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Strategic Environmental Assessment as a Support in a Sustainable National Waste Management Program—European Experience in Serbia

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Abstract: Strategic Environmental Assessment (SEA) is one of the most important instruments for directing the strategic planning process toward the sustainable development goals in various areas of human activity. This also applies to the field of waste management. By applying SEA in waste management planning, it is possible to see the benefits and consequences of the proposed changes in space that will occur during the implementation of strategic planning concepts and based on that make appropriate decisions respecting the capacity of the space where the planned activities are implemented. The paper presents the application of SEA for the National Waste Management Program with all its spatial, organizational, energy, environmental, and other solutions, and the way they are included in the specific method of multicriteria evaluation in SEA. The specificity of the methodological approach indicates the need for equal consideration of environmental and socio-economic aspects of development and a clear presentation of the results obtained in order to make optimal decisions in waste management planning at the national level. The National Waste Management Program in Serbia, which legislation in the field of environmental protection and waste management is harmonized with EU legislation and directives, was chosen for the case study. The obtained results indicate the importance of an interdisciplinary approach in the evaluation of strategic solutions in the field of waste management, which is achieved by specific choice of environmental and socio-economic SEA goals and indicators as a basis for valorization of the proposed concept of waste management.

Keywords: waste management; strategic environmental assessment; strategic planning; multicriteria evaluation; decision making

Citation: Josimović, B.; Manić, B.; Krunić, N. Strategic Environmental Assessment as a Support in a Sustainable National Waste Management Program—European Experience in Serbia. *Energies* **2022**, *15*, 4568. https://doi.org/10.3390/en15134568

Academic Editors: Robert Oleniacz and Katarzyna Grzesik

Received: 8 June 2022
Accepted: 21 June 2022
Published: 22 June 2022

1. Introduction

The term Strategic Environmental Assessment (SEA) was launched in 1989 in the UK, with the concept itself derived from project-oriented environmental impact assessment (EIA). The principles of SEA and EIA were the same [1]. Over time, the range of SEA interpretations has begun to expand and was used for other types of assessments that differ from those based on the principles of project EIA. Recent definitions describe the SEA less rigorously, as "a systematic process for evaluating the environmental impact of a proposed policy, plan or program to ensure that it is fully integrated and adequately addressed at the earliest possible stage of decision-making, on an equal footing with economic and social considerations" [2]. International financial institutions, such as the World Bank, consider the SEA to be "a participatory approach to increasing the impact of social and environmental issues on development planning, decision-making, and implementation processes at the strategic level" [3].

A large number of authors have written about the role and importance of SEA in policy-making in various spheres of social action and the role of this instrument in decision-making since the early 1990s [4–7]. Additionally, the European Strategic Environmental

Assessment Directive 2001/42/EC stipulates that the SEA is carried out for plans, programs, and foundations in various areas, inter alia, the waste management area. By applying SEA in waste management planning, it is now possible to see the consequences of proposed planning solutions and changes in space, taking into account the needs of the space and the environment users and defining adequate measures for protection and monitoring of potentially endangered elements of the environment, with the inevitable involvement of the public in all phases of the development and adoption of the SEA. In this context, it is evident that SEA contributes to the decision-making process in waste management planning [7–13].

SEA represents a contribution to the evaluation of the key strategic planning solutions at the national and/or regional strategic level of waste management [14]. The paper elaborates on the implementation of the SEA for the National Waste Management Program in the Republic of Serbia for the period 2022–2031 (NWMP). NWMP is the highest strategic document at the national level in the field of waste management in Serbia. The results of the SEA process provide support in making decisions on the eligibility conditions of the NWMP in relation to environmental objectives. In the context of good decision making for obtaining the sustainability of solutions defined in NWPM, consideration of various aspects of possible impacts is based on a holistic approach that unequivocally points to the application of multicriteria evaluation in the development of SEA for waste management plans [15–23]. The SEA concept for NWMP was based on this specific and innovative approach to a modern waste management system, which is elaborated below. The SEA was implemented for the needs of the NWMP, which sets strategic goals for improving the waste management system and the basic principles that should guide all waste management participants to achieve these goals in Serbia for the period from 2022 to 2031. The implementation of this Program, in addition to reducing the harmful impact on the environment and climate change, should enable the realization of preconditions for the use of waste in the circular economy, development goals, and measures determined in a special program. Additionally, special programs are being developed for the establishment of a waste sludge management system from wastewater treatment plants and for the treatment of animal waste. Management of agricultural, mining, and medical and pharmaceutical waste is planned by sectoral planning documents. The vision resulting from the analysis of the current situation and potential in the field of waste management is to minimize the impact of waste on the environment and increase resource efficiency on the principles of circular economy, which provides control of waste generation, waste utilization, and incentives to invest and affirm economic opportunities. This vision can be achieved by consistently applying principles based on reducing environmental pressures and ensuring a better quality of life for citizens, maintaining a clear and sustainable development perspective, and building a supportive environment for the establishment of a circular economy model. Following the vision, the general and specific goals of waste management have been determined and the measures and instruments, and activities necessary for their realization, have been developed. The overall goal is to develop a sustainable waste management system to conserve resources and reduce negative environmental impacts and space degradation. This includes reducing the amount of generated waste, reducing the amount of waste in landfills that can be reused as raw material, energy source, or in some other way, reducing the share of biodegradable waste in municipal waste, reducing the negative impact of landfilled waste on the environment, climate and human health, and waste management according to the principles of the circular economy.

To achieve the general goal of the Program, special goals have been set:

- Improved municipal waste management system through increased recycling rate and reduced waste disposal in the unsanitary landfills;
- Established system of sustainable management of hazardous and industrial waste;
- Increased rate of collection, reuse, and recycling of special waste streams and more efficient usage of resources;

- Strengthened capacity of institutions in the field of waste management and harmonized regulations with EU regulations.

Along with the Law on Waste Management and the Regulation on Landfills, the NWMP is the main strategic document for the establishment and implementation of waste management systems in Serbia. The development of the SEA for NWMP was approached to direct the planning process toward the goals of sustainable development, i.e., achieving the goals defined in the SEA related to environmental protection and socio-economic aspects of development. The obtained results were the basis for deciding on the sustainability of the NWMP.

The originality of the scientific approach is reflected in the specific choice of SEA goals and indicators in relation to which the procedure of multi-criteria evaluation of variant and software solutions is carried out. An interdisciplinary approach is, therefore, realized in the assessment of the anticipated changes in space and environment that are expected during the implementation of the NWMP. In addition, applying this approach creates assumptions that decision-makers have a clear insight into the expected results (positive impacts) and implications/consequences (negative impacts) of the proposed changes, in relation to the symbiosis of environmental and socio-economic aspects of development.

This paper is designed as follows: after the introductory part (Section 1), which is a review of literature and research in the field of SEA implementation, presents the methodological framework used in the SEA for NWMP (Section 2), and then summarizes the process of evaluating software solutions in NWMP—case study (Section 3). After that, in Section 4, the results of the conducted procedure are elaborated through a discussion, and the advantages, problems, and proposed directions of further research in the field of SEA application are given in the conclusion (Section 5).

2. Methodological Framework

Theoretical studies in the field of environmental and waste management planning [24–26] aim to directly define appropriate waste management systems and waste planning methods. The methodological frameworks used in the SEA process itself appear to be an important tool for planning a sustainable waste management system [7]. However, the concept of SEA methodologies, unlike the diverse precise software and highly operable tools used in environmental engineering or other science-based fields, is rather vague [27]. By analyzing the theoretical assumptions about the possibility of applying appropriate methodologies and scientific methods in the SEA procedure [28–33], we can conclude that SEA relies on qualitative consideration and techniques, and therefore expert assessment plays a more important role. The methodological framework in the development of the SEA is therefore based on a planning approach and the application of multicriteria evaluation of planned strategic determinants in relation to the capacity of space as a basis for the valorization of space for sustainable development. The procedure and methodological framework of the SEA are presented in Figure 1.

As shown in Figure 1, the initial stage in the SEA process is to decide on the need to develop and encompass the SEA, with the participation of the professional public and relevant institutions. After this follows the analytical part of the SEA which includes analysis of the plan document, i.e., planned concepts and strategic guidelines, and GIS tools-based analysis of the current state of the environment [34], analysis of relations with other planning documents and strategies, and identification of environmental problems. Based on the analytical work, the objectives of the SEA and the related indicators are determined, and the criteria for evaluation are defined. This is followed by an impact assessment procedure wherein the first phase the impact of variants/scenarios is assessed and then the most favorable variant is selected. Qualitative expert evaluation of variant solutions by NWMP sectors is performed in relation to the SEA objectives and relevant criteria. Then the process of multicriteria evaluation (semiquantitative method) begins, which is the spotlight of this paper. Based on the results of the multicriteria evaluation, actions are defined to limit the possible negative effects of NWMP in the process of its

implementation. The SEA report summarizes all the results of the SEA (including opinions obtained through the public participation process) and makes decisions based on the non-adoption, necessary changes, or abandonment of the NWMP.

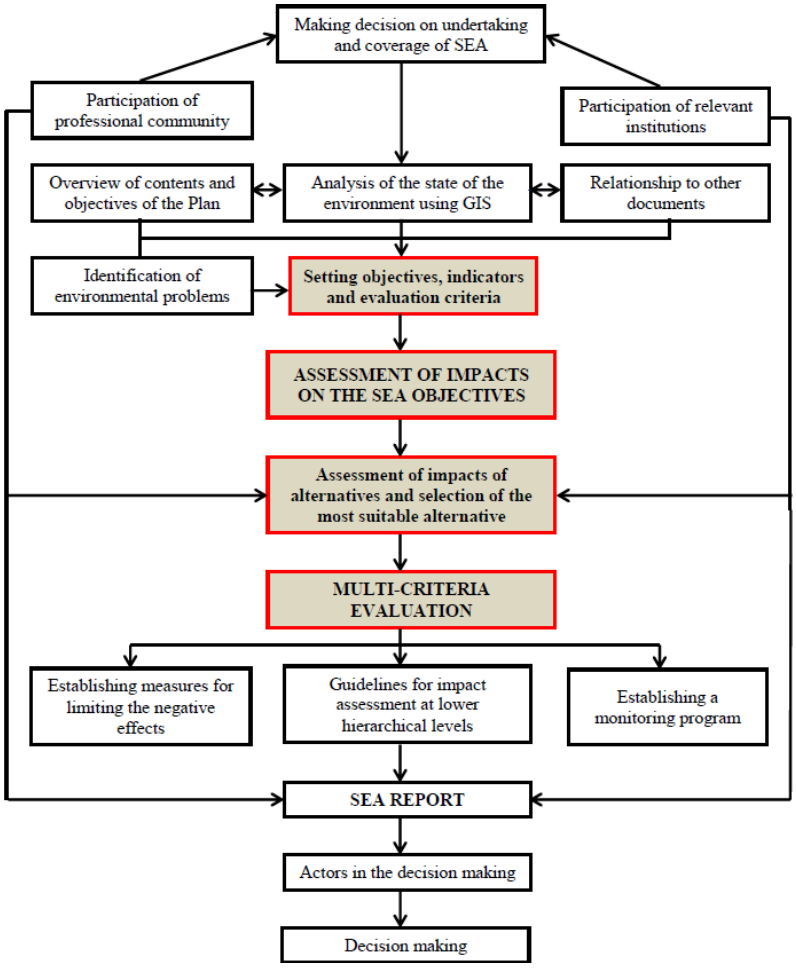

Figure 1. SEA Procedure and Methodological Framework.

3. Case Study: SEA for NWMP

The multicriteria evaluation of possible solutions, activities, and the NWMP conceived solutions is the key phase in the development of the SEA. It is performed for all NWMP strategic planning solutions concerning the defined SEA objectives and related indicators and also in relation to the evaluation criteria.

3.1. SEA Goals and Indicators

A sensitive step in this phase is to define goals and indicators. Defining the SEA objectives for the NWMP was conditioned by the results and predictions of the analytical work, and it resulted in the definition of 16 specific SEA objectives and 21 related indicators against which the sustainability of the solutions proposed within the NWMP was assessed. The goals are set in relation to environmental receptors and cover all aspects of sustainable development. The selection of SEA objectives and relevant indicators (Table 1) is harmonized with the Rulebook on the National List of Environmental Indicators [35]. The selection of indicators listed in Table 1 is in line with the planned activities in the field of implementation of the Program and its possible impacts on the quality of the environment, and will be used to evaluate the solution.

Table 1. Selection of SEA targets for relevant indicators in relation to environmental receptors.

SEA Area	General Objectives of SEA	Specific Objectives of SEA	Indicators
AIR AND CLIMATE CHANGE	Reduction of the air pollutants levels	-To reduce emissions of pollutants into the air -Introduction of cleaner technologies	-Reduction of air pollutants (%) -Change in greenhouse gas emissions, primarily CH_4 and CO_2 (%) -Introduction of BAT and increase of RES share in the balance (%)
WATER	Protection and preservation of surface and groundwater quality	-To reduce surface and groundwater pollution to levels that do not adversely affect the quality -To mitigate the negative impact of waste on the hydrological regime and water quality	-Serbian Water Quality Index (SWQI) * -Change of water regime -Contaminated (untreated) wastewater * -Change of water quality class (%)
LAND	Protection and sustainable use of forest and agricultural land	-Protection of forest and agricultural land -To reduce soil degradation -To minimize the area of land contaminated with waste management activities	-Change in forest land area (%) -Change in agricultural land area (%) -Area of land contaminated due to waste management activities (ha) -Area of land that has been rehabilitated
NATURAL VALUES	Protection, conservation, and improvement of landscapes, natural values and biodiversity, and geodiversity	-Landscape protection -Protection of natural values and areas -To preserve biodiversity and geodiversity—avoid irreversible losses	-Share of the recultivated in the total area of degraded areas (%) -Management of contaminated sites * -Number of endangered species of flora and fauna that may be affected by waste management activities
CULTURAL AND HISTORICAL HERITAGE	Preserve protected cultural assets	-Protection of cultural property, preservation of historical buildings and archaeological sites	-Number and importance of protected immovable cultural assets that may be affected by the activities of the waste management sector
SOCIO-ECONOMIC DEVELOPMENT	Improvement of the health of the population	-To reduce the impact of waste on the health of the population	-Frequency of diseases that can be associated with inadequate waste management -Number of people affected by the noise produced by a waste transport
	Strengthening of the institutional capacity	-To strengthen capacities for waste management -Developing awareness and public participation	-Measures to strengthen the capacity of the administration -Number of participatory programs
	Stimulation of the economic development	-To stimulate the economic development -To promote local employment	-Local government revenues from the waste management sector -Reduction of the number of unemployed as a result of employment in the waste management sector (%)

* definition, description of indicators, and calculation methodology are given in the Annex to the Rulebook on the National List of Environmental Indicators ("Official Gazette of RS", No. 37/11).

3.2. SEA Evaluation Criteria

Analyses of the possibilities of the implementation primarily of spatial, but also problem perception of possible impacts, resulted in the decision for the SEA to form 5 groups of criteria with a total of 18 individual criteria.

The first group of criteria was defined for monitoring environmental trends in different NWMP variants/scenarios. These are general criteria, adequate for this phase of the evaluation. Criteria for evaluating NWMP variant solutions are shown in Table 2.

Table 2. Criteria for evaluating variant solutions.

Label	Trend
+	overall positive impact
−	total negative impact
0	there is no direct influence or vague influence

The other 4 groups of criteria were used in the multi-criteria evaluation of planning solutions, and they relate to the size (intensity) of the impact; spatial dimensions (spatial dispersion) on which influence can be achieved; the likelihood that some estimated impact will occur in reality; and frequency (duration) of impacts (Table 3).

Table 3. Criteria for assessing the impact of individual strategic decisions from the NWMP.

Kind of the Impact	The Spatial Dimension of the Impact	Probability of the Impact	Frequency of Impact
Very favorable (+3)			
Favorable (+2)	**National (N)**	Quite sure (Q)	
Positive (+1)	**Regional (R)**	Likely (Lk)	Temporary (T)
Neutral (0)	**Municipal (M)**	Possible (Ps)	Long-term (Lt)
Negative (−1)	Local (L)	Unlikely (U)	
Unfavorable (−2)			
Very negative (−3)			

The significance of the identified impacts for achieving these goals is evaluated based on the criteria for estimating the size and spatial scale of the impact of planning solutions on the SEA goals. The NWMP's strategically important impacts are those that have strong or greater (positive or negative) effects at the national, regional, or municipal level (bolded criteria in Table 2).

3.3. Multicriteria Evaluation in SEA for NWMP

The phase of evaluation of plan variants and selection of the most favorable variant was the phase that preceded the semiquantitative method of multicriteria evaluation of individual solutions in the NWMP. This is the phase of monitoring in which environmental trends may arise as a consequence (negative trends) or as a result (positive trends) of the implementation of strategic solutions. Identification of positive and negative impacts of NWMP variants is performed by matrices in which variant solutions are crossed by NWMP sectors in relation to SEA objectives, and according to the criteria from Table 2 (Table 4). In this specific case, the SEA for NWMP processed the following variant solutions:

- variant A—reference scenario ("business as usual") which implies the continuation of the application of existing practices in waste management
- variant B—a scenario with the application of NWMP and all anticipated propositions

After assessing the impact of plan variants and predicting possible and positive trends in the environment that imply variant solutions of the plan, a decision was made on the selection of the most favorable variant solutions. The selection of the most favorable variant solutions represent the first significant contribution of SEA in the process of waste management planning, because in this phase the variants of the plan that may imply significant negative impacts on the environment and socio-economic aspects of development are eliminated.

After selecting the most favorable variant solutions, the selection of key and priority planning solutions is made, which will be included in the process of multicriteria evaluation (Table 5).

Table 4. Illustrative overview of the matrix for assessing the impact of variant solutions of the plan in relation to the objectives of the SEA for NWMP.

Area of Development	Variants	Development Scenario	SEA Goals															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Establishing a sustainable waste management system	A	The establishment of a waste management system is not integral but partial and partially realized, which is not in line with modern principles and good practices. Problems are not solved systemically, which leads to several problems in the functioning of the system, and problems in the environment become more pronounced. Due to inadequate pre-treatment of waste at the regional level, increasing amounts of waste are generated, which are disposed of inadequately in local landfills. The dynamics of the (un) implemented proposition of the existing Strategy led to the fact that instead of building unique regional waste management centers with the necessary infrastructure, there are still a large number of local landfills which, due to their functioning, have negative impacts on environmental quality. All this implies problems in the environment and institutional organization, and waste is not used properly as a resource that is neither economically nor environmentally acceptable.	–	–	–	–	–	–	–	–	–	–	0	–	0	0	0	0
	B	Introduction of primary waste separation, reduction of waste production, an increase of waste recycling rate. Establishment of an integrated network of waste management facilities. Reduction of biodegradable waste disposed of in landfills. Establishment of a system for collecting special waste streams. Closure and remediation of existing local landfills and ban on disposal of untreated waste at the landfill. Extending the scope of the waste collection service. All these activities will contribute to all aspects of environmental protection. Changes in the way of financing the waste management system, establishing a market in waste management, and institutional and organizational strengthening of this area, altogether will achieve multiple positive effects on the environment and socio-economic aspects of development in the waste management sector.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Table 4. *Cont.*

Institutional changes	A	...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	B	...	0	0	0	0	0	0	0	0	0	0	0	+	+	+	+
Socio-economic aspects	A	...	−	−	−	−	−	−	−	−	−	−	0	−	−	0	−	−
	B	...	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+

Table 5. Solutions in NWMP covered by the multicriteria evaluation.

Num.	NWMP Program Solutions
1.	Reduction of waste production and increase of waste recycling rate following the EU directives
2.	Establishment of an integrated network of municipal waste management facilities
3.	Extension of waste collection coverage up to 100%
4.	Establishment of a network of transfer (transshipment) stations
5.	Establishment of a network of recycling yards
6.	Reduction of biodegradable waste in landfills with monitoring of the success of taken measures
7.	Biowaste composting
8.	Construction of a waste energy production plant in Belgrade
9.	Construction and fully functional and infrastructural equipment of regional sanitary landfills for non-hazardous waste
10.	Construction of regional hazardous waste warehouses
11	Closure and remediation of existing landfills and reclamation sites
12.	Establishment of mobile facilities for treatment of construction and demolition mineral waste
13.	Construction of a national facility for Physico-chemical treatment of hazardous waste
14.	Establishing capacities for incineration of organic industrial and medical waste at the national level
15.	Construction of a landfill/cassette for hazardous waste disposal
16.	Construction of large plants for biological treatment of bio-waste separated at the place of origin
17.	Construction of advanced RDF plants for mixed municipal households waste
18.	Waste management organization, including the division of responsibilities between the public and private sectors in the field of waste management
19.	Improving the institutional set-up for waste collection (inspection, training, establishment of regional companies, improvement of information system and reporting)
20.	Financing the waste management measures
21.	Conducting information campaigns on waste management for citizens
22.	Providing treatment for environmentally friendly waste in Serbia
23.	Strengthening the environmental inspection
24.	Measures to conduct public awareness campaigns and inform the general public or target groups of stakeholders
25.	Contaminated sites management
26.	Measures and instruments for the implementation of the Program

In this phase, and according to the similar principle as in the phase of the evaluation of variant solutions, matrices were formed as well (Tables 6 and 7). In them, all planning solutions shown in Table 5 intersect with the objectives of the SEA and are evaluated based on the first two groups of criteria from Table 3—significance/size of the impact and spatial scale/dispersion of the impact. Matrices were formed only for the first two groups of

criteria because they were sufficient to identify strategically significant impacts, which is elaborated in point 3.2.

After the multicriteria evaluation of planning solutions, based on the results presented in the matrices (Tables 6 and 7), the identification of strategically significant impacts of planning solutions was approached by synthesizing the key impacts of the plan on the defined SEA objectives (Table 8).

Table 6. Illustrative presentation of the assessment of the importance of the impact of the NWMP program solutions.

Solution in NWMP	SEA Goals															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduction of waste production and increase of waste recycling rate in accordance with EU directives	+1	0	+1	+1	+1	+1	+2	+2	+2	+1	0	0	0	0	+2	+1
Construction of regional hazardous waste warehouses	−3	0	−3	0	0	−3	−2	0	0	−3	0	−2	+3	0	0	+1
Measures and instruments for the implementation of the Program	+2	0	+2	+2	+2	+2	+2	+1	+1	+1	+1	0	+2	0	0	0

Table 7. Illustrative presentation of the spatial scale assessment of the NWMP program solutions.

Solution in NWMP	SEA Goals															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Reduction of waste production and increase of waste recycling rate in accordance with EU directives	N		N	N	N	N	N	N	N	N					L	L
Construction of regional hazardous waste warehouses	L		R			L	L			L		L	N			L
Measures and instruments for the implementation of the Program	N		L	L	L	L	L	L	L	L	L		N			

Table 8. Illustrative presentation of the identification of strategically significant impacts of the NWMP program solutions.

Solution in NWMP	Identification of the Impact Rank		Explanation
	SEA Goal	Impact Rank *	
Reduction of waste production and increase of waste recycling rate in accordance with EU directives	7	N + 2/Lk/Lt	Greater, positive, long-term effects of national importance are expected in: the treatment of waste as a resource; reducing uncontrolled landfilling, i.e., reducing the amount of waste disposed of, meeting national, regional and local targets in the waste management sector, minimizing inadequate waste management, meeting national recycling targets, increasing investment in waste management system elements.
	8	N + 2/Lk/Lt	
	9	N + 2/Lk/Lt	
Construction of regional hazardous waste warehouses	1	L − 3/Ps/T	Strong negative impacts on basic environmental factors are possible in the case of hazardous waste ending up in the environment during transport or storage. There are some strong long-term positive effects of a national character in the context of strengthening the hazardous waste management capacity, which has not been adequately addressed at a national level so far.
	3	R − 3/Ps/T	
	6	L − 3/Ps/T	
	10	L − 3/Ps/T	
	13	N + 3/Q/Lt	
	15	N + 2/Ps/Lt	

Table 8. *Cont.*

Solution in NWMP	Identification of the Impact Rank		Explanation
	SEA Goal	Impact Rank *	
Measures and instruments for the implementation of the Program	1	N + 2/Lk/Lt	Measures and instruments for the implementation of the Program, which are structured through general waste management measures; hazardous waste management measures; construction and demolition waste management measures; and measures for the management of special waste streams, will have a greater positive impact on environmental factors and strengthening of the organizational, financial, and institutional capacity for waste management at the national level.
	13	N + 2/Q/Lt	

* Determining the rank of impact according to the criteria in Table 3.

The presentation of identified strategically significant impacts is tabular as in Table 8, where, in addition to determining the rank of impacts (column 3), an explanation of the impacts is given.

This completes the multicriteria evaluation process, which is the basis for defining appropriate measures to limit negative impacts, guidelines for impact assessments at lower hierarchical levels, and monitoring programs, which are also an integral part of the SEA process and SEA study. All of the above is the basis for making appropriate decisions about the NWMP.

4. Results and Discussion

The NWMP is a strategic framework for the implementation of waste management policies and measures at the national level. The possible implications that may arise in the environment as a result of the implementation of the NWMP and the significant participation of the public in the decision-making process unequivocally indicates the need for careful consideration of this aspect when designing waste management policy. The nature of the planned activities and possible impacts, on the one hand, and the significant spatial coverage of the NWMP, on the other, is the reason for the significant public interest in waste management plans. In this context, the role of environmental impact assessment is especially important. In the earliest phase of waste management policy development, it has the function of a control instrument directing the entire strategic planning process towards sustainability goals. It is the SEA that meets these specific requirements.

NWMP is specific since it conceives a substantially changed waste management system compared to the existing one, which was assessed in the SEA as unsustainable and environmentally unacceptable (variant A—business as usual). By applying the SEA process and multicriteria evaluation of variant and strategic solutions in the NWMP, all participants in the process of developing and adopting the SEA were able to see all space and environment-related key trends expected during the implementation of the NWMP.

Identification of the negative impacts of NWMP individual planning solutions, such as, e.g., NWMP program solution "Construction of regional hazardous waste warehouses" (Tables 6–8) and other solutions not presented in this paper, provides a basis for defining appropriate measures for environmental protection and monitoring, as well as for defining guidelines for impact assessments (SEA or EIA) at the lower hierarchical levels.

The motive for the analysis presented in this paper was to approach the concept of the application of the semi-quantitative method of multicriteria evaluation in SEA for NWMP. This would increase subjectivity in designing optimal solutions and conclusions in SEA and thus reduce the usual methodological shortcoming of the SEA—subjectivity of expert knowledge-dependent process and experiences. This, on the one hand, was partially achieved by forming the first group of criteria from Table 3, and, on the other hand, it gave a clearer idea of the directions of further research in the field of SEA methodology

development. Further research referred to in the conclusion of this paper would achieve a significant methodological step forward in the development and implementation of SEA, which has just begun with this paper and the conclusions presented at its end. In the SEA for NWMP, it was relatively easy to suggest to decision-makers which solution is most favorable for NWMP implementation and which program solutions cause implications in space and the environment. This was achieved by a methodologically sound approach, a clear way of presenting the results that enabled extensive public participation in the critical phases of the SEA, and the use of the semi-quantitative method in impact assessment as an appropriate approach for a strategic document such as the NWMP. Although susceptibility to political decisions is inevitable and almost always threatens professional decisions, in this case, the SEA's propositions to the NWMP unequivocally refers to decisions that are in the interest of environmental protection, so decision-making was fully in line with SEA recommendations.

5. Conclusions

The specificity and advantages of the presented SEA approach are reflected in the identification of objectives and indicators of SEA, which is based on the analysis of the complex symbiosis of environmental quality, strategic frameworks defined in various strategic and planning documents, and NWMP. The objectives and indicators obtained by this approach represent a good basis for assessing the complex implications of NWMP in space and the environment and the possible interactions of different sectoral commitments on the elements of sustainable development. A clear matrix presentation of the obtained results is particularly suitable for presenting the results of the multicriteria evaluation, which is especially important in the SEA phases with the participation of the public. However, at the level of strategic planning and management, it is not necessary, and due to the lack of appropriate inputs, it is often not possible to use different mathematical methods, such as ARAS—Additive Ratio Assessment [36], AERMOD [37], or AHP—Analytical Hierarchy Process [38], or a holistic and inclusive approach that brings together different actors and disciplines for a successful transition to a circular economy [39]. The results of the assessment in the SEA represent the basis for establishing adequate guidelines when applying these methods and some other methods at a lower hierarchical level of impact assessment, i.e., when developing EIA—Environmental Impact Assessment and ESIA (Environmental Social Impact Assessment) [40]. Therefore, this shortcoming should be understood conditionally, but it should not be neglected in the process of drafting the SEA and making appropriate decisions. It is especially important to increase objectivity in the SEA process by using the above mentioned and other software packages and mathematical methods whenever the specifics of strategic documents allow it. In this context, further research in the development and application of SEA should be directed towards combining qualitative-expert-subjective methods with compatible and applicable quantitative methods (based primarily on GIS tools, but without excluding different software models for so-called 'partial' assessment of individual elements of the environment in the SEA process). In other words, the future of the SEA should be sought in the application of semi-quantitative methods of multicriteria evaluation. When it comes to public participation in the SEA process, attention should be paid to challenges arising in specific circumstances, such as those present during the period and conditions of the COVID-19 pandemic [41].

Author Contributions: Writing—original draft preparation, review and editing B.J.; validation and formal analysis, B.M.; visualization, N.K. All authors have read and agreed to the published version of the manuscript.

Funding: This paper is a result of research funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia, contract number 451-03-9/2021-14/200006.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this study are publicly available in the SEA for the National Waste Management Program in the Republic of Serbia for the period 2022–2031 (in Serbian), accesible at https://www.ekologija.gov.rs/sites/default/files/inline-files/SEA%20Program_otpad%20RS_0.pdf (accessed on 1 June 2022).

Conflicts of Interest: The authors declare no conflict of interest.

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