

SEA in Austria and the Participative SEA Round Table Model

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Kerstin Arbter runs a consulting office for SEA and public participation in Vienna, Austria. Since 1997 she has been actively involved in 10 SEAs for waste management plans, site selection, urban and transport planning and plans for the reduction of air pollution. Most of these SEAs were carried out in Austria, some also in Germany, Luxembourg and Liechtenstein. In Vienna she developed the SEA Round Table together with Karin Büchl-Krammerstätter, head of the Viennese Municipal Department for Environmental Protection. The SEA Round Table is a participative SEA model, involving members of public administration, environmental NGOs and external experts throughout the entire SEA process. In these Round Table SEAs her role is facilitating and advising the SEA team. In further SEAs she reviewed environmental reports or scoping documents. Commissioned by the Austrian Federal Ministry for Sustainability and Tourism she carries out the annual SEA collection, collating remarkable SEAs all over Austria. For the ministry, she also facilitates the Austrian community of practise on SEA. She is co-author of two SEA handbooks (Austria and Liechtenstein).

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SEA in Austria and the Participative SEA Round Table Model

This article firstly gives an overview of Austria's SEA practice. Secondly it explores the effectiveness of a specific SEA approach, the SEA Round Table. The SEA Round Table is a participative SEA model, involving members of public administration, environmental NGOs and external experts throughout the entire SEA process. This SEA team seeks consensus on an environmentally sound plan or programme. The effects of this SEA Round Table approach are presented by a series of four SEAs carried out for the last four Viennese waste management plans from 1999 to 2018. These four case studies are quite specific SEA cases, which do not allow conclusions on overall SEA effectiveness in Austria. However, some of the outcomes give an idea of how SEA can actually contribute to more environmentally sound plans, which are also easier to implement.

Keywords: effectiveness; effects; SEA; public participation; relief of EIA; Round Table;

Introduction

This paper presents four SEAs which were carried out for the Viennese waste management plans 1999-2001, 2006-2007, 2011-2012 and 2017-2018. For these SEAs the participative SEA Round Table model was developed and applied. Based on these case studies, the paper deals with several SEA effectiveness dimensions:

- (1) Firstly, the substantive dimension, showing how the SEA Round Tables led to good outcomes on the ground by choosing environmentally and socially sound alternatives and by implementing mitigation measures.
- (2) Secondly, the transactive dimension, explaining how these SEAs substantially facilitated the subsequent EIAs and how these SEAs can be seen as an investment, which pays back in the long run, when projects can be approved and implemented without time consuming and expensive conflicts.

- (3) Thirdly, the pluralist dimension, showing how planning became much more participative by the SEA and how also political decision makers could benefit from this.
- (4) Fourthly, the knowledge and learning dimension, exploring how the SEA participants broadened their views and learned from each other.

Before dealing with SEA effectiveness the paper also provides an overview of SEA practice in Austria.

SEA in Austria – An Overview

Austria is a federal state with nine provinces. Planning competences are divided between the federal level, the provincial level and the community level. Due to this, there is no single Austrian SEA act. The SEA Directive was mostly implemented in various existing legislation at federal and at provincial level.

At the federal level there are 6 laws including SEA legislation. For a few plans and programmes the federal ministries are responsible, for instance in the sectors of waste management, noise prevention, emissions, transport planning, water management and radiation protection. At the federal level about 1-2 SEAs are carried out every year. There are several SEA guides and practice leaflets, e.g. for screening, for scoping or for SEAs for high level transport infrastructure (Austrian Federal Ministry for Sustainability and Tourism 2012-2017). There is one overall SEA guidance provided by the Austrian Academy of Sciences, Institute of Technology Assessment (2013). On behalf of the Austrian Federal Ministry for Sustainability and Tourism, the Environment Agency Austria runs an SEA website. Amongst other information, this website contains the Austrian SEA collection, a collection of SEA case studies with remarkable elements, which might also inspire other cases.

Some more plans and programmes are developed at the level of provinces, e.g. waste management plans, site selection plans for wind energy or industry, transport plans or action plans for noise prevention. The number of annual SEAs differs from province to province, depending on whether they have to prepare plans in the various sectors, and on their planning and SEA legislation. On average the number ranks from 1 to 10 every year in each of the nine provinces (Austrian Federal Ministry for Sustainability and Tourism 2017a). Most of the provinces have implemented the SEA Directive into their laws for land use (for the provincial and for the community level), waste management, provincial transport planning, noise prevention, agriculture, management for game population and for fishery (Austrian Federal Ministry for Sustainability and Tourism 2017b). However, two provinces passed SEA acts for their province. Several provinces published SEA guidelines, especially for local level SEAs or for transport SEAs (Austrian Federal Ministry for Sustainability and Tourism 2017b).

Most of the plans for which SEA is mandatory are developed by communities. These are the land use plans. Very often new projects, which need revisions to zoning, trigger changes of these plans. Therefore these SEAs are often 'project driven' with narrow room for manoeuvre and for reasonable alternatives. On average 100 SEAs are carried out annually at the local level all over Austria. The number varies quite widely throughout the provinces. There are provinces in which about 75 local level SEAs are carried out every year. And there are provinces with approximately 0-1 SEA per year. This is because of the individual SEA legislation and the practice of screening.

Despite the diversity in Austria's SEA practice, common is that they are integrated into the planning process. That means that the authority which develops the plan or programme also compiles the environmental report. Environmental authorities are involved in screening and scoping and they review the environmental reports.

However, it is the planning authority which decides whether and how comments are taken into account in the final plan.

Amongst the variety of Austria's SEAs, there is one special, highly participative SEA model, the SEA Round Table, which is presented on the following pages, especially in the light of its effectiveness.

The SEA Round Table – a participative SEA model

The reason

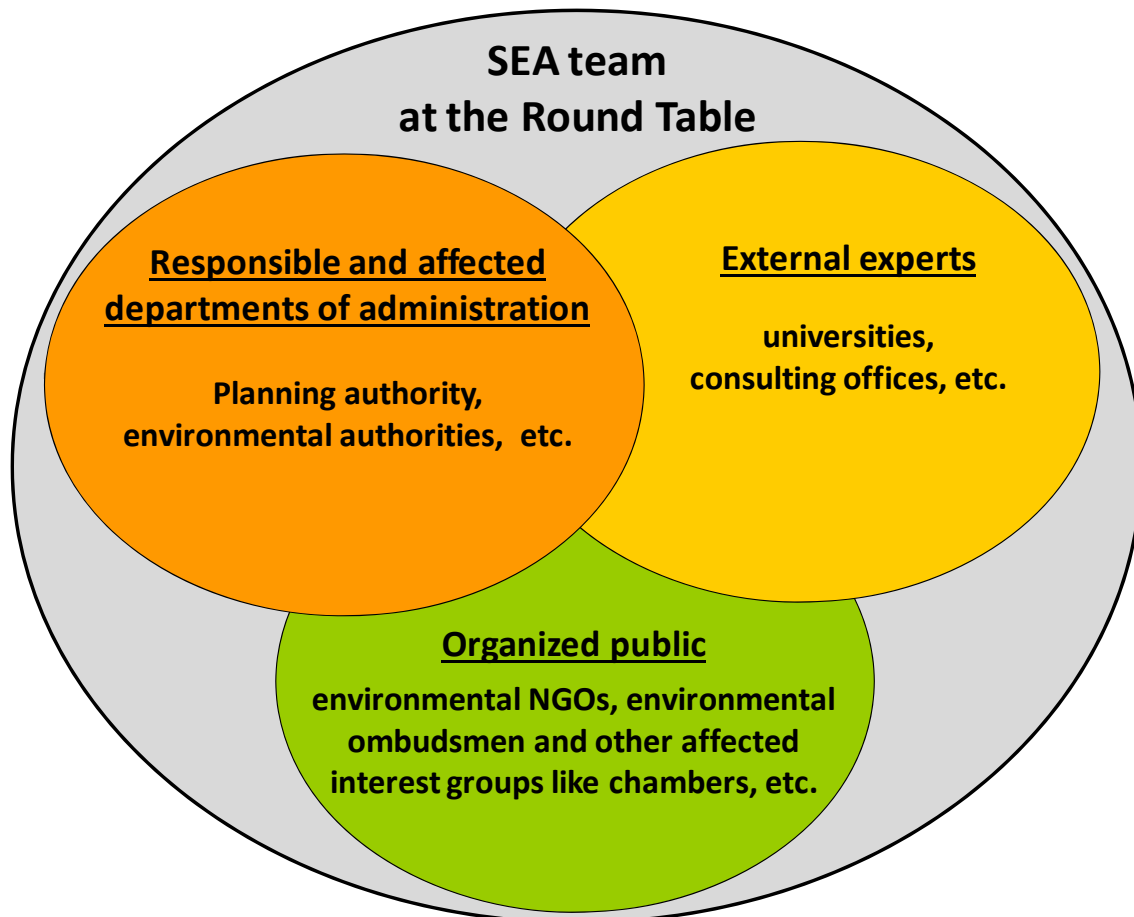
At the end of the last century bottlenecks in the capacities of the Viennese waste treatments plants became foreseeable. Off-the-record insiders rumoured that Vienna would need a third waste incineration plant. This was politically delicate, because of smouldering conflicts with environmentalists and neighbours of the two existing incinerations plants. This stalemate was overcome in a participative SEA process. The waste management plan was developed at an SEA Round Table. Members of Vienna city administration, environmental NGOs and external experts discussed around a table. Their task was to come up with a consensual waste management plan, which should ensure the disposal safety of Vienna and which should take environmental aspects into account. This participative process was quite effective in various aspects: On the one side it optimized the quality of the Viennese waste management plan significantly, and led to measures which were accepted and implementable. On the other side, it led to a new style of cooperation within the Viennese waste management community. In the meanwhile Vienna city administration has carried out three more SEA Round Tables for the following adaptations of its waste management plans. The SEA process was developed further each time. The SEA Round Table model was also 'exported' to other provinces in Austria and even beyond Austria e.g. to Luxembourg and Germany.

The concept

SEA Round Table means that the plan and the SEA are developed and carried out by an SEA team (Figure 1). The SEA team consists of representatives of the most affected authorities and interest groups, namely

- the responsible and affected departments of administration, including the planning authority and the environmental authorities
- environmental NGOs and environmental ombudsmen (and, if appropriate, other affected interest groups like the chamber of labour or the economic chambers) and
- external experts, e.g. from universities or consulting offices.

Figure 1. Members of the SEA team at the Round Table



The team consists of about 15-25 team members, so that everybody gets a chance to speak. They come together in several 1-2-day workshops to draft the plan, to assess the environmental impacts of alternatives and to finally try to find consensus on the best planning solution. The workshops are facilitated by an external expert for SEA and public participation. All team members are equal partners. They work together throughout the entire SEA process. In the workshops all team members can voice ideas and concerns of their organisations, e.g. concerning alternatives to be assessed, assessment criteria or environmental impacts of alternatives.

This analytic-deliberative SEA approach produces common understanding of the problems and issues at stake. It also leads to new options (alternatives) and solutions, as well as to common agreements and to consistent, optimized recommendations. It aims to find consensus on the plan, which should be the best achievable solution, taking environmental impacts into account (Renn et al. 2009). The result of the Round Table discussions is a draft plan, which is recommended to the political decision makers for formal adoption.

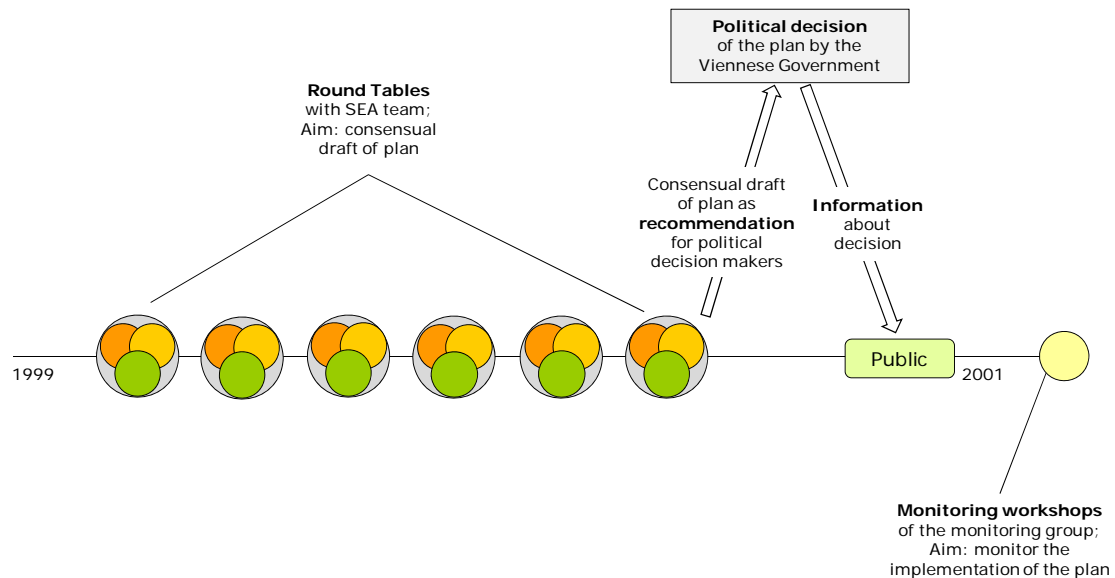
The process

The SEA Round Table was developed in Vienna in 1999 for drafting the Viennese waste management plan. At that time no legal requirements for SEA existed in Austria. Therefore there was room for developing a special SEA model – of course based on the amended proposal of the SEA Directive of 1999. The planning process and the SEA process were completely integrated to one joint process. Planning and SEA proceeded hand-in-hand, so that environmental aspects could be considered early in every single planning step.

The first process consisted of 6 SEA workshops involving the SEA team. Their draft plan was forwarded to the political decision makers for adoption. The public was

informed about the final plan. After the adoption the monitoring group monitored the implementation of the plan. They suggested further mitigation measures so that environmental effects could be minimized (Figure 2).

Figure 2. Process flow of the first Viennese SEA Round Table 1999-2001



The process was developed further for each of the following Viennese waste management plan SEAs. The second SEA Round Table process ran from 2006-2007. At this time legal SEA provisions were already in place. Therefore the formal written consultation on the draft plan and the environmental report was integrated into the process. The Round Table was kept as an informal participation element in the run-up to the formal consultation in order to enable early and effective participation in line with article 6(4) of the Aarhus Convention. Early informal participation should also foster the striving for consensus, which otherwise could be easily undermined by the procedure of eliciting comments, which generally polarizes between opposing views.

Furthermore further groups were involved according the ‘onion-shell-principle’. There were 3 engaged groups, which were differently affected and therefore also differently involved (Figure 3).

Figure 3. Three involved groups according the ‘onion-shell-principle’

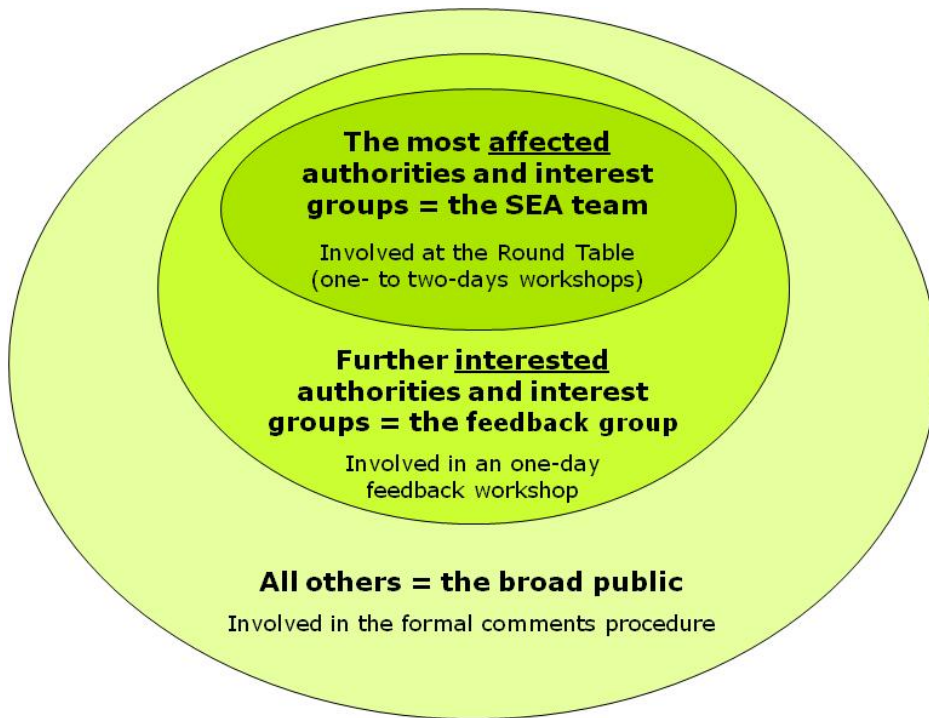
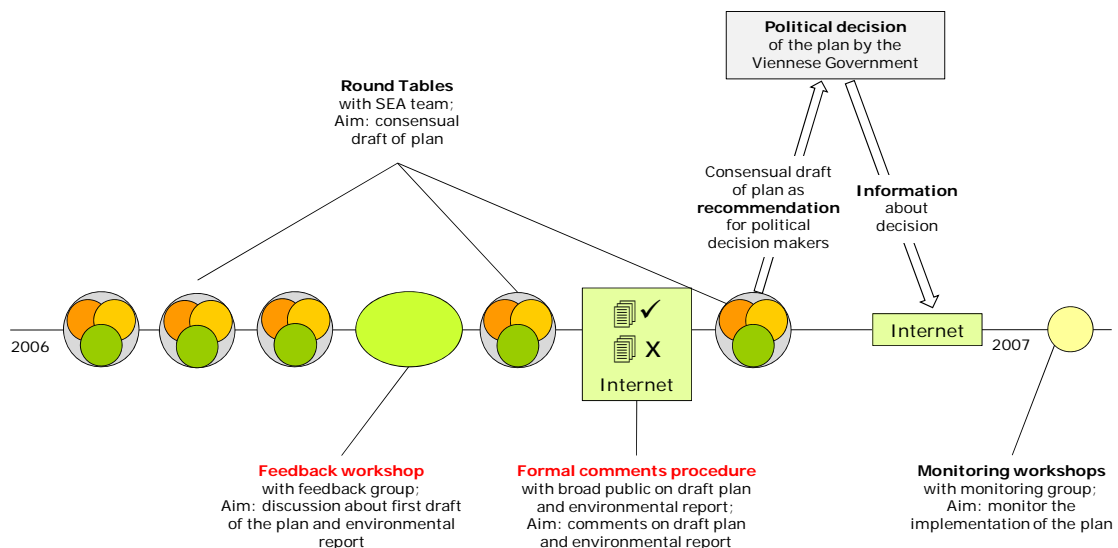


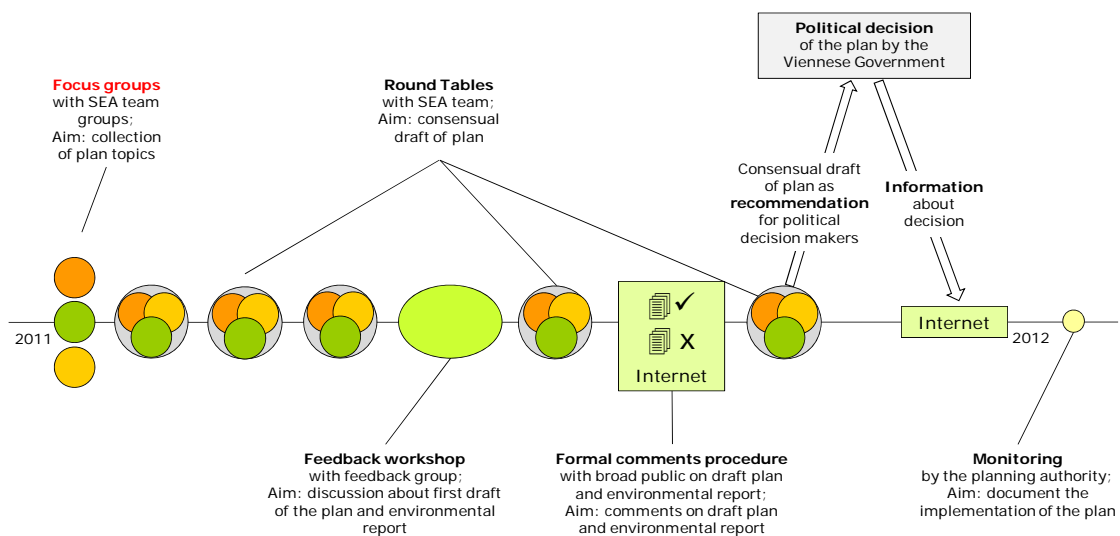
Figure 4. Process flow of the second Viennese SEA Round Table 2006-2007, integrating a feedback workshop for further interested authorities and interest groups and formal public consultation for the broad public



In the third Viennese SEA Round Table a further participation element was introduced right at the beginning of the process: Three focus groups were carried out for the three groups of the SEA team, namely public administration, environmental NGOs and

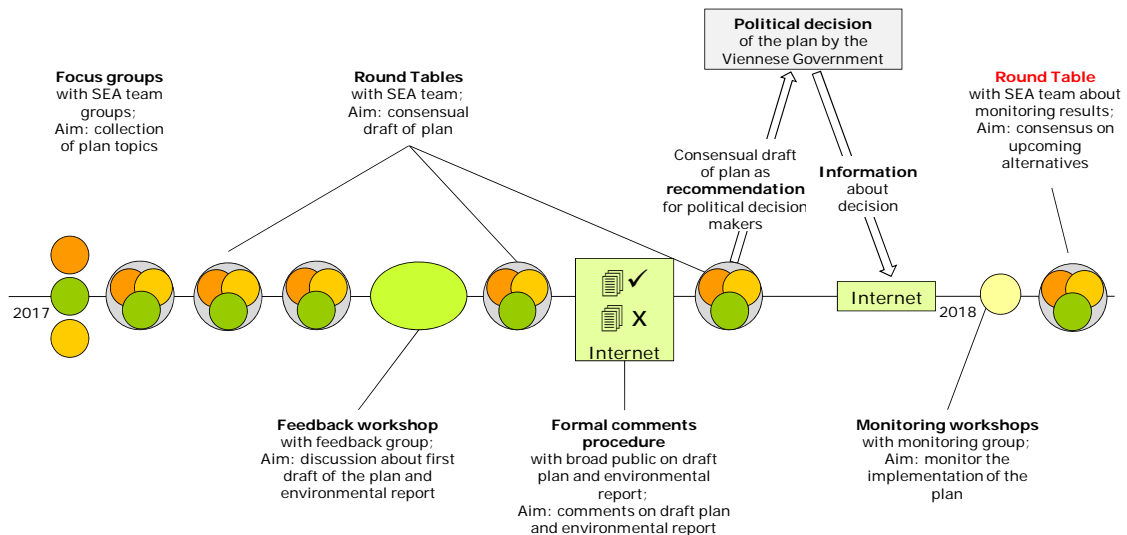
external experts. In the focus groups the participants were invited to collect planning topics, which should be discussed or solved in the joint planning and SEA process. This new element should broaden the view and the scope at the beginning of the process (Figure 5).

Figure 5. Process flow of the third Viennese SEA Round Table 2011-2012, integrating focus groups for the three groups of the SEA team at the beginning of the process



In the fourth Viennese SEA Round Table a highly environmentally relevant planning topic came up near the end of the process. The question was, if the Viennese forest biomass power plant should be transferred into a waste incineration plant for specific waste. It could not be clarified any further because of the lack of data and an unclear legal framework concerning state subsidies in the future. Therefore the SEA team postponed the assessment and the discussion of alternatives to a later date. That was the reason why a further SEA Round Table workshop was intended during the monitoring phase of the SEA (Figure 6).

Figure 6. Process flow of the fourth Viennese SEA Round Table 2017-2018, integrating a Round Table workshop during the monitoring phase



Summing up, the SEA Round Table participation approach is designed to improve the quality of the plan, to affect the assessment and to influence the political decision by early and effective public participation (Hanna et. al 2015).

The effectiveness of the process

Following the above introduction of the concept and the development of the SEA Round Table process, this section focuses on some effects of this participative SEA model.

Broader view to Vienna's waste management and more comprehensive measures for the plan

The Round Table SEA altered the planners' and the politicians' visions regarding the plan. When the first SEA process started, it focussed on the question, whether Vienna needs a third waste incinerator or not. During the process, the scope of the plan was extended, because the question could not be answered without looking at the whole chain from waste avoidance to separation, recycling, treatment and disposal. Finally, the plan included a new waste incineration plant as well as two further measures, which brought Vienna's waste management forward:

- The Viennese waste avoidance initiative to minimise the increase of the total amount of waste: This initiative was started in 2002 and has been continued consequently until today. Every year a number of waste avoidance measures are implemented, e.g. a law which forbids one-way cups at events or a high quality second-hand market run by the waste management department of Vienna's city administration.
- The Viennese biogas plant to treat food leftovers from hospitals, schools or restaurants: Before, this waste was either composted (with questionable quality) or burned (with questionable efficiency). Now the biogas plant produces methane, which is fed-in into the Viennese gas distribution system. About 900 households are provided with biogas every year.

In line with the first SEA in 1999-2001 all the following waste management plans followed the broad approach to tackle all the open questions from waste avoidance to waste disposal. So the SEAs had substantive effects leading to a comprehensive view to waste management: before, waste management focused on waste treatment plants and end-of-the-pipe solutions. Due to the SEA, solutions at the root of the problem also came to the attention. The way of thinking has changed. SEA team members started to think out of their box. This was a remarkable learning effect of the SEA.

More environmentally and socially benign waste management plans

The SEA Round Tables led to another substantive effect, namely good outcomes on the ground by avoiding environmentally harmful impacts: In the SEAs environmental authorities, NGOs and external experts stood up for the highest environmental standards for the waste treatment plants. As a result, the SEA team agreed on the best available filter techniques for the new waste incineration plant. These agreements became

technical conditions in the subsequent EIA process. They were laid down in the plant's decision of approval. Without these high standards environmental NGOs would not have ok-ed a third waste incineration plant in Vienna.

Due to the SEA also social impacts came on the table. For these impacts new assessment criteria were defined, for instance public convenience or the level of service in waste management. These criteria were used when alternatives regarding the separate collection of waste were assessed. For instance in the fourth SEA Round Table several alternatives for the collection of hazardous waste from households were discussed. First, an alternative which stopped the collection by a mobile bus system and on markets was preferred, because hazardous waste could be collected much more cost effectively at the large remaining waste collection points. However, an environmental NGO proposed another alternative: the mobile collection of hazardous waste should be substituted by establishing four new collection sites at markets or other central points throughout the city. This alternative scored best in the assessment due to better public convenience and less transport by cars. So this measure was finally included in the waste management plan. This example shows how the SEA affected strategic planning choices rather than 'only' optimizing plans through mitigation measures (Bonifazi et al. 2011).

Broadly accepted waste management plans which could be implemented, relief for political decision makers and for project proponents

All four waste management plans included some expensive or unpopular major projects. As the SEA process already focused on minimising their impacts, the subsequent EIA processes went much more smoothly. Afterwards these projects could be implemented without delay or considerable conflicts.

The first SEA Round Table 1999-2001 enabled discussions about a third waste incineration plant at the political level. Before, politicians did not like to touch this

unpopular topic. Afterwards, they had both enough expert arguments why the incinerator is really needed (even if waste avoidance measures were intensified) and enough support by the Viennese waste management community. This was due to the intensive involvement and the largely consensual results. The decision was broadly backed by the SEA team.

After the subsequent down-stream EIA for the incinerator, the project proponent was interviewed about the effects of the up-streamed SEA Round Table. He described a significant relief for the EIA: There was surprisingly little opposition against the incineration plant, although the plant was located in the city area only 7.5 km from the city centre. Only 20 persons attended the public hearing. Only two parties appealed the decision of approval. The project proponent hypothesised that the up-stream SEA Round Table had a streamlining effect, because the topic was discussed in detail long before the project submission. The extraordinarily high acceptance was a result of the intensive cooperation of the Viennese waste management community within the SEA team. The SEA also helped politicians to go along with the recommendation to build a third waste incineration plant in Vienna. The approval procedure was extremely quick. After 1¾ years the project proponent had a legally valid decision of approval in hands (Arbter 2005).

One SEA team member from the Viennese waste management department summed up: 'There is no better instrument to reduce the headwind for important large scale strategic decisions than the SEA Round Table. It helps to place the waste management plan upon a broad basis.'

Also the third Viennese waste management plan SEA 2011-2012 showed how the SEA could relieve the EIA. One of the SEA results was the recommendation that the capacity of one of the existing landfills in Vienna should be extended. The additional

volume was needed to deposit the expected incineration residues for the next 40 years. This should provide disposal safety for the next generations. To achieve this, the maximum height of the landfill should be lifted from currently 45 meters above ground to 75 meters above ground in 2060. The SEA team agreed on this measure, because the SEA showed that it will have fewer environmental impacts than building a new landfill in the surrounding of Vienna, which would take about 60 hectares of farmland and which would increase transport distances with associated emissions.

A few years later the project was submitted for approval in an EIA procedure. In this case not one comment was received when the environmental report was publicly displayed. Therefore there was no need for a public hearing. In an interview the project proponent voiced several reasons for this:

- In the up-stream SEA Round Table the need for the increase of the landfill was proven as the best solution after comparing several alternatives. The recommendation was also backed by NGOs, by the Viennese environmental ombudsman (a body speaking on behalf of environmental interests) and by external experts. Therefore it was transparent and credible.
- The project was a result of an SEA Round Table and not a fixed idea by a project proponent. The project proponent 'only' had to implement the SEA result.
- The landfill has been in place since the 1960s. In the last 10 years, the project proponent has worked continuously on a good relationship with his neighbours. He informed them immediately after the project came up during the SEA process. He invited them to voice their concerns while the SEA report was publicly displayed. But no comments were received. Before he started the EIA procedure he informed the neighbours again about the project details. In several

information events questions could be answered personally. Obviously no questions or concerns remained for the formal EIA comments procedure.

After the third SEA Round Table a political decision maker pointed out another benefit for the political level: When all the measures of the waste management plan are developed at the SEA Round Table and in the end are backed by authorities, NGOs and external experts it is no longer necessary to discuss every single measure again, when it gets implemented. So the implementation of the plan is easier and quicker.

The actual implementation of the waste management plans is accompanied by a monitoring group. This group was established in the end of the first SEA Round Table. Its task was to monitor the realisation of every single planning measure and possible unforeseen adverse effects. The group members have also continuously looked at less urgent, difficult or lengthy measures especially waste avoidance measures.

Common learning and more cooperation in the Viennese waste management community

The first SEA Round Table took 2 years from 1999-2001. During the process the interaction within the SEA team changed. At the beginning, the group was split in two:

- the 'waste avoidance group', which was of the opinion that every waste management problem could be solved at the root by reducing the amount of waste, and
- the 'waste incineration group', which was of the opinion that every problem can be solved by the right waste treatment plant at the end of the chain.

By the end of the first SEA Round Table, the team members have pulled together.

Opposing proponents started to talk with each other. Trust could be built. These social

and collaborative effects of the SEA paid off when the plan had to be implemented. The members of city administration had to cooperate with each other anyway. However, when the atmosphere is fine, cooperation is easier and work is more fun. The SEA established a common ground for institutional cooperation and by this also fostered the integration of environmental considerations (Bonifazi et al. 2011). For the implementation of large scale projects a good relation to environmental NGOs is also helpful. Direct lines can be used before protesters increase pressure. Even the external experts came closer together. The apodictic ‘either waste avoidance or waste incineration’ changed to a ‘both, waste avoidance and waste incineration’. In the SEA process all team members learned that measures at both ends of the waste management chain were necessary.

At the end of the process, team members were asked what they liked most of the SEA Round Table. They answered e.g. (Arbter 2001):

- ‘The interdisciplinary work and the learning in ‘real life’.’
- ‘The relaxed atmosphere and the growing mutual acceptance.’
- ‘The constructive cooperation within the team.’
- ‘The frank and factually sound discussions and the willingness to consensus.’
- ‘Maybe the mostly positive climate of discussions and the reduction of barriers between the involved groups. Maybe also the involvement of NGOs which before were feared or not taken seriously by administration.’
- ‘Speaking with one voice at the end.’
- ‘In the end, the different team members turned to a real team, which looked for a solution with which all participants could ‘survive’.’
- ‘Opinions were heard and discussed and not ignored. During the process our mutual understanding grew.’

- ‘The exchange of experiences, broadening one’s personal view, learning from each other.’
- ‘I hope there will be many further SEA Round Tables!’

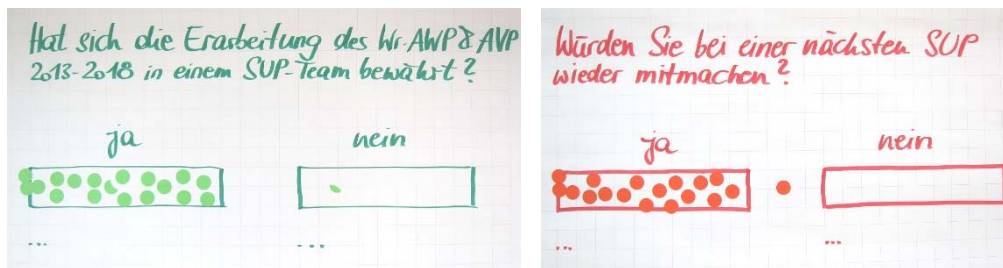
These statements underline the pluralist effectiveness of the SEA: It shows how intensive public participation at the Round Table helps to accommodate competing points of view.

The subsequent SEA processes could build upon this basis of cooperation. New team members could be easily integrated into the ‘SEA culture’. The following processes could be run about half a year quicker and within the given schedule, although further participation elements were integrated into the process (see Figure 4 and Figure 5).

At the end of the SEA process 2011-2012 the SEA team members were asked

- if drafting the Viennese waste management plan in an SEA team worked effectively (see Figure 7 left) and
- if the team members would participate again in the next SEA process (see Figure 7 right)?

Figure 7: Feedback answers of the SEA team 2011-2012



However, working together so closely in the SEA team also has a downside: Firstly, organisations which are not invited into the SEA team could feel excluded. They might

therefore oppose the results more strongly. Secondly, the close cooperation within the SEA team could weaken the critical view of NGOs and external experts. Although all team members have their specific roles, somehow they grow together over time. If you know the other team members so well and you deeply understand their role and interests, you might be softer with your criticism. The facilitator can help by reminding all team members of the role of NGOs and external experts as ‘watch dogs within a circle of colleagues’ and by inviting NGOs and external experts to anticipate critical questions and statements, which would otherwise occur when the draft plan is publicly displayed and discussed. To keep critical discussions alive and to reduce the distance to ‘the world outside the SEA team’, the feedback workshop was integrated into the SEA Round Table process from 2006 onwards. So, a broader community could comment on a first draft plan in a face-to-face setting before the final draft was publicly displayed for everybody.

Closer links between technical planning and political decision making

SEAs will only be effective if they influence political decisions and if political decision makers take the SEA results into account seriously. Therefore the links between the SEA process and the legitimate political decision-making bodies are crucial. In the cases described, the City Councillor for the Environment commissioned the SEA teams to come up with a preferably consensual technical recommendation for the future development of waste management in Vienna. The SEA team had an advisory role. It drafted the waste management plan and forwarded it to the Viennese government, which took the political decision – with or without deviations from the recommendation of the SEA team.

There were no divergent decisions after the SEAs 2006-2007, 2011-2012 and 2017-2018. But there were deviations after the first SEA 1999-2001: The SEA team

(except one of the four participating environmental NGO) recommended building a new waste incinerator with the most up-to-date exhaust filters and with a waste treatment capacity of 450,000 tons per year. On the other hand they recommended closing down the older of the two existing incinerators with a waste treatment capacity of 200,000 tons per year because of its less effective exhaust filters. While the politicians assumed all the other measures in their decision, they refused to close down the existing incinerator, because they wanted to keep a treatment plant in the west of the city in order to keep a broad geographic distribution of plants all over the city. According the total recommended treatment capacity they decided to build the new incinerator with a reduced treatment capacity of 250,000 tons per years.

After this decision the SEA monitoring group reacted: they assessed the environmental effects of the final political decision. As a result they recommended revising the exhaust filters of the older incinerator in order to keep the total emissions in line with the prognosis of the SEA. This recommendation of the monitoring group was actually implemented. Today the total emissions of all three Viennese incinerators are less than forecasted in the SEA.

In the end this solution is now accepted all over the Viennese waste management community. However, the stage of transferring the SEA recommendations into a political decision was characterised by irritations: On the one side, the politicians were quite surprised by the SEA results because they were not continuously informed during the SEA process. They felt faced with the SEA results as a *fait accompli*. On the other side, the SEA team was dissatisfied with the deviating political decision after all their effort to find a broadly accepted solution. To avoid these troubles, the next SEA Round Table process was fine-tuned: From 2006 onwards a staff member of the City Councillor for the Environment was sent to the SEA team. His task was to inform the

City Councillor about the recent discussions at the SEA Round Table and to adjust sensitive issues with the politicians. So they were prevented from unpleasant surprises.

However, the close link to the political level could also have drawbacks, when politicians would start to influence the technical results or narrow down the scope of the SEA so much, that an independent environmental assessment of reasonable alternatives becomes impossible.

Sightseeing tour to the SEA results

From the city centre of Vienna you can take the underground line U3 to the terminal station and then change to a bus. In half an hour you arrive at the results of the first SEA Round Table: the new waste incinerator and the new biogas plant. These waste treatment facilities were opened 2008 with guided tours, a pop concert and fireworks without any disruption by environmental NGOs. Nearby, you can see one of the results of the SEA Round Table 2006-2007, the new waste logistics centre including a bale storage area for the temporary storage of treated waste. It will take another 40 years until one of the results of the SEA Round Table 2011-2012 becomes visible: by then the landfill for the combustion residues of the waste incinerators will form the 'highest mountain' of the 22nd Viennese city district. As an SEA result the existing landfill will be increased from 45m above ground today to 75m above ground in 2060. Even some of the waste avoidance measures are perceptible, e.g. returnable beakers, especially designed for Viennese events, which are used e.g. at the annual Danube Island Festival with about 3 million visitors.

It is most likely that all of these projects could not have been implemented so smoothly – if at all – without the SEA Round Table. The waste management department was able to overcome a blockade at political level and to implement urgent projects

with a high environmental standard to guarantee disposal safety for Vienna in the long run.

The conclusions

This paper focussed on the case studies of the last four Viennese waste management SEAs. It summed up 20 years of experience with the SEA Round Table approach. The case studies show that these SEAs cover various dimensions of SEA effectiveness.

Some effects also echo those by Morrison-Saunders et al. 2015.

The substantive dimension of SEA effectiveness

Firstly, the SEA Round Tables helped to broaden the view to Vienna's waste management and to make the waste management plans more comprehensive. The broad involvement of interest groups with different viewpoints at the Round Table helped to capture the whole picture of waste management in Vienna.

Secondly, the SEAs led to more environmentally and socially sound plans, e.g. with fewer emissions, less transport of waste, more waste avoidance measures and more convenience of the waste collection facilities. In the discussions with environmental authorities, external experts and environmental NGOs at the SEA Round Tables environmental and social aspects gained more weight. They were discussed on an equal basis with economic aspects. So the SEA contributed to sustainable development. Even monitoring contributed to prevent significant adverse effects on the environment.

The transactive dimension of SEA effectiveness

The SEA teams came up with broadly accepted results, even on unpopular treatment facilities. As the process was fully transparent the subsequent project implementation caused fewer conflicts and opposition. The SEAs supported the implementation of 'the

right' projects by providing arguments for why the projects are needed and for why they are the best solutions compared with other reasonable alternatives assessed. It focused project-level EIAs and saved time and money in the subsequent EIA procedures (Cape et al. 2018). The SEAs also provided a monitoring tool to follow up the implementation of the plans including mitigation measures.

Compared with other SEAs the participative Round Table approach takes more time and costs more. You need a facilitator and you have to carry out the workshops for the SEA team and the feedback group additionally. However, the Vienna cases proved that the Round Table also saves time and money. Here are two examples:

- Early public participation in the SEA team and in the feedback group reduces the formal comments procedure: In the SEA 2006-2007, 18 comments were received when the draft plan was publicly displayed. In 2011-2012 only 4 comments were received, and in 2017-2018 only 2. Not many comments were left after the early involvement of the most affected and further interested authorities and interest groups.
- The SEA reduced the subsequent EIA procedures. In the case of the landfill even the public hearing could be skipped because no comments were received on the environmental report.

So, the costs of the SEA Round Table can be seen as an investment which pays back in the long run, when approving and implementing projects without time consuming and expensive conflicts. As the waste management department has carried out SEA Round Tables four times by now, the benefits clearly outweigh the costs. Their first aim is to build up a safe and robust waste management system in Vienna and to implement the projects which are necessary for this. The SEA Round Table is a means to achieve this

aim. SEAs make their daily work easier. So they see the SEA as a value-adding process rather than a regulatory burden.

The pluralist dimension of SEA effectiveness

By the SEA Round Table approach waste management planning became much more participative than before. The scope of democratic control over planning was expanded (Bonifazi et al. 2011). A cooperation culture and strong partnership could be established within the Viennese waste management community. This led to more mutual understanding, more willingness to take different interests into account, and less friction losses. The facilitated workshops helped to accommodate competing points of view. These are important tangible benefits of the SEA Round Table (Morrison-Saunders et al. 2015).

Furthermore, the links between technical planning and political decision making were improved. The SEAs provided politicians with transparent arguments for basic questions concerning the need, the capacity and the technology of projects. So they could take informed and broadly backed decisions, which could also 'survive' in public discussions. So, SEAs could also empower participants by developing co-production modes between administration, external experts, NGOs and policy makers (Bonifazi et al. 2011).

The knowledge and learning dimension of SEA effectiveness

All SEA team members broadened their views and developed expertise throughout the SEA process. All of them could learn through public involvement, both, at an individual and at an institutional level, which also changed established routines and established thinking (Cape et al. 2018). The SEA Round Table provided a meaningful deliberative space that facilitated a move from individualistic concerns to more comprehensive ones

(Sims 2012). It also helped to empower participants through capacity building and knowledge brokerage (Bonifazi et al. 2011 and Sheate et al. 2010).

Obligations imposed by Round Table SEAs

As described above, the SEA Round Table approach covers several dimensions of SEA effectiveness. However, the benefits of these SEAs are not for free. Such participative SEAs also impose obligations for various stakeholders, for example:

- (1) Firstly, political decision makers receive support for unpopular decisions and arguments for public discussions on the one side. On the other side, they cannot overrule consensual SEA results without having reasonable grounds.
- (2) Secondly, the public and especially citizens' initiatives receive transparent results after dealing with reasonable alternative solutions on the one side. On the other side, it becomes harder for them to combat measures which were assessed and agreed on at an SEA Round Table.
- (3) Thirdly, project proponents receive supporting arguments to the questions of need, capacity and technology of their project and greater certainty with respect to project approval (Hanna et. al 2015 and Cape et al. 2018) on the one side. On the other side, they have to implement their projects with the mitigation measures intended in the SEA. For example, for the third waste incinerator the SEA team agreed on the best exhaust filter technology available. The project proponent had to implement this, even if he could have met the emission thresholds with a simpler and cheaper technology.

Preconditions of Round Tables SEAs

These case studies have proven that SEA Round Tables can be effective tools to come

up with an environmentally and socially sound plan which can be implemented in the end. However, SEA Round Tables need some preconditions to work properly:

- They need enough room for manoeuvre to objectively assess reasonable alternatives. The SEA results must be open and not predetermined by other processes or decisions (Hanna 2015).
- The Round Table should be facilitated professionally. The facilitator needs both profound knowledge about the elements of a proper SEA process and mediation competences to help the SEA team to reconcile their interests.
- NGOs, which attend the one- to two-days SEA workshops at the Round Table and which are not funded by public money, should receive financial support in order to be able to take part. They need similar resources to e.g. team members from the administration if they are expected to contribute as an equal partner.
- A cooperation basis at an equal level should be established within the SEA team. All team members – regardless their background and role – should have an equal say at the Round Table. The atmosphere should be open and trustful, so that also concerns and critical views can be voiced.
- The political decision makers should support the early participation – having in mind, how a consensual recommendation will make their lives easier as well. And they should take the SEA results seriously into account when they take their final decision.

Of course, not every small SEA needs such an elaborated participative SEA approach. However, for controversial plans or programs the SEA Round Table might be worth trying given the recognisable contribution to overall SEA effectiveness.

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