

We cannot begin to say, but, obviously, he has found many areas of economic activity that offer greater attraction than the petroleum business.

Thus, the petroleum industry in the free world, in the 10-year period 1945-55, spent a total of \$57 billion. In the following 10 years, the industry spent a total of \$112 billion. As nearly as we can estimate, the industry will need to spend, in the current 10-year period, a minimum of \$200 billion. And I say a minimum, because we have no means of measuring at the present time the additional capital investment that will be required for dealing with the problems of air pollution.

This leads to some king-sized questions. Under the present price structure and in view of the price erosion that occurred all over the world, and the prospects for price increases that we have, we have the greatest difficulty in projecting enough money for the petroleum industry to carry on capital spending at this rate. We had a decline in the price of crude oil abroad. We now have large quantities of natural gas coming into the European market. And nations abroad have looked to this country in terms of how our gas has been priced, and they possibly might make the same mistake that we have made here.

Pricing is not in terms of intrinsic value but rather as a byproduct; that is, one of the byproducts in the energy markets, and displacing the primary product and the financial effect is great, indeed.

The British Gas Council is dealing with industry in establishing a price for natural gas. The North Sea gas is moving into Great Britain. The gas council started out with an average of 18 cents a thousand cubic feet, and the gas selling for approximately 50 cents a thousand cubic feet would equate to the current price of crude oil at the Persian Gulf. If the price of gas that is eventually set in this part of the world is lower, then we can expect a further erosion in the price of crude oil and a further reason why it would be difficult for the petroleum industry to generate capital funds.

Some reference was made yesterday to the possible change in attitude as the result of recent events. We might conclude from that that there might be a desire to spend more in this country. On the other hand, because of this very great market abroad, there would be an equally compelling reason to spend more in other parts of the world—in Canada, Indonesia, Australia, Latin America, Africa. We have no assurance that the industry will choose to spend in this country. This brings up the final question: Will the industry choose to spend more in the United States or abroad, and, if it does spend in this country, will it spend it for oil shale versus conventional sources?

Senator Moss. Thank you very much, Mr. Winger, for that very comprehensive exposition of the growth of the energy market, and the demands upon it. I note that the reserves of gas and oil are tending downward, on a comparative basis, and, therefore, there is going to be a great need for additional energy. Whether we should look domestically or to foreign areas is the question. I was very fascinated with your presentation. It has been a very interesting presentation, and, certainly, one that is very comprehensive. It is certainly an excellent thing for a record. If you can supply us with copies of those charts, we will have them reproduced and put into the record. There is no reason that they cannot be reproduced in the record, together with your comments, and they will add greatly to our store of knowledge.