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Is There a Chance for TA?

Reflections on the Perspectives for TA
in Eastern/Central Europe

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Technology assessment has been widely unknown in many Central and Eastern European countries until now. This paper is a reflection about the possible roles and potential of TA in some of these countries (Bulgaria, The Czech Republic, Hungary, and Lithuania) based on discussions as well as the activities in the course of the PACITA project. The article views the current situation against the background of the historical heritage such as the Soviet Regime as well as compares the specific political culture and climate of these countries with those in some of the Western European countries in which technology assessment units were introduced in the 1970s and 1980s. So far, TA is only regarded as an unrecognized need by many in Eastern and Central Europe: often a lack of understanding of the TA concept by decision makers, the inflexibility of the current system, the danger of a politicization of such attempts, the concentration of decisions in the government rather than parliament as well as problems with financing and a lack of TA-trained human resources are named as reasons for this state of affairs. For the future, two perspectives are proposed: First to focus on the important role of the EU with regard to its financial power as well as the mutual learning occurring across national contexts. Second, a transition strategy for TA in these countries should be elaborated to support the national TA initiatives which have started in the meantime. Different roles for TA are proposed here which rely on national activities but also on an international TA network accompanying the future development of TA in these countries.

1 Introduction

Technology assessment (TA) and parliamentary technology assessment (PTA) are still new concepts in most of the Central and Eastern Eu-

European countries – although first efforts have already been made in some countries, e.g., the participation in EU-funded TA projects or experience with TA-related activities such as technology foresight. The EU-funded project PACITA (Parliaments and Civil Society in Technology Assessment) tried to explore the main barriers to and opportunities for TA in several European countries with the aim of expanding the current TA landscape to Central and Eastern Europe. The present paper provides an “outsider’s” look, namely by a PACITA project partner who was introduced to the concept of TA for the first time by the PACITA project. The reflections presented in the following pages are based on the learning process the author underwent in the course of PACITA, i.e., discussions on the TA concept with colleagues from established (Western) TA institutions, the outcomes of the TA activities within the PACITA project, discussions with his “fellow non-PTA” colleagues, and last but not least the impressions and insights gained from the author’s efforts to initiate a TA debate among researchers, policy makers, and civil society organizations in Lithuania.

From this perspective it appears that for the Central and Eastern European countries involved in PACITA (Czech Republic, Bulgaria, Hungary, Lithuania) the findings of the project suggest that there are much stronger obstacles to the introduction of TA as a concept of independent and public policy advice than can be overcome by just transferring knowledge on methodologies and concepts from “PTA” to “non-PTA” countries. These obstacles are rooted to a great part in the remnants of influence of the former Soviet system on research and innovation and in the current struggles to reform the R&D system, especially in the context of the financial crisis. Melnikas et al. (2011) state that in Central and Eastern Europe the main barriers to starting political innovations and to strengthening the role of civil society in the democratic system lie in the fact that most of these countries try to adopt the Western model of democracy in the hostile environment set up under the influence of the former Soviet Union.

2 An Unfavorable Environment for TA: Old Structures Struggling with New Problems

Is there a real chance to establish TA in the Central and Eastern European countries? This is the first question I raise with a view to the history of TA and to the arguments prevalent in the process of establishing TA in European countries during the 1970s and 1980s. Hennen and Nierling (2014) have narrowed down factors for the establishment of TA in “old” countries to four main factors: (a) highly developed, differentiated, and governmentally supported R&D system; (b) problem-oriented research and self-reflective science in the academic sector; (c) critical public interest in issues from science and technology (S&T); and (d) strong and explicit demand from policy makers for scientific knowledge and methods to deal with public concerns.

For the first two factors – a highly developed and Government-supported R&D system and problem-oriented research in the academic sector – the situation in the Central and Eastern European countries nowadays differs quite clearly from that in Western TA history. While Hungary and the Czech Republic have some experience in TA-like activities (especially in technological foresight), Lithuania and Bulgaria are just making their first transitional steps towards problem-oriented and interdisciplinary research. In Lithuania, problem-oriented research is strongly supported by the government in the field of research and innovation policy. This often relies, however, on the consultancy work done by private companies and, furthermore, is usually initiated by measures of the European Union or the OECD (Technopolis group 2013; Valinčius 2013; Reid et al. 2012).¹

In the current situation, the R&D system in Central and Eastern European countries is in need of huge investments into infrastructure. R&D policies respond to this demand and are aimed at supporting investments through various “catching up strategies,” often financed by European funds like the science and business cooperation “valleys” programs in Lithuania (LMES 2014), the National Research Infrastructure Survey and Roadmap in Hungary (HNIO 2014), or the National Development Program Bulgaria 2020 (BMOF 2014).

As those countries do not have much experience in investing into big R&D infrastructure projects, the effectiveness of such investments is low, the return on investments is unknown, and their future is uncertain. With a view to worldwide trends, Central and Eastern European countries try to catch up with innovation, thus competing with each other in similar areas (nanotechnology, biotechnology, information and communication technologies, renewable energy, etc.) without having real capacities to establish themselves as strong players in these fields of technology. This reveals the gap in strategic technological priorities between Western and Eastern European countries: Western countries rely on already existing technologies, practices, institutes, research, and businesses. Central and Eastern countries are often victims of wishful thinking by their politicians and still need to find their way to differentiate themselves from other countries and to stay competitive on the European or global “playing field”.

On a general level, public interest in S&T in most European countries is low, with an average of 40 % of respondents interested in S&T (EC 2013). In the Central and Eastern European countries analyzed here, the figures are even below the European average (see table 1):

Table 1: Public interest towards S&T in Central and Eastern European countries analyzed

<i>Country</i>	<i>% of people interested in science and technology issues</i>
EU	40 %
Lithuania	33 %
Czech Republic	29 %
Bulgaria	25 %
Hungary	25 %

Source: EC 2013, p. 9

However, recent case studies in the named countries have shown that public debates on some controversial issues can become lively and even hot, leading to strong disagreements with official positions of the government. However, such debates are too often the object of changing political tactics and strategies and do not lead to the consistent political uptake of arguments and positions. The Lithuanian debate on building a nuclear power

plant (Leichteris/Stumbrytė 2012) can serve as an example here. The fatal accident in the Chernobyl nuclear power plant in 1986 initiated a public debate about the security of the Lithuanian nuclear power plant, which was equipped with a Chernobyl type of reactor. The debate started around “technological” issues but soon developed into a fight for Lithuanian independence because the green movement became a hidden organizational force for much broader civil action. Soon after Lithuania became independent, the “technological issue” became “economical and political”: from 2005 to 2012 the Government showed very clear support for the development of a nuclear energy system in Lithuania. Under the pressure from the EU, the old-type Chernobyl power plant was closed, but negotiations to build a new one were started. The public did not follow the negotiations and was disinterested in the decisions until the Fukushima nuclear disaster in 2011. Since one of the main potential builders of a new power plant was the Japanese company Hitachi, the accident in Japan revived the debates over nuclear energy in Lithuania. In a public referendum in 2012, the wave of public disagreement voted against building an nuclear power plant. In Austria during the late 1970s a similar plebiscite triggered a debate over a systematic analysis of technological policies (Nentwich et al. 2012). In Lithuania this was not the case. The political party which agitated the most against nuclear energy later formed the government and now faces a dilemma. On the one hand, there is a clear necessity to have an independent energy system. It is supported by the fear of political influence exerted by Russia (especially in the light of recent Russian military actions in the Ukraine). On the other hand, the main potential strategic partners – Latvia, Poland, and Estonia – have expressed concerns about acting against public opinion. At the moment the arguments in favor of building a nuclear power plant seem to be stronger than the technological controversies over nuclear energy, and connected with this the reluctance to go against public opinion is vanishing. However, the government has now gone for two years without making any decision.

When reflecting on the explicit demand by policy makers for scientific knowledge and methods to deal with public concerns, factors very well-

known from Western European countries also apply to the new democracies in Eastern and Central Europe. In general, politicians are action oriented and need to solve problems as quickly as possible, and their search for knowledge for doing is not for the sake of knowing itself (Bimber 1996). In the Lithuanian context, it is difficult to involve them in activities which are not relevant for their current political agenda or are not being widely debated in the public sphere. And if they are involved, they tend to take shortcuts by using weak evidence, referring to selected experts' opinions, or making their own subjective decisions without having the relevant knowledge. Eastern and Central European policy making, moreover, suffers from traditions which add additional obstacles to the utilization of independent policy advice and transparent deliberation on S&T issues. In both Western and Eastern European countries there is a wide use of experts whose role is to give independent advice on S&T issues and fuel scientific knowledge into policy making. But how those experts are chosen and how their "objectivity" is supported throughout the whole process differs in the Western and Eastern traditions. In Western European countries experts are usually involved by policy makers to legitimize an argument by providing scientific authority. The Eastern tradition of scientific policy consulting was born under the influence of the Soviet political system, where science for a long time served as an instrument supporting political propaganda (i.e., the scientists were not consulted for their expertise, but were ordered to create evidence supporting the Soviet political regime).

This makes science-based policy advice an area that is also regarded with distrust by the general public in Central and Eastern European countries. Whereas the problem in the Western European countries might be the contradictory nature of advice given by different types or groups of experts (expert dilemma), in Central and Eastern European countries it is a general distrust in the independence of scientific advice. On the one hand, independent expertise is desperately needed and demanded, while on the other hand transparent procedures of selecting experts and open processes of policy consulting are lacking. Such structures of democratic processing of scientific knowledge are difficult to

establish in a political culture that is still molded by the old system of instrumentalizing science and scientists.

An active civil society embedded in a culture of transparent and open policy making is far from being well developed in the countries under consideration here. According to Transparency International (2014), the "non-PTA" Central and Eastern European countries involved in PACITA (Lithuania, Hungary, Czech Republic, Bulgaria) show a middle level of corruption (scoring from 40–59), while their PTA "twinning partners" in the Western European countries show very low (Denmark, Norway, Switzerland, The Netherlands) or low (Germany, Austria) levels of corruption (scoring from 69–91). In addition, Lithuania struggles with very low levels of civic participation (PVI 2014). Bulgaria's development of a democratic culture suffers from the dominance of politically and governmentally owned NGOs (CSD 2010). Hungary recently started imposing more controls on NGOs and the free media. Therefore it is not only about making policy makers aware of their need to cooperate with scientific experts but also about creating awareness of the need to ensure there are clear, transparent procedures of expert selection. The debates, conflicts, and networks needed for the introduction of TA as a means of achieving public accountability of policy making might themselves function as a good exercise helping these countries to impose bigger changes with regard to structures that allow for public deliberation as a basis for democratic decision making.

Thus, even if Central and Eastern European countries are heading towards institutionalizing TA, there are still big challenges to solve. How can an institution or network of institutions be created which is capable of providing high quality, valid, and credible evidence to policy makers? Representatives of Central and Eastern European countries are often afraid that the process of institutionalization of TA can be undermined by politicians and that, as a consequence, TA can lose its main features – namely objectivity, impartiality and independence – or can be taken over by formal organizations lacking competence on TA.

3 Starting a TA Debate in Lithuania: An Unrecognized Need for TA?

Reflected against what I have learned from guiding a process of introducing the TA concept to relevant actors in Lithuania and according to what I have observed from respective processes in other countries in the course of the PACITA project, there is little evidence that the environment in these countries is as favorable for the institutionalization of TA as it was in other European countries during the 1970s and 1980s.

Evidence from the “old PTA countries” (Ganzevles/van Est 2012; Mintrom 1997; Cruz-Castro/Sanz-Menéndez 2005) shows, that even with a favorable environment most institutions needed “political momentum” and “political entrepreneurs”, which currently are not very likely to enter the scene of S&T policy making soon due to the above mentioned problems. And even when they are in place, the road of institutionalization is full of long battles and attempts to gain political influence over the TA institution. By now, we can at best identify what has been coined an “unrecognized need” for TA in interviews in Lithuania (Leichteris/Stumbrytė 2012, p. 203). In the course of the interviews and workshops on TA that have been organized in Lithuania, the debate constantly circled around making the TA concept understandable to politicians and other actors and communicating the usefulness of TA products. Although many of the TA discussants in Lithuania were in favor of independent policy advice and transparent structures of deliberation (as a remedy for the blockades caused by “old thinking” and “old structures”), they could hardly imagine that such initiatives would be prompted by politicians. In turn, the interviewed politicians were rather skeptical about the Lithuanian parliament as a seedbed for evidence-based policy making and expressed disbelief of the effectiveness of a TA unit if it would have been created in the parliament due to its weak role in S&T policy making. Rather, an institution under the government or an independent institution was mentioned as offering a more favorable option, provided that it will be able to concentrate competence from different areas and will be funded accordingly, thus overcoming the problem of capacities scattered across several institutions and authorities.

In Lithuania, it seemed that consensus was reached regarding how to solve these shortcomings by using an innovative TA institutionalization model: This network model of open cooperation among different institutions was supported by NGOs, consultative agencies of the government, and the Lithuanian Academy of Sciences. Later however that model was indirectly opposed by the Lithuanian Science Academy.

The Lithuanian Science Academy followed the model of a Soviet Science Academy for more than 40 years. Although it was formally reformed after independence, the culture, people, traditions, and procedures remained the same. The soviet tradition was based on the imperial Russian model, created in the XVIII century, which unlike its Western counterparts (which acted as institutions of scientific research) was given numerous powers of supervision and control (Vucinich 1956). These powers were even further strengthened during the Soviet period, supported by the utopian vision of a world domination in science and by a centralized system of financing and control instead of methods based on scientific peer reviews and research grants (Graham 1993). When new players emerge in the field (be they private institutes or NGOs, claiming the potential for offering science-based evidence to politicians), a confrontational situation comes to the fore: the old players want to keep their monopoly in providing policy advice and are reluctant to open the system to the public.²

The recently discussed draft of the Law on Science and Education now foresees assigning an exclusive, higher advisory role to the Lithuanian Science Academy and the Lithuanian Research Council. According to the proposed changes in the current draft of the law, the Lithuanian Science Academy might be given expert functions for all strategic questions on science and education, whereas the Research council might get the function to evaluate R&D activities. This development does not close the door to the use of the network model, or to having other institutions perform TA in Lithuania, but it might also constitute some additional formal roadblocks. However it may also open the opportunity to have a strong network, based on trust and cooperation, which is capable of identifying policy options,

has clear channels, and is assigned a mandate in the law with regard to how to push things forward on the political agenda.

As Smits et al. (1995) point out the most important attributes of TA are quality, validity, and credibility. Bimber (1996) and Rodemayer et al. (2005) state its “neutral competence”, namely the ability to provide unbiased and balanced policy advice. Such features are not created simply by putting them into the law or other regulations. They need to have a favorable political environment, they are harvested slowly during the lifetime of an institution whose sustainability comes from the constant cooperation between different actors.

All in all, the main obstacles to establishing TA in the countries under consideration here are a lack of expertise and understanding of the TA concept by parliamentarians, the inflexibility of the current system that hinders the establishment of new institutional structures, the usual “politicization” of such attempts, the concentration of decisions in the government rather than parliament, the financing issue, and the lack of TA-trained human resources.

4 Europe as a Factor to Keep the TA Process Going

If most of the factors which worked for the “old” countries are not in place for the establishment of TA in Central and Eastern Europe, is it possible to identify new factors which can help institutionalize TA in these countries in a mid-term perspective?

A first, strong factor can probably be attributed to the general European policy and its financing instruments – namely Europe’s Horizon 2020 strategy (Horizon 2020 2014) as well as the strategy of smart specialization as a tool for R&D and innovation based on regional growth (McCann/Ortega-Argilés 2013; Wintjes/Hollanders 2011). EU funding given through Horizon 2020 can create synergies with national programs by pushing important issues from the European to the national political agenda which are otherwise not discussed at the national level because of a lack of information or local knowledge. However, the participation of the new member states in EU policy mak-

ing – especially in the areas connected to science, technology, and innovation – is very weak. Often, they even do not have the capacity to analyze their own R&D and innovation potential and to induce policy actions to improve their competitiveness on their own. In response to this situation, the European Commission started the smart specialization strategy tying the financing from the European Structural Funds to the ability to identify smart specialization priorities. Although TA and smart specialization cannot be easily compared, the debates in the Central and Eastern countries show that TA is often tightly connected to innovation policy (Bulgaria, Czech Republic, Lithuania) and less often with research policy (Hungary). Thus, the smart specialization processes can provide sustainable amounts of money to implement technology-based innovation programs. Further, transparent, well organized and evidence-based debates over smart specialization priorities can clear the road for further debates on the opportunities and risks of specific technologies and innovation paths. The Knowledge Economy Forum, a not for profit organization in Lithuania uniting business companies, research institutes and policy experts and a partner in the PACITA project, was involved in debates on smart specialization priorities from the very beginning and is now planning to initiate a further debate with parliamentarians over the technologies behind those priorities. In the Czech Republic, the Technology Center ASCR (also a PACITA partner) acts as a technology transfer office and can also be one of the implementing bodies for smart specialization strategies. The strong orientation of S&T policy to induce innovation strategies can be used as an entry point for TA to bring in strategic knowledge and help organize a discourse on feasible and sustainable national technology priorities.

A second factor supporting national reflections on TA is the mutual learning induced by European cooperation and exchange. Although many of the experts involved in the national PACITA activities were skeptical about the possibilities to induce institutional structures of knowledge-based policy making, there was a great eagerness to learn about TA methods, to understand developments in other countries, and to initiate transdisciplinary research projects. This is demonstrated

by the very large number of participants and their feedback given in practitioner training workshops and summer schools of the PACITA project. The project created a strong network of a wider European TA community, including related infrastructures such as the European TA portal.³

On the one hand, the partners from Central and Eastern Europe contributed to this network by offering their specific perspective to the international TA discourse. On the other hand, they formed a separate unit where they shared problems and experiences from recent developments in S&T policy making and discussed main obstacles and opportunities for establishing TA.

There is some risk that such cooperation will diminish with the end of the PACITA project in the future. These partners are therefore now eagerly looking for opportunities to continue the cooperation in this wider TA network, e.g., by participation in further TA-related EU-funded projects.

5 An Incremental Way Forward: A Transitional Function for TA

Discussions on ways to achieve an institutionalization of TA in Central and Eastern European countries revealed different strategies depending on each political context. When there is already some “research based TA” experience available, such as from strong links with the respective science academy, these activities can naturally serve as a starting point: Colleagues from the Czech Republic and Hungary are inclined to follow that approach. In other countries even the rudimentary practice of TA has to be built up from scratch; in this case, civil society organizations may take the lead. The discussions triggered by PACITA in Lithuania and Bulgaria led to the first steps towards a network-based model characterized by awareness-raising campaigns, proactive approaches by potential candidates for institutionalization, and strong cooperation with national cross-disciplinary organizations like think tanks, analytic centers, and policy institutions (Kozarev 2012; Leichteris/Stumbrytė 2012).

All in all, it appears to be premature for Central and Eastern European countries to simply start discussing different organizational models of TA, be they connected to parliament or government

(see van Est et al. in this volume). Thus a pragmatic approach is proposed here: Instead of trying to persuade the parliament or government to establish a TA unit or to foresee a yearly budget and long-term responsibilities, a potential TA “seed bed” institution should concentrate on finding its “first client,” be it parliament, the government, a ministry, the Science Academy or even individual politicians. It should start to establish contractual or personal relationships to other organizations, try to deliver high-quality TA products, and showcase their value. The model of implementation that the countries choose is much less important than the transition strategy they develop. Part of such a strategy might be the definition of temporary functions which can be performed in the specific national context and can thus provide a solid basis to institutionalize TA in the future.

Such a transitional strategy of TA can include the following roles:

- a) TA as a “content marketer” “selling” science-based evidence,
- b) TA as an “eyes opener” of future options,
- c) TA as a “lobby organization” to establish knowledge-based decision making,
- d) TA as a “knowledge sharer” in an international knowledge exchange network.

TA as a *content marketer* takes into account the existing barriers to establishing a transparent knowledge-based process of advising policy making. It nevertheless tries constantly to feed in knowledge as well as to offer procedures for an open and transparent discourse to policy making within the limits of the available financial and human resources. It can aim at training measures to create TA awareness in policy making by giving profound explanations on policy choices and on the benefits and constraints of debated technologies. It can target the issues which are on the current political agendas. The function will also have its own challenges: It can imply a constant pushing of relevant information to politicians, analyzing why evidence was either not used or was rejected, and then test the process again with other methods or modified content. This function might be called a “stealth” approach where TA methods are used to give evidence on decisions which are already on a short-term political agenda, while

postponing the direct promotion of institutionalization of TA. Content marketing should concentrate on the delivery of high-quality content and thus prepare the ground for an institutionalization initiative by “making advocates” for TA.

TA as an *eyes opener* shall give politicians a glimpse of what is going on at the EU level or in other European countries and will raise awareness of important issues. TA can be understood as a broad set of practices aimed at informing, shaping, and prioritizing technology policies and innovation strategies by deliberately appraising in advance their wider social, environmental, and economic implications (Ely et al. 2014). That means that TA is a forward looking tool. During the transition period, new countries can concentrate their efforts on pushing some questions which are not seen as being relevant in national parliaments but which are eagerly debated in parliaments of other countries. It should not be overused or lead to the provision of complex research. It should be oriented more to the dissemination of already existing and widely available knowledge beyond a national context.

TA as a *lobby organization* shall aim at building up a coalition of TA practitioners, policy consultants, and research institutes. It does not defend particular interests, but puts issues with medium-term importance on the political agenda that have so far not been taken up. Taking input from the European Agenda as well as support with regard to existing studies and research from a European network will be crucial. Networking shall be used intensively to make personal relationships with policy makers and to form a generally positive public opinion toward evidence-based policy making. If the resources allow for it, policy evaluations can be performed, showing the shortcomings of current policies and providing general recommendations for action.

TA as a *knowledge sharer* shall concentrate on cross-border European exchange. There will always be a constant need for various examples of how one or another issue is solved in other countries. If Germany, Austria, The Netherlands, or some other TA countries can afford large-scale research on the impact of technologies developed in their countries on society in general, a more feasible solution in the case of Central and Eastern

countries – given their budgetary constraints and undeveloped R&D systems – is to adapt knowledge that already exists in the EU to the local context. Thus, the cross-European cooperation of TA-like institutions, the exchange of information on parliamentary TA issues, and the sharing of research results among TA institutions is important.

All of these transitional functions and roles clearly require an actor or a group of actors equipped with a minimum of institutional support to take up this role. In this respect the discussions and debates initiated by the PACITA project in the Central and Eastern European countries have provided at least the ground for follow-up activities in the above-mentioned sense. Groups connected to the analysis of R&D policy in the Academies of Sciences as now visible in the Czech Republic and Hungary show a growing interest in TA. They may be able to take over this role for a period of time even without stronger support from policy makers. The role can also be taken over by single NGOs or a network of actors interested in TA as was proposed for Bulgaria and Lithuania. In the long term, all these activities will hopefully contribute to the establishment of national coalitions of TA supporters, including national research institutes, NGOs, and business associations. The integration of such actors in a European network seems to be crucial to make initiatives sustainable, not the least by including more national actors in EU-funded TA-related research.

Notes

- 1) Nearly all initiatives in problem-oriented research for policy consulting are managed by the Ministry of Education and Science of Lithuania and their analytical center MOSTA. However, despite its high ambitions, there is still a missing link between science and the societal and political uptake of scientific knowledge. One interesting example was the preparation of a foresight action called “Learning Lithuania 2030” (MOSTA 2011). The action struggled hard with the transformation of its results into policy making, but ultimately the results were not reflected in the corresponding policy documents. Further, there are some activities to popularize science in society: Some are led by the Lithuanian Academy of Sciences, which coordinates a consortium of universities. Others

are more informally organized as “science popularization networks” consisting of NGOs, youth organizations, and others.

- 2) The recent organizational evaluation of the Research Council of Lithuania (RCL) renewed the interest of this institution in policy making. One of the main findings of the evaluation’s report stated that: “The RCL has a dual role as a funding agency and as a provider of policy advice, but the former dominates the latter and that results in the underutilization of a valuable voice within the national system” (Feely et al. 2014, p. 6; further pp. 20–21). Thus, the RCL might become another important player in science-based policy advice.
- 3) <http://technology-assessment.info/>

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Technology Assessment in the USA: Distributed Institutional Governance

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In the US, there is a lack of a centralized technology assessment (TA) capacity, which effectively moves the US back in time, pre-Office of Technology Assessment, when TA functions existed but were so decentralized and varied that they were hardly recognized as such. There is no primary organization, public or private, to innovate new methods, establish best practices, or provide policy guidance. Instead, there are disparate organizations, the connections among which cannot even be called a network. This article will describe three discrete – but at times overlapping, interacting, and complementary – institutional settings where activities one could recognize as TA are occurring: government agencies, non-governmental organizations, and academic research centers. The paper will conclude with a brief discussion of the challenges and roadblocks to institutionalized TA in the US.

1 Introduction

When one thinks of institutionalized technology assessment (TA), whether in the context of the United States or elsewhere, one invariably calls to mind the Office of Technology Assessment (OTA). In service to the US Congress, OTA was the first and largest “parliamentary” TA office. Scholars, journalists, and participants have often written on its history and methods (see Bimber 1996; Guston 2003; Hill 1997; Keiper 2004; Kunkle 1995) – and for good reason, since it marks an important, and still unique, experiment in TA. OTA’s origins reach back to the early 1960s¹ when tensions flared between the executive and the congressional branches of the federal government about access to technical and scientific advice (Bimber/Guston 1995). After much debate in Congress about what methods and styles of advice legislators needed at their disposal, the Technology Assessment Act, which would establish OTA, eventually passed and President