



Evaluating Economic Policy Instruments for Sustainable Water Management in Europe

## Comparison of Water Quantity related case studies

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### 1. Water Quantity Case Studies (3 EU, 2 non-EU)

- CS12: Payment by the drop: The move to water metering in England and Wales (**United Kingdom**)  
Examines the implementation of residential volumetric pricing in England and Wales through the introduction of water meters
- CS16: Water tariff system in Italy and tariff structure in the Region Emilia Romagna (RER) (**Po River Basin, Italy**)  
Addresses the water tariff system (WTS) in Italy from 1994 onwards focusing on the Region of Emilia Romagna (RER)
- CS20: Subsidies for Drinking Water Conservation in Cyprus (**Cyprus**)  
Investigates the four subsidies for drinking water conservation initiated in Cyprus in 1997



## 2. Water quantity case studies

- CS24: Price setting of urban water under centralised management (**Israel**)

Addresses two EPIs: (a) Corporatization in 2001 in Israel, (b) Introduction of a new pricing scheme

- CS27: Water budget rate structure: experiences from urban utilities in Californi (**California**)

Analyses of the so-called Water Budget Rate Structure (WBRS) in Southern California, in three water utilities



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## 3. Environmental Outcomes

- Main purpose: Sustainable water provision/security of supply
  - indirect reduction of consumption
- Impacts on water quality and ecological status are indirectly linked and even more uncertain to assess (e.g. potential reduction of pollution of water bodies from gardening activities)
- CO2 emission reduction as a result of potential related energy saving (e.g. less wastewater generated, less need for desalination)
- Changes of individual behaviour, yet the driving forces (incentives) are not always obvious or as anticipated by the EPI



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#### 4. Economic Assessment Criteria

- No report of cost-effectiveness analyses prior to the selection of the EPIs in the CSs.
- The implementation of the EPIs burdened the governments either directly (investment) or indirectly (loss of income)
- Increased revenues were only achieved in the case of California (revenue collection from higher tier water price)
- No generalized conclusion on economic efficiency



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#### 5. Distributional Effects and Social Equity

- Some level of opposition worrying about inequity resulting from the measures
- EPIs related to volumetric pricing are considered "fair", but we need to highlight the social and political dimension of price setting
- In some cases low income households were burdened
- Is water pricing an efficient way to manage equity?
- Are there better ways? Can we monitor the impact to the poor?
- Change in distribution of authority and political power (e.g. Israel)



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## 6. Institutions & Policy Implementability

- Private firms have an easier time investing in system repairs and upgrades, knowing that they can pass their costs to customers
- Public sector has a harder time investing since cost recovered is not necessarily spent on the water system
- Political parties influence the implementation of the EPIs (positively or negatively)
- Public Participation played an important role in all cases
  - Positive effect in UK
  - Negative effect from not pursuing public participation in Cyprus
  - Unclear effect (referendum in Italy)



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## 7. Transaction Costs

- Transaction costs of the EPIs were defined in terms of design, implementation, monitoring and enforcement
- Additional TCs if public education and consultation is extensive



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## 8. Uncertainty

Significant uncertainty in all case studies and relates to:

- Evaluation of direct outcome which relates to the EPIs primary objectives

Some EPIs had unclear objectives, or observed impacts cannot be directly attributed to each EPI since multiple factors exists, decoupling issues

- Sustainability of the selected measures (in view of uncertainty related to demand–supply)
- Successful penetration and actual use
- Functioning independently of the changes to the institutional and political setting
- Uncertainty management requires small flexible steps (adaptive learning approach)



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## 9. Additional remarks

- Key conditions and barriers relate to socio-economic and political context
- For effectiveness of the EPIs a set of preconditions is always necessary, which need to be well defined prior to the implementation: YOU CANNOT ACTUALLY DO IT, ADAPTATION
- Do what extend EPI objectives + design need to take into account other than economic efficiency objectives? (set the price right and let them use as much as they want?)
- Although uncertainty exists in both the physical system and the performance of the EPIs, we still need hydro-economic modeling analysis, a backup plan (e.g. Australia), readiness to change



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**Thanks!**

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