



Canal
de Isabel II

Antonio Lastra
Dr. Ingeniero de Caminos

SIWI WORLD
WATER
WEEK

GREEN INFRASTRUCTURE AND WATER SECURITY: A WATER UTILITY PERSPECTIVE

Canal
de Isabel II

BID
Banco Interamericano
de Desarrollo

Where?

100%
Public Owned
Company

We are responsible for managing
the whole water cycle
in the region of **Madrid in Spain**

 **6,256,000**
Inhabitants supplied

 **8,021** km² area

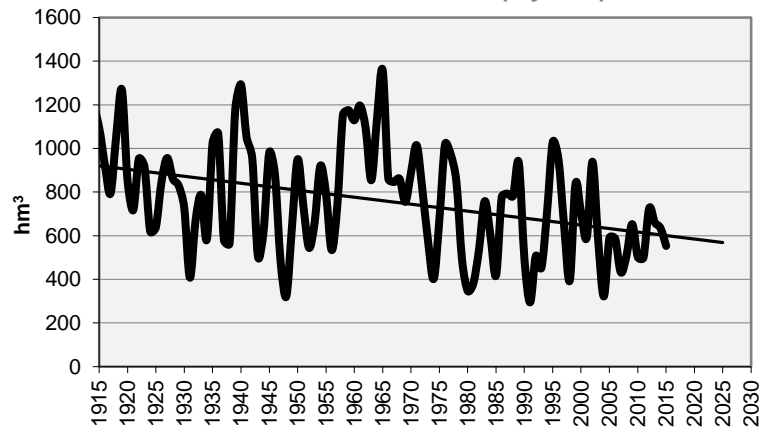
 **179** Municipalities



TRADITIONAL FOCUS

Upstream
Reservoirs
Scarcity
Droughts

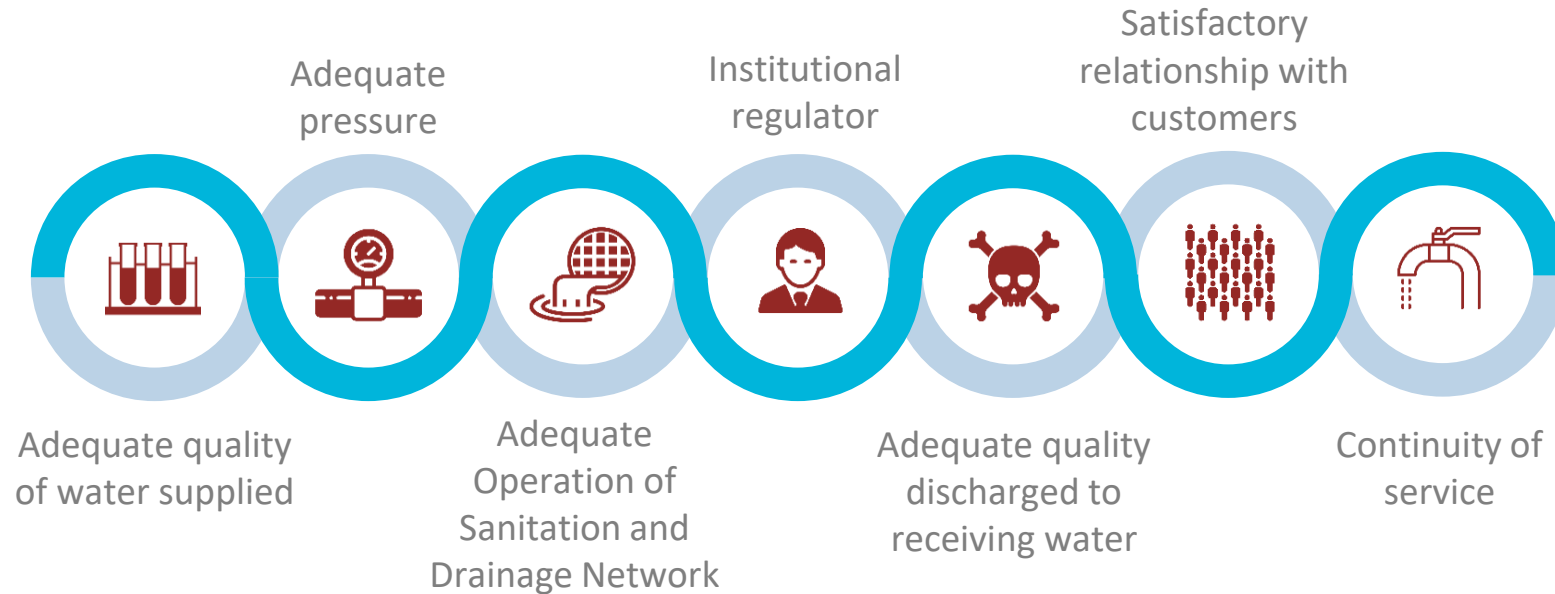
Historical series of annual inflow into the reservoirs of Canal (2 years)



WATER SECURITY Focusing on RISK

RESILIENCE RISK

Compliance





TRADITIONAL FOCUS



Upstream
Reservoirs
Scarcity
Droughts



CURRENT FOCUS



Downstream
River
Green
Infrastructures

Regenerated Water

Number of reuse plants	23
Regenerated water networks	512 km
Reservoirs of regenerated water	63
Volume of regenerated water produced (annually)	12.41 hm³
Municipalities that have reuse agreements with Canal de Isabel II	22
Golf Courses with reuse agreements or contracts with Canal de Isabel II	10
Industries and others entities with reuse agreement with Canal de Isabel II	11
Regenerated water production capacity	112 hm³



Energy

Production and self-sufficiency (2014-2016)

2014

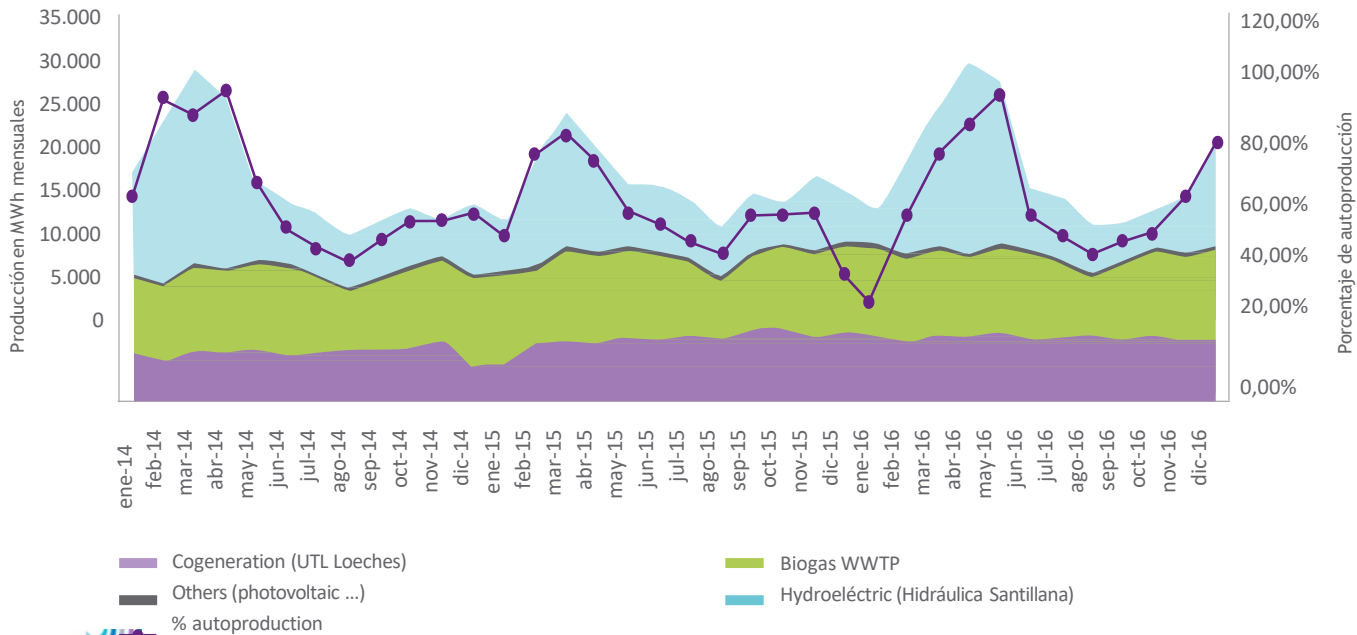
Production : 248.9 GWh
Consumption : 384,1 GWh
% Autoproduction : 64,8%

2015

Production : 243.3 GWh
Consumption : 412,3 GWh
% Autoproduction : 59,2%

2016

Production : 261.4 GWh
Consumption : 419,3 GWh
% Autoproduction : 62,3%



Regenerated
Water

Energy
self-sufficiency



**CLIMATE CHANGE
OVERCOMING TRADITIONAL BARRIERS**

Regenerated
Water

Energy
self-sufficiency

Sustainable
drainage systems
SUDs

Regenerated
Water

Energy
self-sufficiency

Sustainable
drainage systems
SUDs

Sludge
management



95% of the sludge generated in
the region of Madrid is used in agriculture



URBAN
DRAINAGE
TRADITIONAL
MANAGEMENT



GREEN
MANAGEMENT OF
TRADITIONAL
INFRASTRUCTURE

Regenerated
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URBAN
DRAINAGE
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MANAGEMENT



GREEN
MANAGEMENT OF
TRADITIONAL
INFRASTRUCTURE

QUANTITY-
ORIENTED
MANAGEMENT



QUALITY-ORIENTED
MANAGEMENT

FLEXIBLE
INFRASTRUCTURE

HOW MUCH?

WHEN?

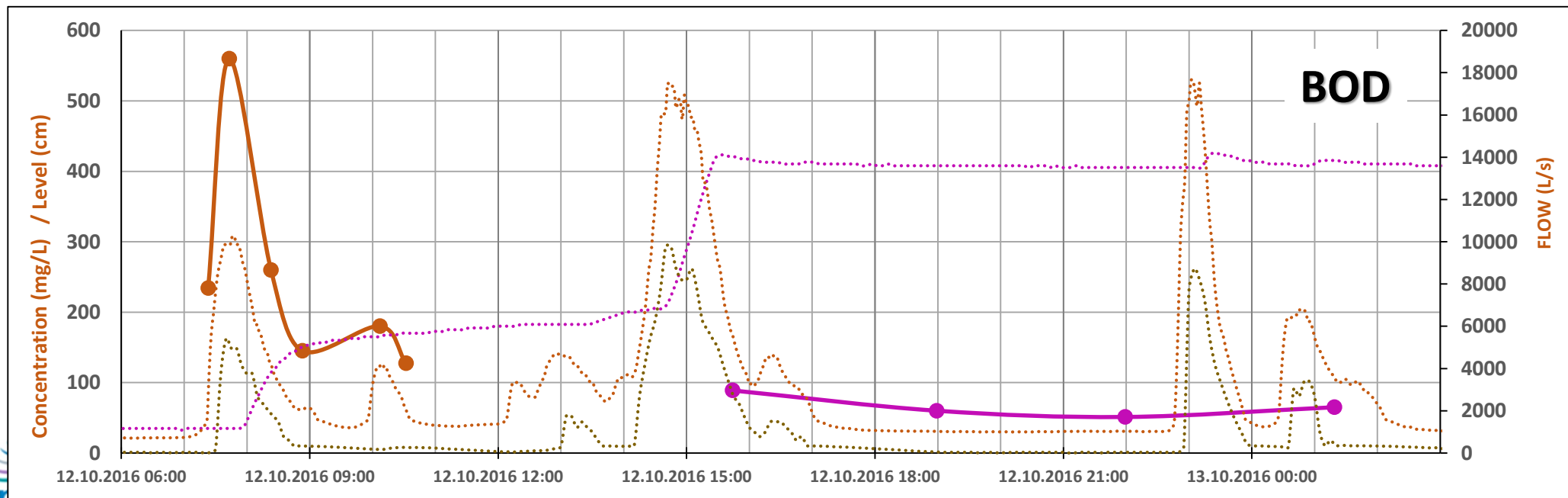
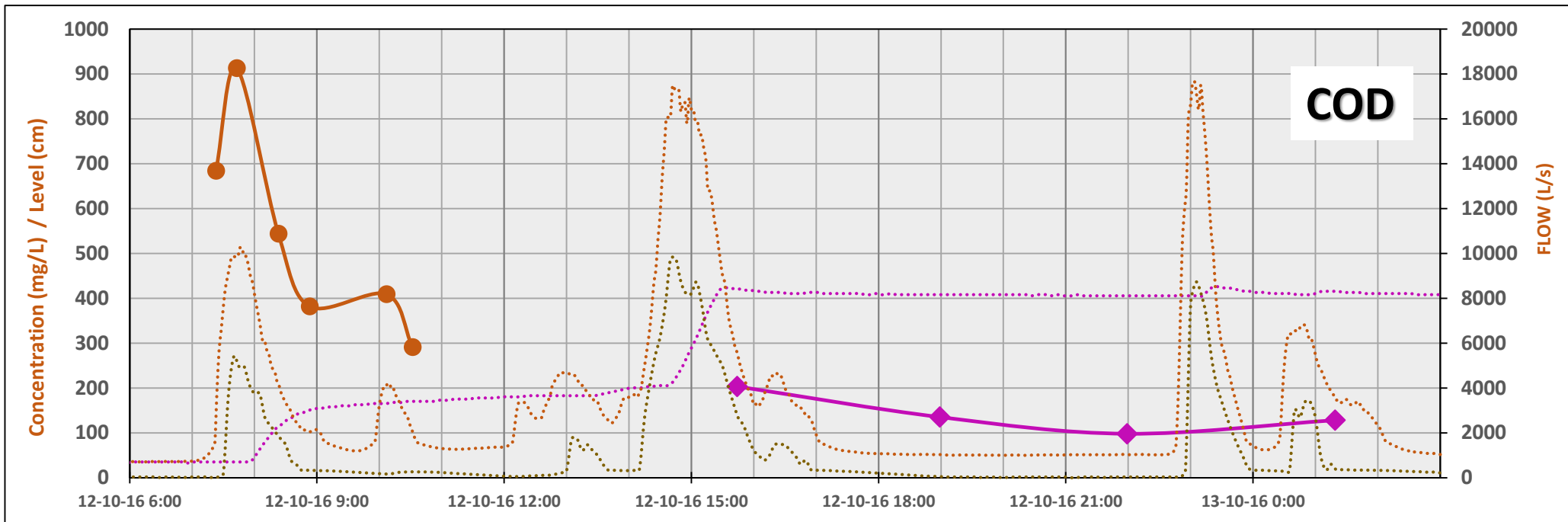
HOW?

**QUANTITY-
ORIENTED
MANAGEMENT**



**QUALITY-ORIENTED
MANAGEMENT**

**FLEXIBLE
INFRASTRUCTURE**





URBAN
DRAINAGE
TRADITIONAL
MANAGEMENT



GREEN
MANAGEMENT OF
TRADITIONAL
INFRASTRUCTURE

Sustainable
drainage systems
SUDs

Energy
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THANK YOU



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