



WORKSHOP

Circular economy and water re-use
Solutions and role in the River Basin Management Plans
EUROPE-INBO 2016
October 19, 2016, Lourdes, France

**Economic issues concerning treated waste water
allocation. The case of study of Valencia**

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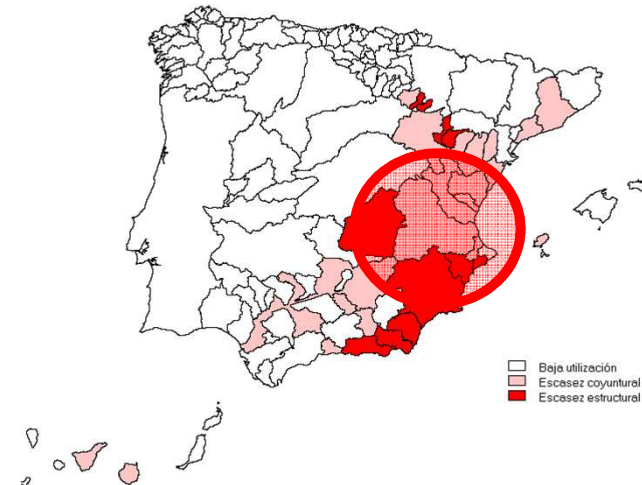
Water Reuse in Jucar RBMP

MAIN DIFFICULTIES

- Potential users for Treated Waste Water are traditional, with old and consolidated water rights.
- They are located near main WWTP and coastal cities where more Surface WR are available.
- Cost of Treated WW are much higher than other alternatives.

MAIN ADVANTAGES

- These potential users for Treated WW are located nearby and thus cost of infrastructure is affordable.
- Their demands are sufficient to be partially satisfied by WWTP.
- Diverted water for rivers led to improved environmental conditions
- Upstream demands can be satisfied by reducing downstream demands
- Pumping from overexploited inland aquifers can be reduced



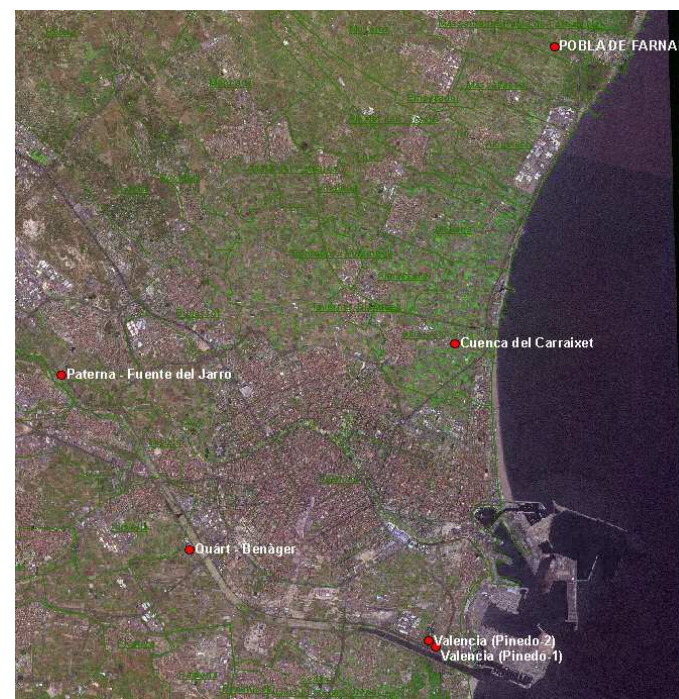
- **470 Hm³/year** are treated, mainly located in plants of big urban agglomerations. 60% of this volume is concentrated in 15 WWTPs
- **120 hm³/year** are directly reused mainly in **lower basins** with the metropolitan area of Valencia, where irrigation is the main use of the resources



Water Reuse in Jucar RBMP: Valencia and its metropolitan area

Waste Water Reuse Plant	Treated volume (Hm ³ /year)	Reused volume (Hm ³ /year)
Pinedo (I y II)	116,65	29,16
Carraixet	13,08	3,74
Paterna-Fte Jarro	3,7	3,35
Quart-Benàger	11,00	11,00
Puebla de Farnals	9,29	5,06
TOTAL	153,72	52,31 34%

Source: EPSAR (Public Entity of Waste Water Sanitation, 2015)



Water reuse in Valencia and its metropolitan area

- Users: Traditional irrigation.
- EPSAR (Public Entity of Waste Water sanitation) finances tertiary treatment.
- Discharge holders have a reduction in their Discharge Control Fee.

- Jucar RBD, 108 M€ in 19 measures in order to replace GW by WR in (efficient) irrigation.



Water Reuse in Jucar RBMP: Study case: Valencia and its metropolitan area





NWMP - IMMEDIATE ACTION PLAN

REHABILITACIÓN DEL LAGO Y DEL MARJAL

Recuperación de la calidad de los aportes hídricos

Reordenación de la infraestructura hidráulica de la huerta y actuaciones relativas al Colector Oeste.

Subsanación de deficiencias en las redes de saneamiento.

Actuaciones de mejora de las EDAR del entorno de L'Albufera.

Reutilización de las aguas de las EDAR del entorno de L'Albufera.
(16Hm³/año)

Dotación de recursos fluviales al lago

Actuaciones para la aportación de recursos fluviales del Júcar a L'Albufera desde Tous/Antella.

CONTROL DE LOS PROCESOS DE ATERRAMIEN TO

Reducción de la producción de aportes

Repoblación forestal de montes públicos de la cuenca del Poyo.

Aumento de la capacidad de retención de sólidos

Integración medioambiental del Barranco del Poyo.

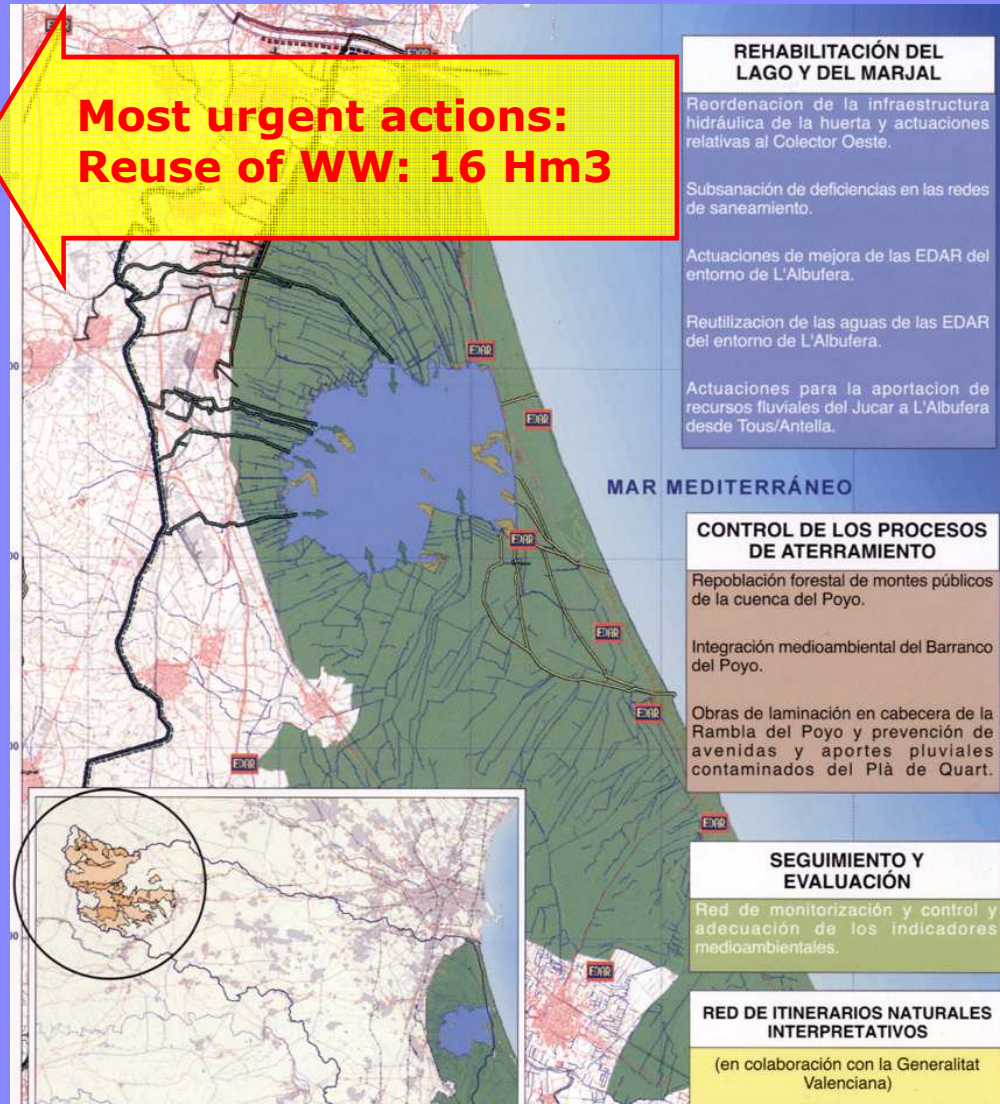
Obras de laminación en cabecera de la Rambla del Poyo y prevención de avenidas y aportes pluviales contaminados del Pla de Quart.

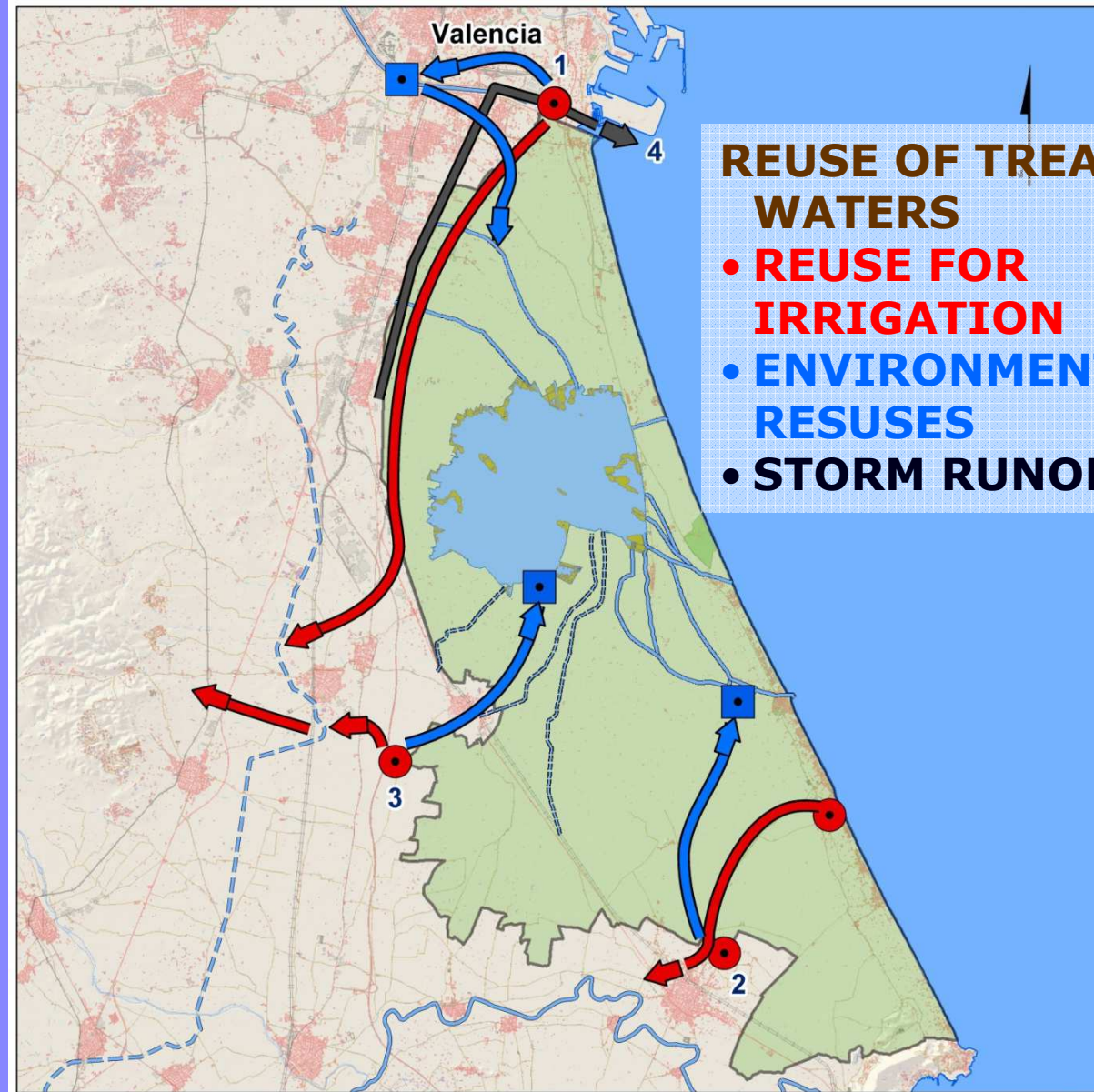
SEGUIMIENTO Y EVALUACIÓN

Seguimiento y evaluación

Red de monitorización, control y adecuación de los indicadores medioambientales.

RED DE ITINERARIOS NATURALES INTERPRETATIVOS (en colaboración con la Generalitat Valenciana)





REUSE OF TREATED WATERS

- REUSE FOR IRRIGATION
- ENVIRONMENTAL RESUSES
- STORM RUNOFF



Recent reuse actions promoted by MAGRAMA

RE-USE INCREASE FROM PINEDO WWTP



Agricultural reuse of treated (regenerated) waters from Pinedo WWTP reducing spilling into the sea.



CATARROJA PORT PUMPING STATION AND 17 KM PIPELINE CATARROJA-BENIFAIÓ (ARJ). (ACUAMED)



Recent reuse actions promoted by MAGRAMA

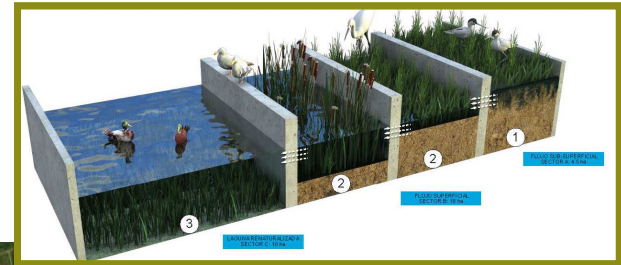
UPGRADING AND UPDATING SUECA WWTP

1. MARENY DE BARRAQUETES-SUECA WW PUMPING STATION
2. SEWAGE NET IMPROVEMENT IN CITY OF SUECA
3. SUECA WWTP UPGRADNIG
4. SUECA WWTP TERTIARY TREATMENT
5. REGENERATED WATER PIPELINE AND ESTANY DE LA PLANA WETLAND

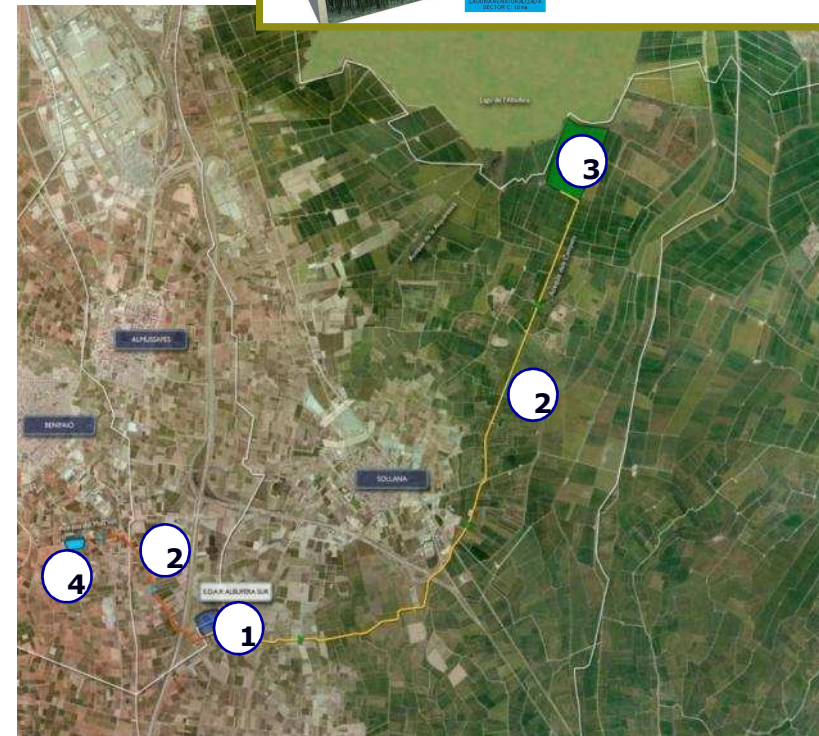




Reuse of treated water from ALBUFERA SUR WWTP

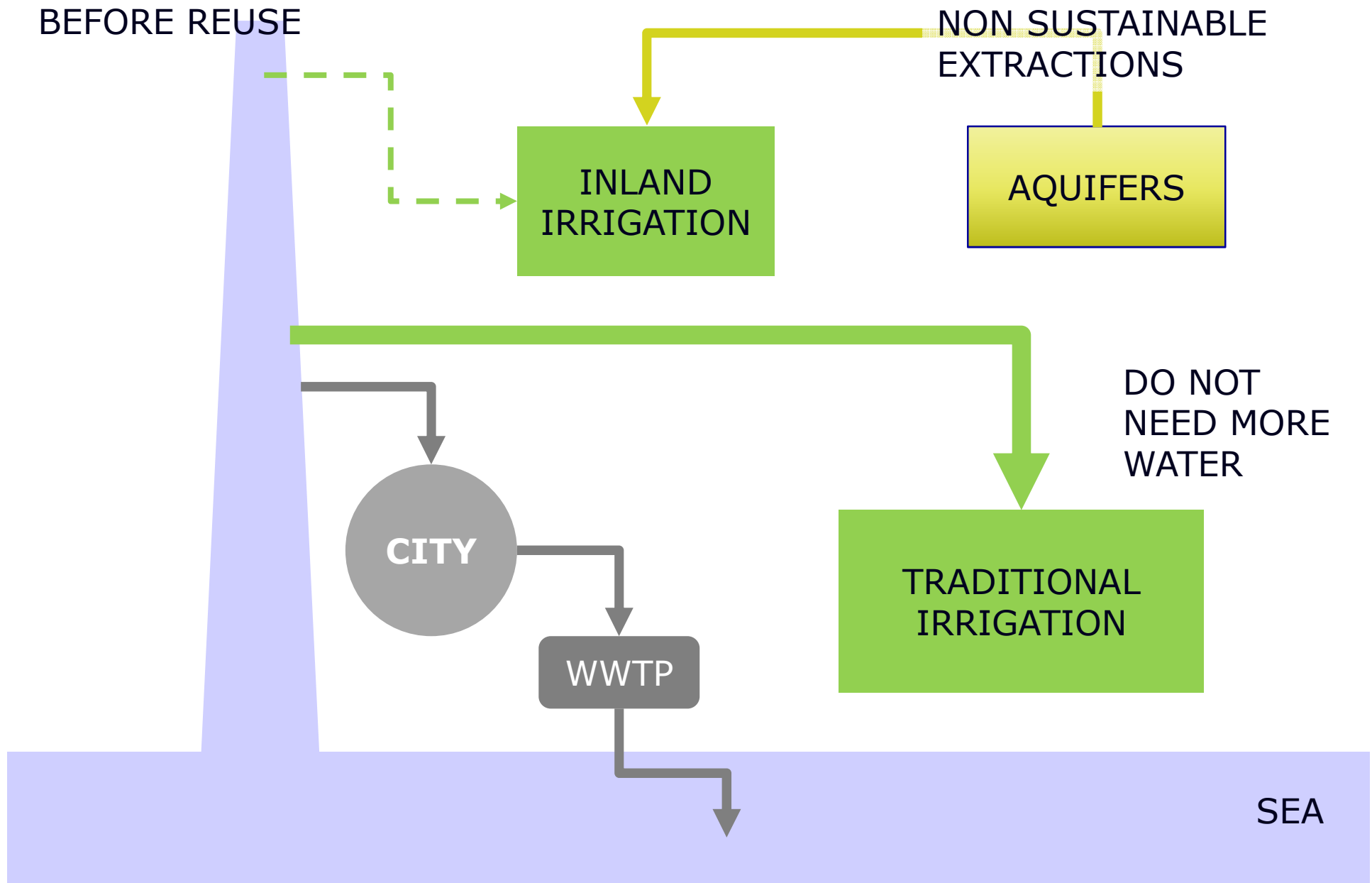


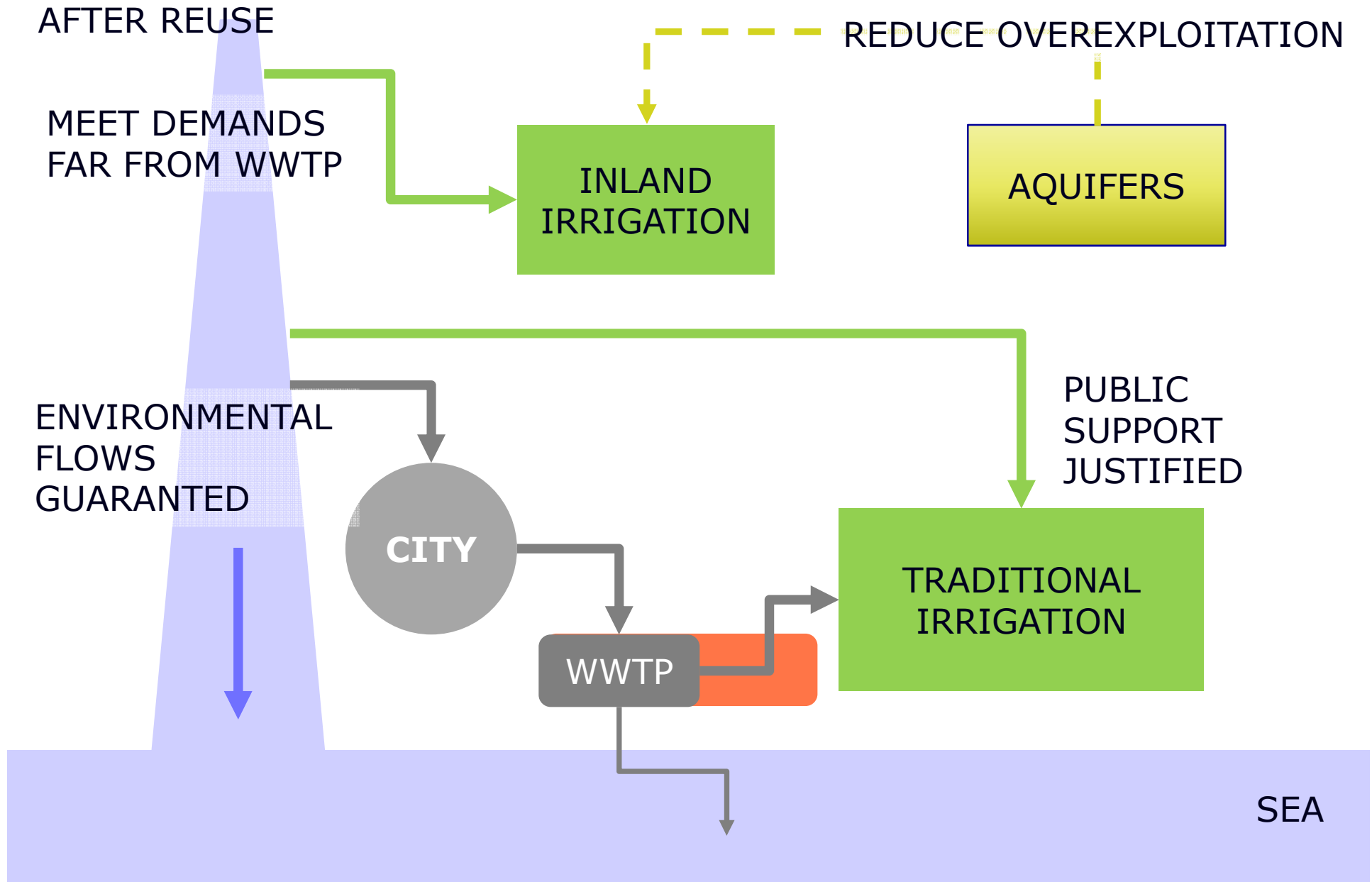
1. TERTIARY TREATMENT AT ALBUFERA SUR WWTP
2. ENVIRONMENTAL REUSE PIPELINE
3. ARTIFICIAL WETLAND AT TANCAT DE MILIA
4. Balsa REGULACION DIARIA

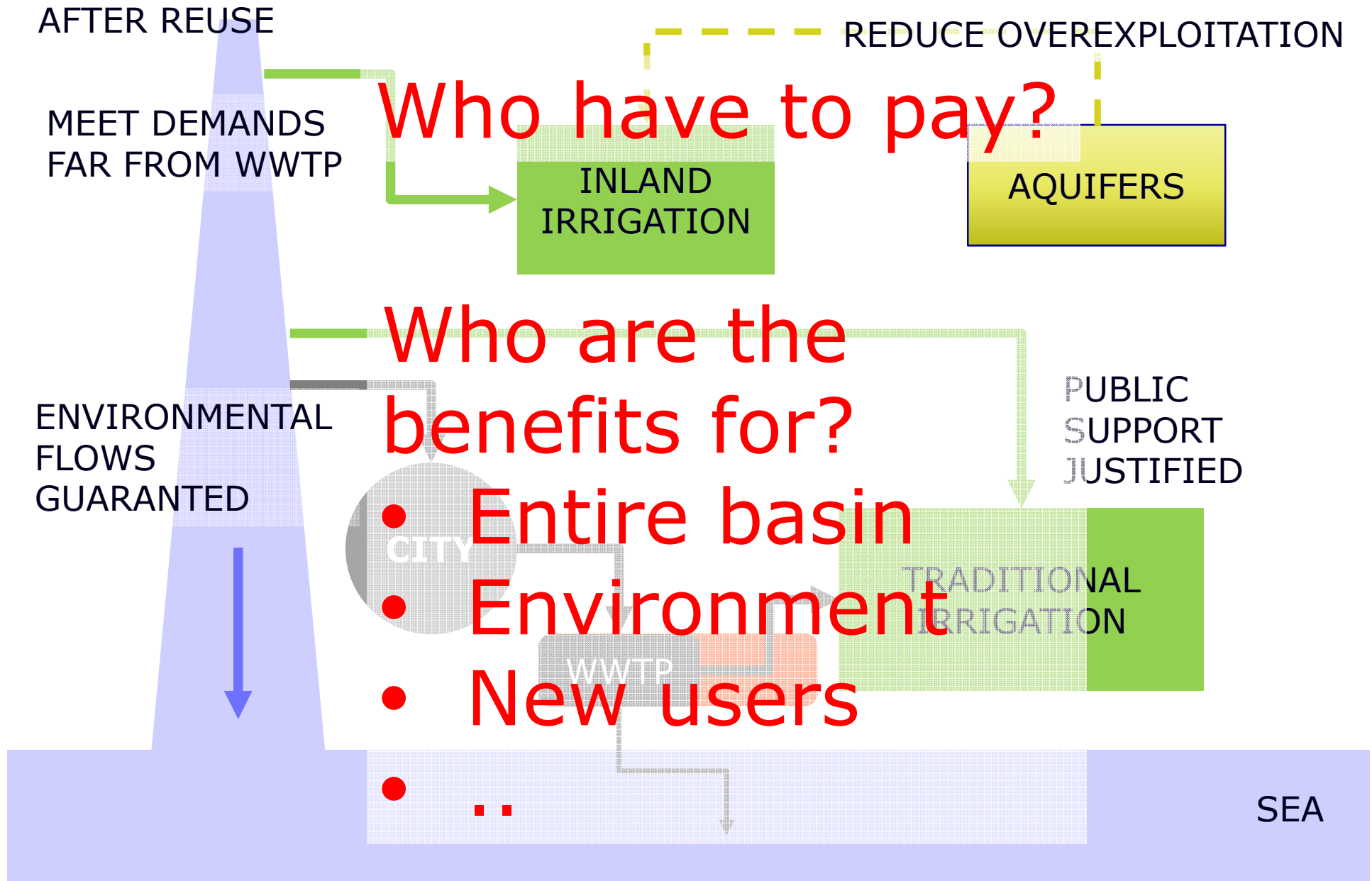


This Project allows treated wastewaters to meet required quality for agricultural purposes and environmental use by means of artificial wetland.







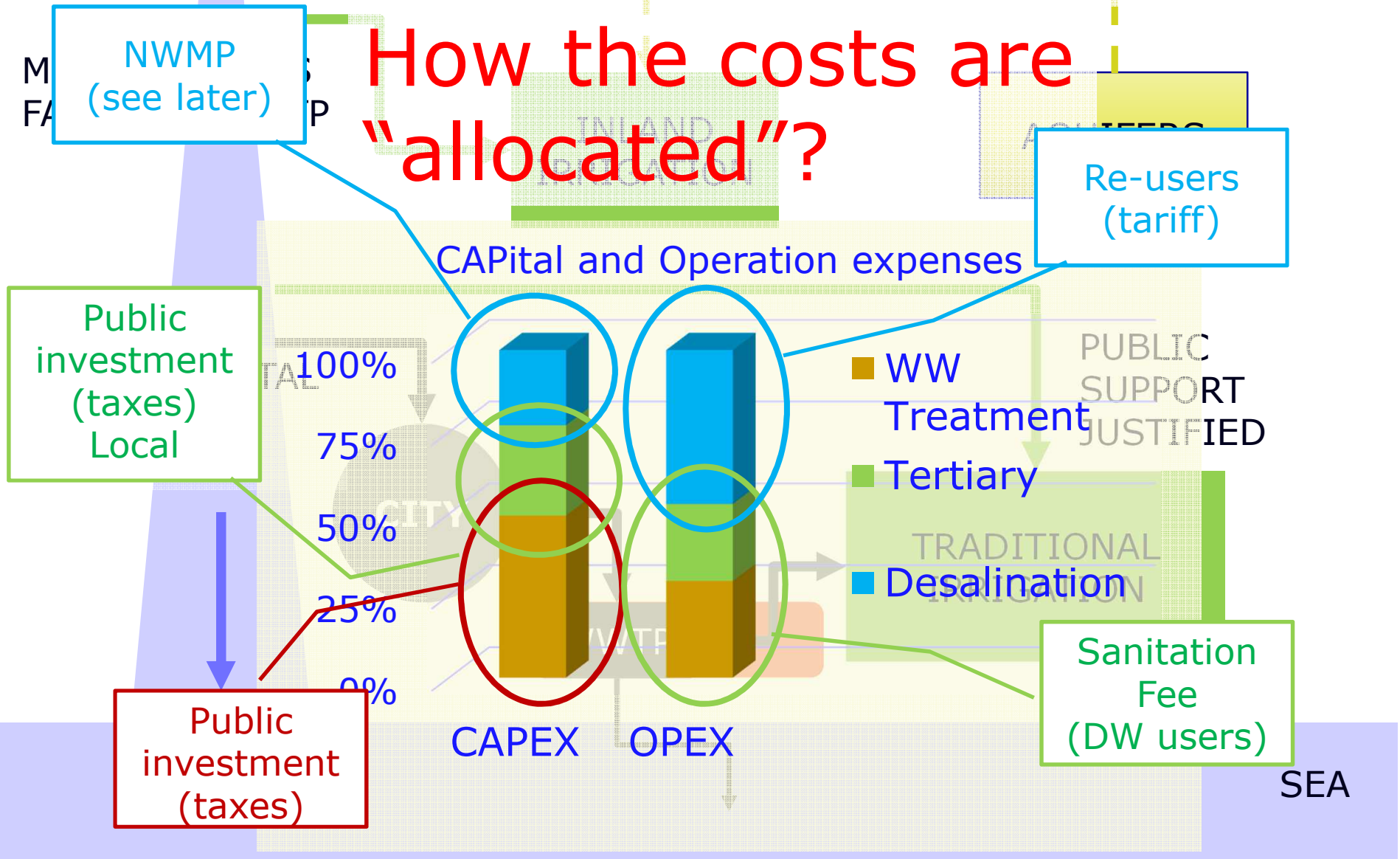




AFTER REUSE

REDUCE OVEREXPLOITATION

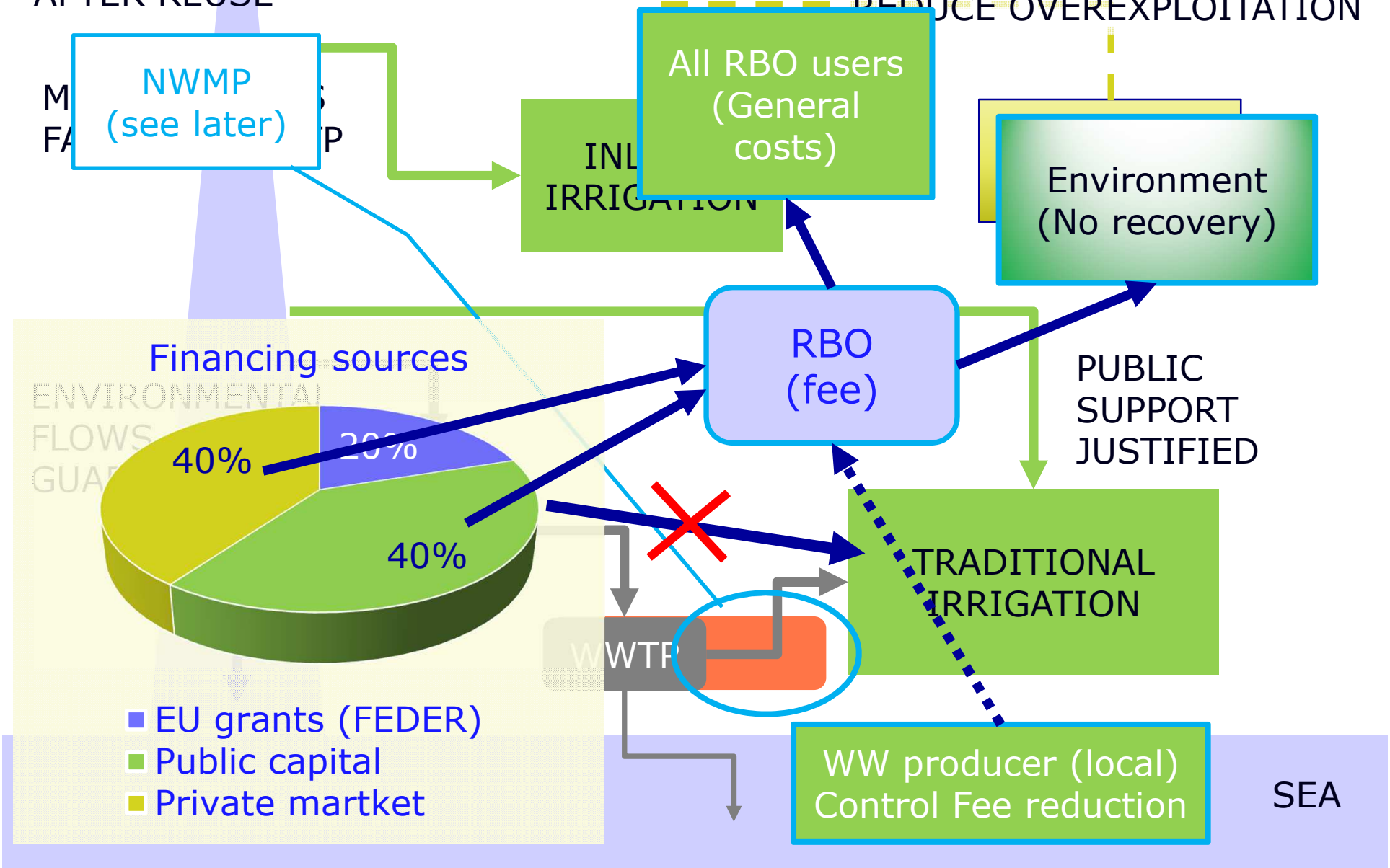
How the costs are "allocated"?





AFTER REUSE

REDUCE OVEREXPLOITATION





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**Thank you
Merci
Gracias**



MENBO Mediterranean Network of Basin Organisations
REMOB Réseau Méditerranéen des Organismes de Bassin
REMOC Red Mediterránea de Organismos de Cuenca

www.remoc.org

comments welcome to:

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