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Civilian Nuclear Power

It is a curious aspect of human nature that we are more likely to be excited by unproved possibilities than by achievements. This is exemplified by the public response to a report which the Atomic Energy Commission has just released. This document has attracted little attention, yet buried in its pages is evidence of one of the great events of all time—emergence of nuclear energy as a practical source of power and a means of conserving fossil fuels.

Immediately after World War II a rash of forecasts extolled the wonders of the coming atomic age. Optimistic pronouncements of scientists were amplified by the press. There followed a period in which public interest remained high, though progress toward production of economically competitive electric power was slow, partly because competence in reactor design was vested mainly in physicists without engineering experience. Ultimately this deficiency was corrected, and a large number of technical problems were overcome. Different types of reactors were tested; new materials were investigated; every facet of fuel handling and safety was studied. At the same time a virile, competitive atomic energy industry was created.

Trends in the cost of generating electricity are one measure of what has occurred. These are outlined in the report.

... costs have been reduced, from the first actual experience of about 50 mills per kwh at the Shippingport prototype reactor in 1958 to less than 10 mills per kwh for full-scale plants now in existence and an estimated 5.5 to 6 mills for a large plant to be built in the near future at Bodega Bay, California.

This figure includes all such costs as amortization and does not involve a subsidy. The Pacific Gas and Electric Company has chosen atomic energy over fossil fuel not because of glamor but because of economics. Costs based on substantial operating experience now can be estimated with precision.

... the total nuclear electric generating capacity in the country [is] approximately 850,000 kilowatts, about 0.5% of our total installed capacity. Seven other central station nuclear power plants are scheduled to start operation in the next few months.

Economic civilian nuclear power has been achieved at a comparatively low cost.

To date, the Commission has spent approximately \$1.275 billion specifically on the civilian power program. ... The present annual rate of expenditure is approximately \$200 million.

One of the aspects that the report underplays is our vanishing resources of petroleum and natural gas. A chemical industry based on petroleum resources is increasing rapidly, and its products are assuming an ever-wider role in our economy and in international trade. With current trends we might be a have-not nation in this important sphere in about 20 years, with corresponding weakening of our competitive position. It is good to know that recent developments in nuclear energy have justified the optimism of 15 years ago and that means are available for sparing our heritage of fossil fuels.—P.H.A.