Energy Compact of the Sustainable Water & Energy Solutions Network
Canal de Isabel II
24th September 2021
Mr. Pascual Fernández, CEO, Canal de Isabel II, Spain

Affordable and Clean Energy

Cuidamos el agua, cuidamos de ti
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**.
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
Current situation: water-energy full urban cycle

+107 MW installed capacity

Solar Plants
Hydraulic Power Plants

Hydroelectric/biogas microturbines

Thermal sludge drying plant

Biomethane for transport

Biogas power plants

Current situation: water-energy full urban cycle

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Solar Plants

Hydraulic Power Plants
Current situation: Power generation and Consumption

2018
Production: 312.2 GWh
Consumption: 462.4 GWh
% Self-production: 67.5%

2019
Production: 363.9 GWh
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%

Production in MWh per month

Cogeneration in thermal dryings of sludge
WWTP Biogas
Other
Hydroelectric
Selfproduction (%)

Percent self-production
Canal de Isabel II's COMMITMENTS on

1. By 2030, to produce 100% of the electricity necessary to self-supply the Company’s activities (and this electricity to be renewable and/or clean). For this purpose, we will increase the installed capacity of electricity production from 107 to 157 megawatts.

2. To increase the company's energy efficiency by 2025. Our goal is to save 6.8%, that means about 34,830 MWh in relation to base consumption.

3. To increase activities that encourage the circular economy, as green hydrogen production, sludge valorization to produce fertilizers or biofuel for vehicles.

4. To carry out development cooperation actions to improve renewable energies production and energy efficiency of the integral water cycle in developing countries.

Canal de Isabel II's commitments comply with some of the targets of SDG 7: especially targets: 7.2; 7.3 and target 7.a
Commitment 1: 100% self-production / increasing our installed capacity

157 MW installed by 2030

SOLAR PLAN

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.
Commitment 2: 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 relay 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.*
Commitment 3: Circular Economy

- **Reuse Water.** We believe wastewater recycling constitutes an essential component of the comprehensive management of water resources. In 2020 we have produced 13.14 hm³.

- **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.

- **Fertilizer Plant.** We have the largest phosphorus recovery plant in Spain, in the form of struvite, a compound with a high fertilising capacity.

Our strategy is to promote the Circular Economy aiming the decarbonization of our activity.
Commitment 4: international cooperation projects

We are involved with UNDESA in the project:

“Sustainable Water and Energy Solutions: Supporting the implementation of the 2030 Agenda for Sustainable Development through an integrated approach to water and energy”.

We believe our participation in this partnership will lead us to the development of energy projects like we have already done for #SDG6.

On this matter, we’ve been awarded for an EU-WOP Collaboration project with Sedapal, which entails water regeneration technologies, and a tracking and monitoring system for COVID-19 in wastewater in Lima (Perú).
MONITORING AND REPORTING OUR COMMITMENTS

Every year Canal de Isabel II prepares a **Sustainability Report** that contains the annual strategy developed by the company, as well as the actions taken to meet our commitments.

This document follows the Global Reporting Initiative (GRI) standards for reports of sustainability and includes recommended detailed information on the largest part of its content.

*Specific reports will also be prepared to follow up and monitor compliance with the commitments for the following years.*

https://www.canaldeisabelsegunda.es/documents/20143/8022686/Informe_Sostenibilidad_2020.pdf/606fa83f-d763-251a-e836-6bcd90f0d5ba?t=1630494531664
There is a strong Interrelation between SDGs. Canal de Isabel II has a robust commitment with sustainable development and has fully integrated SDGs in its Strategic Plan.

Our Strategic Plan leads to the implementation of sustainable solutions in all areas of our activity.

We firmly believe that it is time to act and seek a more sustainable future for the next generations.
If you require any further information, please feel free to contact us:

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