

PLOWSHARE*

Edward Teller

Lawrence Radiation Laboratory, University of California
Livermore, California

February 4, 1963

Introduction

Twenty years ago the first nuclear reactor was put into operation on the campus of the University of Chicago. Today nuclear reactors can produce usable energy at a real cost less than that paid for energy in 1942. In the meantime prices have gone up by a factor of 2 or more; the price of energy generation from conventional sources has dropped. Thus the real cost of energy is not more than one-third of what it was at the time when Fermi produced the first successful chain reaction. As a consequence nuclear energy is not yet competitive. It has contributed to the national economy by providing additional incentive for lower cost of the conventional installations.

In another field the atomic nucleus has made a great contribution to our economy. The use of isotopes for various industrial purposes has developed into a \$100-million-per-year business. The impact of the isotopes is real but it is not concentrated in any one field and thus we are not acutely aware of these useful developments.

*This paper is based on the annual lecture of the American Nuclear Society given on November 28, 1962. I am deeply indebted to Dr. Glenn Werth for his help in preparing the manuscript.