SESSION III: Pop-Up Talks

1) Simon Collander-Brown, DSTL
2) Anant Prakash, BP
3) Simon Cook, Southern Water Services
4) Rosalind West, DEFRA

Specialist: Jan Kwakkel
Supporting decision making under deep uncertainty
some experiences in The Netherlands

dr.ir. Jan Kwakkel
A problem with scenarios

Long history of scenario based planning in the Netherlands

- Transport
- Land use
- Water management

Problem

- Timing of building new assets is scenario depended
- New scenario requires redoing the analysis for timing
What is an adaptation pathway?

Adaptation tipping point

Action 1

Action 2

Action 3

External forces
Adaptation pathways

Current situation

Action A
Action B
Action C
Action D

Changing conditions

Time low-end scenario

Time high-end scenario

Transfer station to new policy action
Adaptation Tipping Point of a policy action (Terminal)
Policy action effective

Time horizon 100 years

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Adaptive delta management
what is new?

What is not new?
we have for centuries adapted our delta to changing conditions, but always in response to (near) disasters

What is new?
anticipate uncertain future changes and address them proactively

Need for new methods for problem analysis, policy analysis, planning, and decision support

Dealing with uncertainties is the key issue of adaptive (delta) planning:
“what to do and under what conditions to do it?”
“not too much, not too little”
“not too early, not too late”
How to develop adaptation pathways

Qualitative approaches
- expert opinions
- participatory processes

Quantitative approaches
- (multi objective) Robust Decision Making
- multi-objective Robust Optimization

Hybrid
- iterate between stakeholder deliberation and model based search
The adoption of adaptive delta management

Delta programme in the Netherlands in enshrined in law

- Agreement on yearly funding
- Commitment to short term action
- Specification of long term options
- Currently focus on design and institutionalization of monitoring

Adoption in various countries

- Bangladesh, Vietnam, Indonesia, co-funded by Dutch National government
- Australia, New Zealand
- United Kingdom (Thames Estuary 2100 plan)