

Contents

1	Introduction	1
1.1	The Ljusnan River and the Two Proposals at a Glance	3
1.1.1	The Dönje Hydropower Proposal	4
1.1.2	The $-2,+1$ Hydropower Proposal	7
1.2	Structure of the Brief	8
	References	9
2	The Dönje Hydropower Scenario	11
2.1	The Basic Cost-Benefit Rule	11
2.2	The Impact of Changed Water Flow at the Hydropower Plant	16
2.3	Contingent Valuation Study of Improved Downstream River Basin	17
2.4	The Cost of Electricity Foregone	20
2.5	Pollution Externalities of Replacement Power	23
2.6	Social Discount Rate	23
2.7	Results	25
2.8	Sensitivity Analysis	27
2.8.1	Demand Changes	28
2.8.2	A Stochastic Sensitivity Analysis Based on Simulation Techniques	29
	References	32
3	The $-2,+1$ Hydropower Scenario	35
3.1	A Sketch of the Theory Behind the Approach	35
3.2	Background	37
3.3	The Proposal and its Main Consequences	38
3.4	Web Survey	41
3.5	A Sum-Up of the Proposal's Impact	44
	References	46
4	A Brief Comparison of the Approaches and an Outlook	49
	References	54

Appendix A: A Simple General Equilibrium Cost-Benefit Rule	55
Appendix B: On a Win-Win Situation and the (Strong) Pareto Criterion	59
Appendix C: The Questionnaires	63
Index	65

Evaluating Water Projects

Cost-Benefit Analysis Versus Win-Win Approach

Johansson, P.-O.; Kriström, B.

2013, VIII, 67 p. 11 illus., 2 illus. in color., Softcover

ISBN: 978-3-642-36789-2