



Water Pricing in France: Toward More Incentives to Conserve Water

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Water Pricing for a Dry Future: Policy Ideas from Abroad
and their Relevance to California

Session II: Water is not as Abundant as it Seems to be
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Outlines of the presentation

Introduction

Historical overview of water regulation

(1) Regulation of water resource

Irrigation water pricing

(2) Individual abstraction

(3) Collective abstraction

Urban water pricing

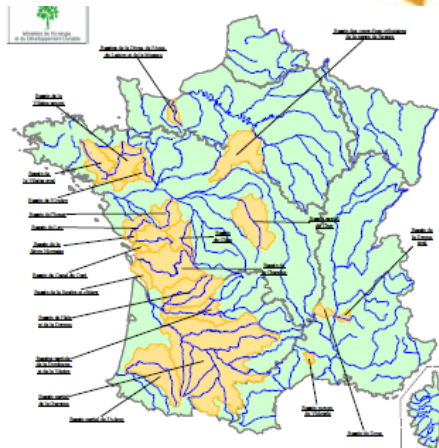
(4) Urban water utilities

Conclusion

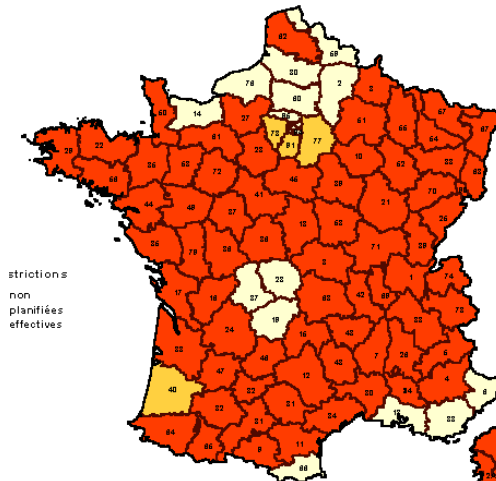
Introduction



- Oceanic climate
- Semi-oceanic climate
- Continental climate
- Mountain climate
- Mediterranean climate

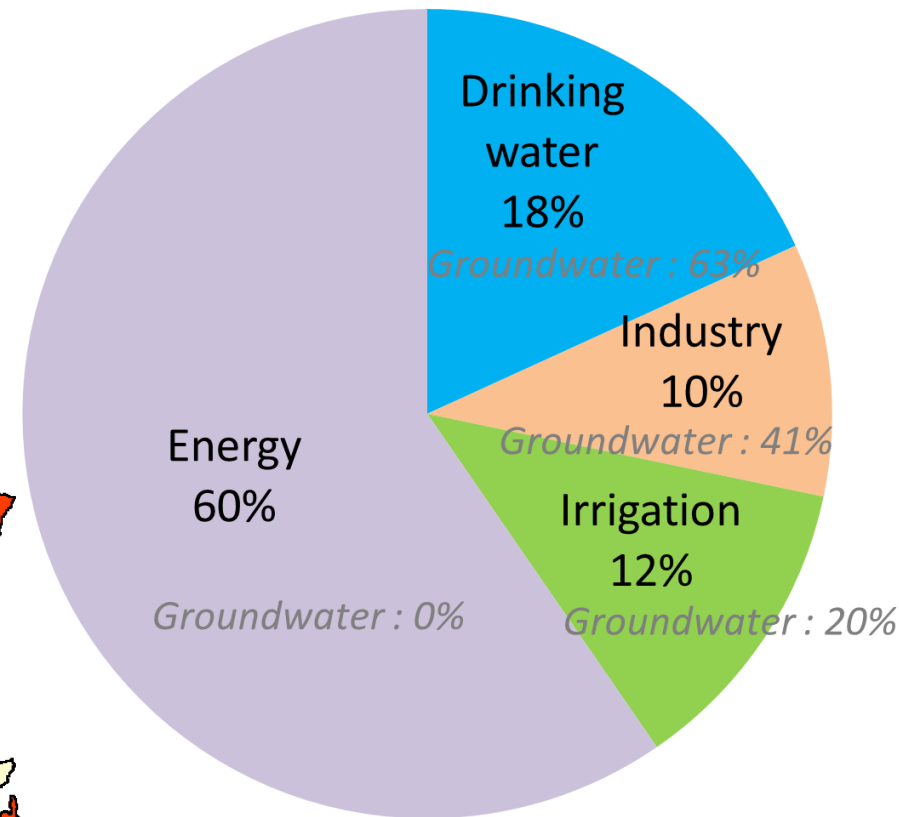


Structural water surface deficit areas (2003)

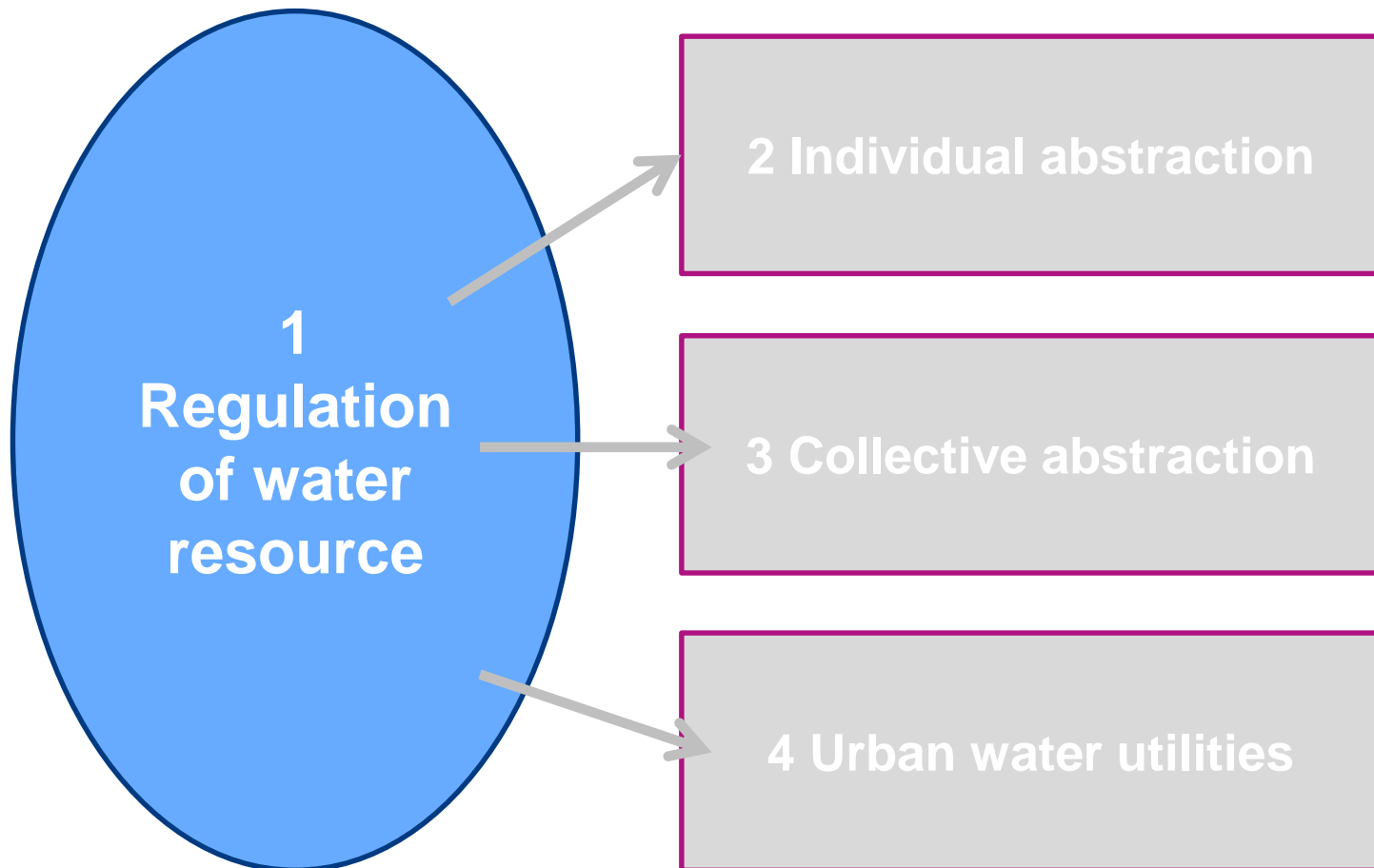


Water use restrictions on Summer, 2003

Main freshwater uses (2007)



Historical overview of water regulation





Historical evolution

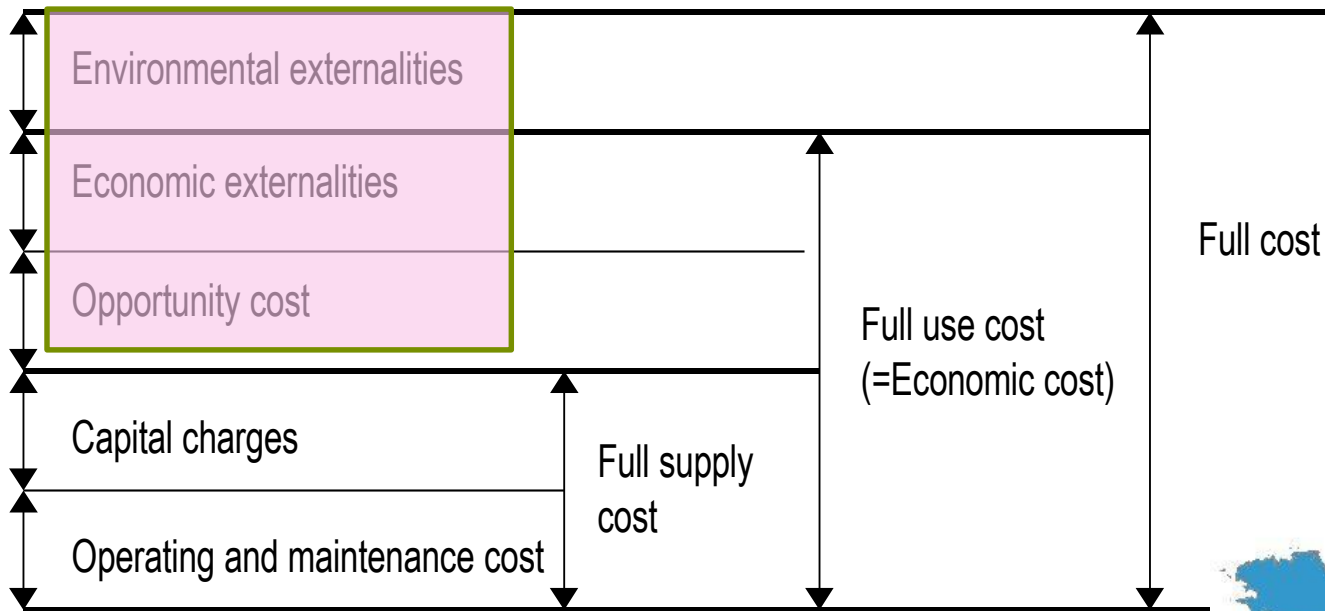


1
Regulation
of water
resource

1960's Water agency fees (*abstraction*
+ *pollution discharge*)

Taking into account environmental services (1/2)

WATER AGENCY FEES



Taking into account environmental services (2/2)

WATER AGENCY FEES. THE CASE OF RM&C RIVER BASIN (2013)

Taxes	Uses	Level
Water withdrawal	All users	= f(use, level of water scarcity, type of management)
Hydroelectric production	Hydroelectric uses	1,2 € / billion m ³ + / meter of waterfall height
Water storage	Entities who store water	0.01 €/m ³ stored
Barriers on rivers	Owners	150 € per meter
Domestic pollution	Urban uses	0.23 €/m ³
Nondomestic pollution	Industrial or economic uses	= f(type of pollutants)
Sewer systems' modernization	Users connected to sewage public network	0.15 €/m ³



Historical evolution

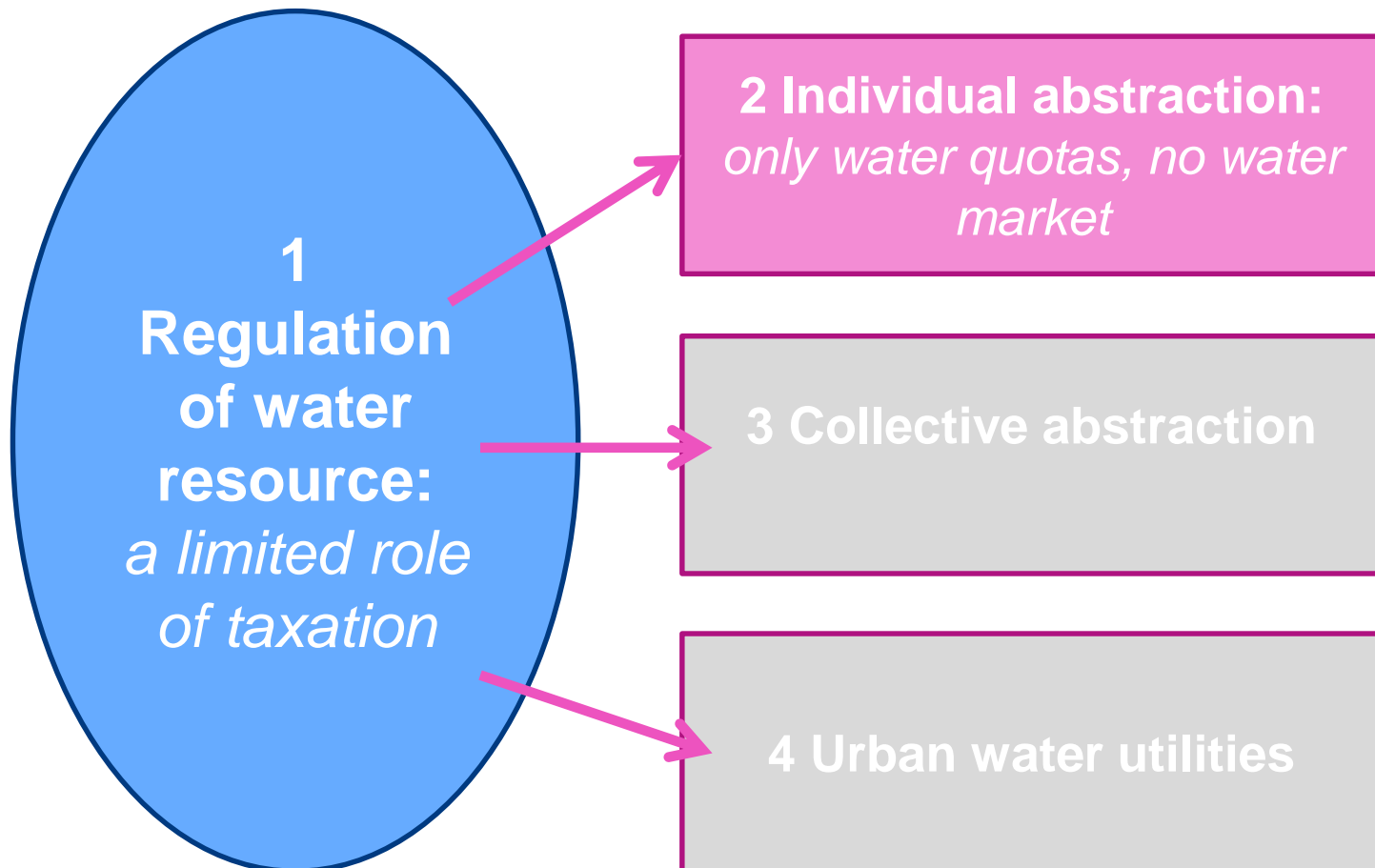
1
Regulation
of water
resource:
*a limited role
of taxation*

1960's	Water agency fees (<i>abstraction + pollution discharge</i>)
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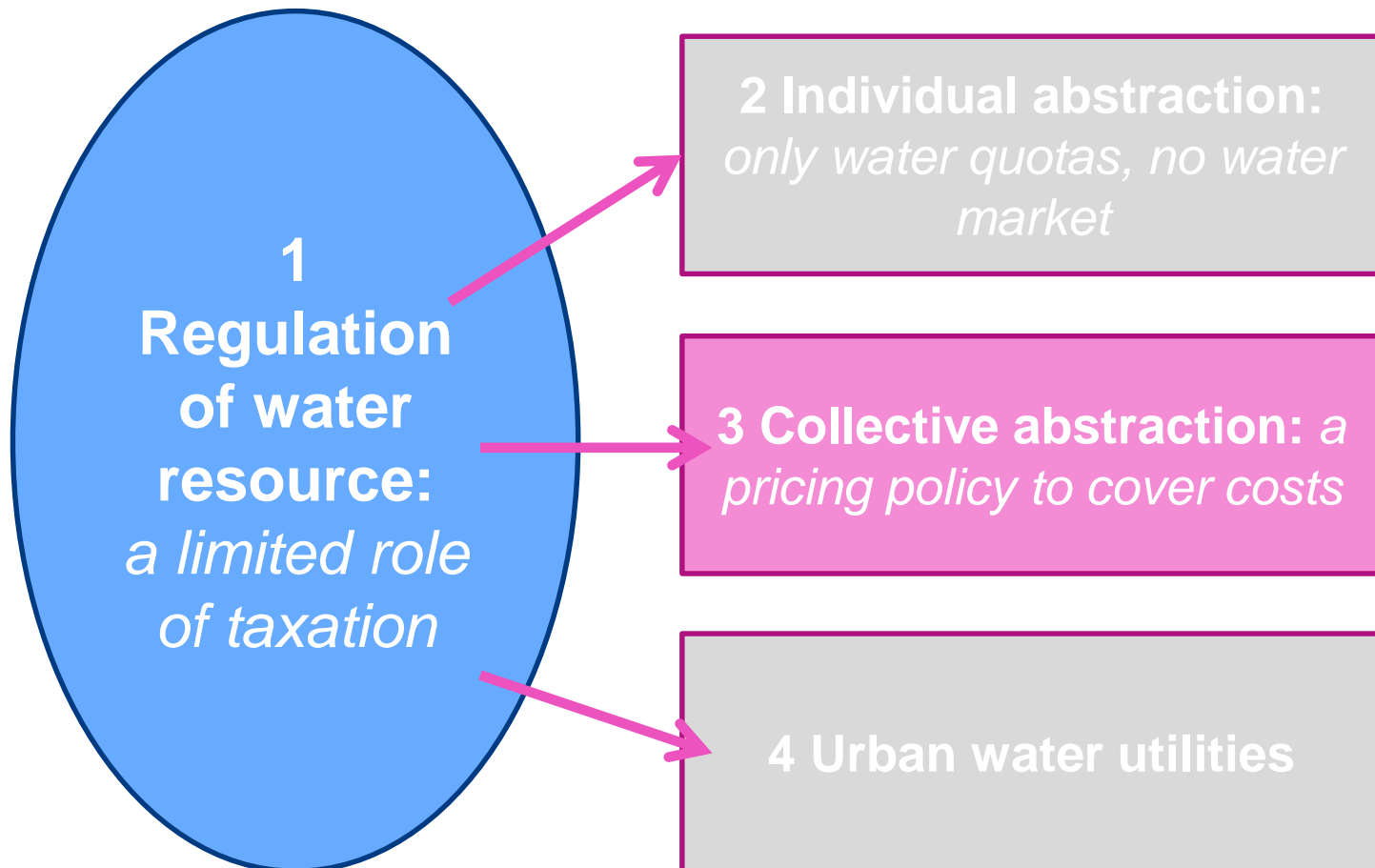
1992 water law	Water meters
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2006 water law	Water quotas at a collective level, per use (<i>irrigation, industry, urban water</i>)
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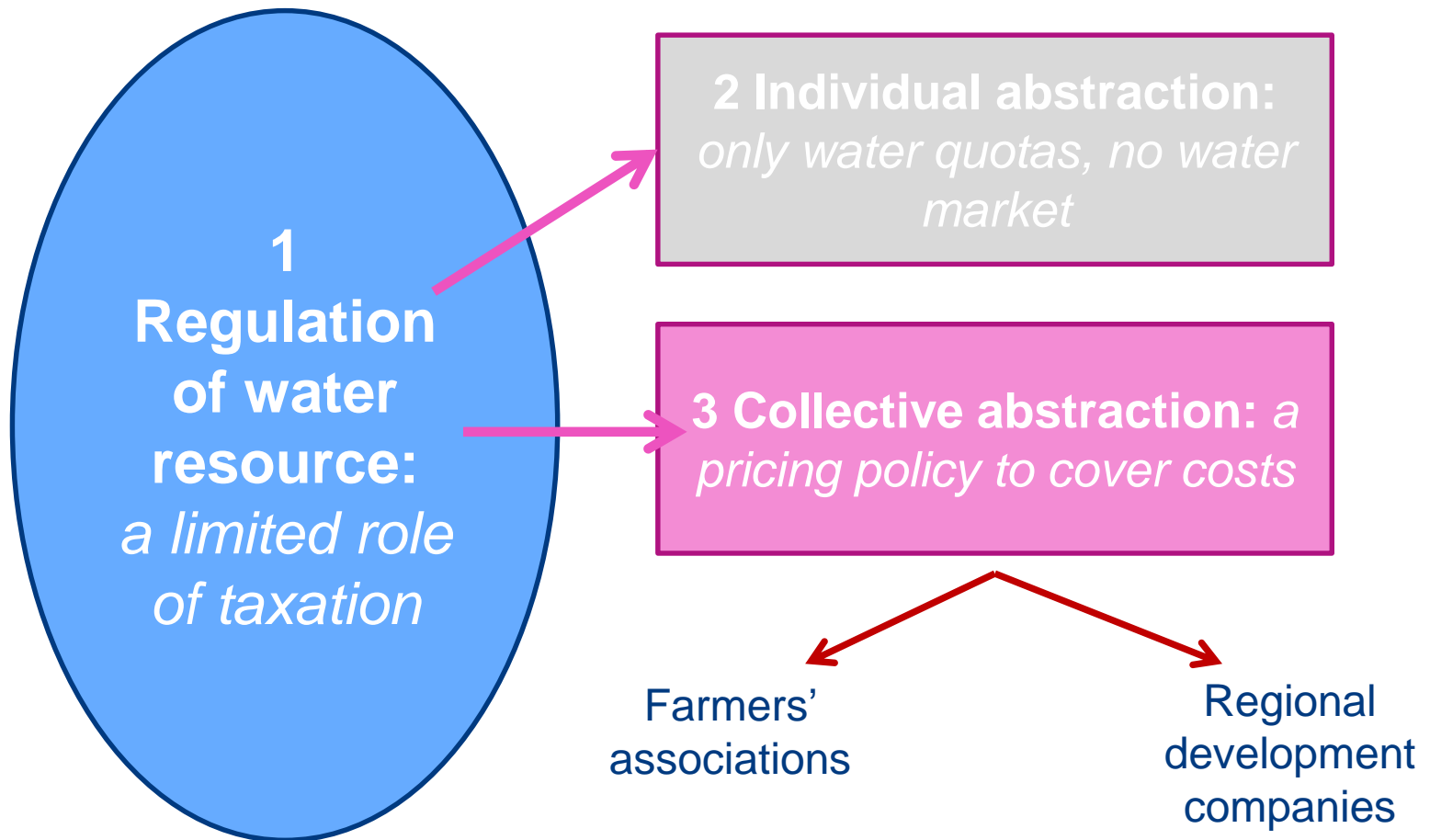
Historical overview of water regulation



Historical overview of water regulation



Historical overview of water regulation

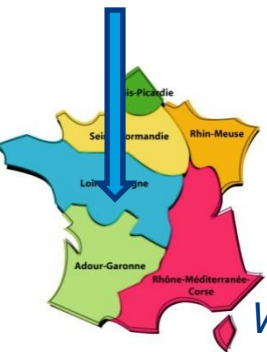
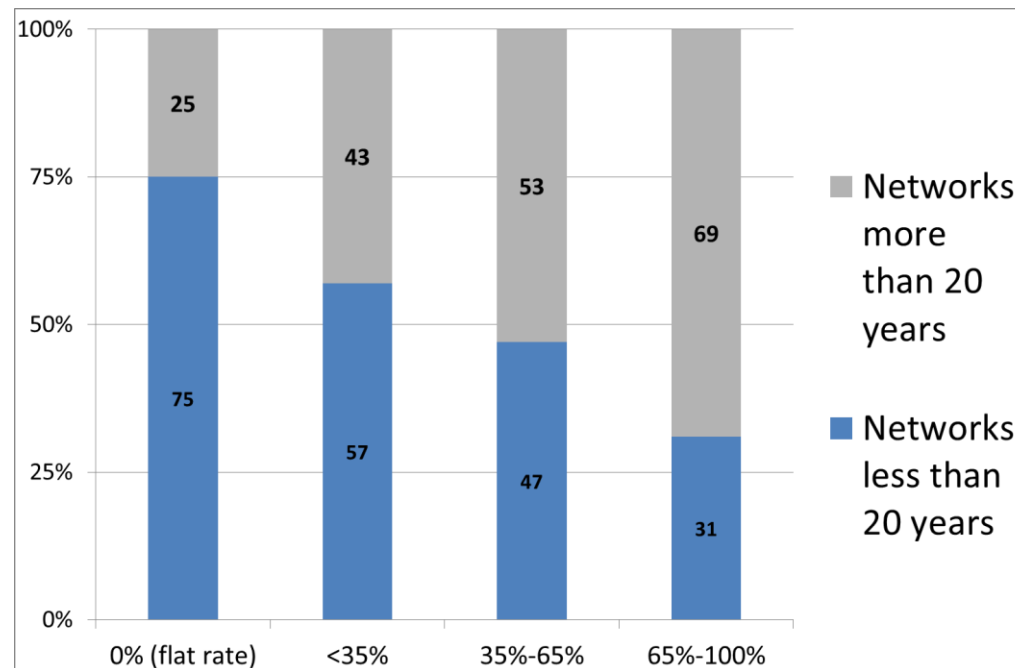


Water pricing in collective irrigation schemes

THE CASE OF FARMERS' ASSOCIATIONS

A water price set

- to maintain the water delivery network
- To cover exploitation costs + the part of investment costs not paid by subsidies (= 60-80%)



Weight of the proportional part depending on the age (Loire Bretagne river basin) - 2003

Water pricing in collective irrigation schemes

REGIONAL DEVELOPMENT COMPANIES



Created in the 1960s to help economic development of 3 regions

Cost recovery + water conservation

2 systems:

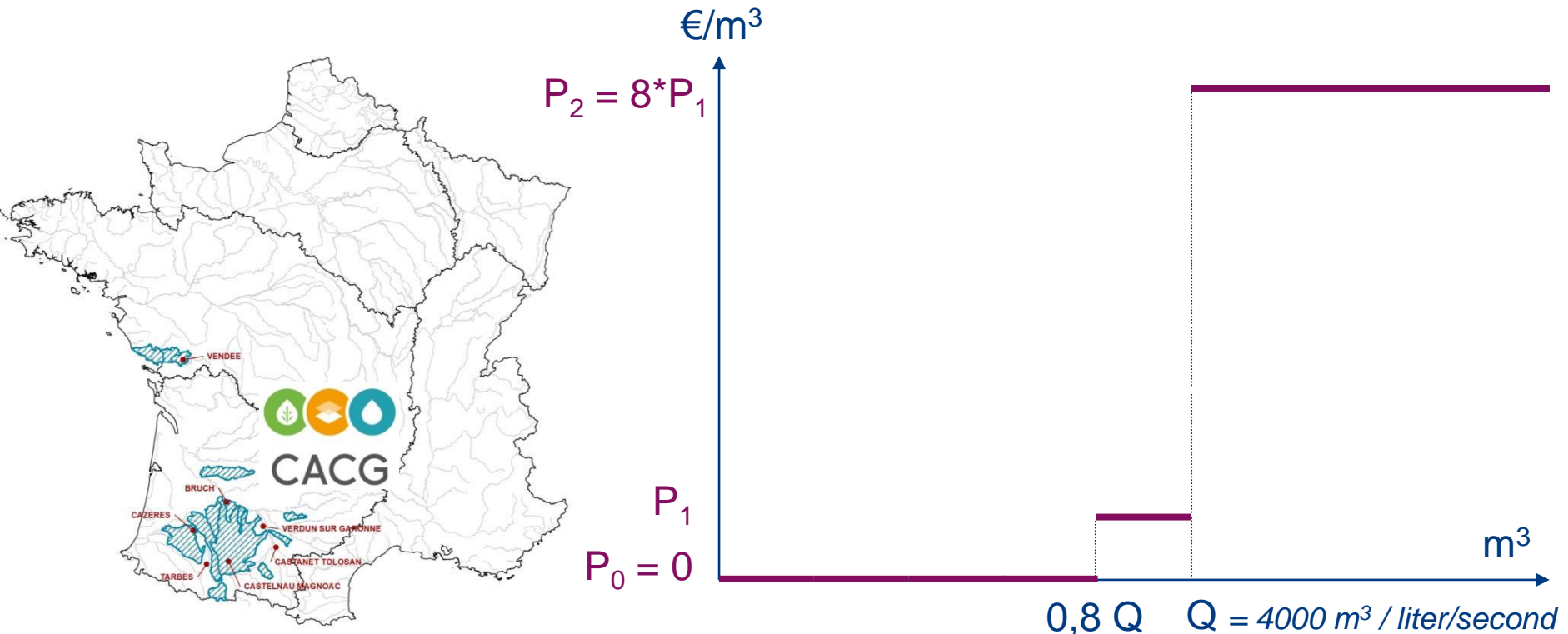
- re-supplied river
- collective pressured network

Water pricing in collective irrigation schemes

REGIONAL DEVELOPMENT COMPANIES : THE CASE OF RE-SUPPLIED RIVER (CACG) – THE NESTE SYSTEM CASE

Quota + (binomial) increasing water pricing

Philosophy: irrigation = an 'all or nothing' decision (*a volumetric price only for the last water turn*)



Water pricing in collective irrigation schemes

REGIONAL DEVELOPMENT COMPANIES : THE CASE OF RE-SUPPLIED RIVER (CACG) – THE COLLECTIVE PRESSURED NETWORK CASE

Equilization



(1) Irrigation subsidized by other uses (urban, industry, ...)



(2) Wealthy farmers subsidize smaller ones



Territory divided in 3 areas



At a department level: farmers near the canal (the wealthiest) subsidize the others



Water pricing in collective irrigation schemes

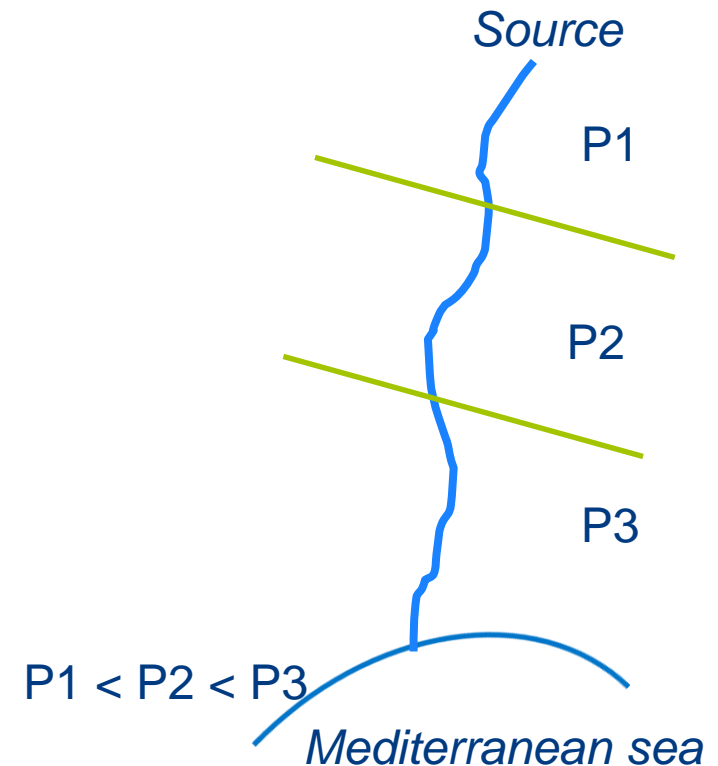
REGIONAL DEVELOPMENT COMPANIES : THE CASE OF RE-SUPPLIED RIVER (CACG) – THE COLLECTIVE PRESSURED NETWORK CASE

Cost recovery

(1) Average cost



(2) Marginal cost



Water pricing in collective irrigation schemes

REGIONAL DEVELOPMENT COMPANIES : THE CASE OF RE-SUPPLIED RIVER (CACG) – THE COLLECTIVE PRESSURED NETWORK CASE

Incentive to save water

(1) Binomial water pricing structure



*360 € per liter/second subscribed +
0.065 €/m³ (energy cost)*

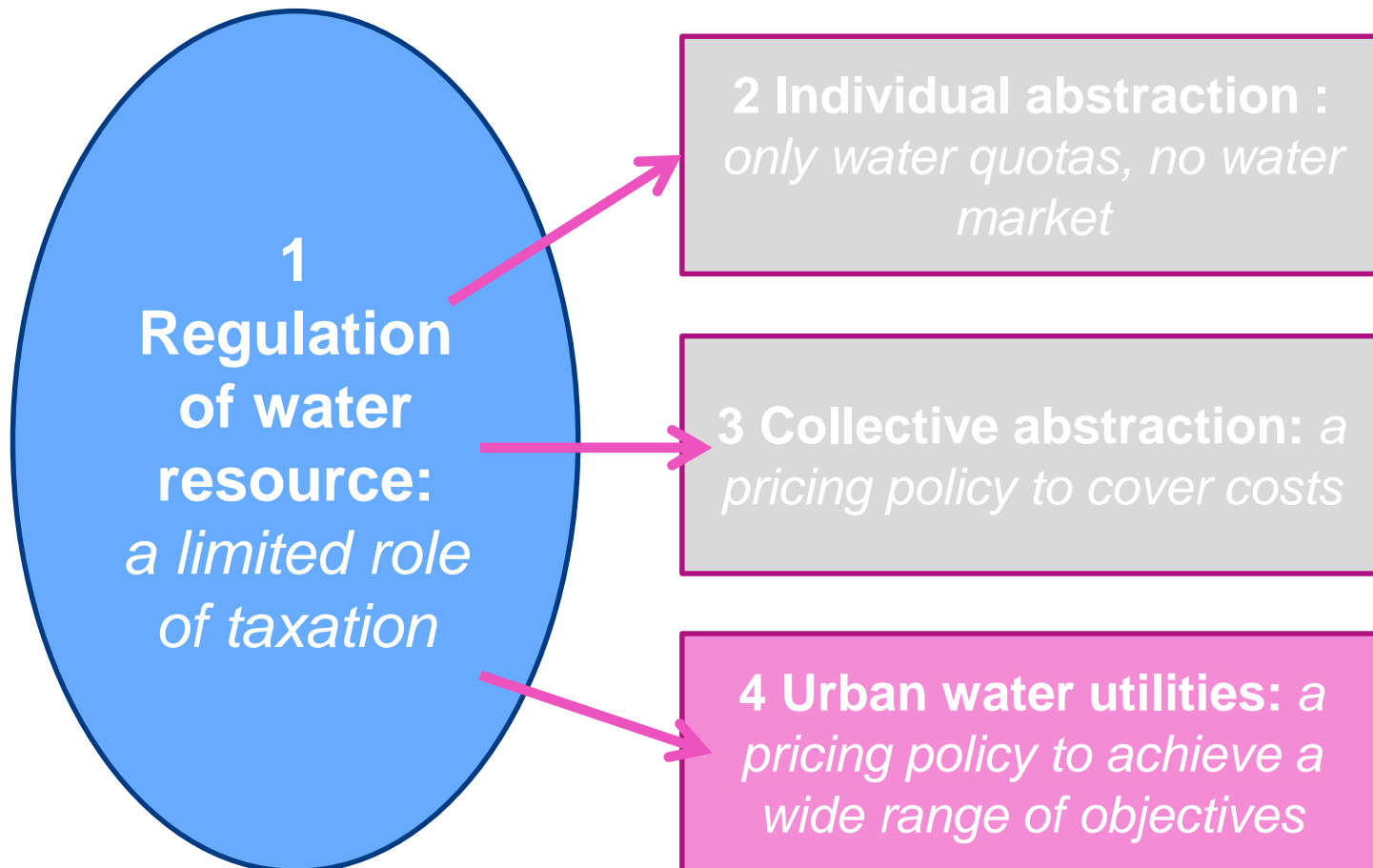
(2) Seasonal water pricing structure



*(incite to save + to store water in winter =>
to smooth water demand)*



Historical overview of water regulation





Milestones of urban pricing policies

1960's

Sewerage included in water bill

Water agency fees (*abstraction + pollution discharge*)

1992
water
law

(Water meters)

Water conservation

Budget balance mandate

(Water price structure)

2006
water
law

(Water quotas)

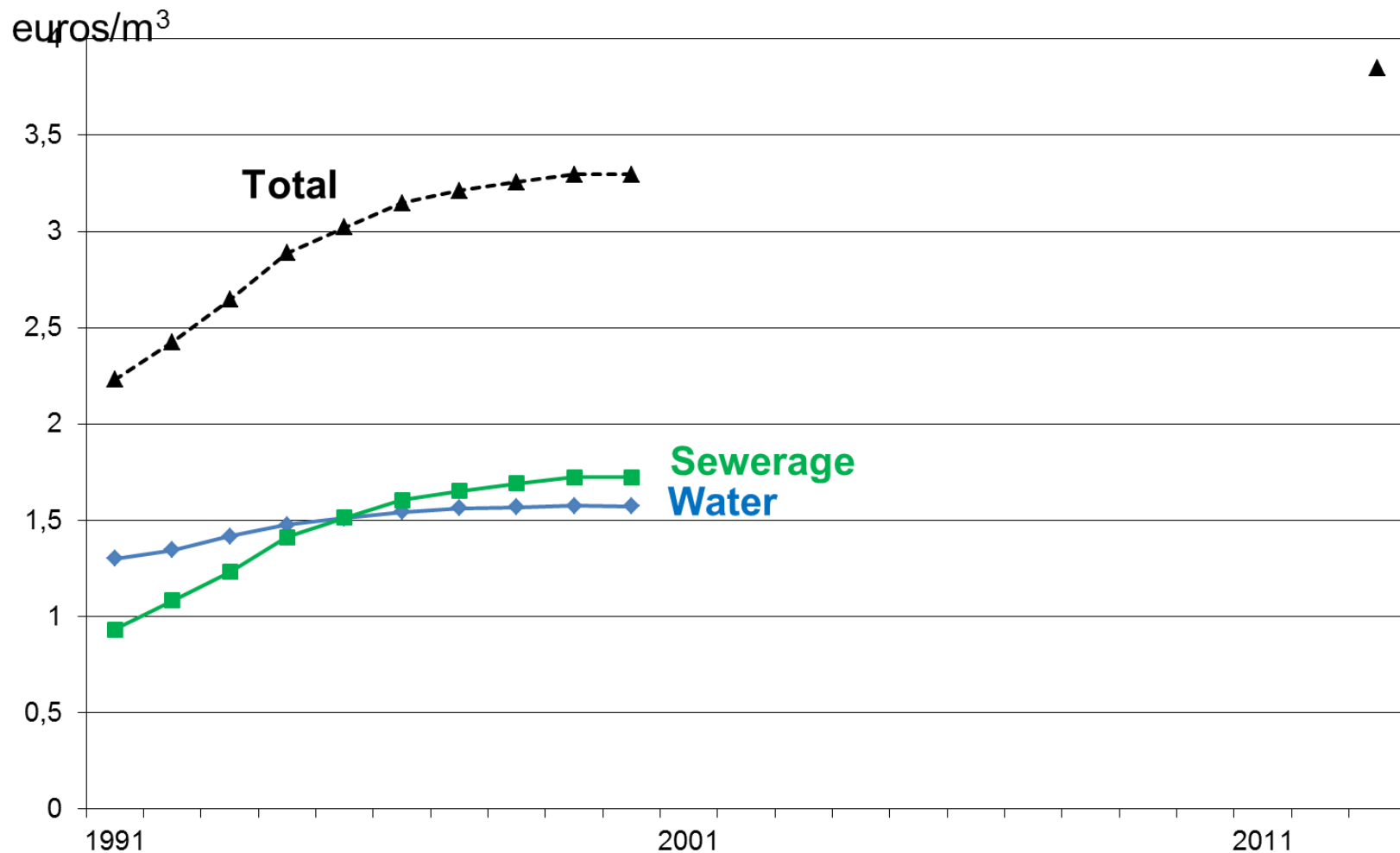
Water conservation

(Water price structure)

Social objectives

Water pricing practices in urban sector

EVOLUTION OF WATER PRICE – 120 M³/YEAR



Water pricing practices in urban sector

WATER PRICE LEVEL (2013) – 120 M³/YEAR

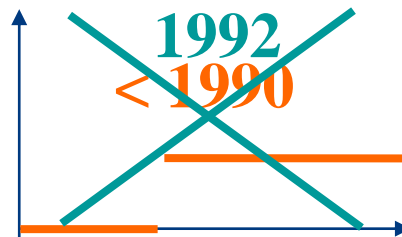
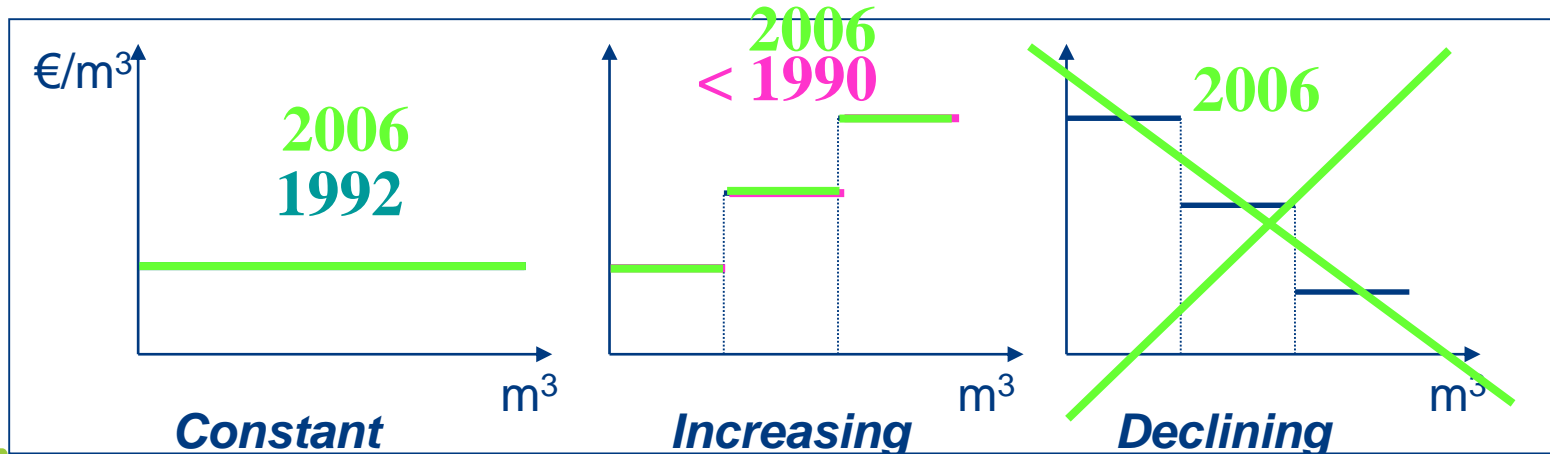
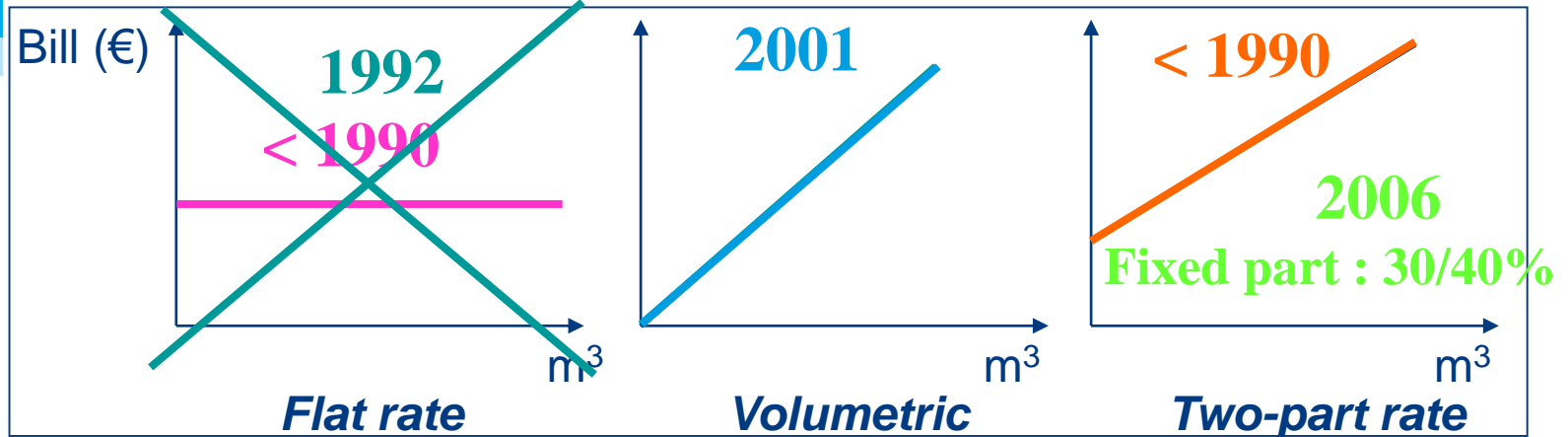
WATER			
	Fixed part		VAT
	Proportional part		5,5 %
			5,5 %
SEWERAGE			
	Fixed part		10 %
	Proportional part		10 %
PUBLIC AGENCIES			
	Abstraction fee		5,5 %
	Pollution fee		5,5 %
	Sewer systems' modernization fee		10 %
	Navigable rivers' fee		5,5 %

	Water
VP	1.61 €/m ³
FP	44 €/m ³
AP	1.97 €/m ³
	Sewerage
VP	1.63 €/m ³
FP	23 €/m ³
AP	1.82 €/m ³
	Total
VP	3.18 €/m ³
FP	65 €/m ³
AP	3.73 €/m ³

Decision: **local**, **river basin**, **national**

Historical changes in France

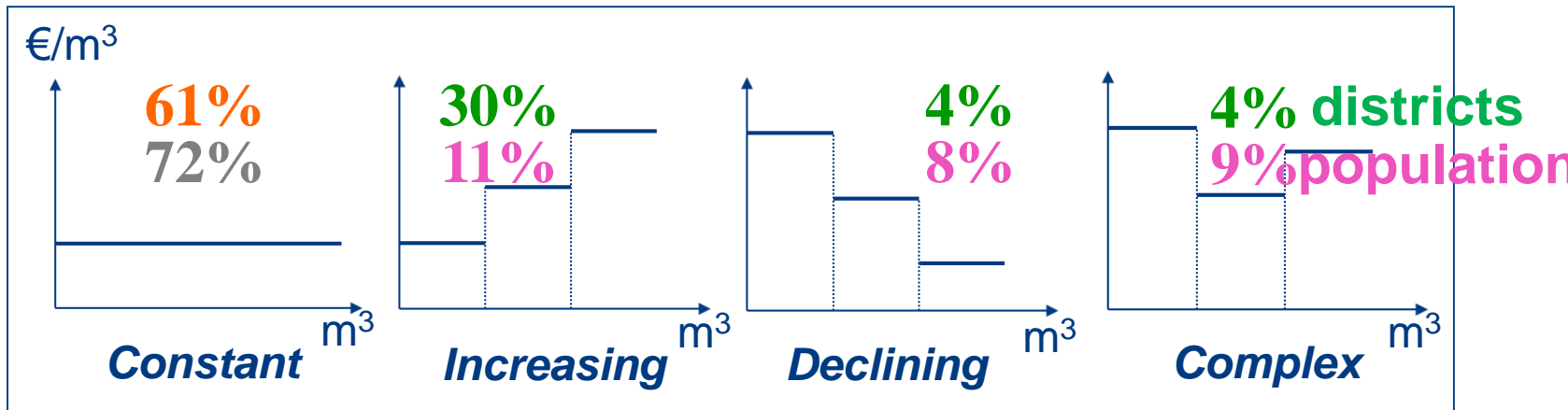
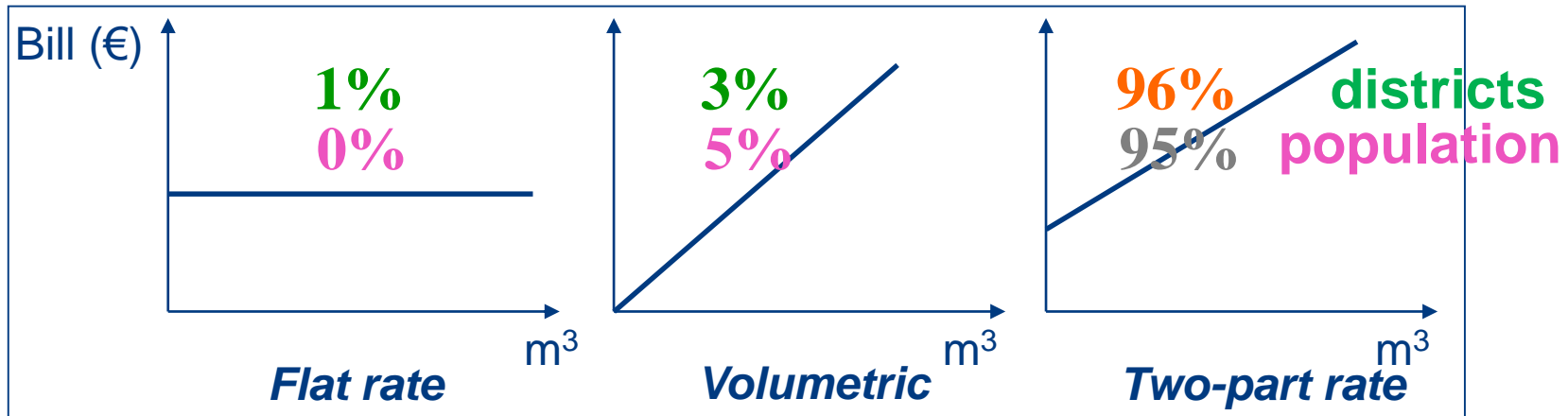
URBAN WATER'S CASE



40% of districts

Water pricing structure

2013





Conclusion

CURRENT DEBATES

- Water price or taxes not sufficient to save water: combined with quotas
- A decreasing water demand: the problem of cost recovery in fixed cost infrastructures (and obliged to be able to satisfy peak demand)
- An increasing energy cost: to augment water price but financial problem for non-high value crops (cereals, maize, ...).
- Water not always saved: incentives to save water distributed by urban water network but not in total. High consumers (industries, households with gardens) incited to exit the collective water system.



Many thanks for your attention



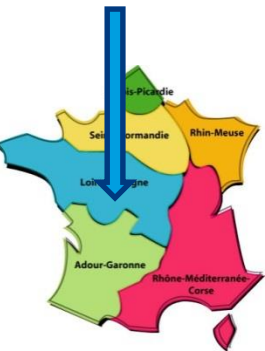
Water pricing in collective irrigation schemes

THE CASE OF FARMERS' ASSOCIATIONS

A high diversity of water pricing structures

Water pricing structures	Networks	Farmers	Volume
Flat tariffs (6)	24%	19%	28%
Binomial tariffs (14)	50%	75%	60%
Volumetric tariffs (4)	25%	6%	12%
Total of 24 tariffs	100%	100%	100%

Water pricing structures (Loire Bretagne river basin) - 2003



Water pricing in collective irrigation schemes

REGIONAL DEVELOPMENT COMPANIES: BRL – OPTIONAL WATER PRICE

To advantage long term contract

To better know water uses (*vineyard not irrigated each year ...*)

