

Today in the Bundestag,
March 28, 2001

Experts consider a commercial fusion reactor by 2050 to be realistic.

Committee for Education, Research and Technology Results Evaluation (Presentation)

Berlin: Commercial fusion power plants can go into operation near the middle of this century, according to Professor Alexander Bradshaw of the Max-Planck-Institut for Plasma Physics in Garching. Bradshaw determined further at the presentation to the Education and Research Committee on "Nuclear Fusion," which started this Wednesday morning, that the planned ITER project (International Thermonuclear Experimental Reactor) would prove the physics and technological feasibility of fusion as an energy source. Here one is waiting for a political decision, which also determines the project schedule.

Professor Hardo Bruhns from the EU-Commission in Brussels sketched this schedule. According to this sketch, an initial construction phase lasting ten years is seen for the modified ITER project, followed by a ten year experimental operations phase. As a last step, the demonstration reactor DEMO could be realized, which would generate electricity. Professor Ulrich Samm from the Juelich Research Center explained that the long planning and construction period resulted from the large size of the reactors. Energy can only be won when the plasmas are sufficiently large. For this reason small fusion reactors are not possible, not even as experimental devices.

The majority of the technical experts considered the timeline leading to the operation of a first commercial fusion reactor as realistic, "if all previously planned and necessary development steps can be carried out successfully" (Wolfgang Liebert, Interdisciplinary Working Group for Science, Technology and Safety – IANUS, Technical University Darmstadt). Professor Manfred Heindler of the Technical University of Graz, on the other hand, raises the "large question" of the availability of suitable materials for the fusion components in the realization of the schedule. He does not believe that ITER would demonstrate technological feasibility.

In response to the question of financing by the EU of fusion research, the Commission representative explained that 10 billion Euros have been spent since the beginning of the European research program. At the present time almost 500 million Euros are being spent annually, so that total costs for a commercial reactor would amount to about 50 billion Euros.

According to the words of the Committee chairwoman Ulrike Flach (F.D.P.), nuclear fusion has been for many years the great hope as a supply of energy for the future. Basis for the present discussion are the requests by the F.D.P. (14/3813) and CDU/CSU (14/4498) in which the German administration is asked to continue to support the study of the future use of nuclear fusion as an energy source.