



**Masson, E. and Harrington, J. and Wijdeveld, A. and Groot, H. and Lord, R. and Debuigne, T. and Wensveen, M. and Hamilton, A. and Benzerzour, M. and O'Connor, M. and Lemiere, B. (2019) SURICATES : demonstration through pilots of sediment reuse for coastal defence or climate change mitigation. In: International Conference on Remediation and Management of Contaminated Sediments, 2019-02-11 - 2019-02-14, Hilton New Orleans Riverside. ,**

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# SURICATES: demonstration through pilots of sediment reuse for coastal defence or climate change mitigation

The **SURICATES** project is a research initiative funded by the European Union regional funds (INTERREG NWE), aimed at increasing the reuse of dredged sediments.

It addresses:

**European policy on Circular Economy**

**EU Waste strategy**

**Sustainable water transport**

**Dredged sediments are one of the biggest potential waste flows, according to regulations.**

**Dredged sediments over 200 Mm<sup>3</sup>/y (80 Mt dry weight)**

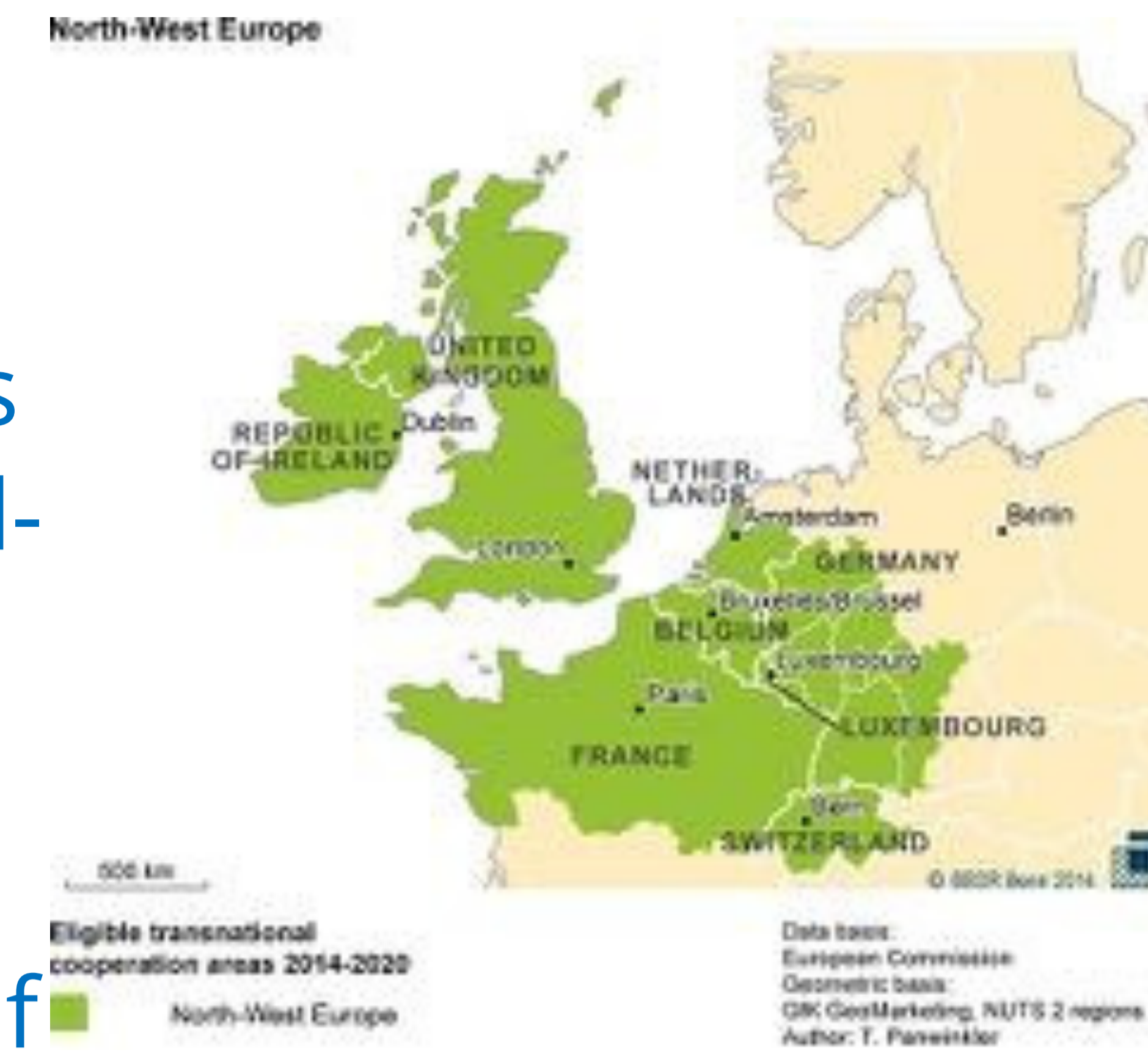
**Current practice: relocation at sea (marine sediments), on land disposal (inland waterways)**

**Sediments are part of our potential mineral resources for civil engineering (but also of our environment).**

**> Sediments are eligible to circular economy thinking (SedNet, 2019)**



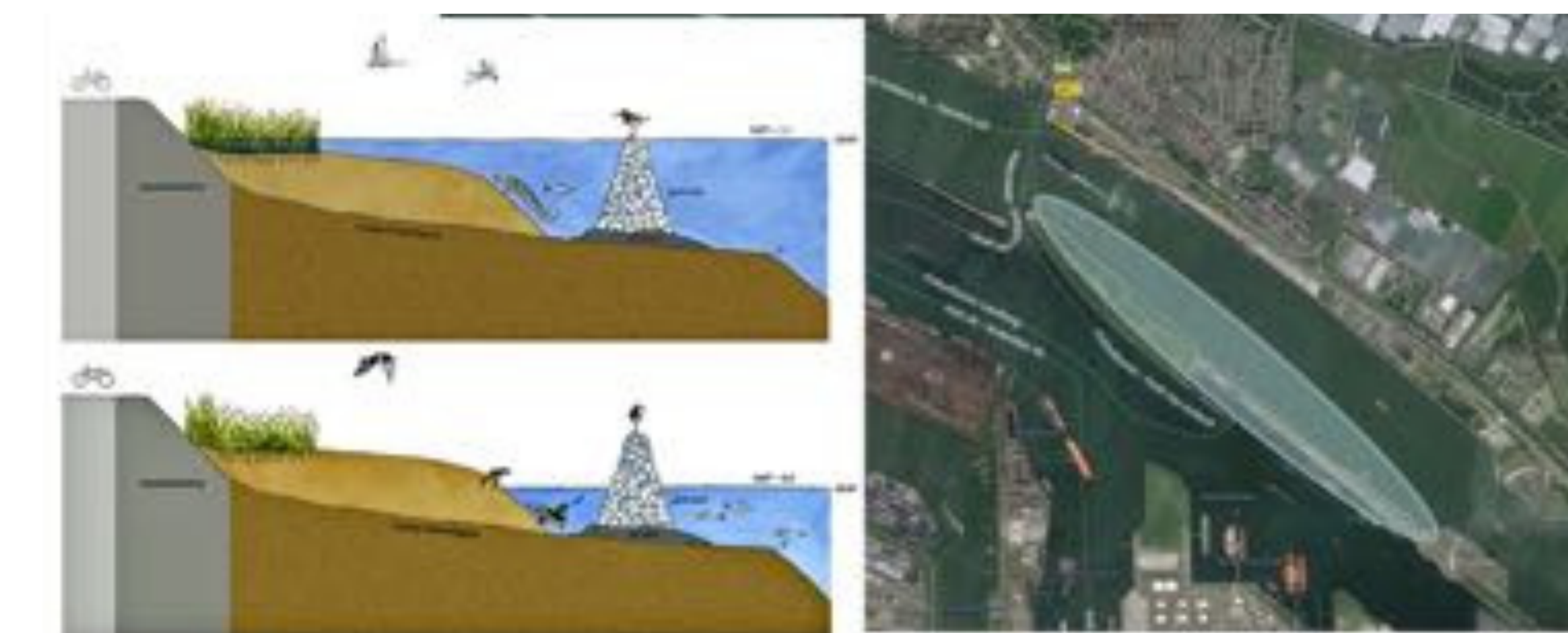
Battelle Sediments Conference  
 February 11-14, 2019 | New Orleans, Louisiana



## Pilot projects

### Rotterdam (200,000 t)

Application of dredged sediments in estuarine works aimed at improving the channel and the resilience to major flood events  
 Improvement of the resilience of the river banks against major flood events



### Which opportunities for valorisation ?

Focus on low cost, large volume solutions, to avoid market bottlenecks

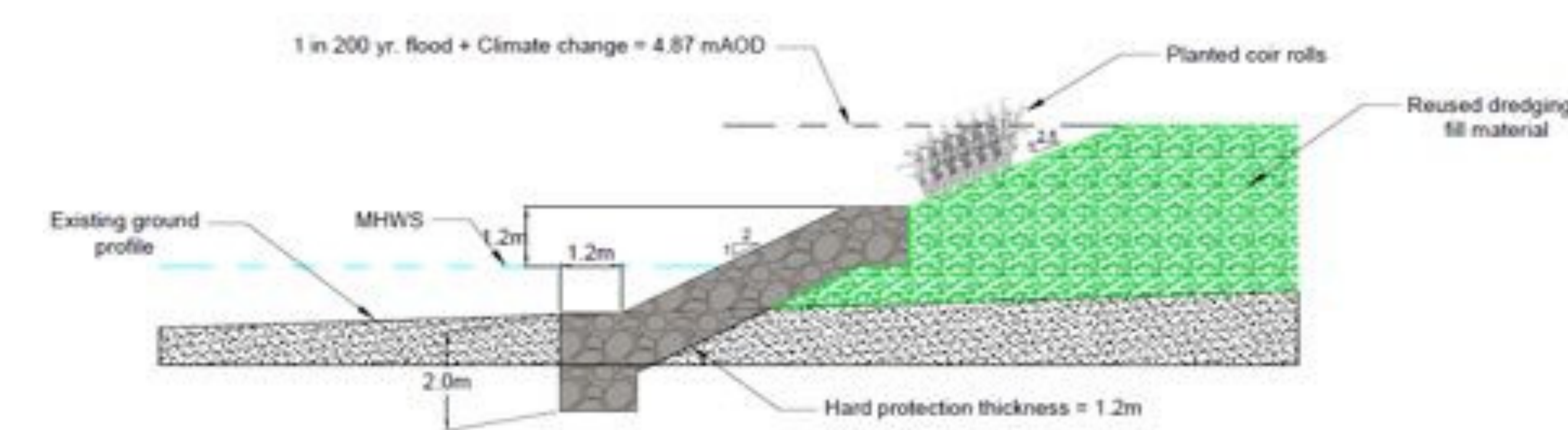
**Minerals for civil engineering—Reducing sand or clay extraction**

Climate change, erosion and flood risk increase require greater mitigation measures (strengthening or regeneration of harbour/river banks, beach nourishment), consuming high volumes of natural resources.

## Pilot projects

### Scottish Canals (20,000t)

coastline defence  
 land restoration and development



## Future projects (Ireland, France)



Identifying opportunities for flood or coastal defences from sediments re-location

## Issues

**Coastal erosion—Sand Engine**  
**Flood dykes**  
**Lift up Lowlands**



## The toolbox

Regional inventories of available sediments and of needs for climate change-related civil works.

**Economic modelling**

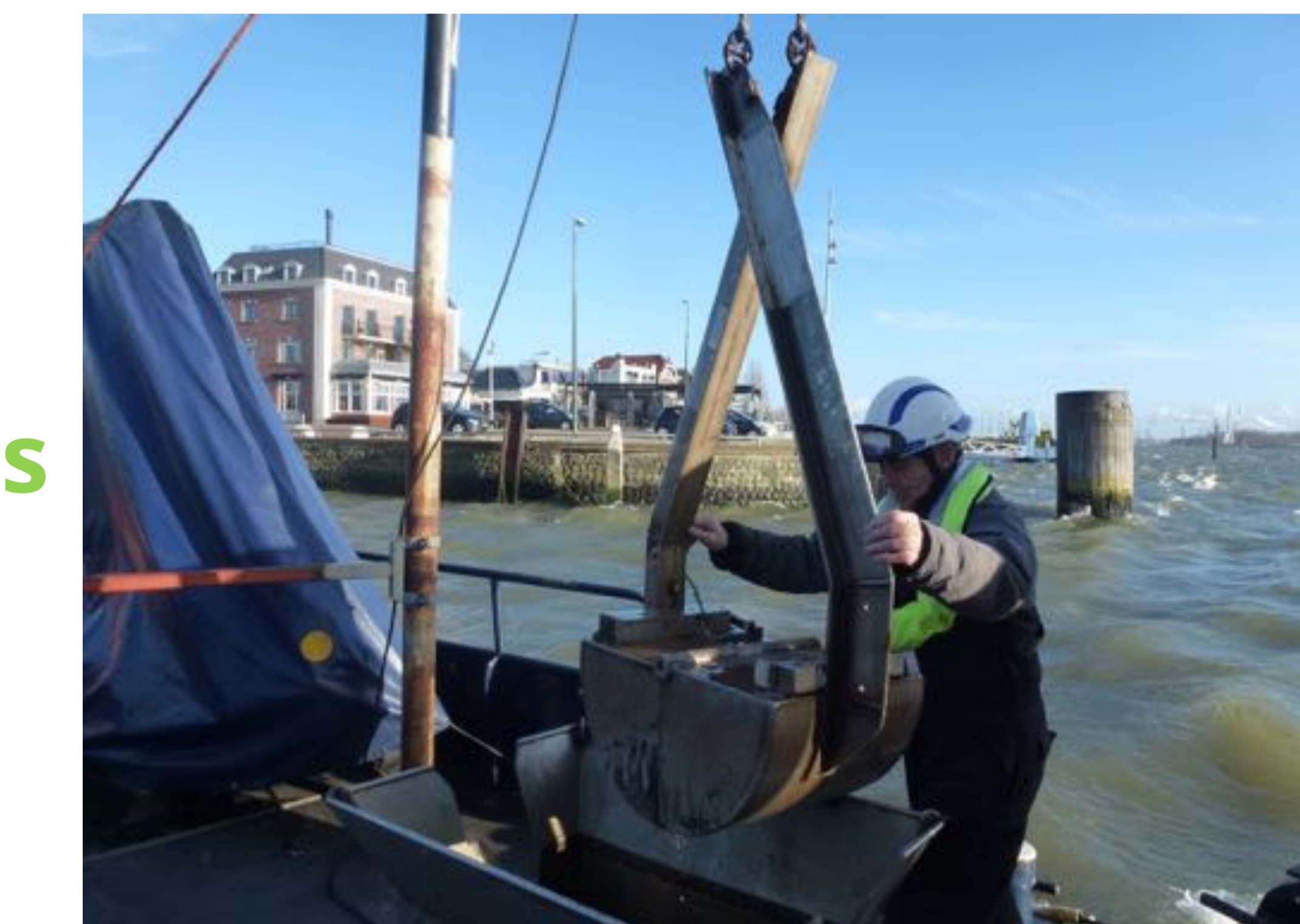
**Societal approaches**

**Environmental monitoring**

**Civil engineering testing and validation**

**Risk analysis**

**Convince project operators that reuse approaches can be safe**



Baseline monitoring

Later evaluation of economic and environmental impacts from pilots at the local scale

## Expected outcome

Development of a reuse sector (industries, services, SMEs).

Drive up sediment reuse in NW Europe by 1.3 Mt/y after 5 years, and by 2.3Mt/y after 10 years.

