ÁGUAS DO TEJO ATLÂNTICO

Águas de Portugal Group

ÁGUAS DO TEJO ATLÂNTICO
Grupo Águas de Portugal

WASTEWATER END USER

ÁGUAS DO TEJO ATLÂNTICO
Grupo Águas de Portugal

23
Municipalities served

2,4 Millions
Inhabitants served

500.000 m^3 / day
Wastewater treated

146.000 t / year
Sludge Produced

14 & 36 GWh / year
Energy Produced & Consumed

2017 – 2020 CAPEX
47 million euros

INNOVATION TARGET 2027

45
Energy Neutral WRRF

30%
Wastewater reuse

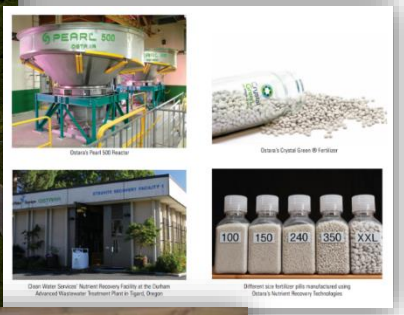
1
Innovation Center

5 WRRF
Nutrient Recovery

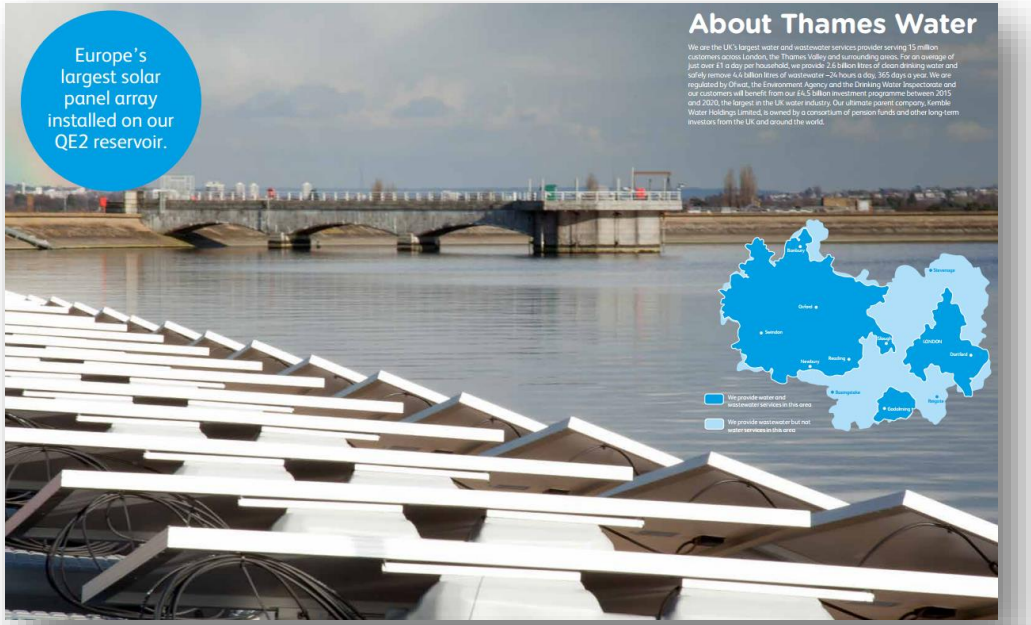
Reverse Sludge Pricing
Expense to Profit

5
Innovation products

WATER FACTORY



ENERGY PRODUCTION



The solar power plant at Moura, Portugal, produces 45 MW of electricity each year, powering 30,000 homes. Photograph: Universal Images Group/Getty Images

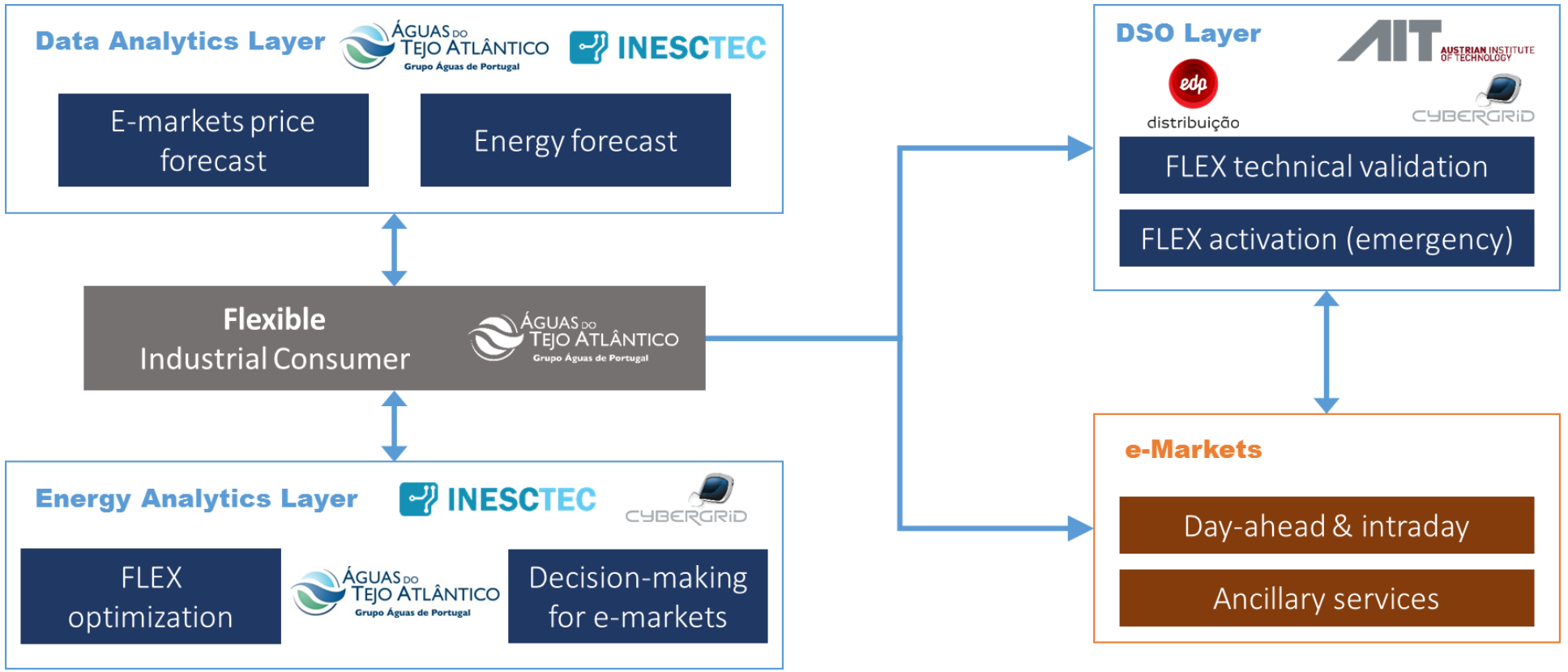
3 Portugal is entirely powered by renewable energy for four days

7-11 May

The high point for me this year from an engineering perspective was the announcement by Portugal that the entire country's electric usage had been provided by renewables for four consecutive days in early May. Moving away from fossil fuels to renewable energy is surely the most important engineering and scientific challenge of our age. The shift to coal in the 19th century and then to oil in the 20th century gave us the modern world of cheap energy, plentiful food, consumer goods and sunny holidays. If we want to prevent climate change while allowing our children to have these things too, then we must wean ourselves off fossil fuels. It seems unthinkable, it seems impossible, but

ROLE OF WATER SECTOR IN SMART GRID

integrid



Demonstration of **Inte**lligent grid technologies for renewables **Inte**gration and **Inte**ractive consumer participation enabling **Inte**roperable market solutions and **Inte**rconnected stakeholders

edp distribuição · ÁGUAS DE PORTUGAL · ÁGUAS DO TEJO ATLÂNTICO Grupo Águas de Portugal · AIT AUSTRIAN INSTITUTE OF TECHNOLOGY · NEW ENERGY WORLD 新能源世界 · CYBERGRID · ELEKTRO LJUBLJANA

GE · INESCTEC · DNV·GL · KTH VETENSKAP OCH KONST · SIM · UNIVERSIDAD PONTIFICIA ICAI ICADE COMILLAS MADRID INSTITUTO DE INVESTIGACIÓN TECNOLÓGICA · ELLEVIO · SAP

WISHLIST

The siaap and suez introduce **Biognval**, an unprecedented solution to convert wastewater into liquid biofuel

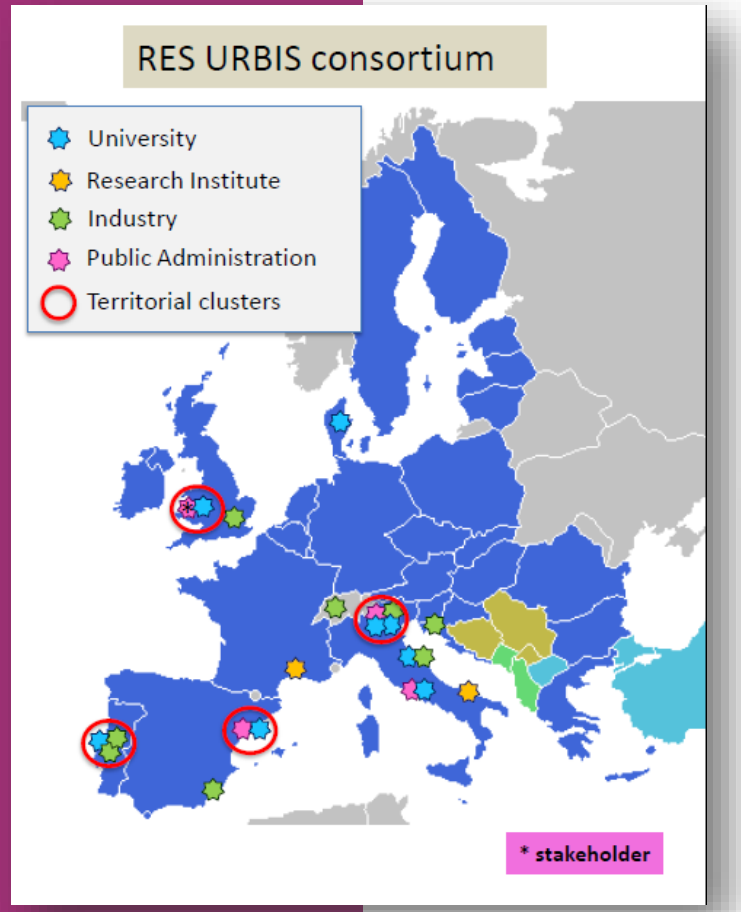
French water treatment company Suez Environnement has developed an innovative new process that converts wastewater into liquefied biogas (LBG) using membrane based technology.

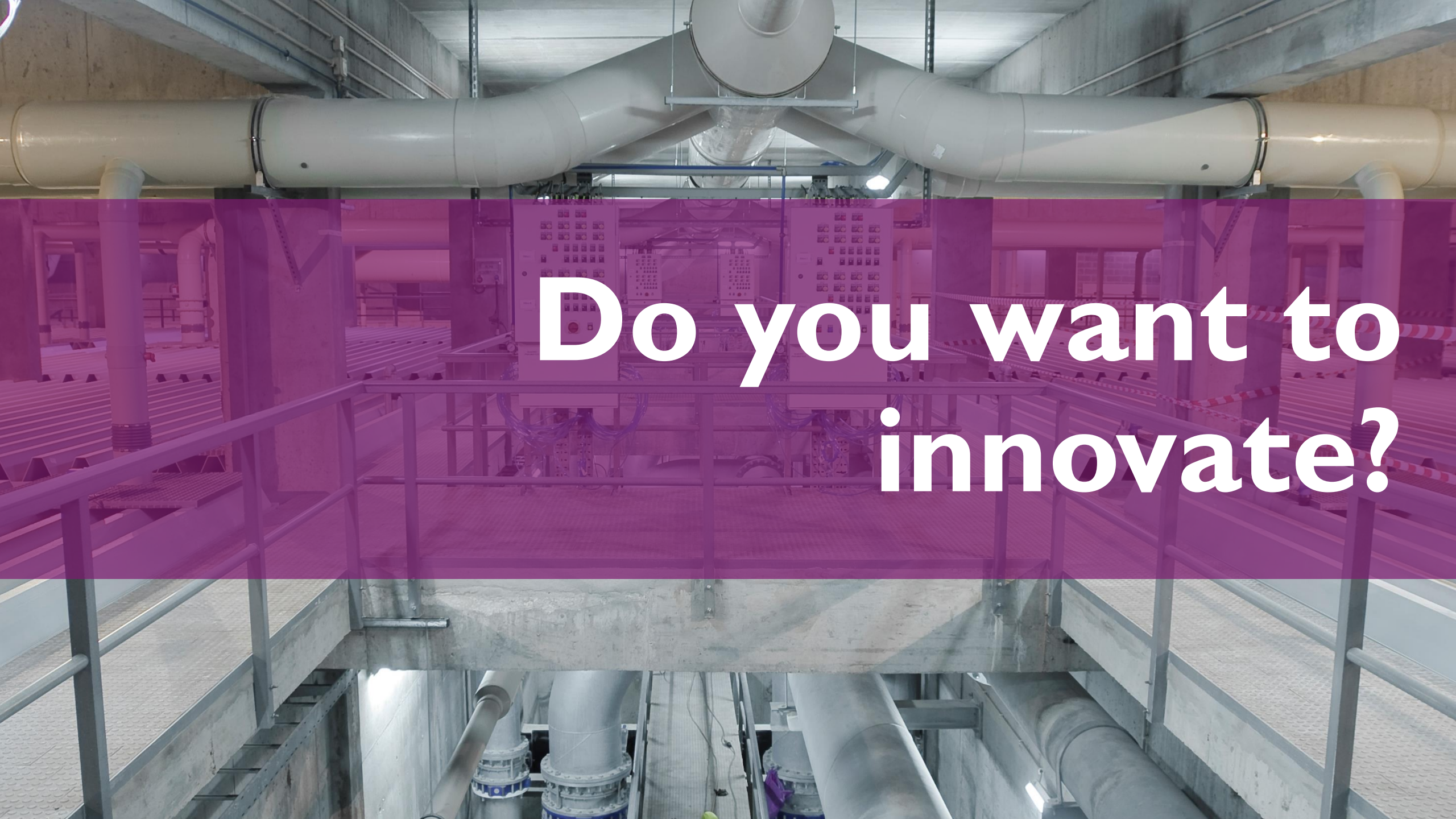
http://www.waterworld.com/articles/wwi/print/volume-30/issue-2/regional-spotlight-europe/france-liquefied-biogas-from-wastewater.html

BIOPRODUCTS

OBJECTIVES

- To integrate treatment of all relevant bio-waste of urban origin
- To develop an urban bio-waste biorefinery and related bio-based products
- To take care of the whole technology chain and as function of territorial conditions
- To take care of all other technical and non technical constraints

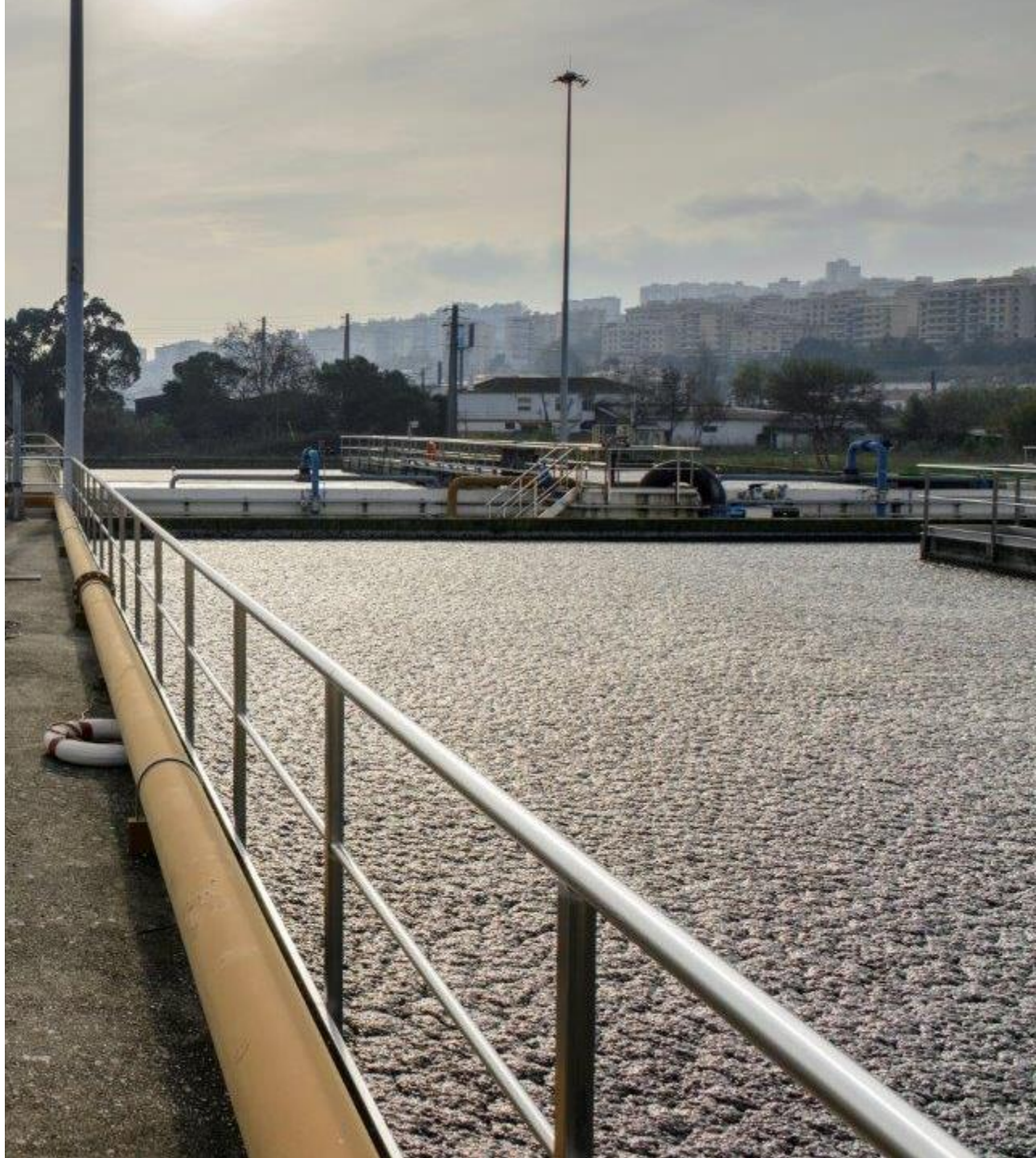




Do you want to innovate?

WISHLIST

- Recover iron or phosphorous from primary sludge
- Low cost upgrading biological treatment
- Biosolids reuse
- Nutrient recovery: plug and play, legal barriers



WISHLIST

- Water value
- Water reuse: sensors and risk minimization;
- Disinfection alternative methods: probiotics?

WISHLIST

- Biomethane: biogas purification
- Neutrality task: primary treatment, biotechnology for conventional intensive energy systems

But don’t forget people and wastewater drainage system