

**CHAPTER 101—MAGNETIC FUSION ENERGY
ENGINEERING**

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§ 9301. Congressional findings and declaration of policy

(a) The Congress hereby finds that—

(1) the United States must formulate an energy policy designed to meet an impending worldwide shortage of many exhaustible, conventional energy resources in the next few decades;

(2) the energy policy of the United States must be designed to ensure that energy technologies using essentially inexhaustible resources are commercially available at a time prior to serious depletion of conventional resources;

(3) fusion energy is one of the few known energy sources which are essentially inexhaustible, and thus constitutes a long-term energy option;

(4) major progress in all aspects of magnetic fusion energy technology during the past decade instills confidence that power production from fusion energy systems is achievable;

(5) the United States must aggressively pursue research and development programs in magnetic fusion designed to foster advanced concepts and advanced technology and to develop efficient, reliable components and subsystems;

(6) to ensure the timely commercialization of magnetic fusion energy systems, the United States must demonstrate at an early date the engineering feasibility of magnetic fusion energy systems;

(7) progress in magnetic fusion energy systems is currently limited by the funds made available rather than technical barriers;

(8) it is a proper role for the Federal Government to accelerate research, development, and demonstration programs in magnetic fusion energy technologies; and

(9) acceleration of the current magnetic fusion program will require a doubling within seven years of the present funding level without consideration of inflation and a 25 per centum increase in funding each of fiscal years 1982 and 1983.

(b) It is therefore declared to be the policy of the United States and the purpose of this chap-

ter to accelerate the national effort in research, development, and demonstration activities related to magnetic fusion energy systems. Further, it is declared to be the policy of the United States and the purpose of this chapter that the objectives of such program shall be—

(1) to promote an orderly transition from the current research and development program through commercial development;

(2) to establish a national goal of demonstrating the engineering feasibility of magnetic fusion by the early 1990's;

(3) to achieve at the earliest practicable time, but not later than the year 1990, operation of a magnetic fusion engineering device based on the best available confinement concept;

(4) to establish as a national goal the operation of a magnetic fusion demonstration plant at the turn of the twenty-first century;

(5) to foster cooperation in magnetic fusion research and development among government, universities, industry, and national laboratories;

(6) to promote the broad participation of domestic industry in the national magnetic fusion program;

(7) to continue international cooperation in magnetic fusion research for the benefit of all nations;

(8) to promote greater public understanding of magnetic fusion; and

(9) to maintain the United States as the world leader in magnetic fusion.

(Pub. L. 96-386, § 2, Oct. 7, 1980, 94 Stat. 1539.)

SHORT TITLE

Pub. L. 96-386, § 1, Oct. 7, 1980, 94 Stat. 1539, provided: "That this Act [enacting this chapter] may be cited as the 'Magnetic Fusion Energy Engineering Act of 1980'."

§ 9302. Definitions

For the purposes of this chapter—

(1) "fusion" means a process whereby two light nuclei, such as deuterium and tritium, collide at high velocity, forming a compound nucleus, which subsequently separates into constituents which are different from the original colliding nuclei, and which carry away the accompanying energy release;

(2) "magnetic fusion" means the use of magnetic fields to confine a very hot, fully ionized gas of light nuclei, so that the fusion process can occur;

(3) "energy system" means a facility designed to utilize energy released in the magnetic fusion process for the generation of electricity and the production of hydrogen or other fuels;

(4) "fusion engineering device" means a magnetic fusion facility which achieves at least a burning plasma and serves to test components for engineering purposes;

(5) "demonstration plant" means a prototype energy system which is of sufficient size to provide safety, environmental reliability, availability, and ready engineering extrapolation of all components to commercial size but which system need not be economically competitive with then alternative energy sources; and