Making polluters pay or paying the polluter?

An NGO view on the challenges of policy integration

Workshop **„WFD and Economics – Lessons-learned from Lower Saxony“**
Session 3: Polluter-pays-principle and the internalisation of external costs

Brussels, 19 March, 2014

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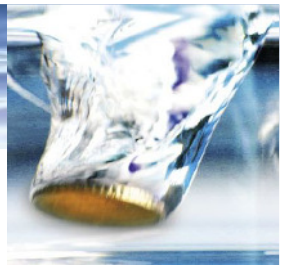


Outline

1 Background

2 Water pricing and cost recovery

3 Drinking water protection and polluter-pays-principle

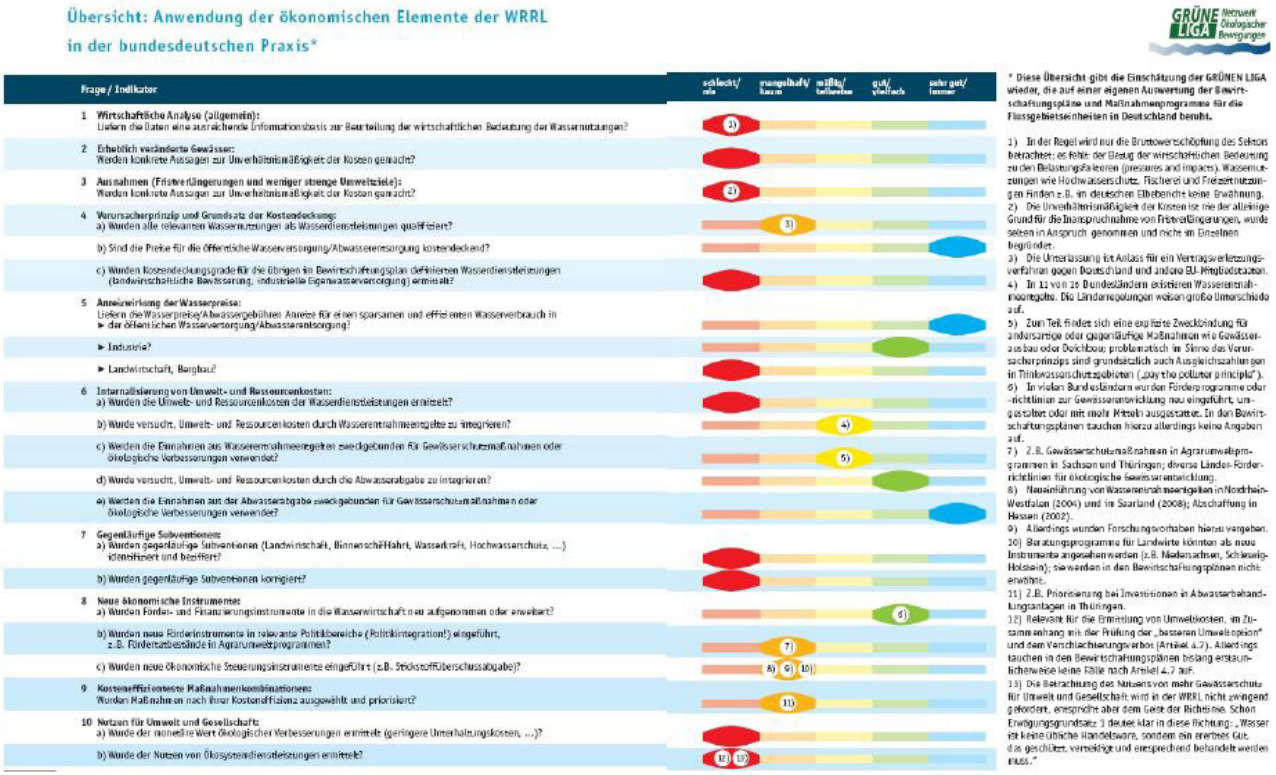
4 Adverse subsidies: Payments under CAP and renewable energies policy

5 Conclusions

1 Background

GRÜNE LIGA survey on economic instruments in Germany's River Basin Management Plans (2011)

- Shortcomings and need for action
- Compilation of all references to economic instruments in the WFD
- Questionnaire with 22 questions



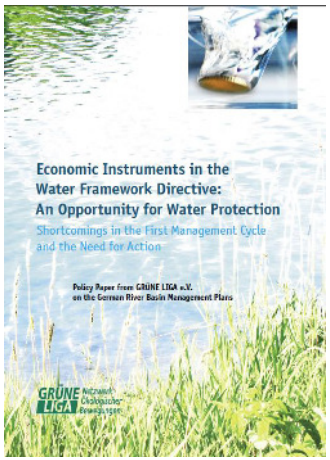
Übersicht: Anwendung der ökonomischen Elemente der WRRL in der bundesdeutschen Praxis*

GRÜNE LIGA Netzwerk Ökologischer Bewegungen

Frage / Indikator	schlecht/ nie	mangelhaft/ kaum	mäßig/ teilweise	gut/ vielfach	sehr gut/ immer
1 Wirtschaftliche Analyse (allgemein): Liefern die Daten eine ausreichende Informationsbasis zur Beurteilung der wirtschaftlichen Bedeutung der Wassernutzungen?	1)				
2 Erheblich veränderte Gewässer: Werden konkrete Aussagen zur Unverhältnismäßigkeit der Kosten gemacht?					
3 Ausnahmen (Fristverlängerungen und weniger strenge Umweltziele): Werden konkrete Aussagen zur Unverhältnismäßigkeit der Kosten gemacht?	2)				
4 Verursacherprinzip und Grundsatz der Kostendeckung: a) Wurden alle relevanten Wassernutzungen als Wasserdienstleistungen qualifiziert?		3)			
b) Sind die Preise für die öffentliche Wasserversorgung/Abwasserentsorgung kostendeckend?					
c) Wurden Kostendeckungsgrade für die übrigen im Bewirtschaftungsplan definierten Wasserdienstleistungen (landwirtschaftliche Bewässerung, industrielle Eigenwasserversorgung) ermittelt?					
5 Anreizwirkung der Wasserpreise: Liefern die Wasserpreise/Abwassergebühren Anreize für einen sparsamen und effizienten Wasserverbrauch in					
► der öffentlichen Wasserversorgung/Abwasserentsorgung?					
► Industrie?					
► Landwirtschaft, Bergbau?					
6 Internalisierung von Umwelt- und Ressourcenkosten: a) Wurden die Umwelt- und Ressourcenkosten der Wasserdienstleistungen ermittelt?					
b) Wurde versucht, Umwelt- und Ressourcenkosten durch Wasserentnahmeentgelte zu integrieren?			4)		
c) Werden die Einnahmen aus Wasserentnahmeentgelten zweckgebunden für Gewässerschutzmaßnahmen oder ökologische Verbesserungen verwendet?			5)		
d) Wurde versucht, Umwelt- und Ressourcenkosten durch die Abwasserabgabe zu integrieren?					
e) Werden die Einnahmen aus der Abwasserabgabe zweckgebunden für Gewässerschutzmaßnahmen oder ökologische Verbesserungen verwendet?					
7 Gegenläufige Subventionen: a) Wurden gegenläufige Subventionen (Landwirtschaft, Binnenschiffahrt, Wasserkraft, Hochwasserschutz, ...) identifiziert und bewertet?					
b) Wurden gegenläufige Subventionen korrigiert?					
8 Neue ökonomische Instrumente: a) Wurden Förder- und Finanzierungsinstrumente in die Wasserwirtschaft neu aufgenommen oder erweitert?				6)	
b) Wurden neue Förderinstrumente in relevante Politikbereiche (Politikintegration!) eingeführt, z.B. Fördertatbestände in Agrarumweltprogrammen?			7)		
c) Wurden neue ökonomische Steuerungsinstrumente eingeführt (z.B. Stickstoffüberschussabgabe)?			8) 9) 10)		
9 Kosteneffizienteste Maßnahmenkombinationen: Wurden Maßnahmen nach ihrer Kosteneffizienz ausgewählt und priorisiert?			11)		
10 Nutzen für Umwelt und Gesellschaft: a) Wurde der monetäre Wert ökologischer Verbesserungen ermittelt (geringere Unterhaltungskosten, ...)?					
b) Wurde der Nutzen von Ökosystemdienstleistungen ermittelt?			12) 13)		

* Diese Übersicht gibt die Einschätzung der GRÜNEN LIGA wieder, die auf einer eigenen Auswertung der Bewirtschaftungspläne und Maßnahmenprogramme für die Flussgebietseinheiten in Deutschland beruht.

1) In der Regel wird nur die Bruttowertschöpfung des Sektors betrachtet; es fehlt der Bezug der wirtschaftlichen Bedeutung zu den Belastungsfaktoren (pressures and impacts). Wassernutzungen wie Hochwasserschutz, Fischerei und Freizeitnutzungen finden z.B. im deutschen Elbebericht keine Erwähnung.
2) Die Unverhältnismäßigkeit der Kosten ist nie der alleinige Grund für die Inanspruchnahme von Fristverlängerungen, wurde selten in Anspruch genommen und nicht im Einzelnen begründet.
3) Die Unterlassung ist Anlass für ein Vertragsverletzungsverfahren gegen Deutschland und andere EU-Mitgliedstaaten.
4) In 11 von 16 Bundesländern existieren Wasserentnahmeentgelte. Die Ländergesetzgeber weisen große Unterschiede auf.
5) Zum Teil findet sich eine explizite Zweckbindung für ausgleichende oder gegenläufige Maßnahmen wie Gewässerausbau oder Deichbau; problematisch in Sinne des Verursacherprinzips sind grundsätzlich auch Ausgleichszahlungen in Trinkwasserschutzgebieten („pay the polluter principle").
6) In vielen Bundesländern wurden Förderprogramme oder -richtlinien zur Gewässerentwicklung neu eingeführt, umgestaltet oder mit mehr Mitteln ausgestattet. In den Bewirtschaftungsplänen tauchen hierzu allerdings keine Angaben auf.
7) Z.B. Gewässerschutzmaßnahmen in Agrarumweltprogrammen in Sachsen und Thüringen; diverse Länder-Förderrichtlinien für ökologische Gewässerentwicklung.
8) Neueinführung von Wasserentnahmeentgelten in Nordrhein-Westfalen (2004) und im Saarland (2008); Abschaffung in Hessen (2002).
9) Allerdings wurden Forschungsvorhaben hierzu vergeben.
10) Beratungsprogramme für Landwirte könnten als neue Instrumente angesehen werden (z.B. Niedersachsen, Schleswig-Holstein); sie werden in den Bewirtschaftungsplänen nicht erwähnt.
11) Z.B. Priorisierung bei Investitionen in Abwasserbehandlungsanlagen in Thüringen.
12) Relevant für die Ermittlung von Umweltkosten, im Zusammenhang mit der Prüfung der „besseren Umweltoption" und dem Verschlechterungsverbot (Artikel 4.7).
13) Die Berücksichtigung des Nutzens von mehr Gewässerschutz für Umwelt und Gesellschaft wird in der WRRL nicht zwingend gefordert, entspräche aber dem Geist der Richtlinie. Schon Erwägungsgrundsatz 1 deutet klar in diese Richtung: „Wasser ist keine übliche Handelsware, sondern ein ererbtes Gut, das geschützt, verteidigt und entsprechend behandelt werden muss."

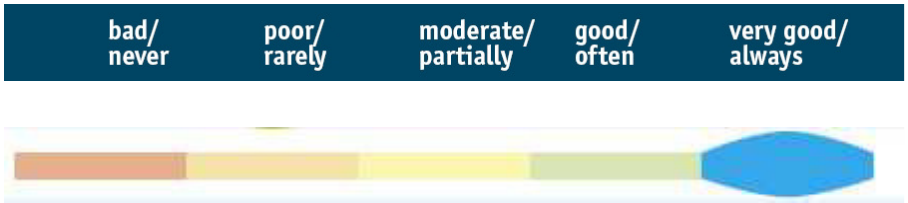


2 Water pricing and cost recovery

Charges for water supply

Polluter pays principle and recovery of costs:

b) Has recovery of costs been achieved in the charges for public water supply and wastewater disposal?



Quantity-dependent water prices (water charges) for public water supply in Germany by and large recover costs. They have been a successful model – also when compared to other EU member states – and have led to a significant reduction in drinking water consumption since 1990.

The incentive effect of this pricing structure should not be carelessly put at risk. Instead, the objective should be to transfer the effective incentives of quantity-dependent prices that recover costs to other water abstractions and uses.

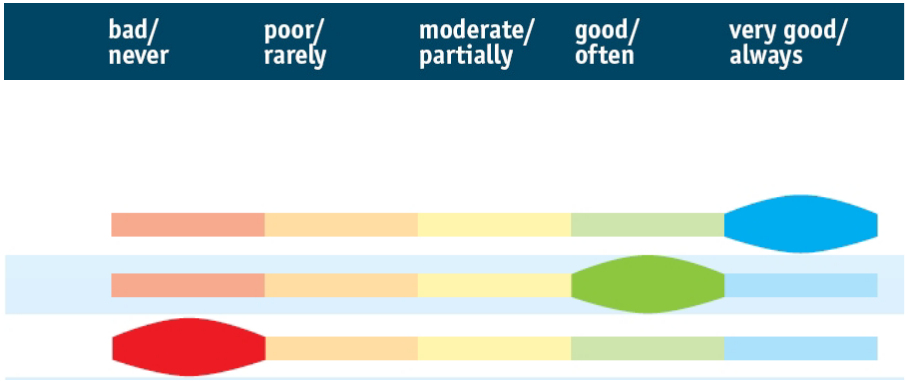
> Implement **water abstraction fees** as pricing instrument

Water pricing and cost recovery

Incentives of water pricing:

Do the water prices/waste water charges provide incentives for efficient water use/for water saving for

- **Public water services including wastewater treatment?**
- **Industry?**
- **Agriculture, mining industry?**



The polluter-pays-principle needs to be applied more consistently: the energy sector, mining companies, the agricultural sector and other water users should be obliged to pay adequate contributions to the recovery of costs, including environmental and resource costs.

Water abstraction fees in Germany

Total revenue (2012): 382 Mio. Euro

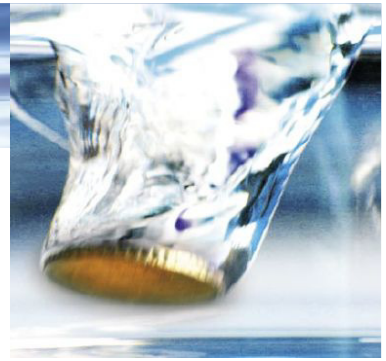
numbers compiled by Alexandra Gaulke, GRÜNE LIGA

Where polluters don‘t pay:
Exemptions from water abstraction fees

Mining is by and large exempt from water abstraction fees. Since 2011, Northrhine-Westphalia charges the full rate for water abstractions in open pit lignite mining.

Water abstraction fees for cooling water usage (2010)

Federal state	Groundwater per m^3	Surface water per m^3
Baden-Württemberg	0.00 EUR	0.01023 EUR
Berlin	0.31 EUR	0.00 EUR
Brandenburg	from main drainage: 0.005 EUR from other groundwater: to be clarified by Legislature	0.005 EUR
Bremen	0.025 EUR 0.005 EUR > 500 m^3	0.003 EUR < 500 m^3
Hamburg	0.11 EUR 0.12 EUR from deeper aquifers	0.00 EUR
Mecklenburg-Western Pomerania	0.077 EUR	0.006 EUR
Lower Saxony	0.02556 EUR	0.01023 EUR
North Rhine-Westphalia	0.027 EUR 0.0027 EUR for cooling flow	0.027 EUR 0.0027 EUR for cooling flow
Saarland	0.03 EUR 0.022 EUR für EMAS plants	0.00 EUR
Saxony	0.076 EUR	0.005 EUR
Schleswig-Holstein	0.07 EUR	0.0077 EUR



Where polluters don‘t pay (2)

Most German states do not address **hydropower** or exempt it from water abstraction fees, only three do:

Saxony (since 2014)

- 0,01 Cent/m³

Schleswig-Holstein

- 0,077 Cent/m³

Baden-Württemberg

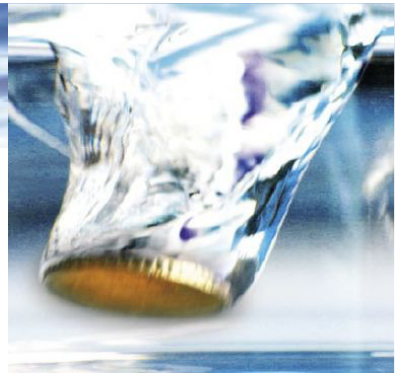
- total revenue: 1.96 Mio Euro

Variability of water abstraction fees within a state

Charge rates in Brandenburg for selected water uses
(according to § 40 of the Brandenburg Water Act [Brandenburgisches Wassergesetz])

	Groundwater		Surface water	
	per m³	actual charge (as % of statutory rate)	per m³	actual charge (as % of statutory rate)
Statutory rate	0.10 EUR	100 %	0.02 EUR	100 %
Abstraction for: Public water supply	0.10 EUR	100 %	–	–
Other production purposes	0.10 EUR	100 %	0.02 EUR	100 %
Cooling water	to be clarified by legislature		0.005 EUR	25 %
opencast main drainage with exemptions	0.00 EUR	0 %	0.00 EUR	0 %
– for "consumed" share	0.02 EUR	20 %	0.02 EUR	100 %
– for "commercially used share" / production	0.02 EUR	20 %	0.02 EUR	100 %
– for "commercially used share" / cooling water	0.005 EUR	5 %	0.005 EUR	25 %
Irriguation*	0.007 EUR	7 %	0.0014 EUR	7 %
Aquaculture	0.00 EUR	0 %	0.00 EUR	0 %

* Under § 40, 93% of the irrigation water abstracted is deemed to have been "redischarged"; an untenable regulation.

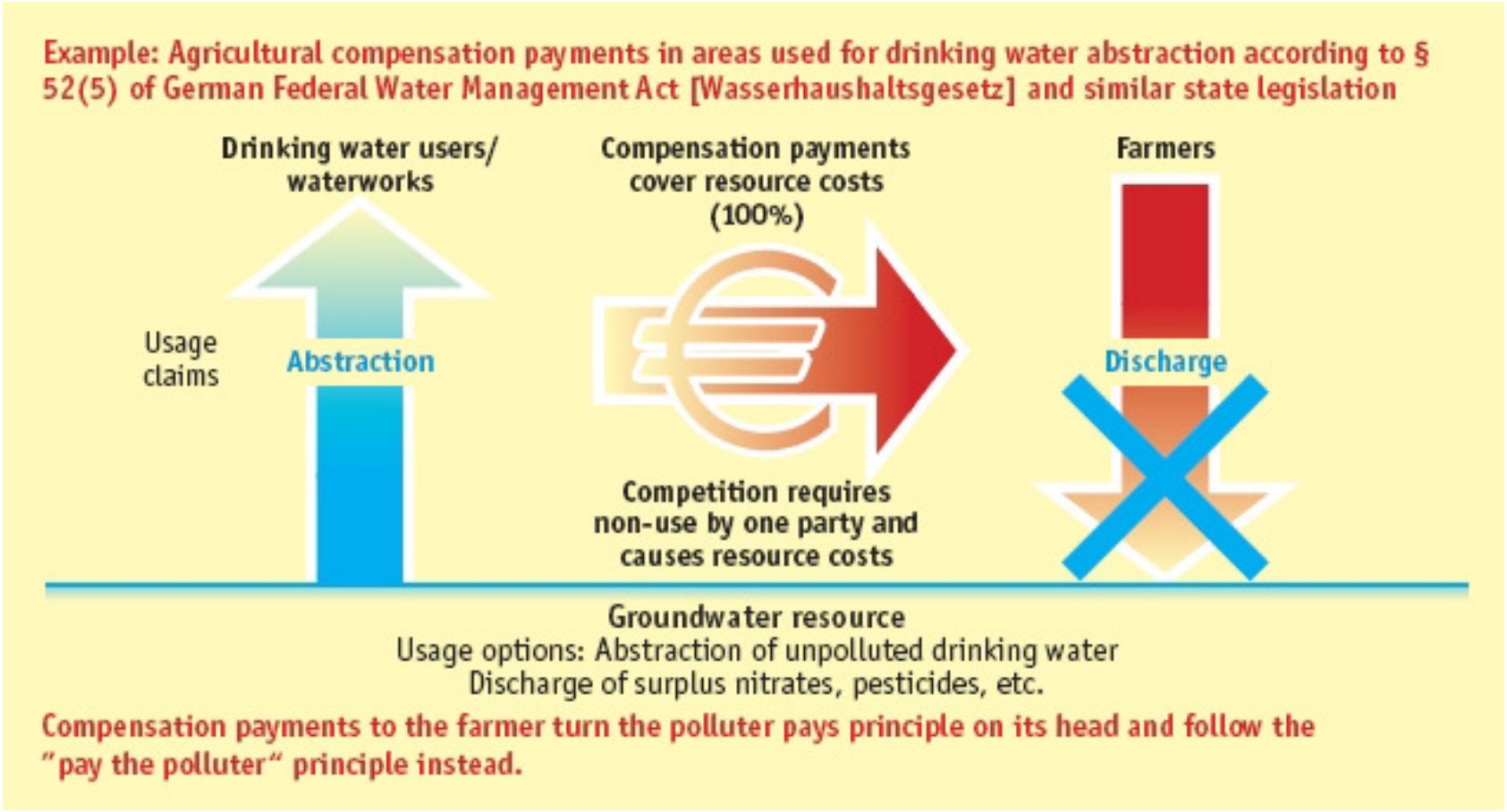


Water abstraction fees: Summary

Water abstraction fees (and the wastewater fee) are currently the most important instruments for attributing environmental and resource costs to users (polluters).

- should be introduced in all states
- great potential to (re)design water abstraction fees in an environmentally sensible manner
- earmarking the revenue for environmental improvements is essential!
- revision of far-reaching exemptions (=subsidies) for mining, the energy sector, hydropower and agriculture
- 2010 would have been a good time for this (article 9 WFD)
- lively debate over the last years
- introduction/adaptation of water abstraction fees in several states

3 Drinking water protection and polluter-pays-principle



Cooperation of drinking water suppliers and farmers

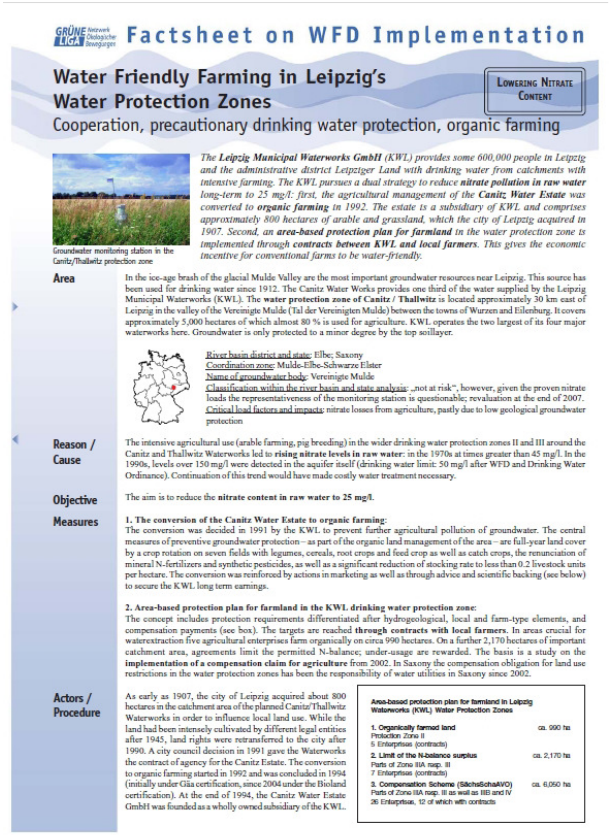
Payment schemes for farmers should

- promote organic farming
- bring forward additional ecological benefits
- include consultation of farmers (Farm Advisory Systems)

Positive examples from Germany:

- Leipzig
- Munich
- Oldenburg (OOWV)
- (…)

But: We also need much stricter obligations for better water protection in agriculture!



GRÜNE LIGA Netzwerk Ökologische Bewegungen

Factsheet on WFD Implementation

Water Friendly Farming in Leipzig's Water Protection Zones

LOWERING NITRATE CONTENT

Cooperation, precautionary drinking water protection, organic farming

Groundwater monitoring station in the Canitz/Thallwitz protection zone

*The **Leipzig Municipal Waterworks GmbH** (KWL) provides some 600,000 people in Leipzig and the administrative district Leipziger Land with drinking water from catchments with intensive farming. The KWL pursues a dual strategy to reduce **nitrate pollution in raw water** long-term to 25 mg/l: first, the agricultural management of the **Canitz Water Estate** was converted to **organic farming** in 1992. The estate is a subsidiary of KWL and comprises approximately 800 hectares of arable and grassland, which the city of Leipzig acquired in 1907. Second, an **area-based protection plan for farmland** in the water protection zone is implemented through **contracts between KWL and local farmers**. This gives the economic incentive for conventional farms to be water-friendly.*

Area

In the ice-age brash of the glacial Mulde Valley are the most important groundwater resources near Leipzig. This source has been used for drinking water since 1912. The Canitz Water Works provides one third of the water supplied by the Leipzig Municipal Waterworks (KWL). The **water protection zone of Canitz / Thallwitz** is located approximately 30 km east of Leipzig in the valley of the Vereinigte Mulde (Tal der Vereinigten Mulde) between the towns of Wurzen and Eilenburg. It covers approximately 5,000 hectares of which almost 80 % is used for agriculture. KWL operates the two largest of its four major waterworks here. Groundwater is only protected to a minor degree by the top soillayer.

River basin district and state: Elbe; Saxony
Coordination zone: Mulde-Elbe-Schwarze Elster
Name of groundwater body: Vereinigte Mulde
Classification within the river basin and state analysis: „not at risk", however, given the proven nitrate loads the representativeness of the monitoring station is questionable; revaluation at the end of 2007.
Critical load factors and impacts: nitrate losses from agriculture, pastly due to low geological groundwater protection

Reason / Cause

The intensive agricultural use (arable farming, pig breeding) in the wider drinking water protection zones II and III around the Canitz and Thallwitz Waterworks led to **rising nitrate levels in raw water**: in the 1970s at times greater than 45 mg/l. In the 1990s, levels over 150 mg/l were detected in the aquifer itself (drinking water limit: 50 mg/l after WFD and Drinking Water Ordinance). Continuation of this trend would have made costly water treatment necessary.

Objective

The aim is to reduce the **nitrate content in raw water to 25 mg/l**.

Measures

1. The conversion of the Canitz Water Estate to organic farming:
The conversion was decided in 1991 by the KWL to prevent further agricultural pollution of groundwater. The central measures of preventive groundwater protection – as part of the organic land management of the area – are full-year land cover by a crop rotation on seven fields with legumes, cereals, root crops and feed crop as well as catch crops, the renunciation of mineral N-fertilizers and synthetic pesticides, as well as a significant reduction of stocking rate to less than 0.2 livestock units per hectare. The conversion was reinforced by actions in marketing as well as through advice and scientific backing (see below) to secure the KWL long term earnings.

2. Area-based protection plan for farmland in the KWL drinking water protection zone:
The concept includes protection requirements differentiated after hydrogeological, local and farm-type elements, and compensation payments (see box). The targets are reached **through contracts with local farmers**. In areas crucial for waterextraction five agricultural enterprises farm organically on circa 990 hectares. On a further 2,170 hectares of important catchment area, agreements limit the permitted N-balance; under-usage are rewarded. The basis is a study on the **implementation of a compensation claim for agriculture** from 2002. In Saxony the compensation obligation for land use restrictions in the water protection zones has been the responsibility of water utilities in Saxony since 2002.

Actors / Procedure

As early as 1907, the city of Leipzig acquired about 800 hectares in the catchment area of the planned Canitz/Thallwitz Waterworks in order to influence local land use. While the land had been intensely cultivated by different legal entities after 1945, land rights were retransferred to the city after 1990. A city council decision in 1991 gave the Waterworks the contract of agency for the Canitz Estate. The conversion to organic farming started in 1992 and was concluded in 1994 (initially under Gäa certification, since 2004 under the Bioland certification). At the end of 1994, the Canitz Water Estate GmbH was founded as a wholly owned subsidiary of the KWL.

Area-based protection plan for farmland in Leipzig Waterworks (KWL) Water Protection Zones

1. Organically farmed land Protection Zone II 5 Enterprises (contracts)	ca. 990 ha
2. Limit of the N-balance surplus Parts of Zone IIIA resp. III 7 Enterprises (contracts)	ca. 2,170 ha
3. Compensation Scheme (SächsSchutzAVO) Parts of Zone IIIA resp. III as well as IIIB and IV 26 Enterprises, 12 of which with contracts	ca. 6,050 ha

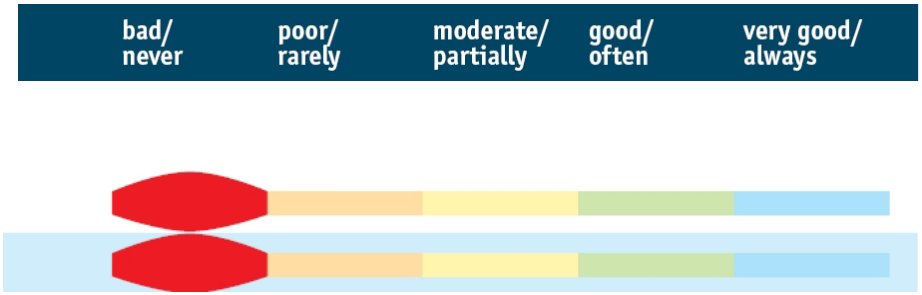
4 Adverse subsidies: Payments under CAP and renewable energies policy

4 Adverse subsidies: Payments under CAP and renewable energies policy

Harmful subsidies:

a) Have subsidies with adverse ecological effects (agriculture, inland navigation, hydropower, flood protection, etc.) been identified and quantified?

b) Have adverse subsidies been revised?



The large number of ecologically harmful subsidies should be evaluated comprehensively in terms of their their impact on water resources.

It is necessary to revise such adverse subsidies, particularly in the area of agricultural policy, including biomass payments. This should take priority over the deployment of additional funding.

CAP Reform 2014-2020:
No improvements for water protection?

Werner Doose, Ministry for Agriculture and Environment Schleswig-Holstein at the GRÜNE LIGA seminar on CAP, biomass subsidies and water protection in Hamburg (May 2012):

„WFD requirements regarding the reduction of nutrient inputs cannot be met for groundwater, surface waters and coastal waters.

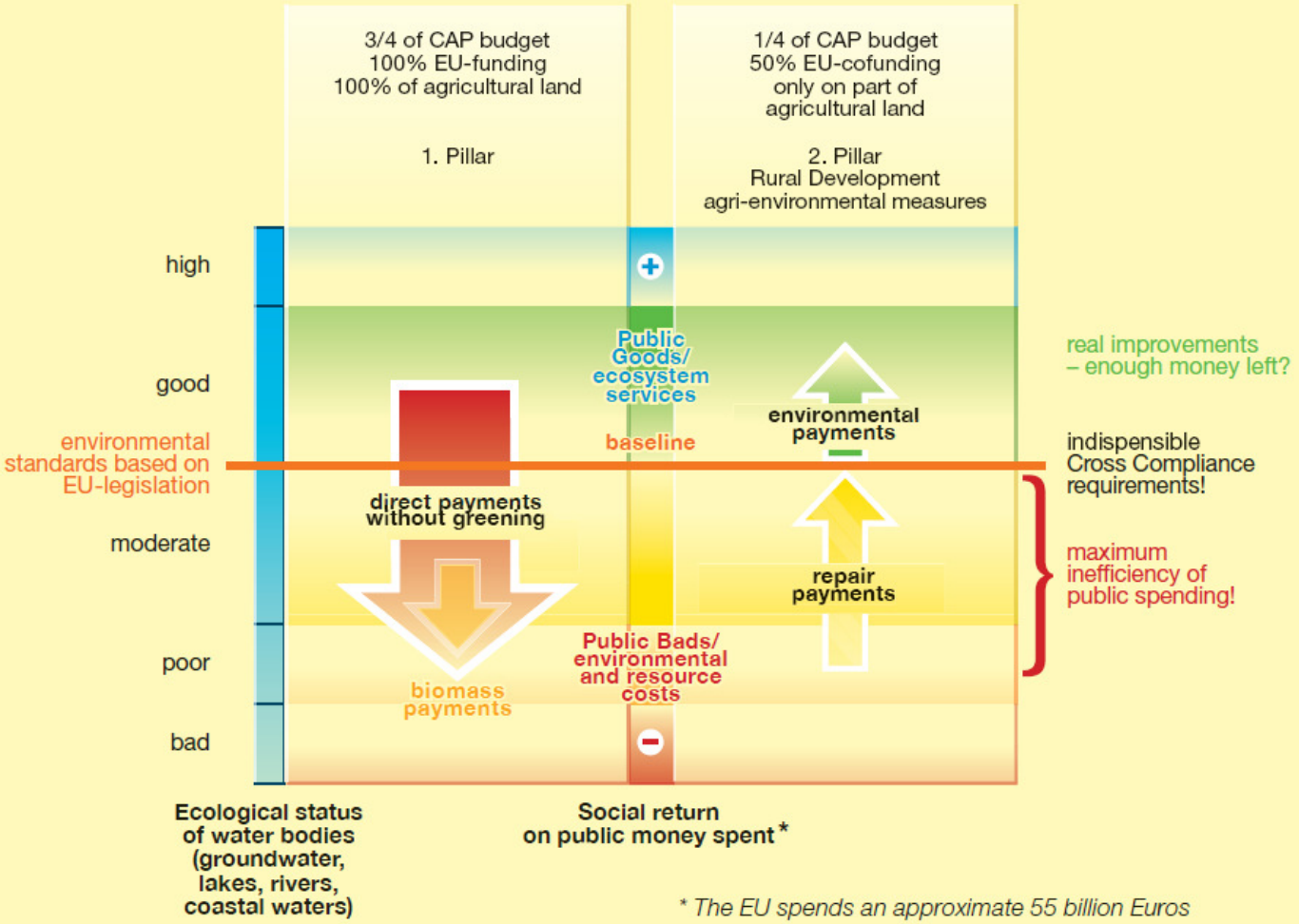
Accordingly, **objectives of WFD and MSD will overall not be met**.“

Cyanobacterial bloom (blue algae) in the Baltic Sea, summer 2010.

Note also that on the southeastern coast, the large Vistula and Curonian Lagoons are difficult to distinguishable as water bodies, due to massive bloom of green algae.

Source: ESA - European Space Agency

What Does the CAP Deliver to Safeguard Europe's Waters: Public Goods for Public Money?



** The EU spends an approximate 55 billion Euros per year on agricultural subsidies (www.farmsubsidy.org).*

Figure: GRÜNE LIGA Water Policy Office 2012

EEB Position on CAP reform and water

Key recommendations:

1. Ensure strict Cross Compliance including WFD
2. Use ecological focus areas for water protection
3. Ensure sufficient funding for water protection measures and water friendly farming in Pillar 2

DECEMBER 2012

EU COMMON AGRICULTURAL POLICY 2014–2020: CAP-REFORM MUST DELIVER TO SAFEGUARD EUROPE'S WATERS!

387 BILLION EUROS OF PUBLIC FUNDS REQUIRE EFFECTIVE ENVIRONMENTAL STANDARDS

Position of European Environmental Bureau, GRÜNE LIGA, NABU, Living Rivers Foundation, Global Nature Fund, Bodenseestiftung, Deutsche Umwelthilfe, Coalition Clean Baltic, DUENE, Quercus and PAN Germany

KEY RECOMMENDATIONS:

1. ENSURE STRICT ENVIRONMENTAL OBLIGATIONS IN PILLAR 1 AS FROM JANUARY 1ST 2014:
No direct payments to farmers without strict cross compliance including environmental standards based on the Water Framework Directive and binding obligations for water metering, nutrient balancing, pesticide application and erosion control.

2. INTEGRATE 10% ECOLOGICAL FOCUS AREAS ON AGRICULTURAL LANDS (COMPULSORY AT FARM LEVEL) FOR WATER, SOIL AND BIODIVERSITY IMPROVEMENT:
Mitigate nutrient and pesticide effects from agricultural runoff and improve water dependent ecosystems with buffer strips, wetlands and riparian zones along all water courses, ditches, ponds and lakes.

3. SECURE SUFFICIENT FUNDING BY EARMARKING 50% FOR AGRI-ENVIRONMENTAL MEASURES, COMPENSATION PAYMENTS RELATED TO WATER FRAMEWORK DIRECTIVE AND NATURA 2000 AND ORGANIC AGRICULTURE IN A STRONG PILLAR 2 FOR SUSTAINABLE RURAL DEVELOPMENT:
Support real environmental improvements through rehabilitation of wetlands, floodplains and riparian habitats, through land use adapted to natural water dynamics such as paludiculture and extensive grazing in floodplains, and through water friendly farming through organic agriculture.

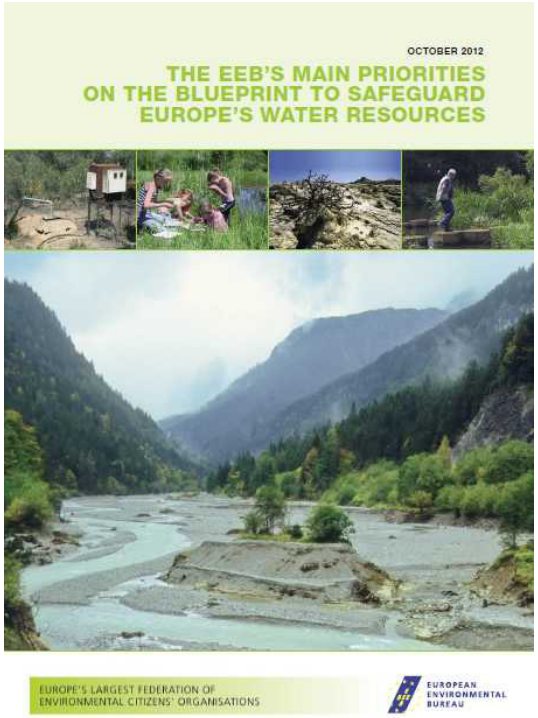
EUROPE'S LARGEST FEDERATION OF ENVIRONMENTAL CITIZENS' ORGANISATIONS

EUROPEAN ENVIRONMENTAL BUREAU

5 Conclusions

In line with the polluter-pays-principle, Europe's waters need

- better integration of water protection with other policy fields
- corrections of adverse subsidies
- better water pricing policies that address cost recovery in a broad sense



Thank you for your attention!

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