# Teaching module: TM5 Technology Assessment Session 1:

History and functions of technology assessment

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**Class plan Class time:** 90 min.

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| No. | Activity name | Procedure | Teaching guide | Method | Interaction type\* | Expected outcome | Materials | Time allocation |
| 1. | Introduction | 1. Introduction of the overall goal of the module 2. Introduction into the group work | * In this session the teacher introduces the overall goal and the agenda of the module and briefly explains the content of the three lessons. * The teacher choses one of the two examples described below, then introduces the following group work. | * Lecture using PowerPoint slides | T 🡪Ss | * Students gain a first impression of the module content. * They conduct a short group work exercise that introduces them to the basic principles of technology assessment. | * TM5-S1-RM-01\_ppt\_introduction TA | 10 min |
| 2. | Group work | 1. Choose one of the two given examples for the exercise | * Regardless of which example is chosen, the students form groups of 3-4 people (group size may be adjusted to suit the total number of participating students; however a total number of four groups should not be exceeded). * The students are asked to take notes during the group work, so that they can document the main points of the discussion. * One student from each group presents the results during the next activity. | * Group work | T 🡪Ss | * The students will reflect on the limits of the specific actor’s knowledge and develop a strategy regarding how and from whom that actor can gain the relevant knowledge. * The students will become familiarized with the basic principles of technology assessment. | * TM5-S1-RM-02\_EU\_Energyroadmap\_2050 * TM5-S1-RM-03\_Introduction EU roadmap\_teacher * TM5-S1-RM-04\_Handout\_EU roadmap * TM5-S1-RM-05\_Introduction new heating system\_teacher * TM5-S1-RM-06\_Handout\_New heating system * TM5-S1-RM-07\_Handout\_New heating system\_teacher | 20 min |
| 3. | Discussion | 1. The students come together after the group work, present main points of their group work briefly, joint discussion | * After the group work, the students come together and briefly present the main points of the discussions they had in the working groups. The following joint discussion is guided by the teacher to ensure it covers the following (central) aspects that have to be taken into account when assessing technologies:   + A clear question is needed to guide the process of technology assessment. Further questions have to be specified during the TA process.   + Technologies and measures are evaluated and compared with each other.   + Evaluation criteria have to be defined (in the EU roadmap example criteria are provided; in the heating system example criteria have to be defined by the students). Potential risks are an important criteria in technology assessment.   + Technology is evaluated in relation to time. Future scenarios or clear future objectives are imagined and the role of the technology within this future is evaluated.   + Often external knowledge and expertise have to be taken into account within the evaluation process. Decisions have to be made about who can provide external expertise and knowledge (which actors or organizations).   + The result of the evaluation depends on who evaluated the technological options (scientists, politicians, NGOs, businesses, private individuals, etc.). Values and interests come into play during technology assessments. The person/group/organization who conducted the evaluation should always be clearly indicated. | * Presentation and Discussion | T 🡨🡪Ss | * The students will reflect on the group work and practice how to condense and present the results of their discussions to a broader audience. * They will learn that the answers to the questions and the evaluation of the technologies will differ, depending on the perspective taken. * The students will experience how values and interests come into play when technologies are being assessed. * They will learn that it is important to clarify who performed the assessment. * This activity also teaches students the central aspects of technology assessment. | * none | 35 min |
| 4. | Lecture | 1. Lecture on the history and functions of technology assessment | * Take experiences of the group work as point of departure. * Information on the content of this lecture can be found in the E-book. | * Lecture using PowerPoint slides | T 🡪Ss | * Taking the experience of the group work as a point of departure, this lecture introduces the history and background of technology assessment. Students will learn how technological changes and the social implications of using technologies have been viewed and understood by (Western) societies over the past centuries. They will become familiar with a historical perspective on technology assessment. | * TM5-S1-RM-08\_ppt\_history TA * TM5-S1-RM-09\_national energy plan 1977 * TM5-S1-RM-10\_report Chernobyl nuclear power plant | 25 min |

\* Interaction type:

**T** – teacher

**S** – student

**Ss** – students

**🡪** - one way

🡨🡪 - two way