

**UN CLIMATE
CHANGE
CONFERENCE
UK 2021**

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SUSTAINABLE
**WATER &
ENERGY**
SOLUTIONS
NETWORK

Sustainable Water and Energy Solutions supporting Climate Change Objectives during the Decade of Action and Beyond

Canal de Isabel II – 4th November 2021

Ms. Mariano González, Vice-minister, Regional Minister for the
Environment, Housing and Agriculture, Community of Madrid, Spain

31 OCT - 12 NOV 2021
GLASGOW

COP26

IN PARTNERSHIP WITH ITALY



Comunidad
de Madrid

Canal 
de Isabel II

Cuidamos el agua, cuidamos de ti

Group Canal:

leading companies and geographical location



ESPAÑA

Canal de Isabel II www.canaldeisabelsegunda.es	● ●
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Canal Gestión Lanzarote www.canalgestionlanzarote.es	●
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ASAA Riohacha www.asaa.com.co	●
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Canal de Isabel II *key figures*

Region of Madrid

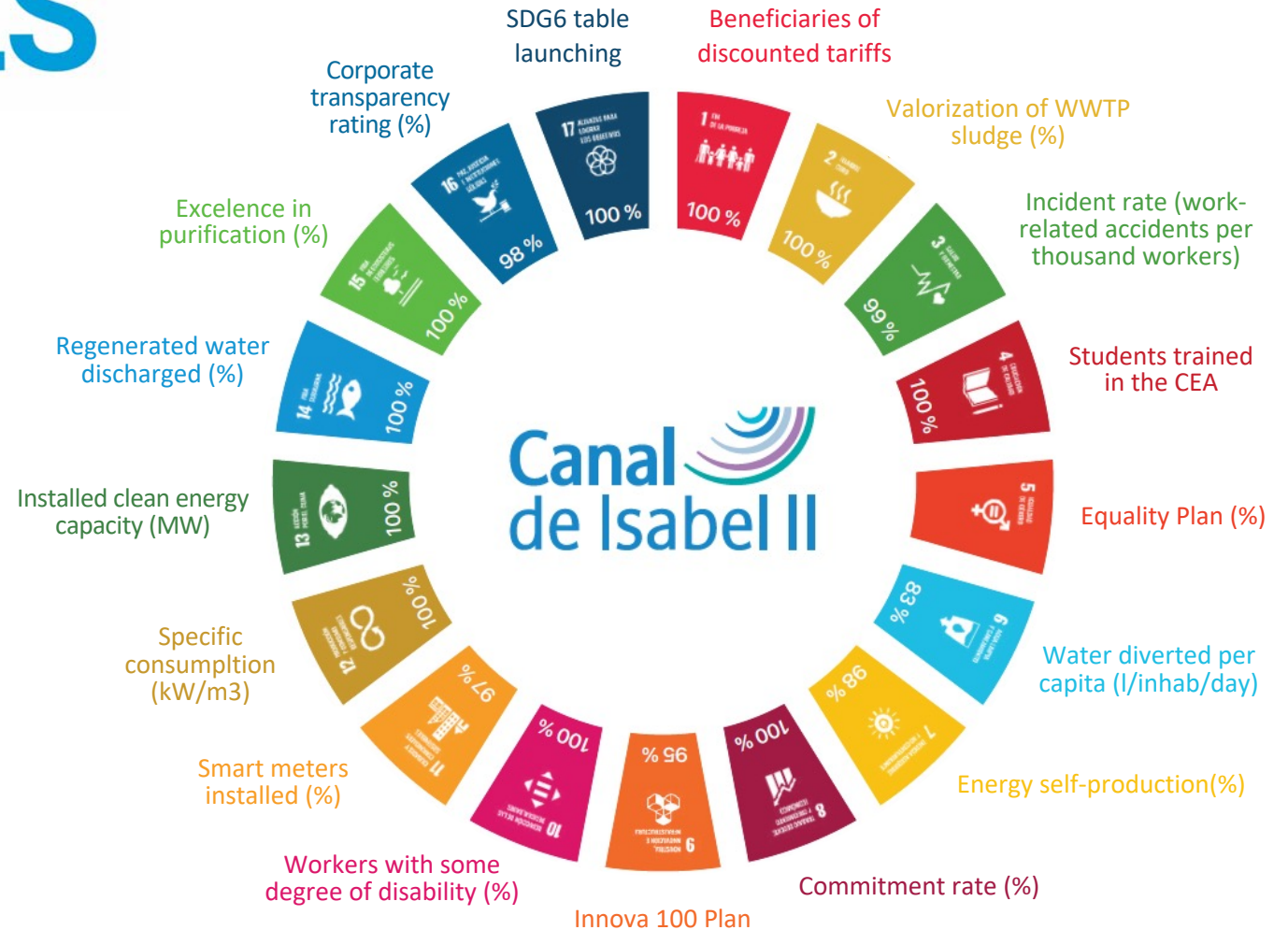
- Canal de Isabel II is a 100% public company responsible for the integral water cycle in the Region of the Community of Madrid
- Depends on the **Ministry of Environment, Housing and Agriculture** of the Community of Madrid
- 6.8 million inhabitants served (supply / sanitation)
- 8,073 km² in area
- 179 municipalities
- 13 reservoirs and 488.27 hm³ of water derived for consumption
- 157 wastewater treatment plants (WWTP) and 465,68 hm³ of water treated
- 2,924 employees



SUSTAINABLE DEVELOPMENT GOALS

Our 2030 strategy

- Full integration of SDGs in our strategy plan
- More than 100 actions working on targets
- Measuring the progress with an ad-hoc tool
- Quarterly communication on website
- International benchmarking groups
- Workshops with employees for prioritization
- Sustainability report based on SDGs

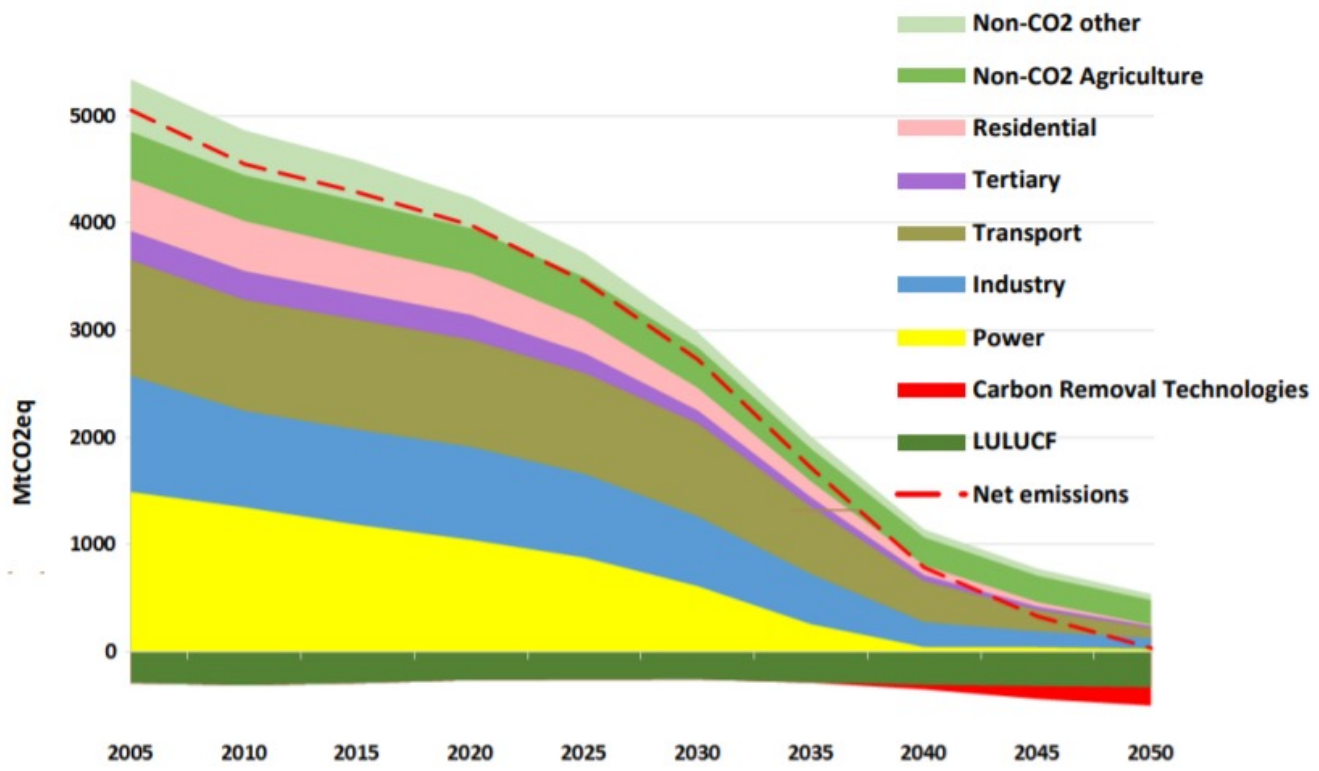




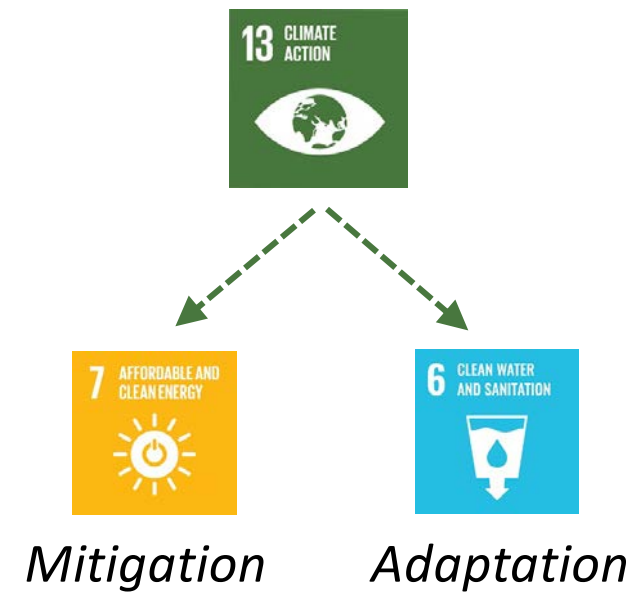
Towards the Decarbonization of the EU Economy

Europe is challenged to decarbonize its economy in 30 years.

This objective is in line with the *Paris Agreement* and is a geostrategic objective for Europe.



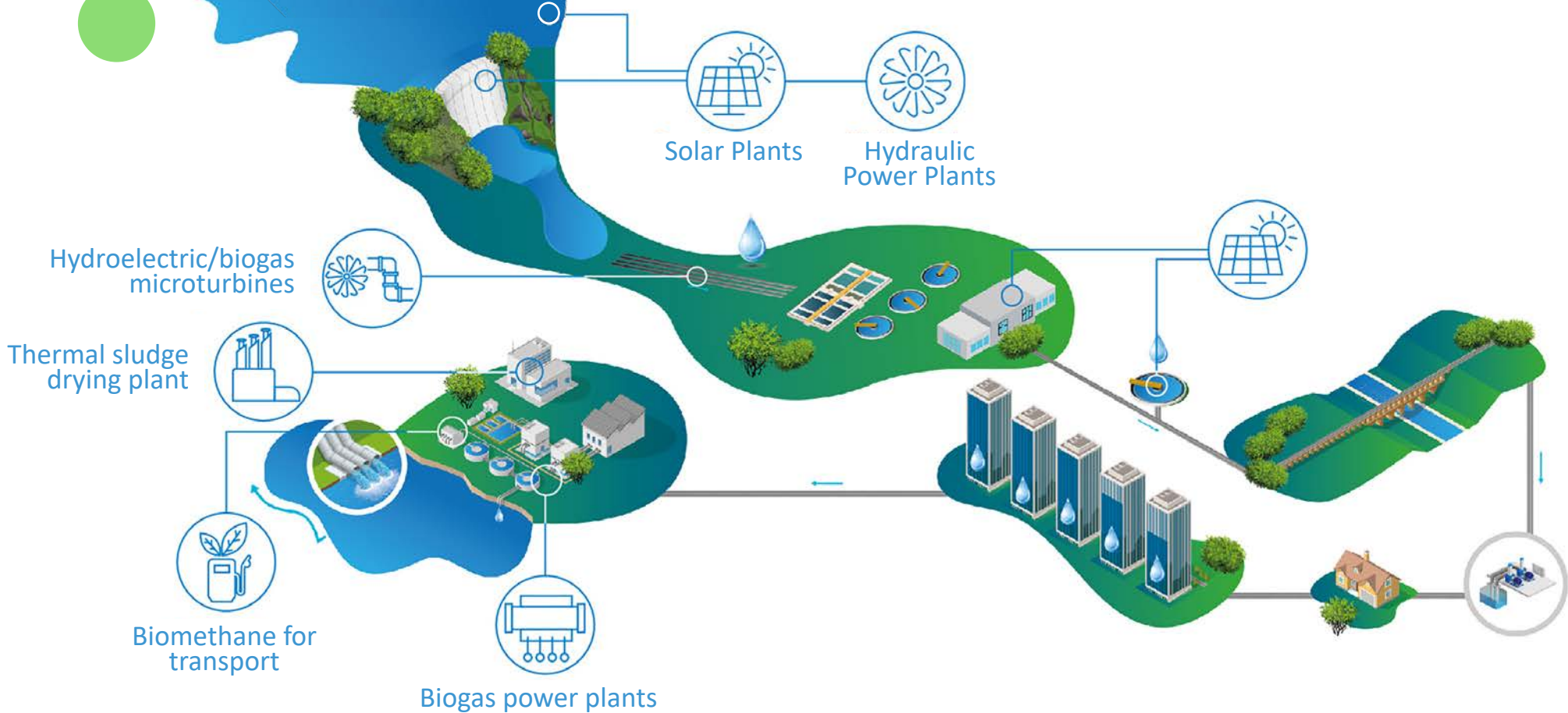
How are we going to do it?





MITIGATION: water-energy full urban cycle

+107
MW installed
capacity



Current situation: Power generation and Consumption

2018

Production: **312.2 GWh**
 Consumption: **462.4 GWh**
 % Self-production: **67.5 %**

2019

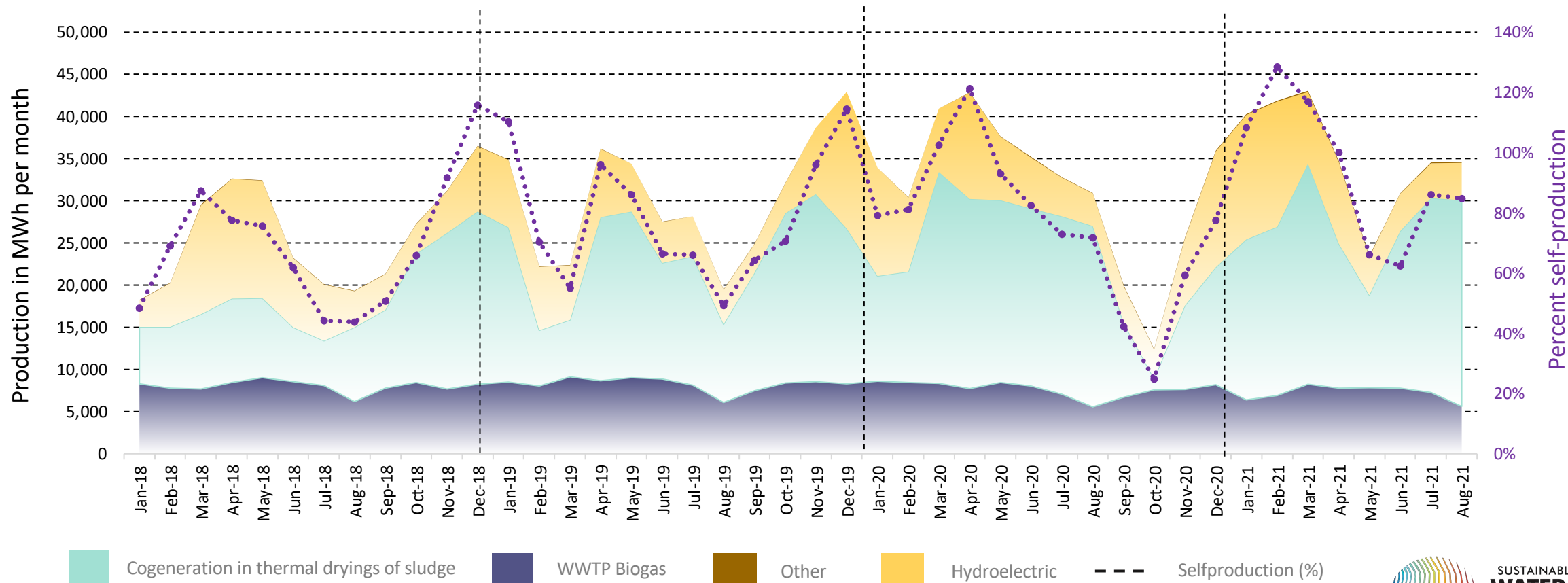
Production: **363.9GWh**
 Consumption: **467.3 GWh**
 % Self-production: **77.9 %**

2020

Production: **378.8 GWh**
 Consumption: **514.0 GWh**
 % Self-production: **73.7 %**

2021 (august)

Production: **283.4 GWh**
 Consumption: **309.4 GWh**
 % Self-production: **91.6 %**



Lines of action: 100% self-production goal

SOLAR PLAN

157

MW installed
by 2030

This plan is being developed with the aim of boosting energy production through highly efficient renewable generation sources to reduce network consumption and thus contribute to mitigating greenhouse gas emissions.

The objective of the plan is to maximize existing synergies in the water-energy nexus, so it will aim to take advantage of existing available surfaces in any location for which no other use has been foreseen, including roofs, water tanks and water reservoirs.

It is an ambitious plan that aims to install 49 MW.

Lines of action: Energy Efficiency

Our goal is to save 6.8% of the energy by 2025, that means about 34,830 MWh in relation to base consumption. We rely on:

- **Energy Hub:** Improvement of the management of the information related to energy issues. We are working on a System will integrate energy information from different sources in a common data repository to feed applications that support decision-making on energy efficiency, purchase and management of electricity contracts. and investment in renewable energy.
- **Development of energy efficiency audits and implementation of measures.** These audits will make it possible to detect savings and determine which is the best measure of energy saving and efficiency specific to the needs of each specific installation.

We believe in energy efficiency.



Lines of action: *Circular Economy*

In wastewater treatment plants, thanks to appropriate technologies, it is possible to produce electrical energy from domestic wastewater, which is properly treated in these facilities and converted into:

- **Biogas:** We produce more than 90 GWh/year of electricity that is consumed in our Wastewater Treatment Plants. It is 100% removable and produced and consumed *in situ*.
- **Biomethane.** We are converting biogas into biomethane to be used in our fleet of vehicles.
- **Green Hydrogen.** We are developing a pioneering plant in Europe to obtain Green Hydrogen using reclaimed water.



Our strategy is to promote the Circular Economy aiming the decarbonization of our activity





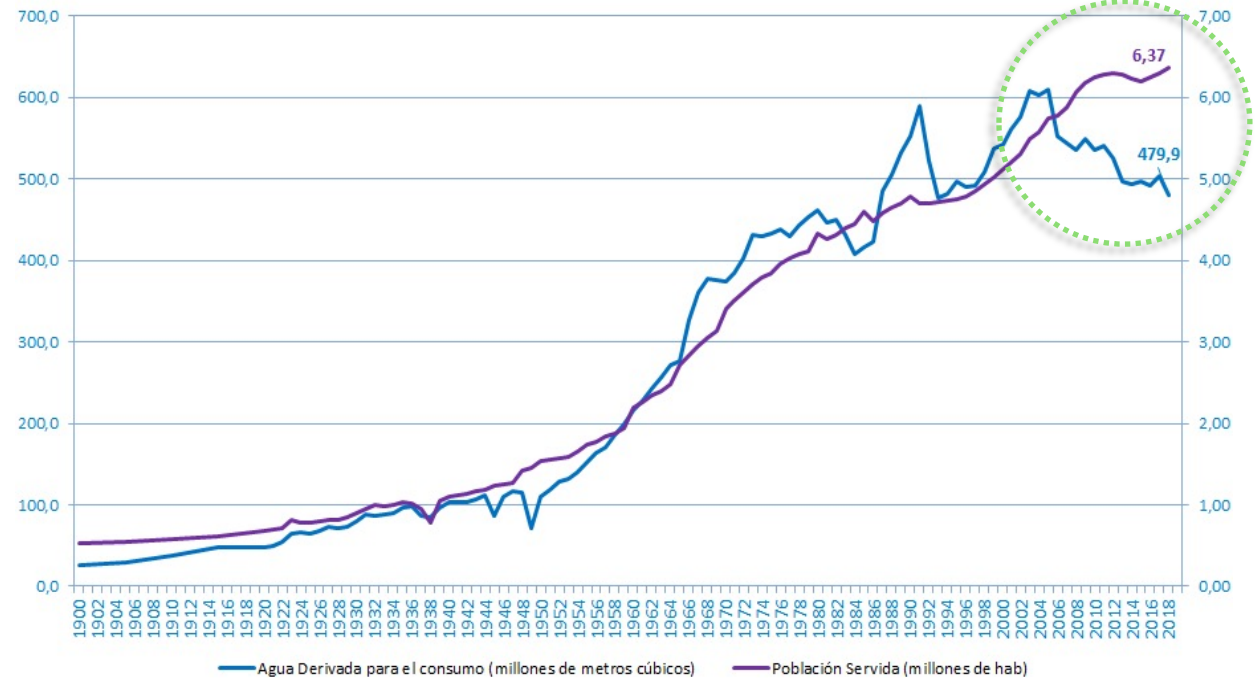
ADAPTATION: The best way to save energy is to save water

Traditionally, population growth has led to an increase in water consumption.

In Madrid this has been the case until 2005.

¿How did we change the curve?

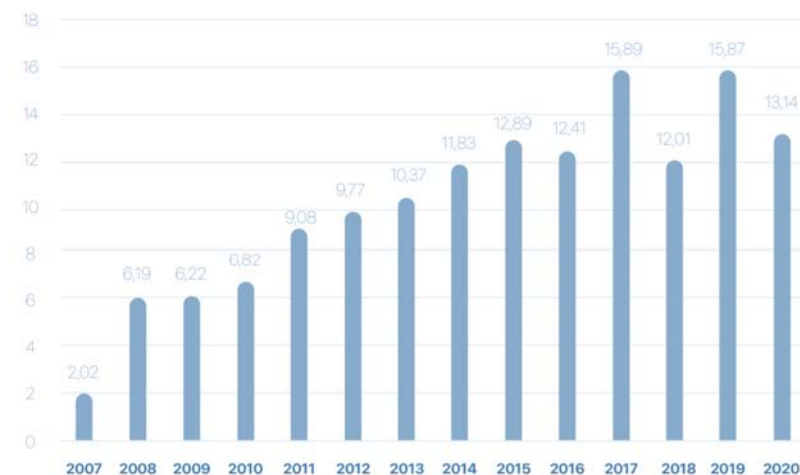
Consumption and population (1900-2018)



Lines of action: Regenerated water production

126
million m³
water recycled

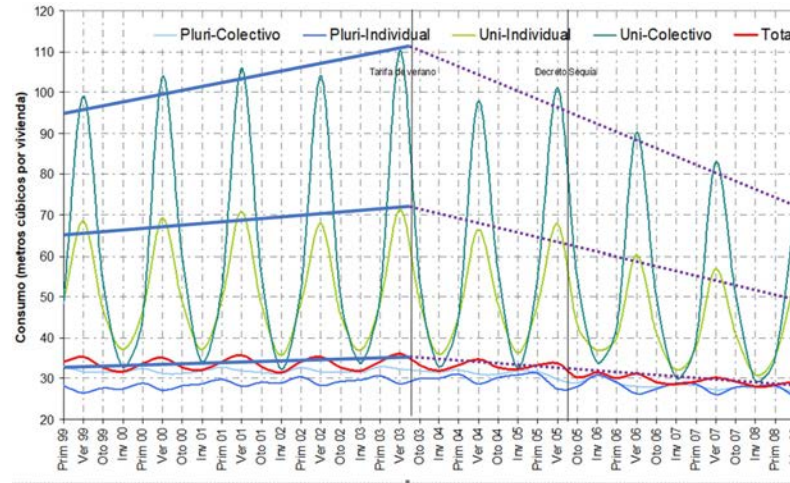
ANNUAL PRODUCTION OF REGENERATED WATER FOR REUSE
(MILLIONS OF CUBIC METRES)



Communication campaigns



Water tariffs



- Progressive
- Seasonal
- Binomic structure
- Committed with the Environment

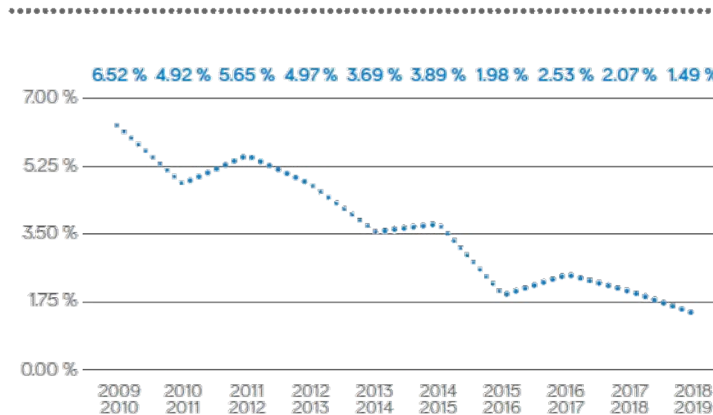
Smart-metering



100 % smart meters installed by 2030

Network loss reduction

HIDDEN LOSSES IN THE DISTRIBUTION NETWORK
(% OF WATER DERIVED FOR CONSUMPTION PER HYDROLOGICAL YEAR)



Lines of action:
Efficient use of
water (*best practices*)

Lines of action: Caring for environment, caring for water



- Promote environmental investigation
- Ecosystem conservation



- Impact reduction.
- Pest control.
- Monitoring and modeling.



- Monitor climate change.
- Forests to capture CO2.



- Environmental public information.
- Promote Sustainable Urban Drainage Systems



Sustainable Urban Drainage Systems

- Saving water is the best tool to save energy
- There are many alternatives to contribute for climate action. Canal is close to generate 100% of our consumption but also there are some projects and initiatives to do.
- Comprehensive management of the water cycle in large territories allows the development of robust and resilient companies.
 - “Go far” from daily activity and firm commitments are the key to accelerate the action.

*We firmly believe that **it is time to act** and seek a more sustainable future for the next generations.*





www.canaldeisabelsegunda.es

If you require any further information, please feel free to contact us:

contacto@canal.madrid

We take care of the water, we take care of you