



Netherlands Commission for  
Environmental Assessment

# Climate proof planning in Deltas

## added value of Strategic Environmental Assessment

Arend Kolhoff, 24 September – Rotterdam

Netherlands Commission for Environmental Assessment



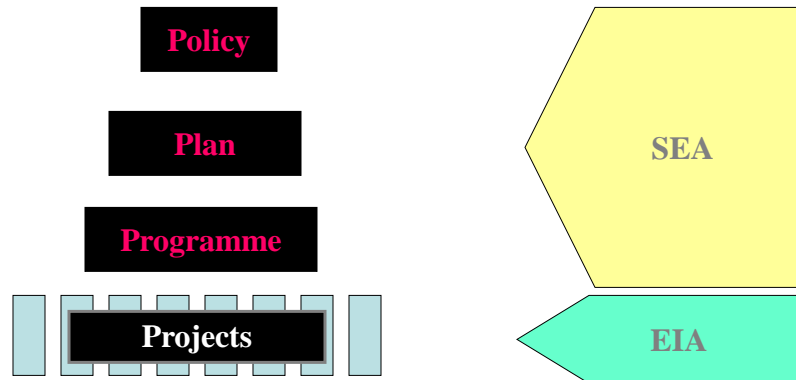
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in a nutshell
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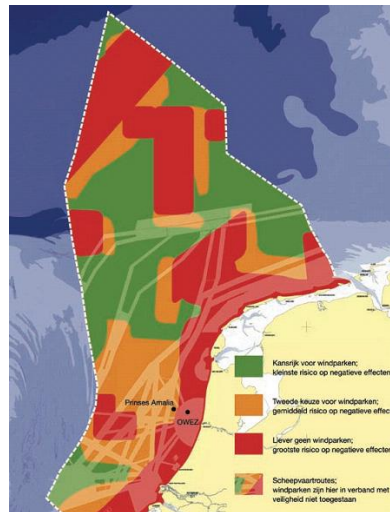


**EIA supports DM private / public projects**

**SEA supports government plans**



## SEA: Site selection off shore wind farms

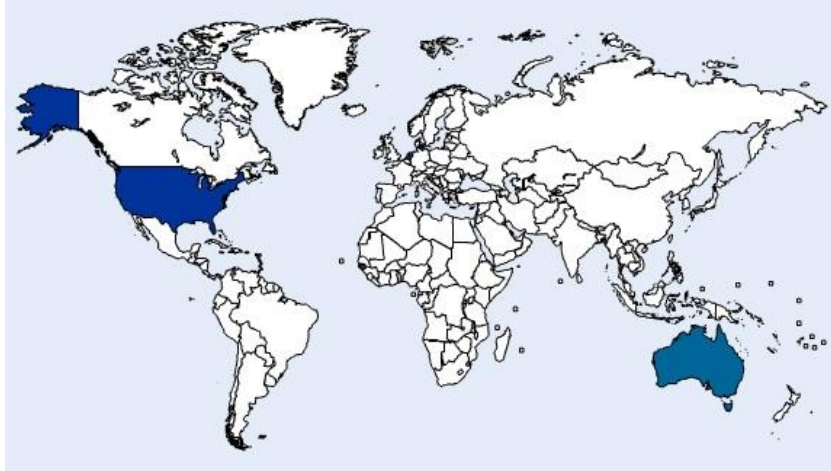


## What is the objective of SEA?

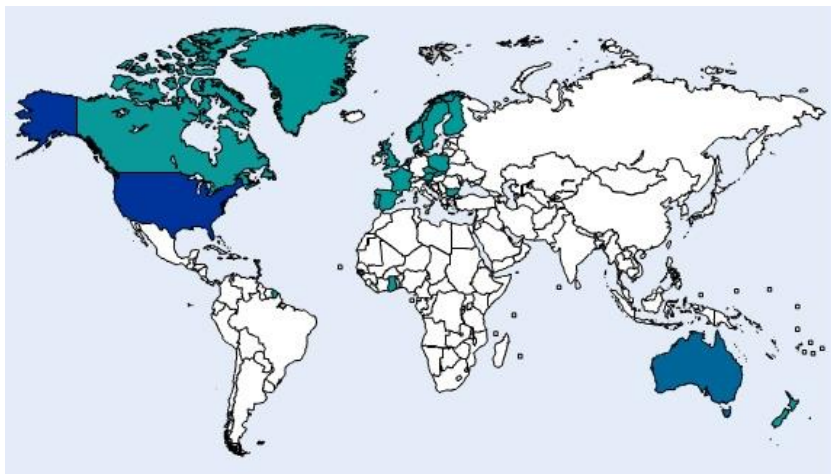
- SEA is a tool to improve government planning and decision-making
- SEA complements planning and:
  - Aims to **integrate** environmental, incl. climate change issues into government plans and
  - Evaluate their inter-linkages with **economic** and **social** considerations
  - Facilitates a public and governmental **debate** on these issues



Where is SEA used? before 1990

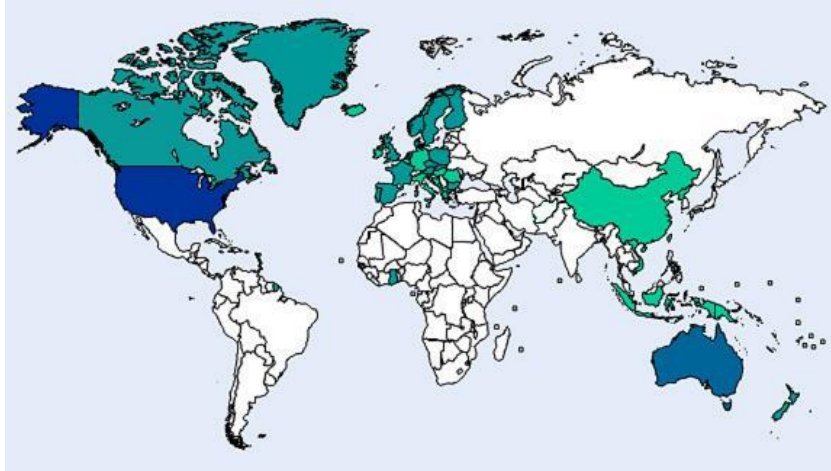


SEA legislation implemented 1990-1999

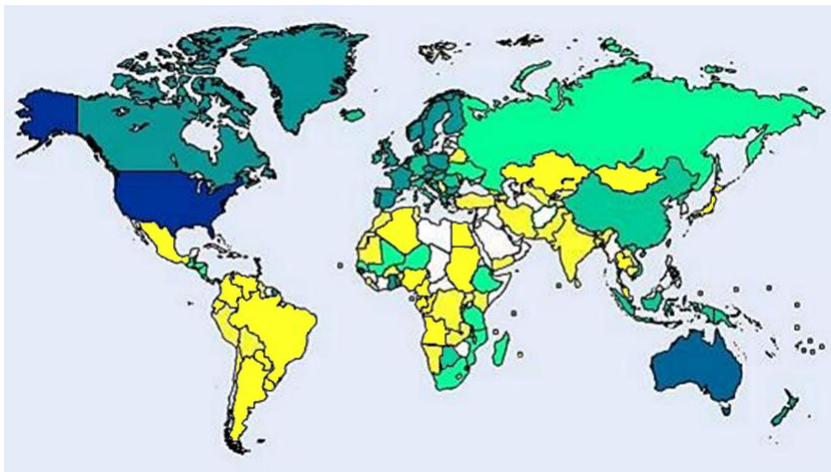




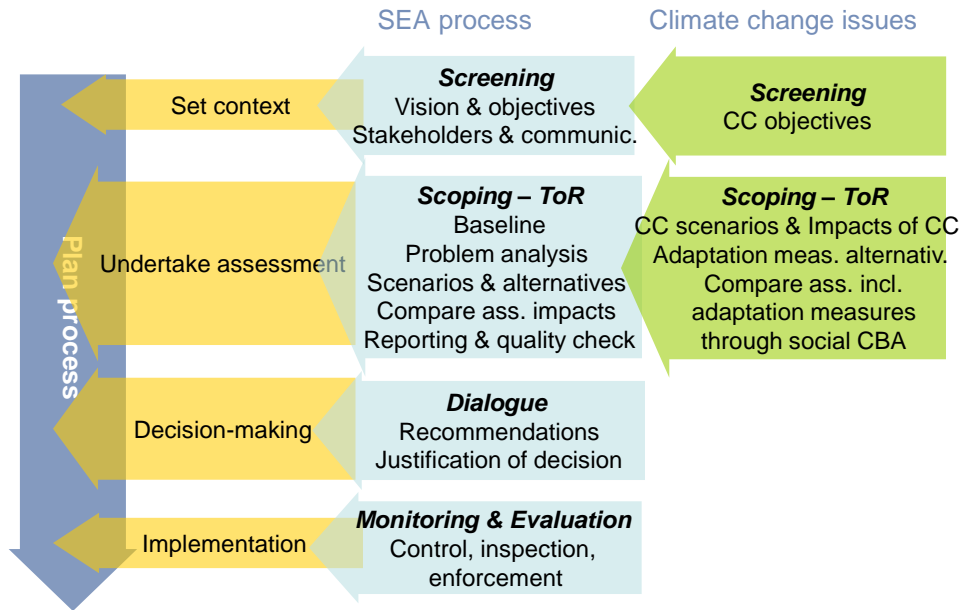
SEA legislation implemented 2000-2008



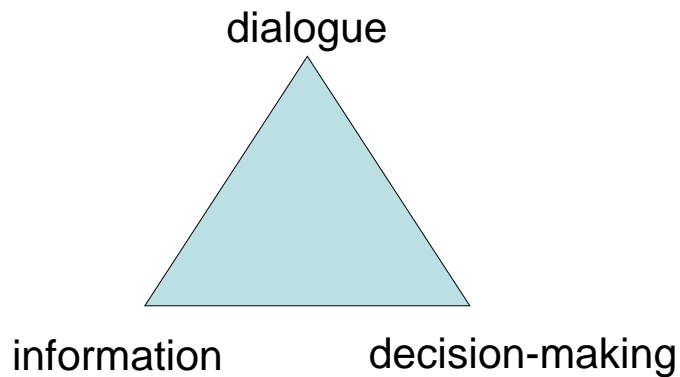
Legal basis ~ 60, SEA reported nearly all countries



## How Climate change is included in SEA



## What are key elements of SEA?





## SEA Socio economic Master plan 2010-'20 An Giang province, Vietnam

### Request by: Governor of An Giang Province:

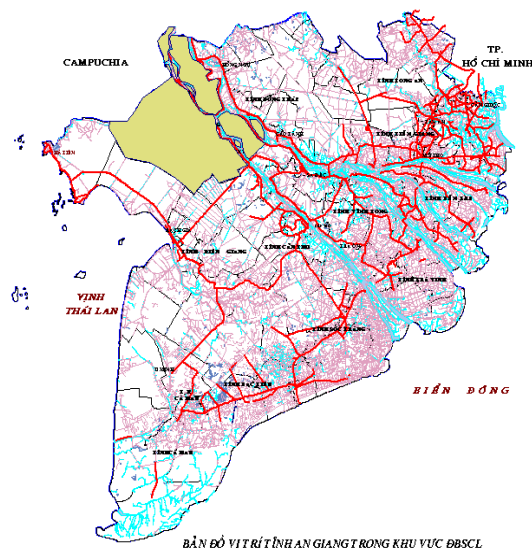
- Develop a climate proof Master plan 2010-'20 (> 2050)
- Starting point:
  - Draft Master plan 2010-2020
  - Provincial climate change plan (2010)
  - Obligation to execute SEA for MP
- SEA
  - Used to link CC action plan to new Master plan
  - Dialogue between all departments



## An Giang province

### Characteristics

- 2.2 M. inhabitants
- Gateway to the Mekong delta
- 2nd largest rice producer
- 1st fish producer







## Investments planned draft Master plan

### Agriculture

- > irrig. area 2→3 crops
- clean agriculture

### Aquaculture

- applic. of int. standards

### Urban areas

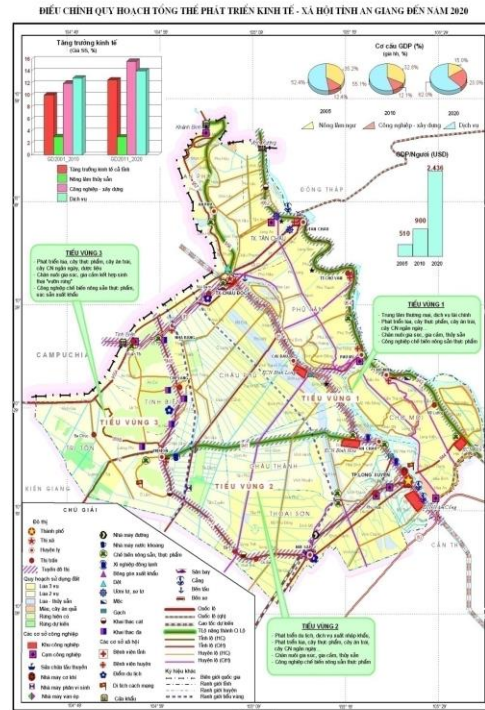
- extension

### Industry

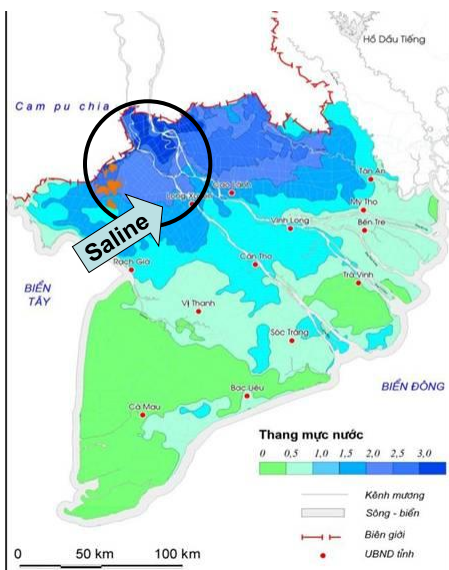
- 4 new zones ~1000 ha

### Infrastructure

- 1 int. seaport, 1 airport
- new prov. nat. roads
- int. railway



## Climate change impacts (CC action plan)



### Main impacts:

- Flooding
- Drought
- Temperature rise
- Salt intrusion

Impacts described in CC action plan (2010) but NOT linked to planned investments!



Main impacts:

- Peak flow in wet season decreases
- Flow in dry season more stable
- Sediment discharge decreases, negative impact e.g. fish production

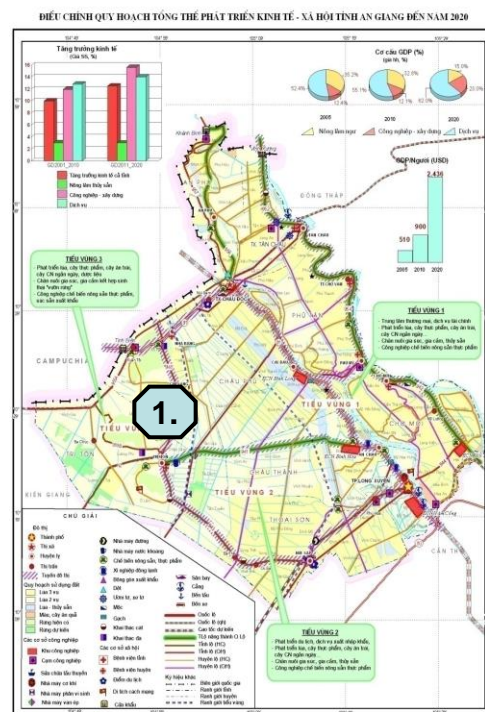
→ Combined CC & Mekong imp. considered in SEA new MP

ICEM and MRC - SEA of hydropower on mainstream Mekong River

## Climate change adaptation measures:

1. drinking water basins
2. construction of sluices and canals
3. develop dike system

→ Focus on grey adaptation



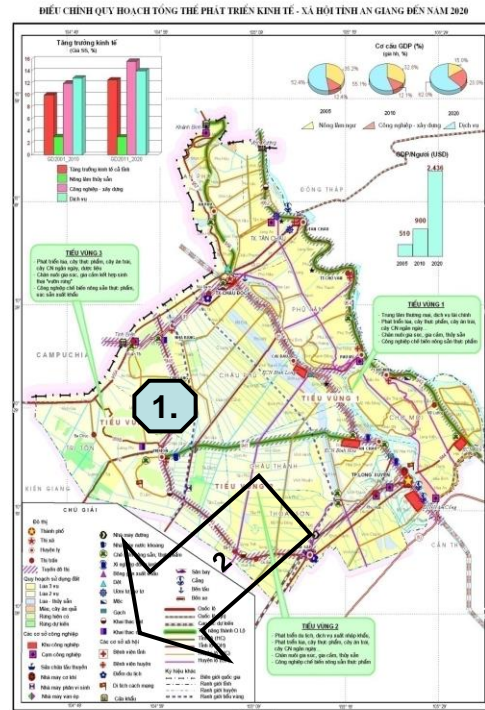


## Investments planned Master plan 2020

Climate change  
adaptation measures:

1. drinking water basins
2. construction of sluices  
and canals
3. develop dike system

→ Focus on grey  
adaptation

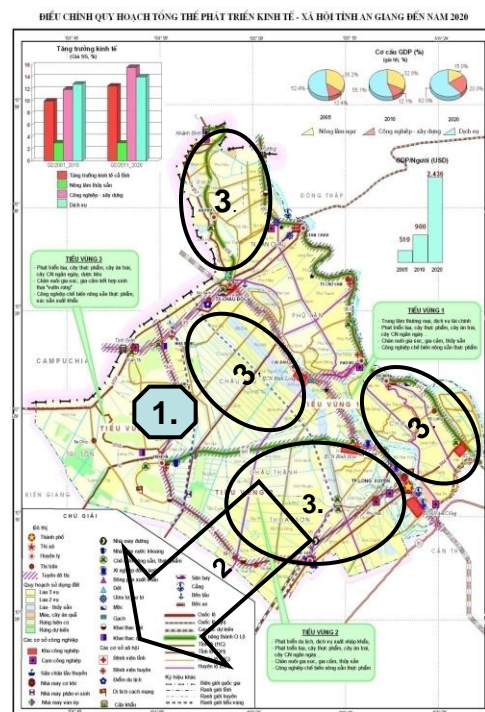


## Investments planned Master plan 2020

Climate change  
adaptation measures:

1. drinking water basins
2. construction of sluices  
and canals
3. develop dike system

→ Focus on grey  
adaptation





## Lessons learned

- Province strong mandate for CC, steering districts & commun.
- Provincial climate change action plan
  - Too general, no info on risks and no measurable objectives
  - Scenarios for climate yes, for Mekong no
- Draft Master plan
  - Investments not climate proof
  - Only technical adaptation meas. technical, down stream impacts not considered
  - inter-provincial coordination nearly absent
- Need for Delta plan
- SEA helpful to develop climate proof Master plan



Naam spreker, Titel presentatie of onderwerp, datum van de presentatie, plaats

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## SEA – LUP Ajara region, Georgia

- Ajara autonomous region –semi-tropical 2000-4000mm
- 2nd richest & 0.5 M inhabitants
- Econ. Corridor & Tourism spot
- Young democracy
- Strong will for green growth
- Vulnerability to CC is low





## SEA for LUP Ajara region, Georgia

### Request by Governor of Ajara region

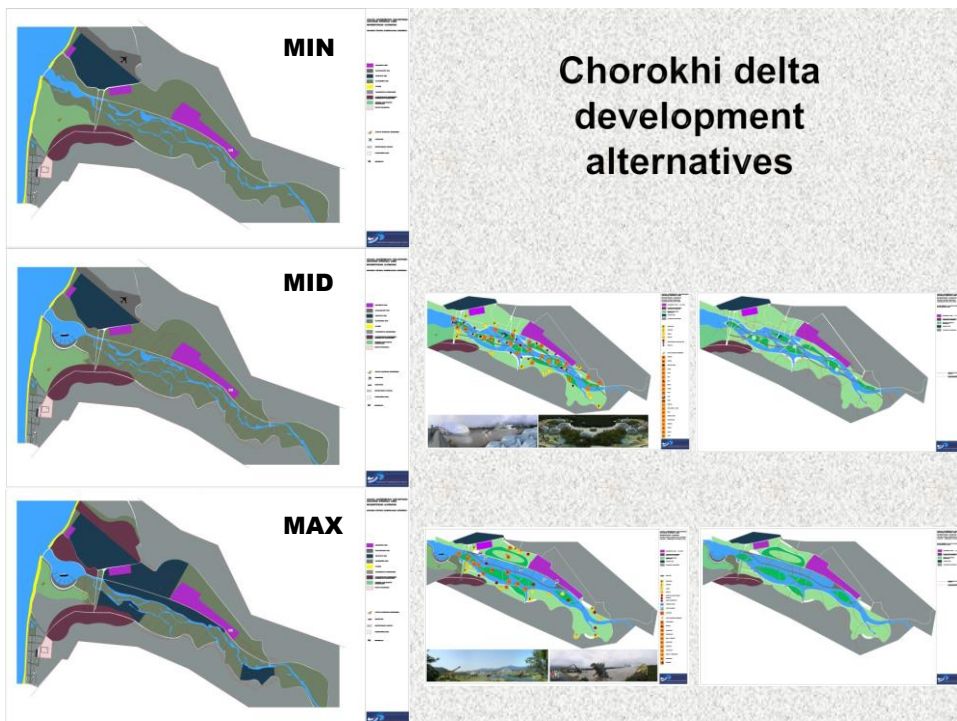
- Develop land use plan for the region and districts

### Starting points:

- Vision for Adjara 2030
- Uncontrolled economic development
- No planning tradition & tools
- Climate change is NOT an issue

### SEA:

- Support land use planning
- Develop alternatives to feed public debate

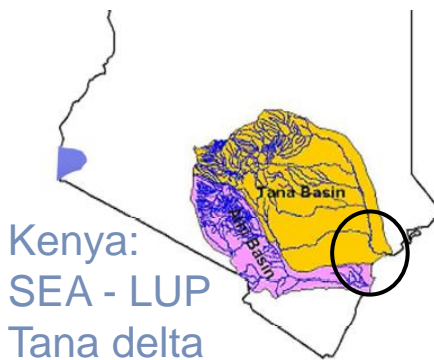






## Lesson learned

- Leadership by the Governor
- SEA supportive to climate proof planning
  - CC awareness raising (gov. & public)
  - CC factor in discussing alternative development options





## TANA DELTA

- 130,000 ha – semi-arid climate 200-600mm
- 80.000 people (farmers; pastoralists; fishers)
- Key biodiversity – bird area
- Flooding regime determines land use and biodiversity value
- Vulnerable to climate change
- Discharge < 50% since 1995
- Conflicts between different groups!



## Vision 2030 planned developments

### Upper Tana

- Hydro-power development
- Irrigation projects

### Lamu port development

- Use of Tana fresh water

### Tana delta - Agricultural developments e.g.

- Rice 40,000 ha
- Jatropha 200.000 ha
- Sugar 90.000 ha



## Objective of the SEA – LUP

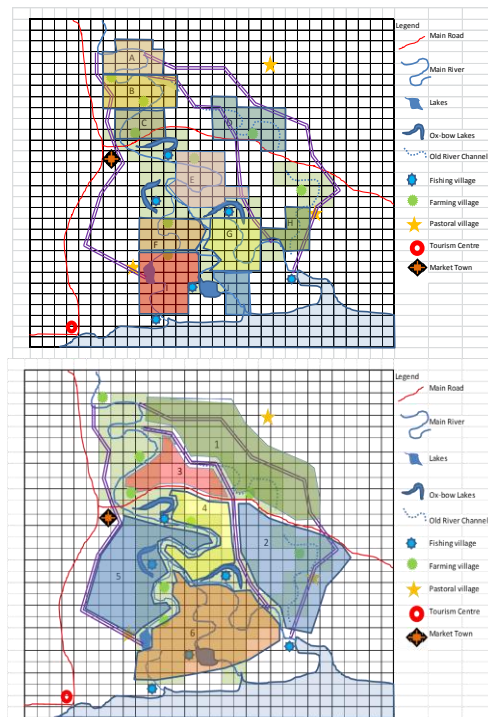
- Developing agricultural potential
- Securing livelihoods of the people
- Securing biodiversity value

Conflicting objectives?



## Alternatives

- Alt. 1 AD+
- Alt. 2 Comm.
- Alt. 3 Hybrid
- Climate change
  - Floods
  - Sea level rise







## Conclusion: Added value of SEA?

### SEA supports government planning by:

- Considering climate change resulting in:
  - Agenda setting
  - Integrating climate change issues
  - Taking long term planning horizon
  - Achieving climate change objectives
- Identifying better (climate proof) alternative development options
- Building stakeholder commitment
- Preventing conflicts