Deltacommissaris

The Dutch Deltaprogramme and its adaptive approach

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The Netherlands, a delta country

A history of water management

circa 1580

circa 1700

2000

Century 20th:

- 1916 floods (North)
- 1953 flood disaster (South-West)

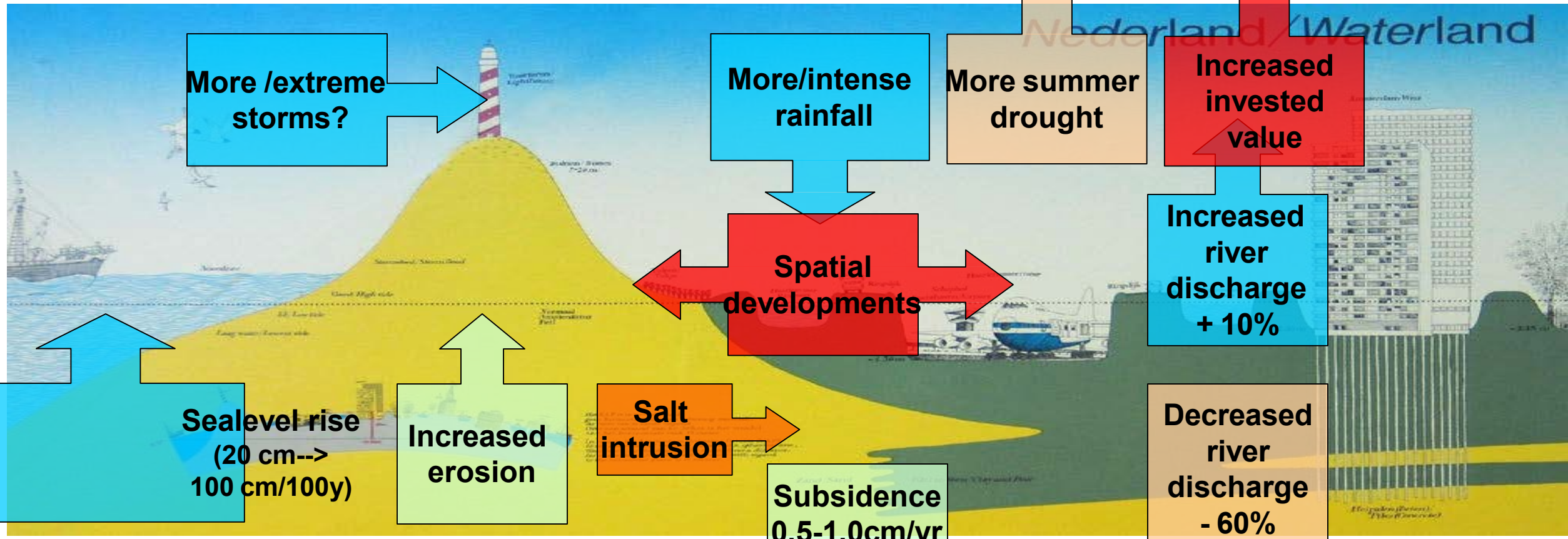
Structural solutions with dams and barriers Afsluitdijk dam to create IJsselmeer, Delta Works

•1993/1995 high water levels (rivers)

Developments in policy:

- Integrated water management
- Three layer flood safety approach
- Room for the river
- Building with nature

Challenges in the 21st century



2nd Delta Programme

- 2007 new Delta Committee
- 2008 advice to Cabinet
- 2010 Delta Commissioner
- 2012 Delta Act, Delta Fund
- 2011 etc. Annual Delta programme:
    1. Flood protection
    2. Fresh (surface/ground) water availability
    3. Spatial Adaptation
- 2014 Delta decisions & strategies
- 2020 first 6yr Recalibration

Long term horizon → dealing with uncertainty

Uncertainty in climatological drivers
(precipitation , evaporation, sea level rise)

Uncertainty in socio-economic drivers
(GDP, demography, life-style)

Uncertainty in politics and preferences
(discontinuity in support, priority, funding)

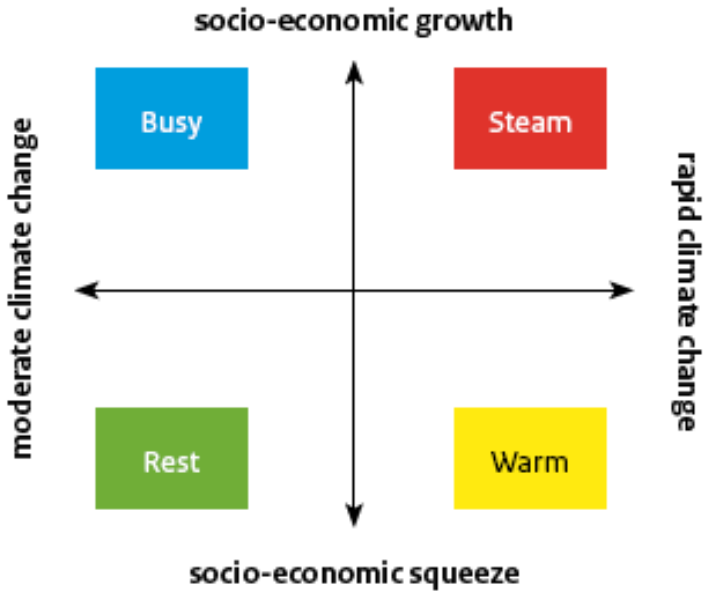
Adaptive approach:
→ Scenario's
→ Adaptive strategies
→ Flexible / robust measures
→ Monitoring and periodic recalibration

Securing implementation:
→ Delta Fund
→ Delta Commissioner
→ Delta Act
→ Annual progress report

Uncertain drivers → scenario's

- Climate change
  - Temperature
  - Rainfall, evaporation
  - River discharge
  - Sea level rise

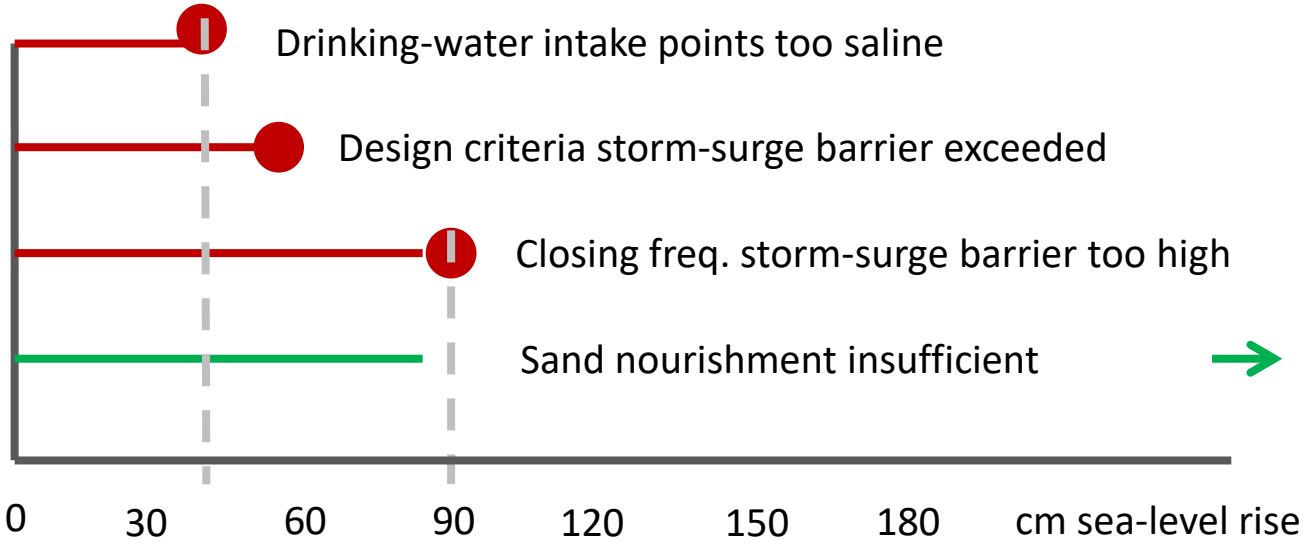
- Socio-economic developments
  - Population, demography
  - Economic growth,
  - Land use/urban development



1) When will current policies fail?
2) What possible futures should we prepare for?
   → inspiration for new strategies,
3) How will strategies perform under different conditions?
   → robustness test

Uncertain future → expected tipping points

→Failure of present policies

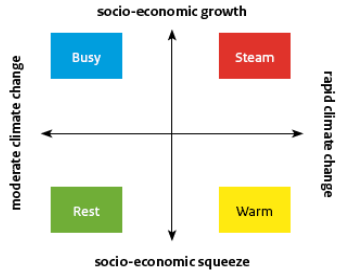


→ Translate to time

Steam 2050

Steam 2100

Rest 2100



... adaptive strategies

Decision making in uncertain future,
→ adaptive **strategies**:
- Clear in objectives,
- Adaptable to actual conditions
- Flexible in “way to go”
- Do what is necessary now, keep future options open
- Linking short term agenda’s with long term water challenges

Implementation in uncertain future
→ Flexible **measures** (“speed up/ slow down” → Building with Nature) or robust design.
→ Spatial reservations

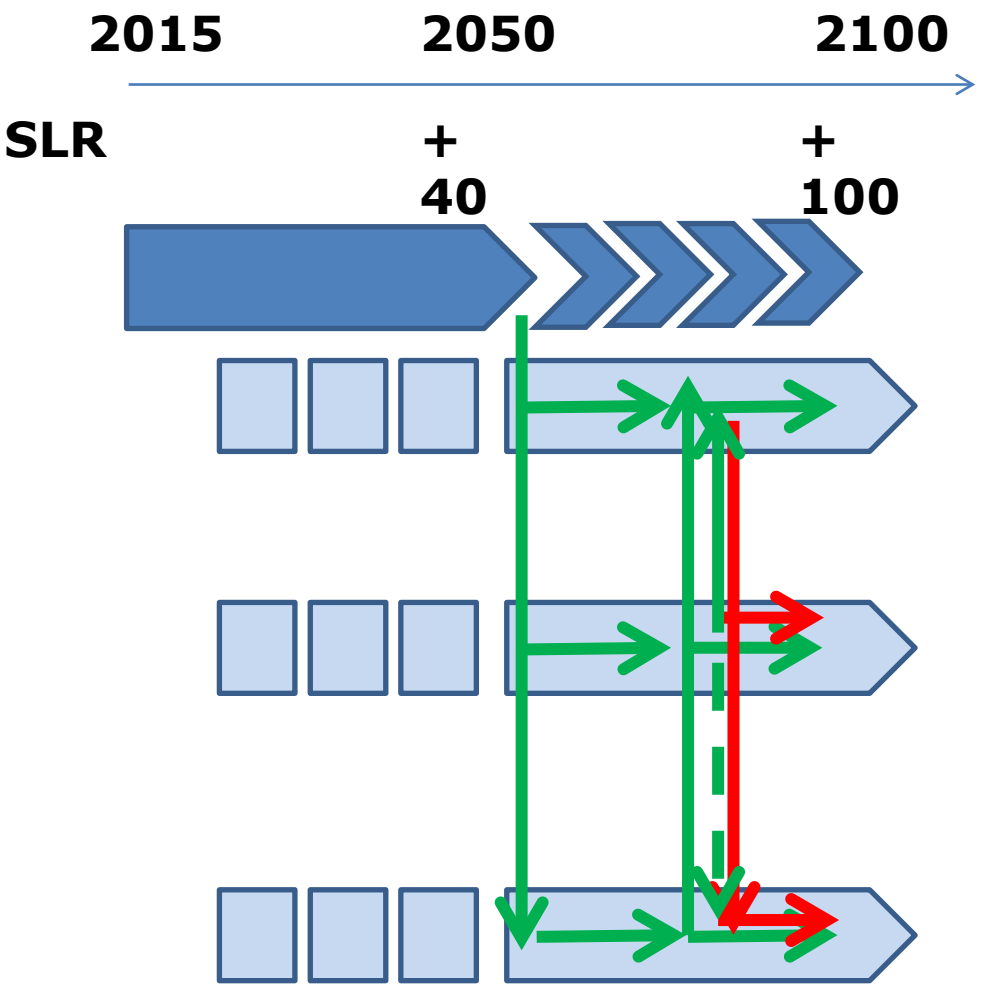
Tipping point Maeslant barrier

Closure frequency:

design:	1/10y
+ 75 cm:	1/y
+ 130 cm:	10/y

→ Increasing hydraulic load
→ Increasing probabiliy of coinciding storm surge and river flood
→ Replace/renovate? when, where, how?

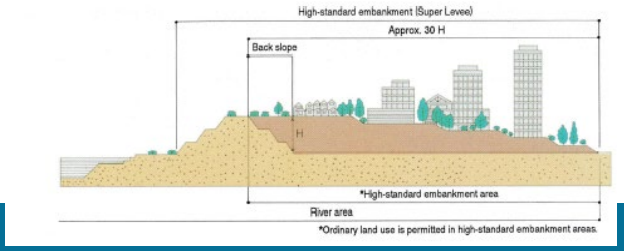
Adaptive strategy



Maeslant barrier

Closed:
Sluices

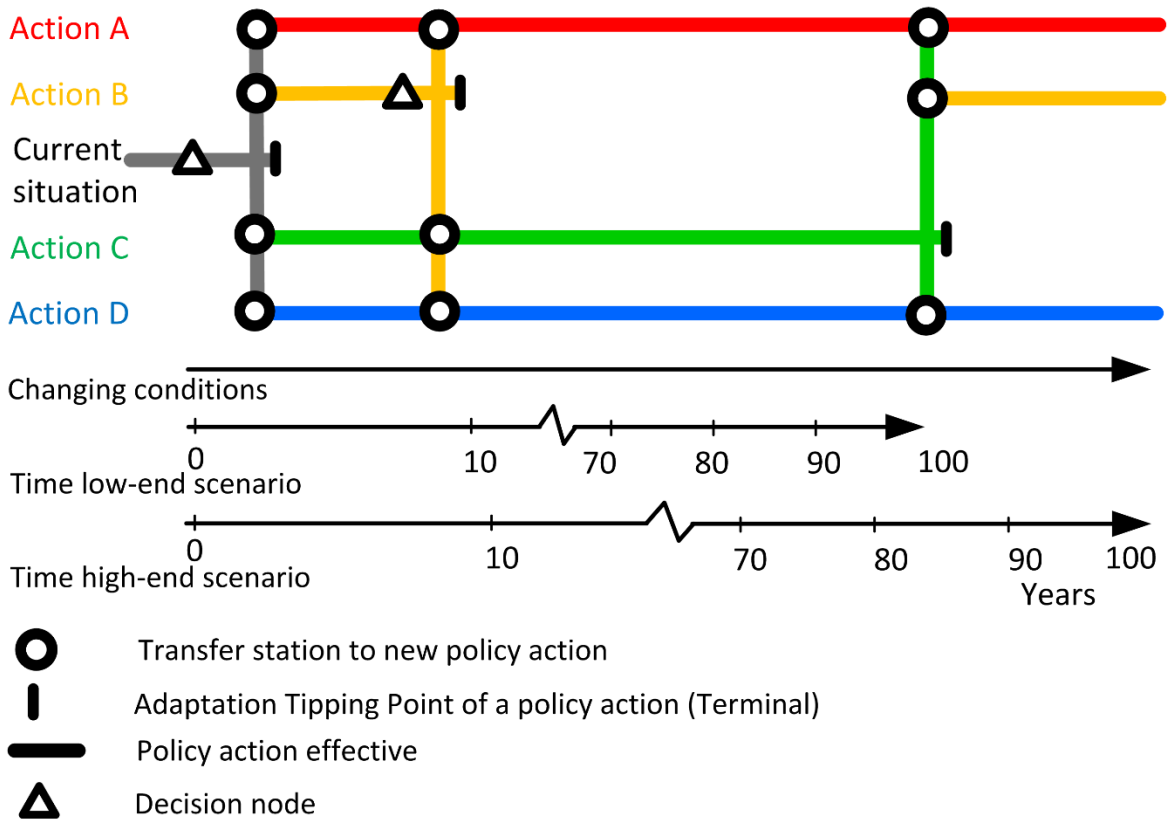
Lockable:
Flood gates



Open:
Super
levees

Adaptive pathways

Adaptation Pathways Map



Transfer station to new policy action

Adaptation Tipping Point of a policy action (Terminal)

Policy action effective

Decision node

Costs and benefits of pathways

Time horizon 20 years

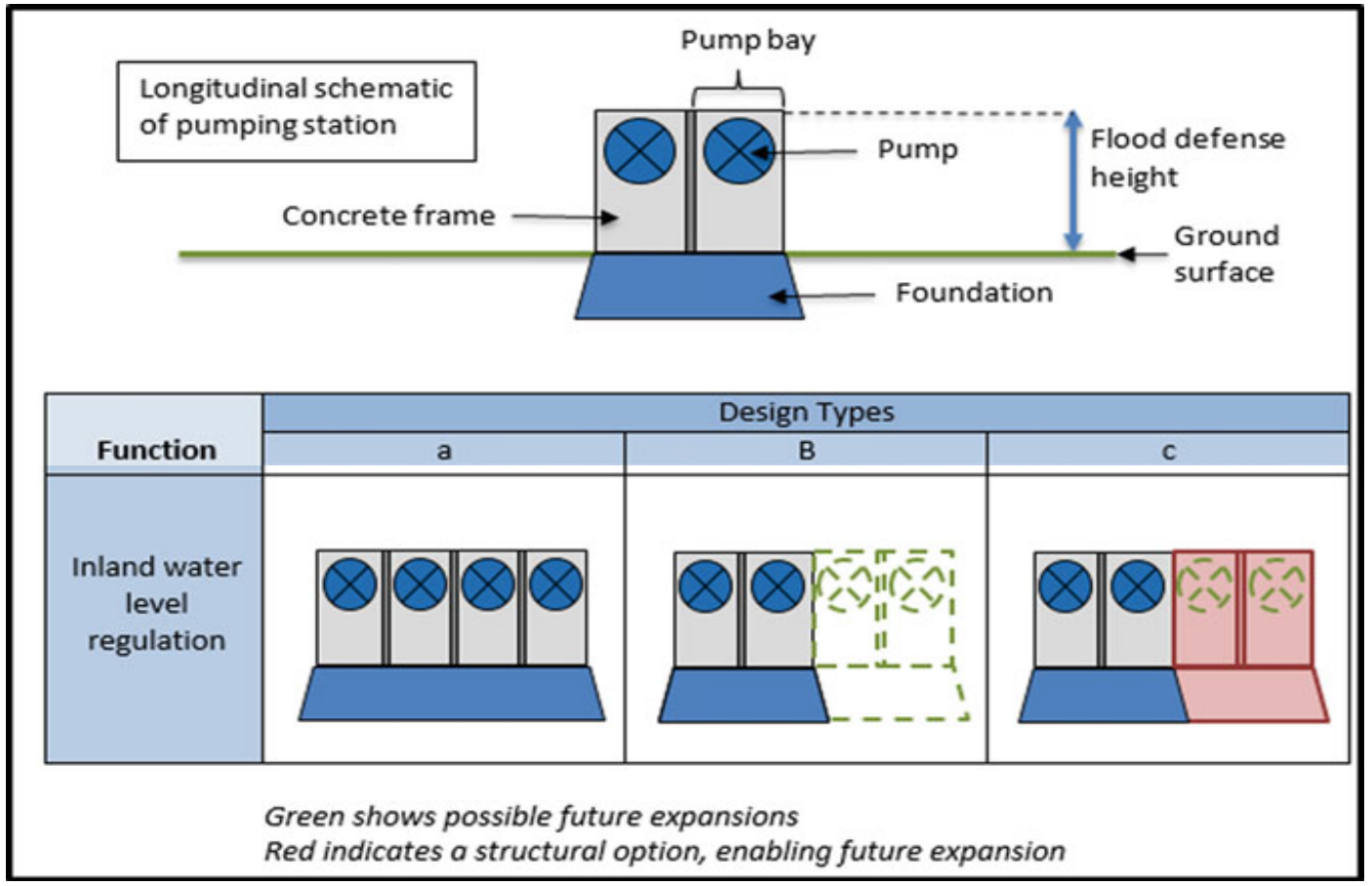
Time horizon 50 years

Time horizon 100 years

Pathway	Costs	Benefits	Co-benefits
1	+++	+	0
2	+++++	0	0
3	+++	0	0
4	+++	0	0
5	0	0	-
6	++++	0	-
7	+++	0	-
8	+	+	- - -
9	++	+	- - -

Pathways that are not necessary in low-end scenario

Robust (a) or adaptive (c) design



... and monitoring and recalibration

6 yr recalibration:

Are we still on the designated track & on schedule?

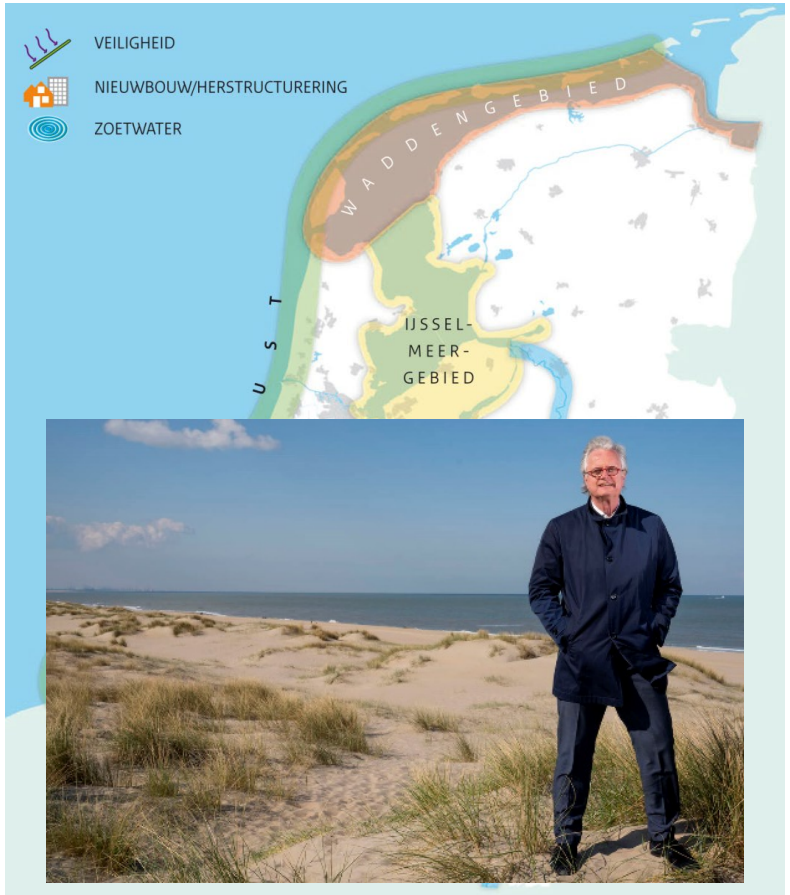
- Check on basic assumptions
- New developments in water challenges
- Recalibration proposals
- Synthesis documents,
- Independant review

Signal group:

Are we on the right track?

- New knowledge about climate change, water management, land use → 10 indicators
- Developments in politics and society (support, budget, innovations)
- Dashboard + annual advice e.g. (accelerated Sea Level Rise)

Role of Deltacommissioner



Regional cooperation:

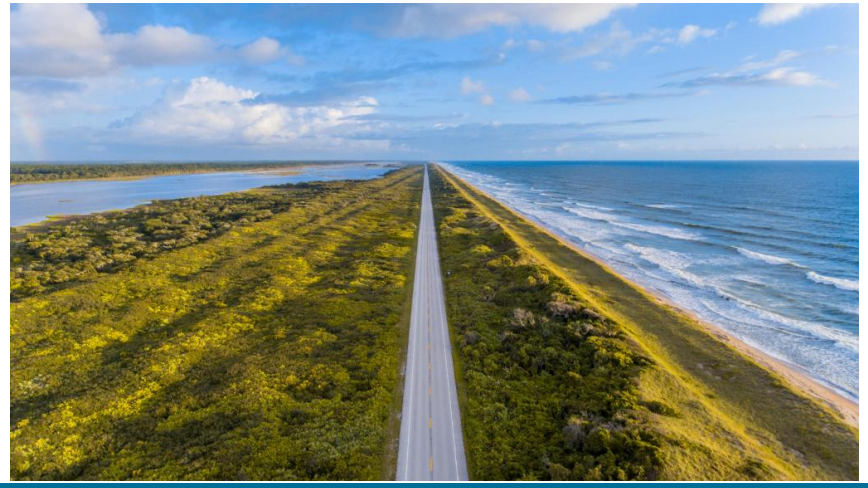
- Collect creative and innovative ideas
- Combine with local developments
- Involve local stakeholders, built acceptance , co-creation
- “Ownership”, commitment to implementation

→ Regional Steering Committees

Leadership by Delta Commissioner

- Progress → stepwise process, monitor, annual report to Parliament
- Uniformity→ models, scenario’s assumptions
- Coherence & coordination → national policy frameworks
- Minister I&W is politically responsible

EU Climate adaptation strategy, some remarks



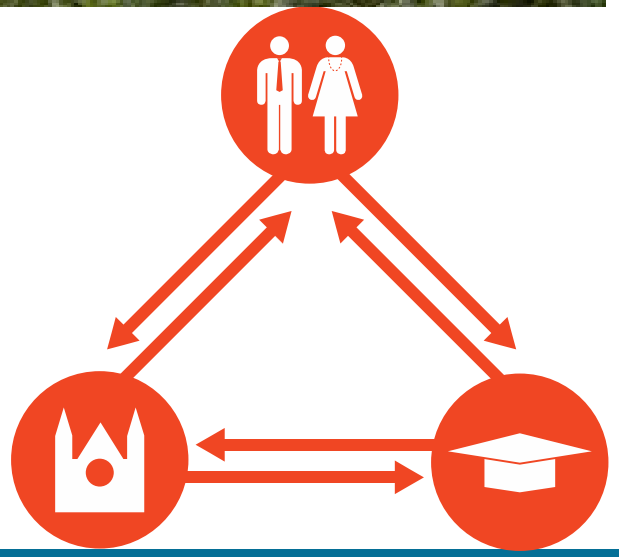
Multi-government co-operation

- key to mainstreaming climate adaptation in policy and plans at all levels!
- Create common basis for local and regional work and national integration
- Invest in process and early involvement
- Joint fact finding and strategy development

No regret measures:

- Integrate with spatial developments and transitions (energy, nature, agriculture, infrastructure)
- Multifunctional design (→ added value)
- Flexible (→ Building with nature: climate buffers)

EU Climate adaptation strategy, some remarks



Secure Finance and Sustainabilty

- Secure adequate long term finance (→ fund)
- People, planet, prosperity, **seek profit**
  - Investing in resilient infrastructure
  - Stimulate innovations

Stimulate cooperation between local, regional and national authorities

- Mainstream and connect (inter)national policy frameworks, regional development plans and local projects →common agenda
- “seed money” from Deltaprogramme
- Could EC and member states work together more to support local government?

Thank you very much for your attention

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