



HUSZPO

HRVATSKA UDRUGA STRUČNJAKA ZAŠTITE PRIRODE I OKOLIŠA

PRVA REGIONALNA KONFERENCIJA O PROCJENI UTJECAJA NA OKOLIŠ
FIRST REGIONAL CONFERENCE ON ENVIRONMENTAL IMPACT ASSESSMENT
Zadar, Croatia • rujan/september 18-21, 2013.

Tihana MATOTA, Aleksandra ANIĆ VUČINIĆ, Nenad MIKULIĆ

**ANALYSIS OF ALTERNATIVES IN STRATEGIC ENVIRONMENTAL
ASSESSMENT PROCESS AS INSTRUMENT USED IN PHYSICAL
PLANNING DECISIONS**

**ANALIZA VARIJANTNIH RJEŠENJA U POSTUPKU STRATEŠKE PROCJENE
UTJECAJA NA OKOLIŠ KAO SREDSTVO DONOŠENJA PROSTORNO-PLANSKIH
ODLUKA**

Tihana Matota, MA.arch. • Ministry of construction and physical planning, Republic of Croatia.
Ulica Republike Austrije 20, 10 000 Zagreb, Croatia • (tihana.matota@mgiipu.hr)
Aleksandra Anić Vučinić, Ph.D. • University of Zagreb, Faculty of Geotechnical Engineering, Department
for environmental engineering, Hallerova aleja 7, 42 000 Varaždin, Croatia
Nenad Mikulić, Ph.D. • Eko Invest, Ltd., Draškovićeva 50, Zagreb, Croatia

**ANALYSIS OF ALTERNATIVES IN STRATEGIC ENVIRONMENTAL ASSESSMENT PROCESS AS INSTRUMENT USED IN PHYSICAL
PLANNING DECISIONS**

Introduction:

The implementation of SEA of physical planning:

- in the Republic of Croatia is still in inception
- in EU has been implemented for some 20 years

Types of interrelation between SEA and physical planning (Therivel, R. i
Partidário, M. R. eds, 1996):

- environmental impact assessment-based model
- parallel model
- integrated model
- decision-centred model

The impacts of SEA on physical plans:

- direct impacts (change of solution, solution added/omitted, a new approach to solution selection)
- indirect impacts (informs the general public and decision-makers, effect on subsequent decisions)

Creation of reasonable alternatives

This paper assumes that one of the indicators of SEA effectiveness in physical planning is primarily the selection of the most appropriate alternative.

SEA can be defined as “proactive assessment of alternative solutions” (Noble, 2000)

Possible sources of alternatives:

- higher level plans and strategies
- public consultation responses
- planning body's own staff
- previously completed assessments
- scoping report; key stakeholders

Good alternatives need to be feasible and their number needs to be reasonable.

Reasonable content:

cost-efficient, sociologically well-founded, environmentally sustainable

Reasonable number:

1. of objectives,
2. of alternatives defined for each objective

Metodology and Results

To examine this issue, 3 foreign examples have been analysed:

1. SEA for The Collinstown Local Area Plan 2009 – 2015, Ireland (2010)
2. SEA for The City Plan 2, Glasgow, Scotland, United Kingdom (2009)
3. SEA for The Port of Poole Master Plan, United Kingdom (2012)
4. SEA for the Physical Plan of Primorje - Gorski Kotar County, Croatia (2012)

The 4 analysed cases have been selected according to four principal criteria:

- from the countries with a developed tradition of SEA implementation in physical planning (except number 4)
- analysis of alternatives, often marginalised during the process of physical planning and SEA permeates the mentioned cases
- the cases are not older than 4 years, due to the supposed development of the SEA process
- the cases are comparable with Croatia due to some geographic, sociological or demographic features

ANALYSIS OF ALTERNATIVES IN STRATEGIC ENVIRONMENTAL ASSESSMENT PROCESS AS INSTRUMENT USED IN PHYSICAL PLANNING DECISIONS

1. SEA for The Collinstown Local Area Plan 2009 – 2015, Ireland (2010)

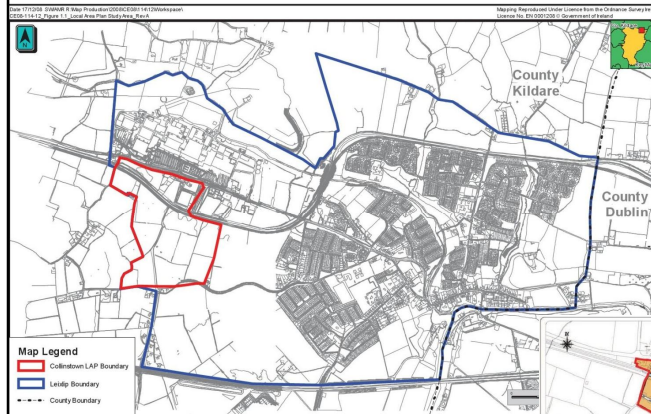


FIG. 1. Collinstown Local Area Plan Study Area

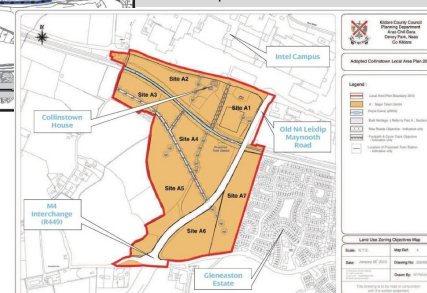
Environmental objective	Scenario 1	Scenario 2	Scenario 3	Key
Water	+	✓/✓	✓	Positive Impact
Biodiversity	+	✓/✓	✓	Positive Impact
Cultural heritage	?	✓/✓	✓	No Impact
Landscape	?	✓/✓	✓	Positive or Negative
				Uncertain - Need Info

TABLE 1. Assessment of Planning Scenarios

Alternatives considered:

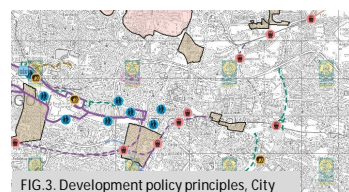
- Scenario 1: Relaxed Planning
- Scenario 2: Additional planning in Leixlip
- Scenario 3: Strict Planning

FIG. 2. Adopted Collinstown Local Area Plan



ANALYSIS OF ALTERNATIVES IN STRATEGIC ENVIRONMENTAL ASSESSMENT PROCESS AS INSTRUMENT USED IN PHYSICAL PLANNING DECISIONS

2. SEA for The City Plan 2, Glasgow, Scotland, United Kingdom (2009)



SEA proposed a wide range of alternatives in a manner that 2 (opposite) or 3 alternatives were opposed for each group of planning policies

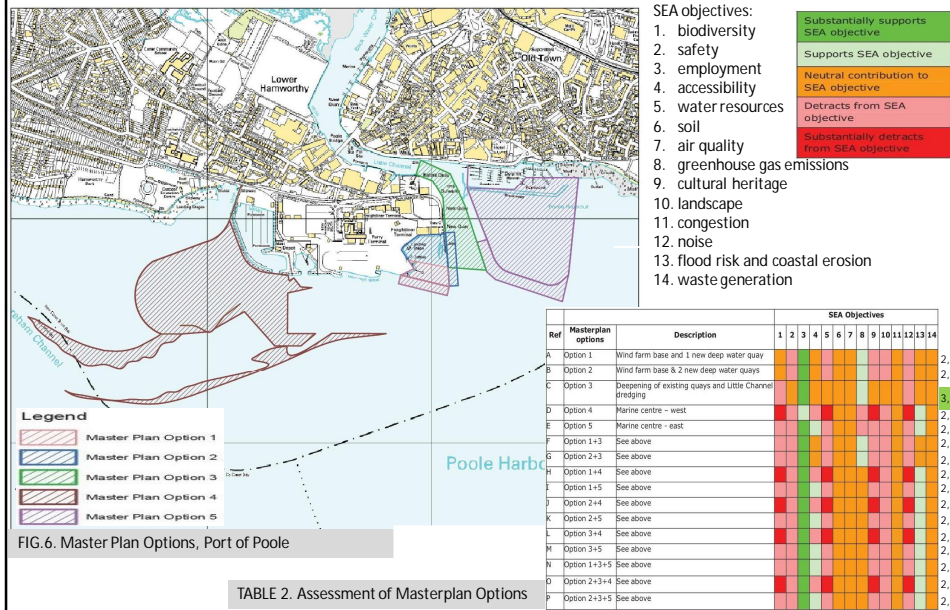
Planning policies:

- development policy principles
- design policies
- residential policies
- industry and business policies
- retail and commercial leisure policies
- transport and parking policies
- environmental policies

An analysis was performed concerning the impact on: *people, the economy and the environment*

ANALYSIS OF ALTERNATIVES IN STRATEGIC ENVIRONMENTAL ASSESSMENT PROCESS AS INSTRUMENT USED IN PHYSICAL PLANNING DECISIONS

3. SEA for The Port of Poole Master Plan, United Kingdom (2012)



ANALYSIS OF ALTERNATIVES IN STRATEGIC ENVIRONMENTAL ASSESSMENT PROCESS AS INSTRUMENT USED IN PHYSICAL PLANNING DECISIONS

4. SEA for the Physical Plan of Primorje - Gorski Kotar County, Croatia (2012)

45 projects of significant importance for the Republic of Croatia and County have been assessed. For 3 of them alternatives have been proposed:

Motorway A7 – section Permani-Grobničko Polje (Konj):

Option 1: northern alternative/ total score of 13 (significant impact)

Option 2: southern alternative/total score of 15 (moderate impact)

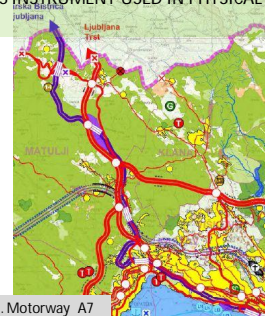
Port for reloading of petroleum coke:

Option 1: North-East coast of Kostrena peninsula, near cape Babno/total score of 30 (not significant impact) and potentially significant cumulative impact

Option 2: South- Western coast of Kostrena peninsula, cape Škrkovac/total score of 28 (not significant impact) and potential cumulative impact

Combined gas power plant: Option 1: on the South- Western coast of Kostrena peninsula, cape Podurinj/total score of 31 (not significant impact)

Option 2: near the location of the planned liquefied gas terminal in Omišalj on the island of Krk/ total score of 21 (moderate impact) and potential significant cumulative impact



Results and discussion

- Case number 1 (Collinstown Local Area Plan)
 - alternatives are realistic and feasible
 - number 3 has been defined a priori as the most favourable
 - SEA has been sufficiently focused on the analysis of the other two alternatives
 - comparing two less probable alternatives with a more probable one can highlight the quality of the selected alternative
- Case number 2 (City Plan 2, Glasgow)
 - in most cases only one of the proposed alternatives is acceptable and has been selected a priori
- Case number 3 (Port of Poole Master Plan)
 - this case has used SEA in the most comprehensive manner
 - realistic proposals
 - a reasonable number of the proposed alternatives and sub-variants
 - alternatives have been realistically and impartially assessed
- Case number 4 (Physical Plan of Primorje - Gorski Kotar County)
 - for only 3 out of 45 projects alternatives have been proposed
 - alternatives are realistic and substantial (in project number 2 and 3)

Conclusions

- Defined in real terms, comprehensively assessed and democratically selected, alternative solutions can contribute to physical planning decisions.
- Impact of SEA on physical planning is more apparent in lower level physical plans or in insufficiently urbanized areas, whereas in case of strategic documents assessment of a priori selected solutions is common.
- Early commencement of implementation of SEA is requirement for effective SEA in physical planning.
- Physical planning needs to accept and recognize the role of the person in charge of creation and selection of the planning solution, it has to be open to alterations, corrections, adding or omitting of planning solutions throughout the entire process by all the participants.

THE END