



The French National Agency on Water and Aquatic Environments

« Cost-effectiveness of measures : European practices »

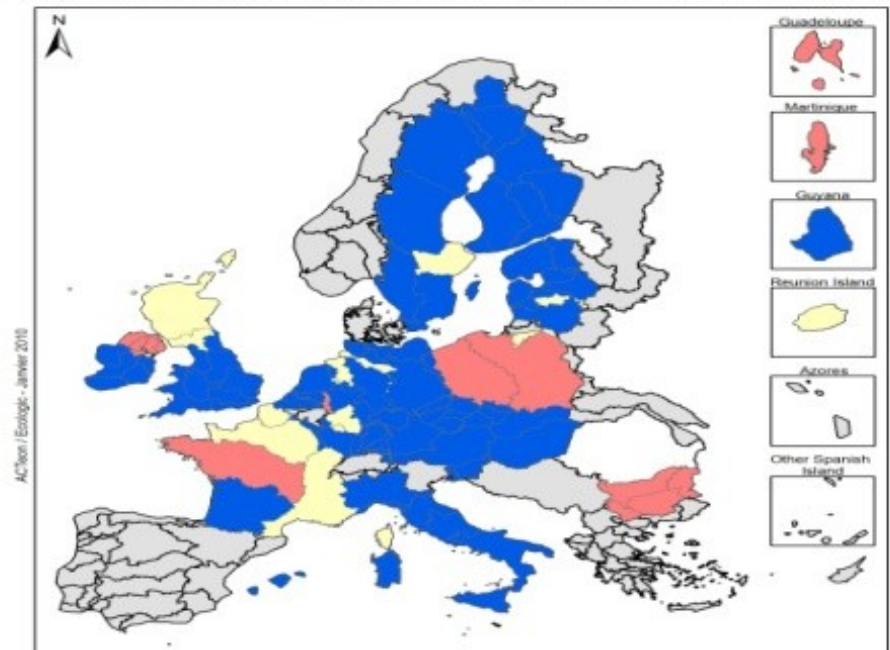
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**6th European Water Association
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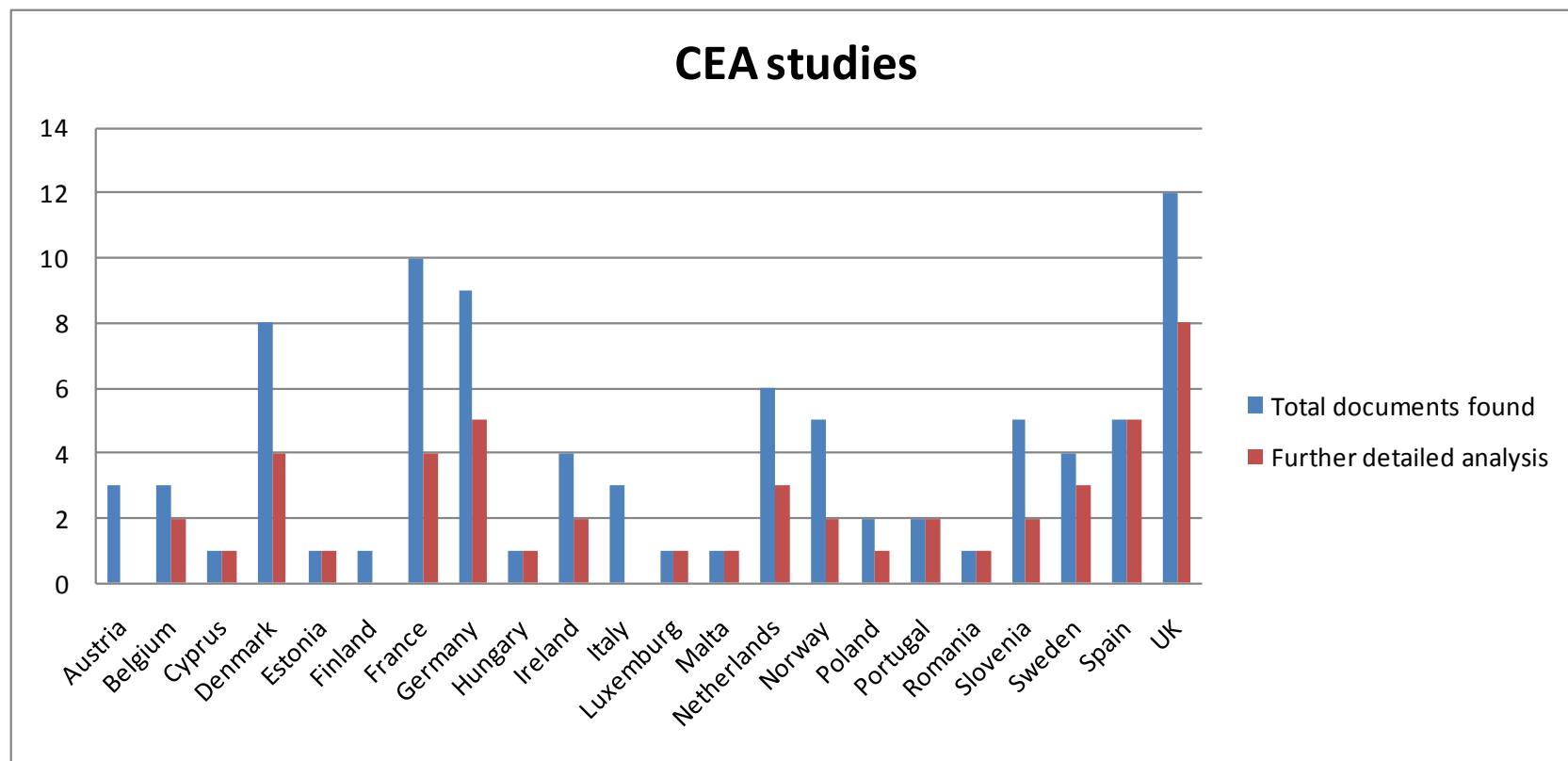
Context

- ⑩ ONEMA Research project on the use of CEA in regard to the WFD
- ⑩ Survey conducted by ACTeon/BRGM (Phase 1 and 2 – preliminary observations)
 - Analysis of the application of the CEA (state of art) in Europe
 - Proposal for Improvements of the classical CEA for more complex cases (Multi Criteria Analysis)
- ⑩ 88 CEA documents found – 48 studies were selected
 - Measures, general methodology, cost & effectiveness and process (stakeholder participation, transparency, decision making, technical limits)

Basins where a cost-effectiveness analysis has been performed



General remarks...

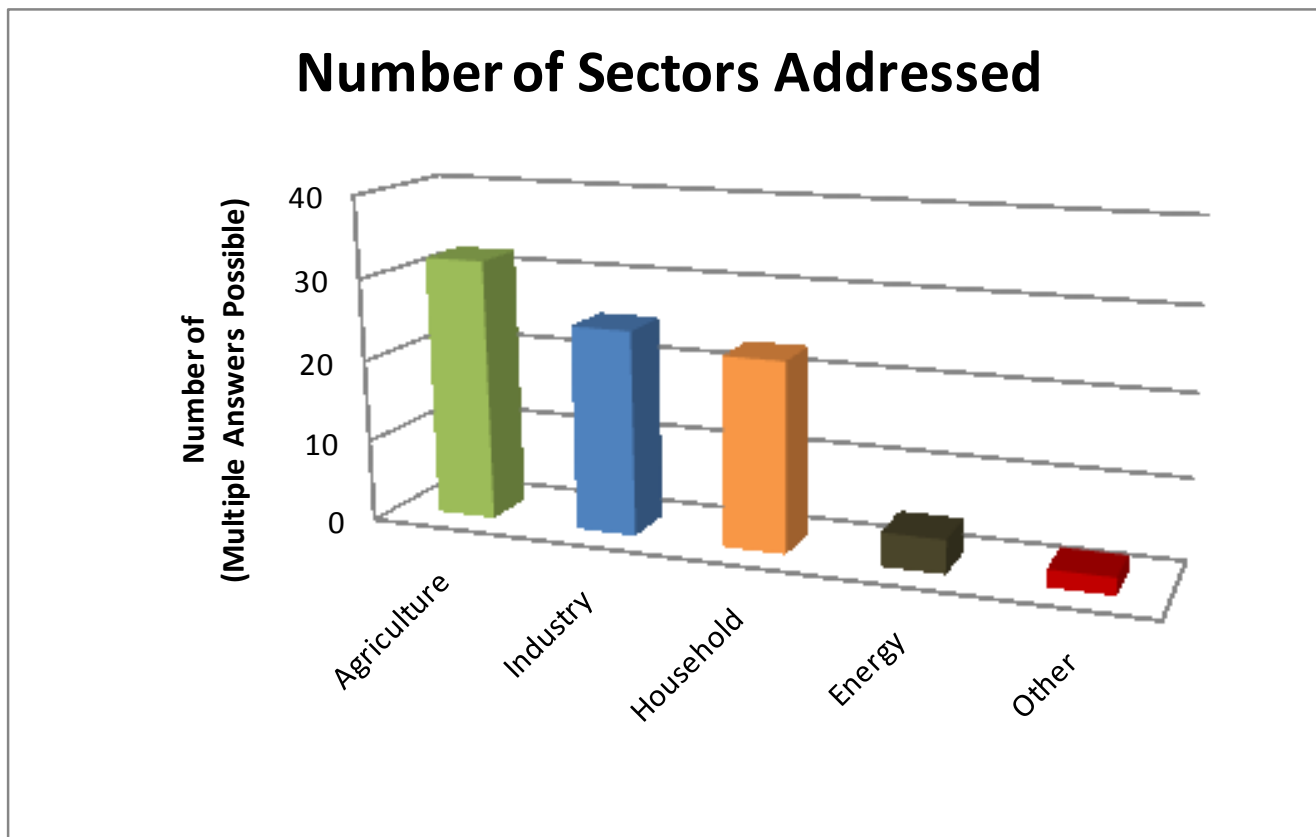


Relatively few documents with CEA were found

Absolute number of studies are not reflecting the national efforts in research and only partially indicating the prevalence of CEA

Only 1/3 of documents are part of RBMP

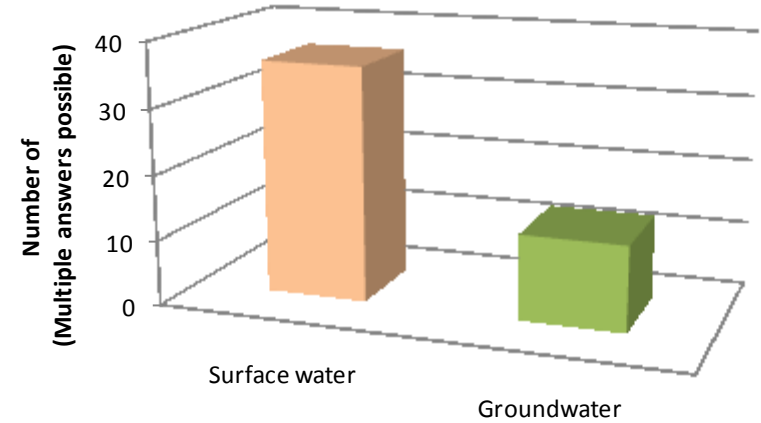
Sectors and CEA



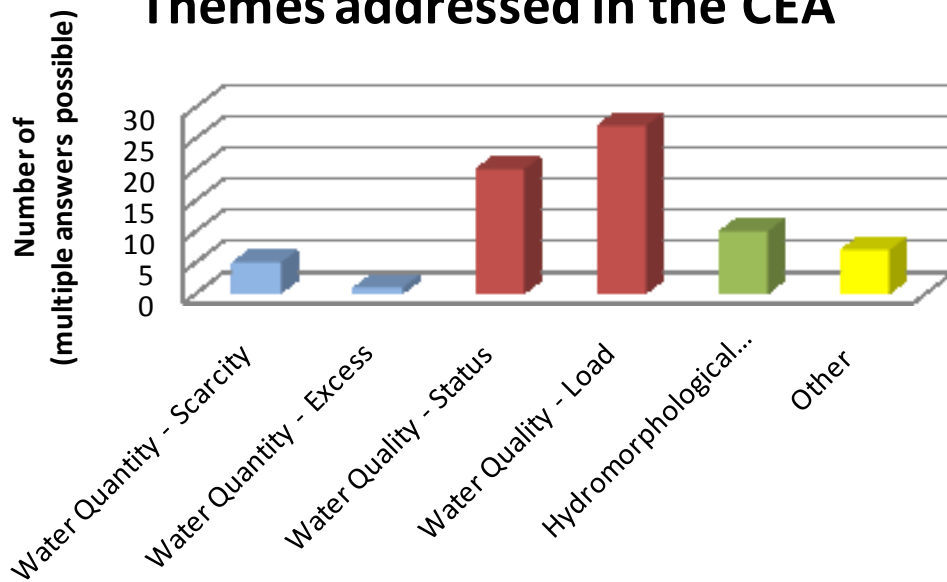
2/3 of studies are related to agricultural sector
Mainly measures for mitigating diffuse pollution
(phosphate and nitrates reduction)

Themes and CEA

Type of water body addressed



Themes addressed in the CEA



Water quality –
quantitative approach
(N/P reduction per liter)
best suited to measure
effectiveness

Water quantity – Less
input of Southern
countries facing scarcity

Measures...

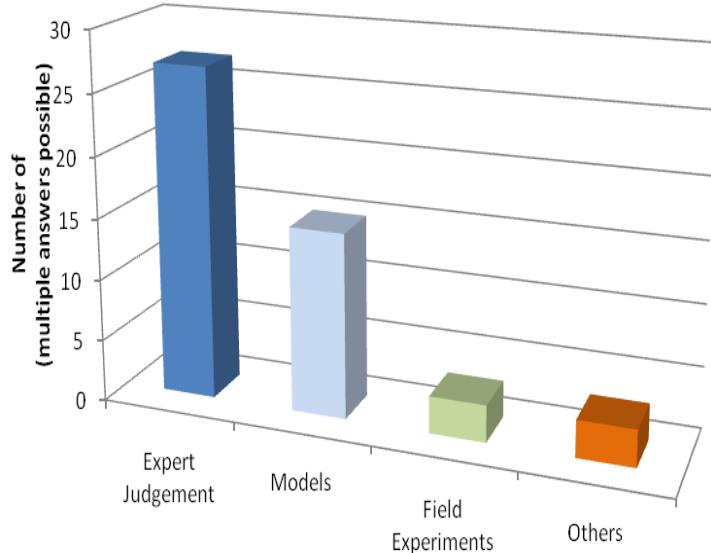
- ⑩ • Technical pollutant reduction measures
- ⑩ • Pollutant reduction measures addressing land use (arable to grass conversion, buffer strips)
- ⑩ • Pollutant reduction measures addressing wastewater (upgrading wastewater treatment plants)
- ⑩ • Pollutant reduction measures addressing agricultural practices (fertiliser restriction)
- ⑩ • Measures to restore hydromorphology
- ⑩ • Sectoral measures (agriculture)
- ⑩ • Measures addressing a particular geographic scale (local, national)
- ⑩ • Administrative measures (rare)

Measures pre-selected

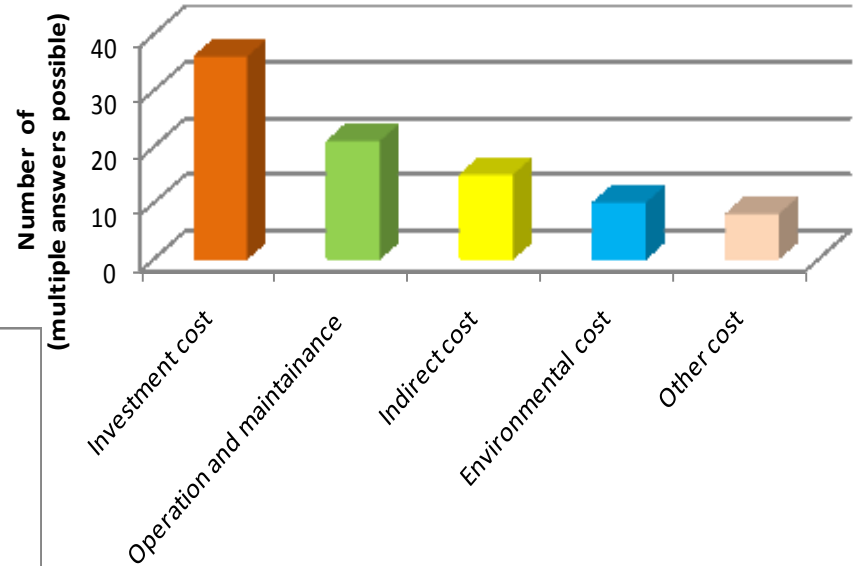
Slightly more comparison of measures parcels than
of individual measures

Cost and effectiveness

Effectiveness assessment



Cost considered



- Predominance of Investment cost & maintenance cost (75% and 60%).
- Qualitative assessment for indirect costs and env cost (mix up CBA)
- Annualisation of cost – Discount rate of 3-5%
- Financial implications (affordability of measures) were merely considered (less than 30%)

Cost-Effectiveness ratio and generic approaches

- ⑩ Cost-effectiveness ratio
 - 75% Of approaches calculating a C/E ratio (usually cost per pollutant reduction per liter (status parameter) or cost per reduced kilogram of pollutant (pressure parameter))
- ⑩ Generic approach
 - 1/3 use a generic approach which helps the (local) decision-makers by providing data that has undergone cost and effectiveness analysis at the national (regional) level.

Other issues : to be completed with expert interviews in the third phase of the project

- Stakeholders participation
 - Only 30% of studies are addressing stakeholder participation in the CEA (definition or validation of measures, discussions of results, getting field information)
- Transparency and iterations
 - 30% of the CEA studies were lacking transparency
 - Only 20% of studies used Iterations in the selection based on C/E ratio
- Technical limits
 - Uncertainty of costs – effectiveness is a major limitation
 - Limited information and lack of data
 - Geographical scale and time horizons
 - No sensitivity analysis
- Decision making process
 - Only 1/3 of the studies found were part of a RBMP
 - Less than 40% of the studies mention integration of the results into decision making
 - Evidence that many studies are conducted without considering the institutional context.

Conclusions ...

- Relatively few documents conducting a CEA in the RBMP were found.
- CEA for water-related issues remains difficult – Uncertainty/lack of data.
- Geographic scale (water bodies to sub-basin and districts) matters.
- Appropriate protocols may help in global acceptance of the CEA.
- Improving CEA in case of multiple problems (multi pressures, multi levels etc) – Multi Criteria Analysis.
- The process of conducting the CEA needs
 - more transparency to improve the way data and information are used
 - more objectivity of the results
 - greater willingness at governance level to implement the measures
 - to address geographical and temporal scale in estimating effectiveness
- The estimation of the transactions costs generated by the implementation of the measures needs more attention (administrative costs, information costs, reporting/monitoring costs, negotiation costs and compliance costs)
- The CEA should be more related to (and included in) decision-making, e.g. through dissemination to policy-makers

Thanks to:

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