

The Consumer Looks at Lead

MR. CHAIRMAN AND MEMBERS OF THE
LEAD INDUSTRIES ASSOCIATION:

As a representative of the lead consuming industry, I want to express my pleasure at being invited to appear before you. I have been asked to talk to you about lead as a consumer sees it. Also, it was felt by your program chairman that some comments by a typical lead consumer on the Paley Commission Report would be of interest.

An examination of the broad trends in lead consumption over the past twenty-five years shows a steady increase in total lead demand. Without taking into account metal for the stockpile, domestic lead consumption has increased from an average not under 800,000 tons in the 1920's to over 1,100,000 tons in the 1950's.

While this increase is substantial, its greatest significance lies not in the statistics themselves, but in the play of economic forces that accounts for them. Any commodity can find a place in our economic system only if it has economic usefulness. Lead for batteries, lead for gasoline, lead for protection against the elements, lead as a construction material—these are only a few of the many applications that have been found for lead, which have demonstrated proven economic usefulness.

The Meaning of Tetraethyl Lead

I do not feel qualified to discuss in detail the usefulness of other lead-consuming products, but I can tell you a little about what tetraethyl lead has come to mean to our national economy.

- In the thirty years since it was first commercially introduced, tetraethyl lead has come to be used in over 95% of all motor and aviation gasoline, and because of this fact tetraethyl lead has grown to become the second largest consumer of metallic lead in the country.

There was a reason for this—a sound reason, you can be sure. Tetraethyl lead has demonstrated its economic usefulness in a widening orbit to the oil industry and in turn to the motoring public. And by making possible gasolines of successively higher antiknock quality, tetraethyl lead has contributed substantially to the dramatic transportation gains of recent decades.

As technologists in the oil and automotive industries know, higher octane gasolines permit the design of automobile engines which will deliver more power for the same fuel consumption or deliver the same power for less fuel consumption. Utilization of that fundamental principle has been primarily responsible for the thrilling automotive progress of the past generation. Between 1930 and 1950, the average power of automobile engines increased from less than 75 to almost 120 horsepower. Miles per gallon increased 30% in that time. Ton miles per gallon, which allows for the increase in average car weights, increased 45%.

Chain Reaction of Progress

Today, simply by taking the knock out of gasoline, tetraethyl lead sets in motion a chain reaction of progress in which our modern automotive economy operates efficiently, the consumption of petroleum and other natural resources is conserved, and substantial economic benefits accrue to the motoring public.

A recent study of the economic value of tetraethyl lead showed that its use in 1950 reduced effective gasoline consumption by at least 10%—or an estimated four billion gallons. In other words, with the aid of tetraethyl lead, the American car owner and business man, farmer and trucker consumed four billion gallons less gasoline than would other-

wise be the case. At the prevailing service station prices for gasoline, that represented a saving to the American public of over one billion dollars on its annual gasoline bill. Stated another way, the use of perhaps 105,000 tons of metallic lead was sufficient to save some 12 million tons of gasoline.

Tetraethyl lead plays an important role in our economic life and by its widespread use a vast amount of our natural energy resources is conserved. This saving far outweighs the resource value of the lead that is consumed in its manufacture.

The Changing Nature of Lead Demand

I have mentioned these facts about tetraethyl lead as an example of a use for metallic lead that has shown increasing economic usefulness. The value of other uses can be similarly demonstrated. Indeed, the entire trend of lead consumption in recent decades has been dictated primarily by the economic usefulness of the products made from it. Back in 1929, the five leading uses of lead were for cable coverings, batteries, white lead, building material and ammunition. But significantly, by 1950 three other uses—tetraethyl lead, solder and oxides for other than batteries—moved into the first five.

The comparisons illustrate some of the technological developments that have affected lead demand. They demonstrate how lead has become more valuable for some products, less valuable for others. While lead has scored impressive gains in some consumption categories, its has lost ground in other directions due to the increased competition of other materials. Titanium in paints, polyethylene plastics and aluminum in cable coverings, and aluminum in foil are some of the major competitors of lead.

Notwithstanding the competition and without regard to the relative positions of various uses of lead, the fact remains that for the long pull there is every reason to believe that the use of lead will continue to increase. What then is the long term outlook?

Because it represents the only comprehensive

effort made to look into the future of our commodity and energy resources, the President's Materials Policy Commission Report, sometimes called the Paley Report, has now supplanted the well-known crystal ball for prognosticating what is to come. Without question, the aims and purposes of the Paley study are most laudable. A factual knowledge of the U. S. raw materials position, and of production and consumption trends for the next quarter century, should prove to be of inestimable value in planning national policy. In this connection, a great number of its recommendations for legislation to give industry relief from taxes and other oppressive government regulations, as well as aid in exploration and development work, show that the Commission had a real grasp of the problems ahead.

Understanding the Paley Report

It is unfortunate, however, that some of the materials projections contained in the Paley Report have been mistaken for flat predictions in some quarters. Indeed, the Commission itself, in a preface to its commodity analyses, carefully pointed out: "These projections do not predict how much of each material will actually be available and consumed. Instead they are an estimate of what might be demanded if relative prices of various materials remain the same as in early 1950, which they are most unlikely to do. Moreover, these projections assume no unforeseeable new uses, substitutions, or technological improvements. They are intended only as a starting point in the analysis of prospective supply-demand relationships and give only a rough measure of magnitude."

It is these very considerations, cited in the Paley Report, which make it so difficult to attempt a long-range forecasting of lead demand with any degree of accuracy. A simple mechanical extrapolation of existing uses does not give the answer. Social changes, technological improvements, and competition between materials will dictate the future for any commodity.

Illustrative of this is the projection involving stor-

age batteries. For this major use, the Paley Commission projects an increase in lead consumption from 416,000 tons in 1950 to 707,000 tons in 1973. And in making that projection, the Commission, in line with its stated objective, assumed the same average battery life in 1973 as in 1950.

As a practical matter, while the average battery's life right now is only two years, many battery manufacturers feel that they can produce a battery which can be guaranteed for three years' service. In another direction, the battery companies have achieved a marked reduction in average lead content per battery from years ago, and they are confident a further substantial decrease will be seen in the years ahead.

Accordingly, if we assume an average battery life of 2½ years by 1973, instead of the present two years, and if we assume a reduction in average lead content per battery from 23 pounds to 20 pounds, which also seems conservative, it is possible to show a 1973 demand for lead in the battery field that is some 200,000 tons less than that listed by the Paley Commission.

Long Range Forecasts Impossible

Effects on lead consumption might be explored from a technological standpoint on numerous other products. Add to this the important influence of raw material price on end product use, and it is apparent why a 25-year forecast for lead demand cannot accurately be made. All that can be done is to indicate the general trend, whether it be for lead or any other important commodity.

We are therefore not greatly concerned with the fact that the Paley Commission Report forecasts a demand of 1,250,000 tons in 1973. The actual demand will be influenced by a number of factors, particularly of a technological nature, which are not now apparent. Moreover, the price which consumers will be required to pay for lead in the future will have a substantial bearing on the volume of demand. Production capacity also will be influenced to a much greater extent than is contemplated in the Paley Report by the price of the commodity. There is little doubt in our minds but what the normal

economic forces will work at all times in the direction of bringing the demand and supply into balance.

Much was said in the Paley Report about the need for planned substitutions of abundant commodities for scarce commodities to insure proper balances in the future. There can be no denial of the fact that under certain circumstances this may be both necessary and desirable, but there is certainly no evidence that it is needed in lead, either at present or in the foreseeable future.

Future Lead Supplies Adequate

As a substantial consumer of metallic lead, we have a real and serious interest in the long term outlook for supplies. We, of course, have no information not generally known in industry about future production possibilities, but we have tried to compile such information as is available in order to assure ourselves that there is a sufficient potential productive capacity to meet any reasonable increase in the demand for lead. We believe that the potential not only exists, but we are confident that adequate supplies will be forthcoming in the future to meet all essential needs. We have expanded our manufacturing capacity and are gearing our present operations and future plans with the full confidence that this production will be a correct one.

Regardless of what we may think of the long range outlook for lead, we still have the problems that are with us today, and are likely to continue in the near future. The recent history of lead has been one of recurring short supply and high prices followed by long supply and concurrent low prices. We have never liked this situation, but we have come to believe that it is the "nature of the beast." We consumers would rather have low priced lead than excessively high priced lead, but what would be best for both consumers and producers would be for the supply of lead to remain in balance and the price to be reasonably constant at a level where both the consumers and producers can make a profit. We are well aware of the situation as it exists today, and we certainly aren't happy to find our friends on the

production side of the business is a position whose profits are substantially reduced, if not nonexistent. We must not forget, however, that buyers both here and abroad who are not now in the market are the same people whose buying activities made possible the highly profitable markets of 1948 and 1951. So long as lead maintains its present position in the economic system, we can be sure that these buyers will be back in the market again in the near future.

Imports Essential to Continued Growth

If we agree that the general trend in lead demand is upward, and that the present slackening in the market is a temporary one, then it must be admitted that this country will continue to follow the experience of the past several years, and remain a net importer of lead. Consumers must face this fact and make their plans accordingly. While all U. S. consumers have a full appreciation of the desirability of keeping the American mining industry strong, they must also accept the responsibility for encouraging and supporting the foreign production of lead, upon which they must now in part depend. It therefore follows that any Government action that will have the effect of discouraging imports and reducing the expansion of foreign mining properties is undesirable from a consumer standpoint.

As an end use of lead, tetraethyl lead has a potential for continuing growth, but that potential will be realized only so long as it retains its economic value, and only so long as there is sufficient metallic lead available to make possible the manufacture of all the tetraethyl lead needed by the petroleum industry. If for any reason tetraethyl lead cannot be made in sufficient quantities, or if the cost is pushed up beyond its economic limit by the high price of the metal from which it is made, it will lose its economic usefulness to the industry it serves. The same can be said for almost any end product of lead.

At the outset of this paper we undertook to comment on the Paley Report. We attempted to point out that, in our opinion, the report was overly opti-

mistic with regard to future demands for lead, and overly pessimistic about the hope for maintaining a reasonable balance between supply and demand. This balance, which is so necessary for the continued health and well-being of the industry, can be attained—but only if the industry is permitted to work out its own economic problems, and is not hampered either by restriction on the uses to which the product is put, or excessive taxation on either domestic or foreign production.