sind. Die beteiligten Interessengruppen konnten frei gewählt werden. Dieses Rollenspiel sollte die interne Perspektive eines TA-Wissenschaftlers vom Vormittag zu einer externen Perspektive ausweiten, um zu erkennen, ob weitere Kriterien zu ergänzen sind. Diese neu hinzugekommenen Kriterien wurden anschließend erneut allen vorgestellt.

Zum Schluss wurden die von allen Gruppen gesammelten Kriterien noch einmal in der Gemeinschaft diskutiert, identische Kriterien gebündelt und „verwandte" Kriterien zu Gruppen wie politische Relevanz, Technologiebezug, interne und externe Ressourcen, benötigter Input, zu erzielender Output, Impact etc. zusammengefasst. Zu allen Kategorien wurden gemeinschaftlich Leitfragen entwickelt, die bei den einzelnen Kriterien von Interesse sind. Beim Kriterium „politische Relevanz" wurden beispielsweise folgende Fragen vorgeschlagen: Ist das Thema auf der politischen Agenda? Sollte es dort sein? Besteht Bedarf für politische Handlung? Welche Handlungsoptionen gibt es? Wie ist der Stand der Gesetzgebung? Ist eine Anpassung der Gesetzgebung erforderlich?

Der am Vortag dokumentierte Kriterienkatalog mit den Leitfragen wurde am letzten Workshoptag noch einmal auf seine Praktikabilität überprüft. Anhand eines weiteren Themas (wie Robotik, Synthetische Biologie, Klimawandel, Kernenergie) sollten die am Vortag gebildeten Gruppen die Liste noch einmal durcharbeiten und bei Bedarf Fragen umformulieren, Zuordnungen verändern, Prioritäten tauschen und Dopplungen streichen. Diese Diskussionen wurden erneut allen Teilnehmern vorgestellt.

Die vorgeschlagenen Änderungen wurden durch die Gruppen unmittelbar nach dem Workshop noch einmal in eine endgültige Fassung überführt, aus der die Workshopleitung eine gemeinschaftliche Fassung erstellt und allen Teilnehmern für die Arbeit in der eigenen Institution zur Verfügung gestellt hat.

3 Fazit

Im Rahmen des Workshops hat sich gezeigt, dass die beteiligten Institutionen trotz ihrer Verschiedenheit viele Gemeinsamkeiten hinsichtlich ihrer

TA-Themen besitzen. Zum einen werden Themen wie Gesundheit, Nahrungssicherung, Nanotechnologie und Partizipation in vielen Einrichtungen behandelt, auch wenn meist unterschiedliche Teilaspekte und Fragestellungen eine Rolle spielen. Zum anderen ist die Wahl der Themen von ähnlichen internen und externen Rahmenbedingungen abhängig, die in den verschiedenen Einrichtungen jedoch unterschiedlich stark Einfluss auf die Themenwahl nehmen. Es gab Konsens darüber, dass es sich meist um eine Kombination von Kriterien handelt, die die Themenwahl beeinflusst und dass man hierbei von einem dynamischen Prozess sprechen muss, bei dem es Interaktionen zwischen den einflussnehmenden Faktoren gibt.

Das Feedback der Teilnehmer zum Workshop war sehr positiv. Für mich persönlich gab es zwei Höhepunkte bei dieser Veranstaltung; zum einen das Sichtbarmachen und Erkennen von Kriterien, die einen bei der täglichen Arbeit beeinflussen, jedoch eher auf eine unbewusste Weise, und zum anderen die gewonnenen Einblicke in die unterschiedlichen Sichtweisen und Erscheinungsformen von TA und im Speziellen der persönliche Kontakt zur europäischen TA-Community.

"Renewable Energy Systems": Role and Use of Parliamentary Technology Assessment

Liège, Belgium, June 25–28, 2012

by Manuel Baumann, Patrick Lichtner, Nuno Boavida, Camillo Fautz, and Hanna Dura, ITAS

The summer school "Renewable Energy Systems: Role and Use of Parliamentary Technology Assessment" was the first European Summer School with a pure focus on technology assessment. The aim of the three-day long PACITA summer school was to create awareness of the potential of technology groups in Europe. Therefore, the summer school involved keynotes, practical exercises, mutual reflection, cutting edge training and networking to deal with the theme of renewable energy systems out of the perspective of TA, to meet transition objectives or to critically assess energy technologies.

1 Organization

The summer school was organized by the SPIRAL Research Centre of the Department of Political Science at the University of Liège and took place at Château de Colonster situated outside Liège in the hillside. Each day consisted of commonly attended plenary sessions and applied workshops made up of two fixed smaller groups. The workshops were hosted by expert TA practitioners and members of the PACITA consortium, who were also supervising the training sessions and assisting all participants at all stages. Each morning started with a keynote speech followed by a workshop session, with the same sequence repeated in the afternoons. One of the main intentions of the organizers, besides imparting knowledge about PTA, was to enable a high level of networking. This was also achieved by offering two dinners and two impressive sightseeing tours of Liège.

2 Lectures and Presentations

The summer school included four lectures which provided the basics for the following workshop sessions.

The first lecture consisted of a brief introduction to technology assessment held by Johan Evers, project manager at the Institute Society and Technology, Brussels. The introduction first gave a general overview of TA (stakeholders, TA modes and functions, etc.) because the participants were an international mix of individuals with different backgrounds that were not, or only partially, related to TA. Later on in his presentation, Johan Evers focused on renewables, PTA and energy technology assessment within Europe. He concluded that TA was a socio-technical tool that could significantly assist in providing inspirational, best available and relevant knowledge of different stakeholders in society.

The next lecture "The Problem Definition and the Research Design in TA: The Case of E-Mobility" was held by António Moniz (ITAS). The first question during this session was how a specific problem has to be addressed and defined in order to become a subject of TA. Another question focused on clarifying whether ecological awareness and the energy problem could be covered by TA. Several TA cases were presented and

discussed (POST, STOA, TAB, NSF, and DBT). The issue of TA-specific problem definition was explained with the example of electric mobility. The example proved helpful to understand the related scientific approach based on TA and how to use different research designs (exploratory, descriptive, causal) and methods (citizen consultation, stakeholder involvement, expert analysis, etc.). Finally, two controversial cases were discussed in the lecture: the Karlsruhe tram-train system and the Portuguese MOBI.E program.

The third lecture "The Method Toolbox for Technology Assessment: From Science to Dialogue" was held on the second day by Danielle Bütschi from the Swiss Center for Technology Assessment (TA-SWISS). The aim of the lecture was to present the variety of commonly used TA methods and included the presentation of three classes of TA (scientific TA methods, communication TA methods and interactive methods). After explaining different methods within the three TA classes (scientific TA methods: Delphi survey, scenario-based analysis, etc.), the lecture focused on the question how to pick the right method. The choice of the right method depends on various factors, such as the institutional setting, the issue to be assessed, the political and social context as well as the development stage of the technology in question, etc. One recommendation was to design a TA project using an individualized method and not to apply an existent TA method. The TA toolbox also varies depending on the respective institution and can be filled with innovative tools.

The lecture "Communication Work and the Strive for Impact" by Jurgen Ganzevles (Rathenau Institute, The Netherlands) focused on effective communication of TA results to society. During the lecture different basic communication models and related communication obstacles were presented. Jurgen Ganzevles then focused on communication work and the impacts of various communication tools. These can be products (e.g. reports, books, etc.), targeted approaching (e.g. parliamentary expert meetings or Knowledge Chambers at ministries, etc.) or broad campaigning (e.g. launching events, opinion articles, radio and television, etc.). Illustrations from the "Energy in 2030" project of the Rathenau Institute were given for a better understanding of communication impacts. The final

conclusions were that facts and opinions have to be translated carefully into policy relevance, that broad campaigning is a way to attract the attention of politicians, and that there should be substantial media training and coaching of TA researchers.

The final presentation was titled "Concluding Remarks from a Non-PTA Country: Insights and Future Directions" and was held by Paidi O´Reilly (University College Cork, Ireland). He started with a general introduction to PTA within Europe (diversity in the TA landscape, differences in models) and then presented a valuable overview of the PTA situation in different European countries (e.g. classification of PTA institutions in different countries into parliamentary committees, parliamentary offices/units or independent institutes etc.). At the end of his lecture, O´Reilly addressed three questions that are strongly related to the workshop aims and exercises:

- How should Ireland and other non-PTA countries institutionalize TA?
- What is the "business case" for such a TA institution?
- What should Ireland and other non-PTA countries learn from existing TA institutions?

The presentation finished with a discussion of factors effecting the further institutionalization of TA in Ireland. The central questions concerned the institutional setting (e.g. parliamentary vs. non-parliamentary TA, etc.) and structure and state of the innovation process (e.g. state- vs. market-driven innovation etc.).

3 Workshops

The workshop groups were separated into two different tasks, named "Global Citizens on Renewables" and "Renewables for Cities". Each group was hosted by an expert and had to briefly present its results after every workshop session to all other participants in the auditorium. Additionally, among the participants of each workshop three were drawn by lot and then endowed with special tasks to facilitate the actions of the workshop and summarize the outcomes of each day. The aim of the workshops was to develop a TA institution and to elaborate a TA project on e.g. renewables in cities in a non-PTA country. Thus,

the first step was to build a scenario for renewables, choosing a non-PTA country and city. In this case, the city of Sofia in Bulgaria was chosen to setup the project. After that, appropriate technologies for use in urban areas had to be specified and chosen (photovoltaic power generation). The different exercises in the workshop were based not only on the defined scenario but also on the lectures given before, including e.g. defining the problem (why renewables in cities), establishing a business and a working plan, and developing a method to integrate different stakeholders, a communication plan, etc. The workshops made a great contribution to a better understanding of the difficulties and complexity of a TA process and the problems that may arise. At the end of the summer school, all results of the two working groups and their individual sessions were summarized and combined to a full TA process in a final presentation, including a short news announcement as well as an interview with the "spokesperson". The final results were then collectively discussed, which helped the participants to experience the problems that can occur in a TA process.

4 Conclusion

Some of the highlights of the summer school were the excellent organization and the dynamic, interactive concept which was well adapted to the variety of participants with diverse backgrounds. Our local hosts demonstrated a strong personal commitment and burning joy to making this summer school a lasting and valuable event for all. The lectures were of good quality and appropriate content, providing a good overview and relevant examples of TA within Europe related to renewable energies. The interactive workshop concept proved adequate to give an introduction to TA processes and to help understanding their development by going through each steps in practice. The chosen format fostered a spontaneously creative and very vivid output generation in the group. The additional evening program induced an enriching group dynamic, which made it easy to discuss and work in a comfortable but still professional atmosphere combined with a strong exchange of ideas and insights across the disciplines and nationalities.