

LATTS

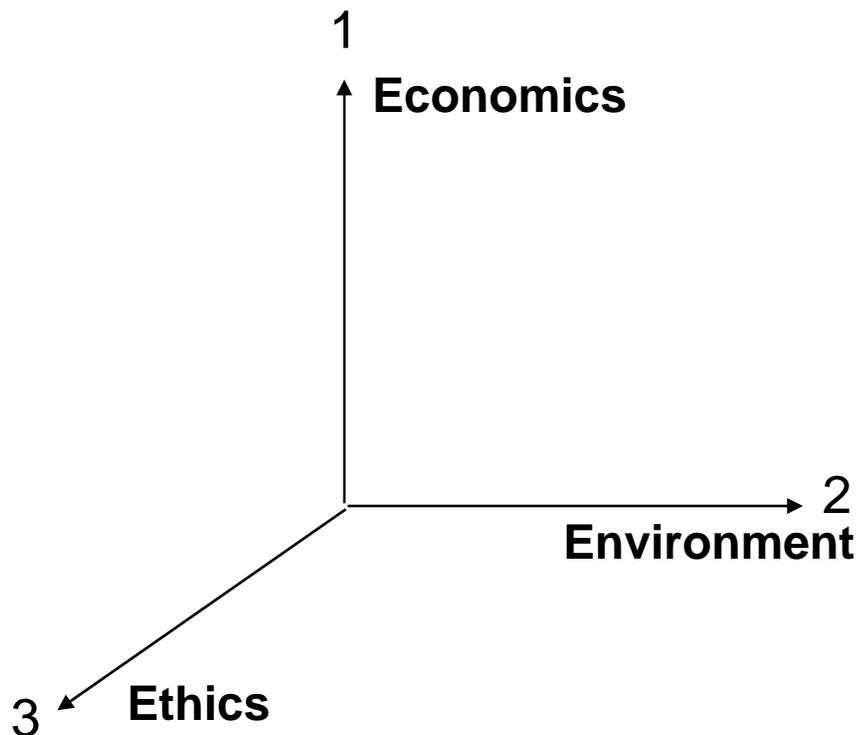
ARID cluster, Droughts and Water Deficiencies Conference
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**Governance structure and environmental taxes
as policy instruments: the French experience**

**How can we face the full cost recovery?
Sector by sector, or at regional level?**

Bernard Barraqué, DR CNRS

The WFD sketched with the 3 E's



The 3 E's is the Sustainability Definition of the United Nations

1 – Getting closer to full cost recovery: calculate balance

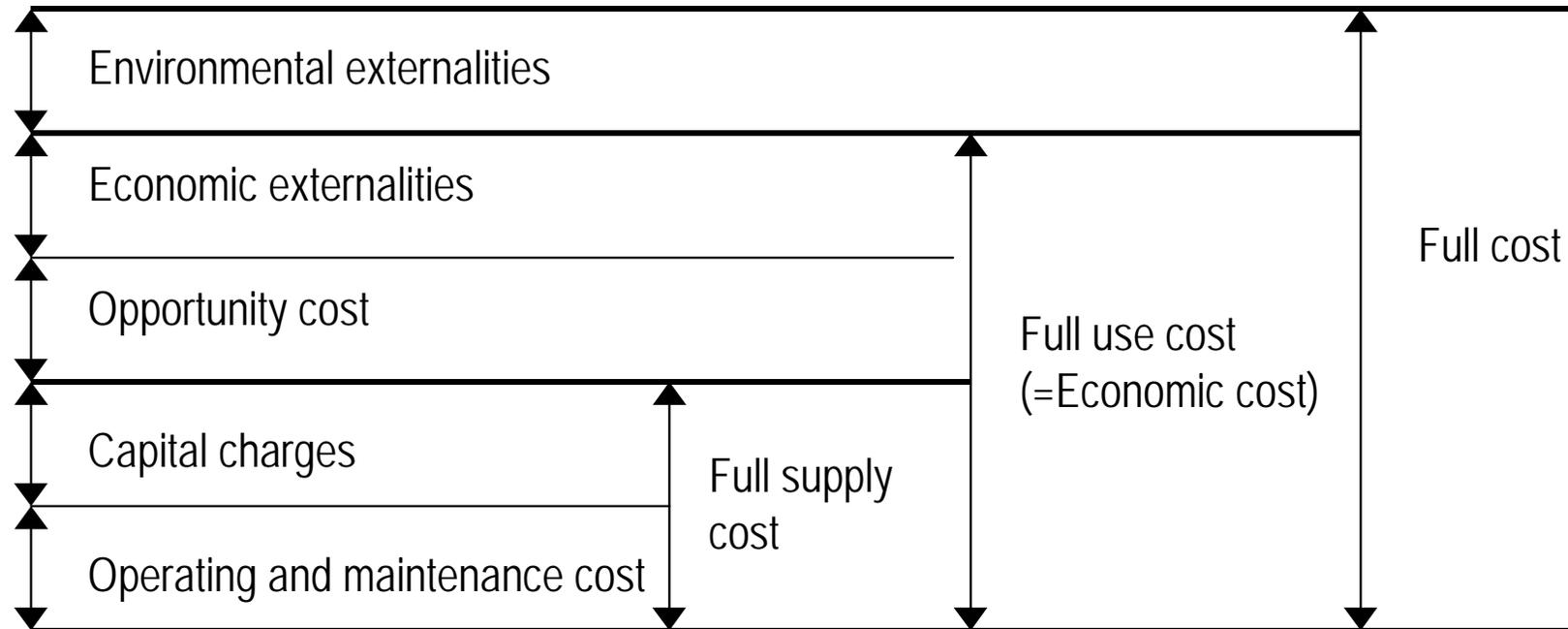
2 – Clean Aquatic Environment in 15 years, except strongly modified bodies of water

3 – Public Participation, transparency, equity

If we could quantify, they would represent the 3 parts of full cost

The notion of *Full cost pricing*

(« ideal translation » in economic terms of the 3 E's)



What do we do in WaterStrategyMan?

- We work for a potential institution in charge of mediating between water users in water scarcity areas
- We generate realistic hydrological series and demand forecasts from various users, and we confront them
- The 'business as usual' scenario is compared with various realistic strategies combining demand-side management, pricing, and new technological choices
- A rough model calculates the economic benefit-cost ratio of these various strategies, with proxies to represent full costs.

Why do we use the levies of the French *Agences de l'eau*?

What are the *Agences de l'eau* ?

- In the 60's France experienced both water quality and quantity deficits, and decentralisation, i.e. government subsidies reduced
- The polluter-pays principle did not exist yet, but there were river basin management (multipurpose) institutions in UK, US, NL, DE
- FR chose to cover the country with 6 river basin institutions, where a 'water Parliament' decides a 5-year action plan, and ...
- At the same time votes the levies that each category of users will pay to fund the plan at 30 to 50% with grants & 0% loans
- The *Agence* is the executive branch of the *Comité de Bassin*

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Territories do not match traditional Administrative boundaries

They are large for fund raising efficiency reasons

Le découpage ad

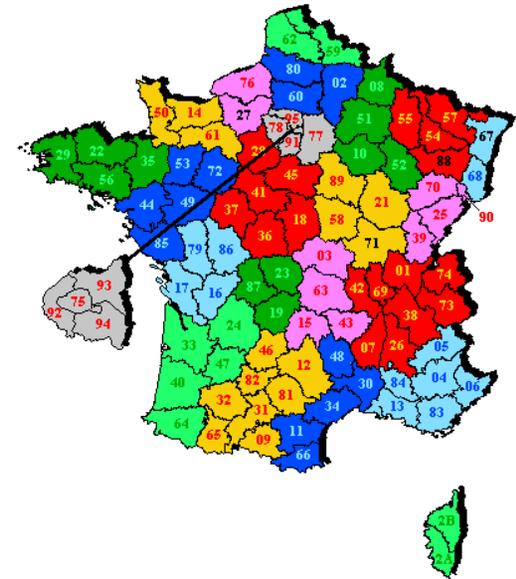
22 régions

96 départements

36 559 commune

regroupements

Près de 20 000 s



Les territoires des Agences de l'eau



How did the *Agences* develop

- In the beginning they took small levies on water abstraction, and on pollution discharge (50/50 on cities and on industry)
- so as to fund multipurpose reservoirs (support low flows), and sewage treatment plants. i.e. works in the 'common interest'
- Common interest is distinct from private and from collective: it offers a clear case for subsidiarity
- Compared to *Waterschappen* and *Genossenschaften*, they have limited subsidiary powers: only taxation and economic incentive
- They have soon replaced declining government grants on sewers, and get involved in increasing issues

Crisis today

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A moral conception of the Polluter pays principle leads national Parliament to blame *Agences* for inequity

Catégorie d'Usagers	% des prélèvements d'eau	% des redevances payées
Domestique (réseaux publics)	15	85
Industries non raccordées	10	14
Electricité de France	62	-
Agriculteurs	13	1

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However, looking at expenses shows they match recipes

Total 6-agences budget in 2000

Expenses

(million €)

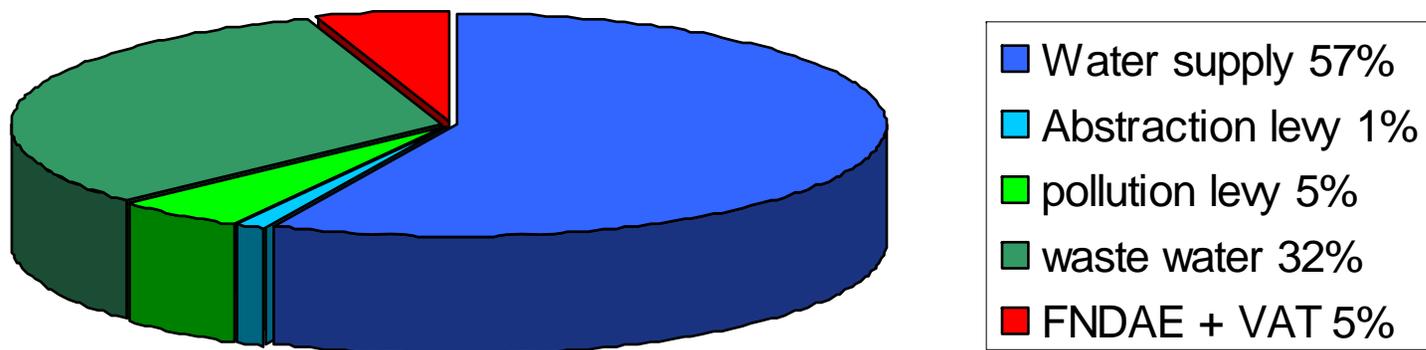
Recipes

- Resource & ecosyst. Prot. 231
- Local authorities 1.069
- Non connected industry 191
- Pig farms (PMPOA) 72
- Monitoring and control 49
- Agences personnel 118
- **Total** 1.730
- 'National solidarity' 76

- Loans reimbursements 354
- Domestic users 1.346
- Non connected industry 196
- Pig farms 15
- **Total** 1.911
- Unspent (provisions) 105

Evolution of average French water price and of the bill's composition

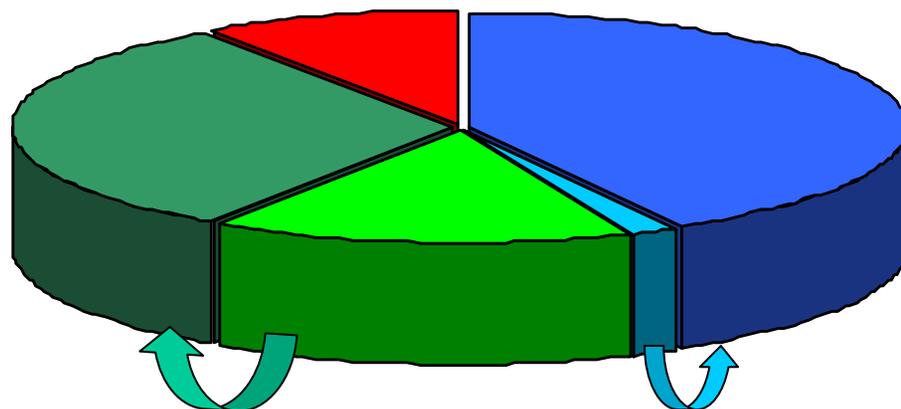
Average water price in France in 1990: 1.5 Euro (9.88 FF)/m³



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It quasi-doubled in 10 years, but the breakdown changed: Water + Abst. < Sewer. + Poll. (in 1996)

**Average water price in France in 2000: 2.65 Euro
(17.36 FF)/m³**



- water supply 42%
- Abstraction levy 1.7%
- Pollution levy 15.5%
- Waste water 31.3%
- FNDAE+VNF+VAT 9.5%

High environmental costs : example of Urban Waste Water Directive

(UWWD costs Reporting in 1998, in billion Euros)

	Sewage Collection	Treatment	Total
• France	8,0	4,0	12,0
• Germany	35,5	29,1	64,6
• Italy	17,9	9,1	27,0
• Netherlands	1,1	1,8	2,9
• Portugal	1,4	0,9	2,4
• Spain	4,4	6,5	10,9
• U.K.	2,8	9,7	12,5

- Altogether, the 15 Member States had to spend above 150 bn € in ten years, i.e. more than 40 €/capita/year. There are of course implementation delays.

Pigou vs Coase in practice

- Pigovian internalisation based on individual responsibility: polluter-pays is framed by « principal-agent » type of relationship
- Coasean model based on transactions between stakeholders, with direct compensation schemes
- The first model corresponds to a « sector-by-sector » type of full cost recovery, while the second would rather lead to « regional » type of cost recovery, with cross subsidies (*Wasserpfeffrig*)
- Today in NW Europe cost recovery is incomplete, but bill recovery is high. Self financing capacity is then rather good.
- But Public Confidence is vital, and might be questioned by excess of commodification of water services / resources. Hence the need for institutions for collective learning processes.

Conclusion

- The Agencies are not a universal model, but the lesson is the need for institutions where stakeholders meet and decide to (re)-allocate water and mutualise economic impacts
- Ongoing debate between State-liberal model with central government or independent authority using taxation, and more subsidiary solutions using economic incentives to integrate
- Economic analysis constrained by heavy and long term investment which introduces lumpiness effects
- A lot of work ahead for economists to give a better meaning to the notion of water as economic good.
- Best wishes for fruitful seminar. **Thank you for Attention!**