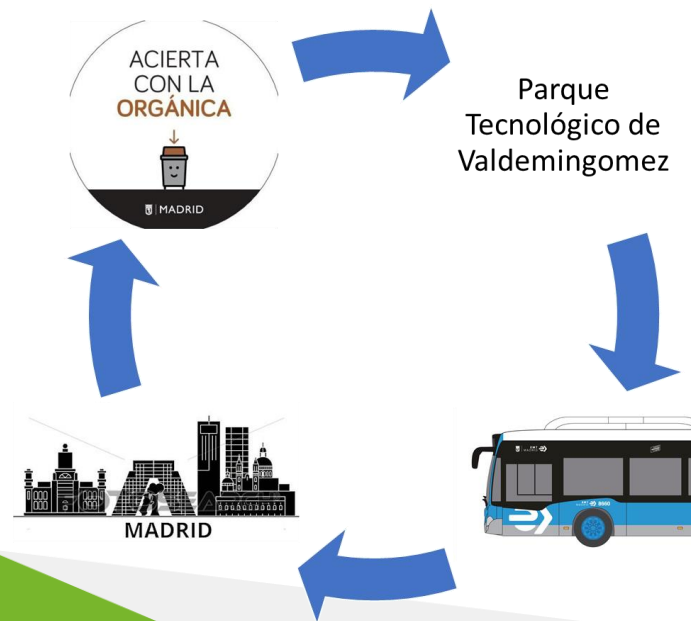
- **SME Aid Scheme:**
- **Goal:**
 - boost sustainability and circularity in the industry and service sectors
- **11 million € for the next two years.**



➤ **WL5: European Funds.**

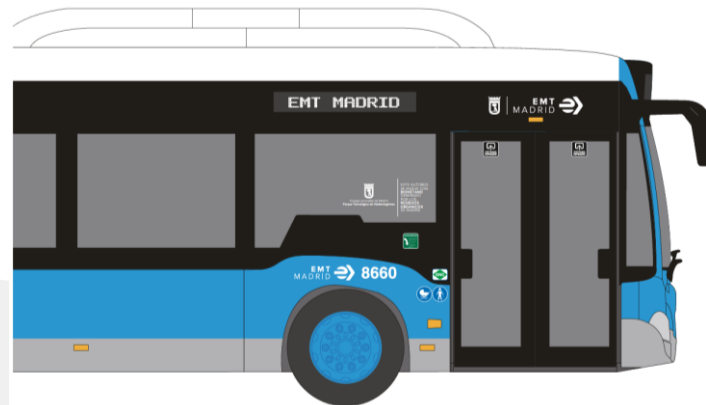
- **Programs and Initiatives to raise European Funds.**
 - **Finished European funded Projects:**
 - Mares Project -UIA- 2016-2019. Finished.
 - **On going European funded projects:**
 - Deep Demonstration Madrid. Climate-Kic. EIT. European Institute of innovation&Technology- Started July 2019
 - Scalibur.
 - Deep Purple.
 - Insectum.
- **Next Generation funds:** Madrid City Council set a funding request to boost Circular Economy in the city

WL6: Current Circular Economy Projects - I




Energía renovable de Madrid
Parque Tecnológico de Valdemingómez

ESTE AUTOBÚS
SE MUEVE CON
BIOMETANO
GENERADO
POR LOS
**RESIDUOS
ORGÁNICOS**
DE MADRID

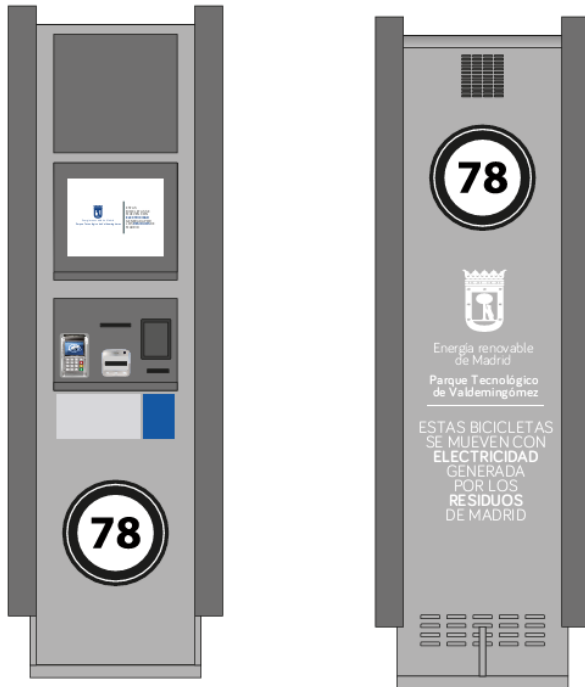


Biomethane to mobility:

- Biowaste to biomethane
- Biomethane to mobility
- Public buses moved with biomethane from biowaste



WL6: Current Circular Economy Projects - II



ESTAS
BICICLETAS SE
MUEVEN CON
ELECTRICIDAD
GENERADA POR
LOS **RESIDUOS** DE
MADRID

Waste to mobility:

- Electricity produced from waste
- Madrid City Council ebike system moved by the waste of the city

Madrid Circular Economy questions



Define a clear biowaste value chain.



EPR scheme for biowaste?



Need of direct funds to be applied by the stakeholders of that value chain: Municipalities



Need of going beyond the traditional way of seeing the meaning of recycling.



Biowaste to compost? Or, is there something else? Scalibur, Deep Purple



Need of a secondary raw material market for biowaste by products



End of waste criterio for biowaste.



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 SCALIBUR project

www.scalibur.eu

