



### WP 7.3.2

### (Re)allocating responsibilities and risks: Implementing climate adaptation policies

#### Description of the research

This project focuses on how policy instruments such as taxes, tradable permits, (smart) subsidies, and procurement auctions can stimulate the supply of climate adaptation services in a way that is efficient, effective, legitimate and fair. Given the allocation of responsibilities and risks to the public and/or private domain (see WP 3.1), our project researches the conditions (e.g. heterogeneity in the private costs of supplying adaptation services, and voluntary participation rates) under which the implementation of specific economic instruments in the private domain offers the optimal solution for adaptation to climate change.

This framework has been applied to a case study on natural climate buffers in Zeeland (Case 1). Here, the private supply of water storage and biodiversity services has hampered because private party compensation might have been too generous. Auctions, but also menus of contracts for private parties to choose from can offer a solution. For a given budget, contract menus can result in substantially larger amounts of services obtained – in the short and long run. This is especially true when the provision of services requires up-front investment costs as well as annual maintenance costs (and these costs components are negatively correlated).



#### Case 1: Natural Climate Buffers



Most installments have been achieved through procurement from farmers (i.e. ownership is transferred to the regional water body on a voluntary basis) and designating nature areas. However, farmers are reluctant to sell their lands and procurement is very costly.

#### Case 2: Water vasthouden aan de bron



#### Key results

WP 3 has developed a framework to systematically evaluate different policy instruments and mixes of policy instruments. This framework combines the insights from legal, economic and policy science perspectives to form concrete advice regarding optimal mixes of policy instruments – to be used simultaneously, or consecutively.

Together with stakeholders, a hypothetical auction experiment for so-called 'blue' services has been developed. In the auction, farmers are asked to state their desired payment for having their land contracted for temporary storage of peak rainfall as to prevent undesirable flooding downstream.

# Kennis voor Klimaat

## Knowledge for Climate



### Future research

In the near future, the results of lab experiments with students and ZLTO farmers in Noord-Brabant (Case 2) will help us develop an auction design that is able to overcome a key issue in many procurement auctions – the fact that sub-optimally few bidders effectively participate.

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