Impact assessment and mitigation measures in SEA

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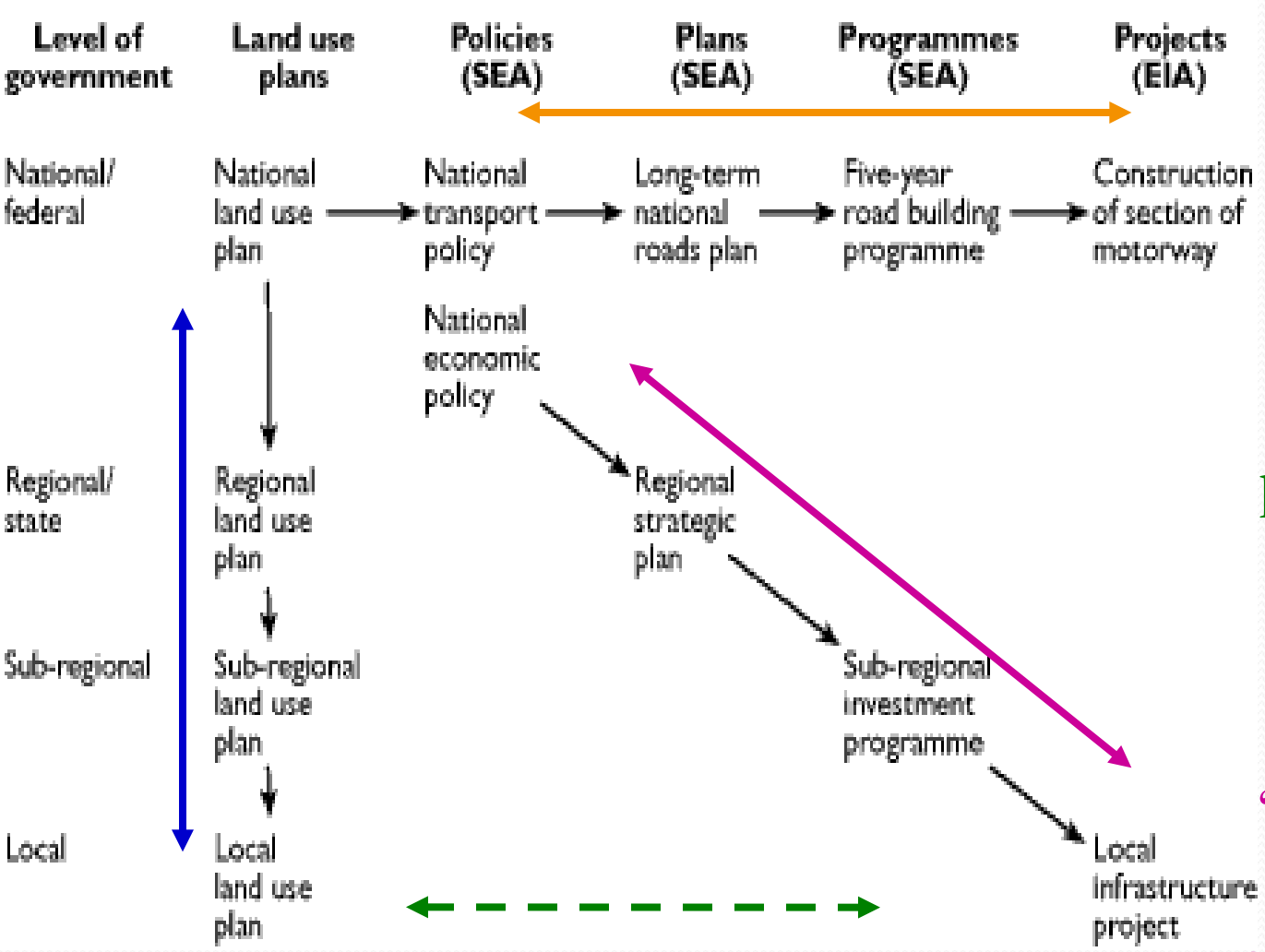
Tiering - linking of assessments/initiatives to achieve a logical hierarchy and avoid unnecessary duplication of assessment work.



- "systematic tiering";
- "administrative tiering";

"horizontal tiering" across sectors, same admin levels

"diagonal tiering"- across sectors, different admin levels

SEA Approach

- Policy based analysis
- Impact based analysis

Methods used

Policy based analysis

- Policy context analysis
- Objective analysis
- SWOT analysis
- Scenario analysis
- GIS
- Multi-criteria analysis
- etc

- Result: Policy based recommendations

Impact based analysis

- Scenario analysis
- GIS
- Multi-criteria analysis
- etc

- Result: Impact-based mitigation measures

Case study 1: Strategic environmental Review of USELF Project (Ukraine)

- USELF: Ukraine Sustainable Energy Lending Facility – EBRD financed project:
  - SHPP, biomass, biogas, wind farms,
- Strategic environmental analysis (SER):

http://www.uself.com.ua/fileadmin/uself-ser-en/1/ER%20Non-Technical%20Summary_compressed.pdf

- Methods used:
  - Scenario analysis (Handout 1)
  - GIS: screening tool has been prepared and used by EBRD and their clients

The Ireland Grid25 Implementation Programme 2011-2016 Strategic Environmental Assessment

Case study 2. Irish Grid25

Implementation Programme (IP) 2011-2016

- Methods used:
  - Strategic environmental objectives analysis (Handout 2)
  - Alternative\scenario analysis
  - Environmental Constraints Mapping
- Mitigation measures (Handout 3):

(1) High-level preventative mitigation measures

- EMM 1. Full Integration of Planning and Environmental Considerations in Transmission System Planning;
- EMM 2. Preparation of Strategic Environmental Constraints Mapping;
- EMM 3. Preparation of Evidence-based Environmental Guidelines
- EMM 4. Consideration of the Broadest Possible Range of Alternatives in all future Energy Transmission Strategies;
- EMM 5. Preparation of Transmission Development Plan Environmental Appraisal Report;
- EMM 6. Ongoing Co-operation in preparation of Renewable Energy Generation Guidelines and Strategies; and,
- EMM 7. Integrating Offshore Grid connectivity requirements and environmental considerations in EirGrid's Strategic Environmental Framework (SEF).

EMM-3 Evidence-based Environmental Guidelines

- Environmental Benchmarking Studies
- Evidence-Based Environmental Design Guidelines
- Guidelines on EIA for Transmission Projects in Ireland

EMM8 Other Measures Integrated into the IP

9.9.1 EMM8A Biodiversity and Flora and Fauna

- 9.9.1.1 EMM8A(i) Designated European and National Sites of Nature Conservation Interest
- 9.9.1.2 EMM8A(ii) General Habitat Loss and Disturbance
- 9.9.1.3 EMM8A(iii) Bogs and Peatland areas
- 9.9.1.4 EMM8A(iv) Birds
- 9.9.1.5 EMM8A(v) Bats

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Monitoring measures

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source Monitoring	Frequency
Air				
Climate				
Water				
Soil				
Biodiversity				
Health				
Cultural heritage				
Human lifestyle				

Impact assessment

Group exercise

Impact-based analysis

- Step 1: Baseline condition analysis (done)
- Step 2: Typical impacts of different types of generation (partly done):
  - Small HPP (high-mountain river bed)
  - Wind PP
  - Solar PP
  - Biomass:
    - Agricultural production rests (mainly, manure)
    - waste burning
  - Geo-thermal
- Step 3: Mitigation measures addressing impact

Typical impacts of different types of generation (group exercise suggested by participants, to be finalized at home)

Generation	Air	Climate	Water	Soil	Biodiversity	Health	Cultural heritage	Human life style
SHPP								
Solar								
Wind								
Biomass								
- Manure								
- Waste burning								
Geo-thermal								